CITY OF PITTSBURG
AGENDA

JANUARY 17, 2023

CITY HALL COUNCIL CHAMBER
65 CIVIC AVENUE, PITTSBURG, CA

CLOSED SESSION
6:00 P.M.

REGULAR MEETINGS
7:00 P.M.

CITY COUNCIL
HOUSING AUTHORITY
PITTSBURG ARTS AND COMMUNITY FOUNDATION
PITTSBURG POWER COMPANY
SOUTHWEST PITTSBURG GEOLOGIC HAZARD ABATEMENT DISTRICT II
SUCCESSOR AGENCY

PRESIDING

Shanelle Scales-Preston, Mayor/Chair
Juan Antonio Banales, Vice- Mayor/Chair
Jelani Killings, Council Member/Board Member
Dionne Adams, Council Member/Board Member
Angelica Lopez, Council Member/Board Member

FOR HOUSING AUTHORITY:
S.L. Floyd, Housing Authority Member
Annie Hill Herring, Housing Authority Member

Pittsburg City Council meetings are held the first and third Mondays of each month at 7:00 p.m. The Housing Authority meets in conjunction with the City Council on the third Monday of each month. The Pittsburg City Council meets regularly in the Council Chamber at 65 Civic Avenue, unless otherwise noted above. The City Council also sits as the Board of Directors of several other City agencies. The stipends for all agency members conform to state statutes governing compensation amounts. All other Agencies meet on an as needed basis and will be listed above if applicable. Copies of the open session agenda packets, which are distributed to the City Council, are on file in the office of the City Clerk, 65 Civic Avenue, Pittsburg, California, and are available for public inspection, beginning 72 hours in advance, during normal business hours (8:00 a.m. – 5:00 p.m., Monday through Friday, except from noon to 1:00 p.m. and City holidays). The agenda and reports are also located on the City's website at www.pittsburgca.gov. Additionally, if any reports or documents, which are public records, are distributed to the City Council less than 72 hours before the meeting, those reports and documents will also be available for public inspection in the City Clerk's Office and on the day of the meeting in the Council Chamber at the public counter area below the dais.

AUDIENCE REMARKS

The Audience Remarks period is for the public to comment on any items scheduled to be heard during the Closed Session portion of the meeting, if applicable.

6:00 P.M. - CONVENE IN CLOSED SESSION

1. CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION pursuant to Section 54956.9(d)(1):

   Save Mount Diablo v. City of Pittsburg et al., Contra Costa County Superior Court case no. CIVMSN21-0462

2. CONFERENCE WITH REAL PROPERTY NEGOTIATORS, Pursuant to Section 54956.8:

   Property: 406 Travis Ct. (085-260-063); Housing Authority negotiators: Garrett Evans and Maria Aliotti; Negotiating Parties: Estate of Marla Harrison; Under Negotiation: Price and terms of payment

7:00 P.M. - CONVENE IN OPEN SESSION FOR REGULAR MEETING

CALL TO ORDER

ROLL CALL

PLEDGE OF ALLEGIANCE

PROCLAMATIONS

3. Martin Luther King Jr. Day

4. Human Trafficking Awareness Month

5. Retirement

CITY MANAGER REPORTS/REMARKS

The City Manager may make brief announcements or informal comments at this time and brief the Council on items of interest. (No Action Required)

PUBLIC COMMENTS

Members of the audience who wish to address the City Council or Agency Boards on issues that are not scheduled for the agenda and on any items listed as part of the Consent Calendar should complete a Speaker's Card available at the dais. Please read the card carefully in order to fill out the card properly. Submit the completed card to the City Clerk before the item is called, preferably before the meeting begins. Individuals will be given three minutes to address the Council unless additional time is allowed as provided for spokespersons. Prior to speaking, each member of the public shall state their name and business and City of residence in a clear and audible tone of voice. (No Action Required)

COMMITTEE REPORTS

Council Members may make a report on their committee assignments at this time. (see attached list of adhoc committees and other public agencies in which Council members particiapte). (No Action Required)

HOUSING AUTHORITY

CONSIDERATION

6. Adoption of a Housing Authority Resolution Approving the 2023 Utility Allowance Schedule

   The U S Department of Housing and Urban Development (HUD) requires housing authorities to review allowances for tenant-furnished utilities and other services annually and determine a utility allowance schedule (Schedule). Pursuant to 24 CFR 982.517 (4)(c), this Schedule must be revised whenever there is an increase of ten percent (10%) or more in the utility rates since the last revision of the Schedule. The Housing Authority of the City of Pittsburg (Housing Authority) has revised the Utility Allowance Schedule for 2023 (the “2023 UA Schedule”) to reflect a ten percent (10%) increase in utility rate costs.

CONSENT CALENDAR

7. Minutes of September 19, 2022

8. Disbursement Lists of July 31, 2022, August 31, 2022, and September 30, 2022

HOUSING AUTHORITY MEMBER REMARKS

ADJOURNMENT OF THE HOUSING AUTHORITY

CITY COUNCIL MEETING

PUBLIC HEARING

9. Adoption of a City Council Resolution to Approve Revisions to the Marina and Recreation Master Fee Schedule

   Staff requests adoption of a resolution to approve revisions to related fees for the Marina and Recreation Department.

CONSIDERATION

10. Adoption of a City Council Resolution to Adopt the Updated City Standard Specifications and Standard Details and Authorize the City Engineer to Execute Amendments

    The City Standard Specifications and Standard Details are requirements for developers, contractors, and the public that outline the acceptable methods of design and construction of public improvements. Routine updates are necessary to ensure that public improvements meet a minimum level of quality.

11. Adoption by Minute Order of Council Member Committee Assignments for 2022, and Confirmation of Posting of FPPC Form 806 “Agency Report of Public Official Appointments”

    In accordance with the City of Pittsburg “Policy and Procedure for City Council” adopted by the City Council on September 4, 2001 by Resolution No. 01-9475, the Mayor and Vice-Mayor shall appoint individual Council Members to standing and ad hoc committees and such appointments shall be approved by the entire Council at its first meeting following reorganization. This also confirms posting of the Fair Political Practices Commission Form 806 “Agency Report of Public Official Appointments.”

12. Adoption of a City Council Resolution Accepting Metropolitan Transportation Commission Allocation of FY 2022-23 Transportation Development Act, Article 3, Pedestrian/Bicycle Project Grant Funding for Project 2050—Safe Routes to School

    The Metropolitan Transportation Commission (MTC) provides Transportation Development Act (TDA), Pedestrian/Bicycle Project Grant funds to projects creating safer routes for walking and biking to school. The City's application has been approved. See Attachment C for the allocation letter. The attached resolution accepts the MTC FY 2022-23 grant funds for Project 2050—Safe Routes to School (the “Project”) to improve safety at five school crosswalk locations.

CONFLICT OF INTEREST STATEMENT

City Council/Agency Members may make any conflict of interest declarations pertaining to Consent Calendar items at this time.

COMBINED CITY COUNCIL, PITTSBURG ARTS AND COMMUNITY FOUNDATION, PITTSBURG POWER COMPANY, SUCCESSOR AGENCY AND SOUTHWEST PITTSBURG GHAD II CONSENT CALENDAR

13. Minutes of December 12, 2022

14. Adoption of a Pittsburg Power Company Resolution Approving the Addition of Robertson-Bryan, Inc. to the “On-Call” Professional Services List

    Pittsburg Power Company (PPC), a joint powers authority, utilizes professional electric consulting and design services to support power market research and development of new energy projects.

15. Adoption of a Pittsburg Power Company Resolution to Authorize the Executive Director to Extend the Term of the Full Load Service Contract with Western Area Power Administration

    The Pittsburg Power Company (PPC) and the Western Area Power Administration (WAPA) are parties to the Full Load Service (FLS) Contract for Western to furnish supplemental power and portfolio management services. In order for WAPA to purchase long-term supplemental power for its full load service customers, WAPA requested an extension to the term of the FLS Contract commencing December

31, 2024 and remaining in effect until December 31, 2029.

16. Adoption of a Pittsburg Power Company Resolution to Authorize the Executive Director to Extend the Term of the Scheduling Coordinator Services Contract with Western Area Power Administration

    The Pittsburg Power Company (PPC) and the Western Area Power Administration (WAPA) are parties to the Scheduling Coordinator Services Contract for Western to furnish supplemental power and portfolio management services. In order for WAPA to purchase long-term supplemental power for its full load service customers, WAPA requested an extension to the term of the FLS Contract commencing December 31, 2024 and remaining in effect until December 31, 2029.

17. Adoption of a Pittsburg Power Resolution to Approve the Revised 2021 Power Content Label

    The Pittsburg Power Company (PPC), in compliance with State law (Public Utilities Code 398.1(b)), is disclosing both the power sources portfolio information and comparison to California's total system power mix on an annual Power Content Label (PCL). Some corrections were made to the 2021 Power Content Label after its adoption.

18. Adoption of a Successor Agency Minute Order Approving the July 1, 2023 – June 30, 2024 Recognized Obligation Payment Schedule

    The Successor Agency for the Redevelopment Agency of the City of Pittsburg (Successor Agency) has prepared its Recognized Obligation Payment Schedule (ROPS) for the period of July 1, 2023 – June 30, 2024 (ROPS 23-24), pursuant to AB 26x1, also referred to as the "Dissolution Act".

19. Adoption of a City Council Resolution Authorizing the City Manager to Execute a Site Lease Agreement with DISH Wireless, LLC

    Staff is requesting approval of a Site Lease Agreement between the City of Pittsburg and DISH Wireless, LLC (DISH) for access to City property located at 2280 Southwood Drive in Pittsburg for placement of wireless equipment on an existing PG&E-owned tower.

20. Adoption of a City Council Resolution Allocating Funds to Reimburse Seecon Financial & Construction Co., Inc. for Infrastructure Costs incurred Related to Community Facilities District 2009-01, San Marco ("CFD 2009-01)

    The City established CFD 2009-01 to help fund public improvements in the San Marco development that the developer, Seecon Financial & Construction Co., Inc. dba Discovery Builders ("Developer"), builds on behalf of the City. The Developer is seeking reimbursement for eligible expenses in the amount of $6,695,799. The proposed resolution will authorize the use of available funds to reimburse the developer, $1,698,000 from the CFD 2009-01 Fund for public improvements in the amount of $1,500,000 and the City for administrative expenses in the amount of

$22,500. This payment will leave a balance due for reimbursement to the Developer in the amount of $5,195,799 and $77,937 for City administration when tax assessment funds become available.

21. Adoption of an Ordinance Amending Title 2 of the Pittsburg Municipal Code Title 2 Regarding City Commissions

    On December 12, 2022, the City Council introduced and waived further reading of an Ordinance amending Pittsburg Municipal Code (PMC) Title 2 to be consistent with the Handbook for City Advisory Bodies adopted by the City Council on November 7, 2022. This will adopt the Ordinance.

22. Adoption of a City Council Resolution Establishing a Digital Signature Policy

    A digital signature policy would authorize the use of digital signatures to transact specified City business, which would expedite transactions, increase productivity, and reduce the burdens associated with obtaining manual or "wet" signatures.

23. Adoption of a City Council Resolution Allocating ARPA Funds and Approving a Consultant Agreement for an Infrastructure Needs Assessment for Project 1800—Citywide Alternative Fuel Infrastructure and Fleet Vehicle Upgrades

    The 117th United States Congress passed the American Rescue Plan Act of 2021 (ARPA), and President Joe Biden signed it into law on March 11, 2021. The City of Pittsburg's allotment of ARPA funding totals $16,290,477. The City Council proposed allocations to the various subcommittees, and the Finance Subcommittee prioritized $1,500,000 to be spent on fleet replacement with EV/H emphasis. Project 1800—Citywide EV Infrastructure and Fleet Vehicle Upgrades (the "Project") is an important step toward complying with the California Air Resources Board (CARB) regulations setting California on a path to reduce climate-warming pollution.

24. Adoption of a City Council Resolution to Accept Project 5063, Bodega Drive Water System Loop Project as Complete and Authorize the City Engineer to File a Notice of Completion

    Project 5063, Bodega Drive Water System Loop Project (the "Project") constructed a new 8-inch water main to connect an existing 8-inch water main in Bodega Drive to an existing 20-inch water main within a City utility easement. This Resolution will accept the construction contract as complete and authorize the City Engineer to file a Notice of Completion.

25. Adoption of a City Council Resolution Making Findings in Support of Continuing to Hold Public Subcommittee Meetings by Teleconference Pursuant to California Government Code Section 54953(e)

    Assembly Bill 361 (AB 361) amended the Brown Act to allow local legislative bodies to continue to meet remotely during proclaimed states of emergency under specified conditions. Findings must be made every 30 days.

26. Adoption of an Ordinance to Rescind and Amend Pittsburg Municipal Code Title 15, “Buildings and Construction,” to Adopt by Reference the 2022 California Building Code, Residentisral Code, Electrical Code, Fire Code, Mechanical Code, Plumbing Code, Historical Building Code, Green Building Standards Code, Existing Building Code and Energy Code with State of California and Local Amendments

    The California Building Standards Code is published every three years and amends the California Code of Regulations, Title 24. These codes are commonly referred to as the California Building Code ("Codes") and include building, plumbing, mechanical, electrical, fire, energy, residential, historical, and green standards.

27. Adoption of a City Council Resolution to Authorizing the Execution of a Design Consultant Services Agreement for Project 2038—HSIP 10 Citywide Roadway Improvements

    The City has been awarded a grant in the amount of $2,965,700 for the Highway Safety Improvement Program (HSIP) 10 Citywide Roadway Improvements Project (2038). This project includes a consultant providing assessment and analysis of the existing conditions of traffic signage and striping for arterial roads throughout the City and to prepare plans, specifications, and cost estimate suitable for public bidding. This resolution will authorize a Design Agreement with Kimley-Horn in the amount of $176,856.15 for the design of the Project.

28. Adoption of a City Council Resolution Allocating FY 2022-23 Measure M Sales Tax Funds to Park and Street Maintenance Projects

    The City Council approved the FY 2022-23 City Operating Budget with $750,000 from Measure M sales tax revenue appropriated for projects in the City’s parks and road repairs. If approved, the resolution will allocate these funds to one new and eight existing projects.

COUNCIL REQUEST FOR FUTURE AGENDA ITEMS

Council Members may request items to be considered for future agendas. An item will only be brought forward with a majority vote and will appear on a future agenda with staff recommendations for further Council consideration.

COUNCIL MEMBER REMARKS

Council Members may make brief announcements or informal comments at this time. (No Action Required)

ADJOURNMENT to February 6, 2023

NOTICE TO PUBLIC

GENERAL INFORMATION

Copies of the open session agenda packets, which are distributed to the City Council, are on file in the office of the City Clerk, 65 Civic Avenue, Pittsburg, California, and are available for public inspection, beginning 72 hours in advance, during normal business hours (8:00 a.m. – 5:00 p.m., Monday through Friday, except City holidays). The full packets are also located on the City's website at www.pittsburgca.gov. If any reports or documents, which are public records, are distributed to the City Council less than 72 hours before the meeting, those reports or documents will be available for public inspection in the City Clerk's Office and on the day of the meeting in the Council Chamber at the public counter area below the dais.

SPEAKER'S CARD

Members of the audience who wish to address the City Council on issues that are not scheduled for the agenda and on any items listed as part of the agenda should complete a Speaker's Card available at the dais. Please read the card carefully in order to fill out the card properly. Submit the completed card to the City Clerk before the item is called, preferably before the meeting begins. Individuals will be given up to three minutes to address the Council unless additional time is allowed as provided for spokespersons. Speakers are not permitted to yield their time to another speaker. Prior to speaking, each member of the public shall state their name and business and City of residence in a clear and audible tone of voice. Pursuant to the Brown Act, no action may be taken by the City Council on items not already scheduled on the agenda; however, the City Council may refer your comments/concerns to staff or request that the item be placed on a future agenda.

PUBLIC HEARINGS

Persons who wish to speak on Public Hearings listed on the agenda will be heard when the Public Hearing is opened, except on Public Hearing items previously heard and closed to public comment. After the public has commented, the item is closed to public comment and brought to the Council/Agency level for discussion and action. Further comment from the audience will not be received unless requested by the Council/Agency.

There is a 90-day limit for the filing of a challenge in the Superior Court to certain City administrative decisions and orders which require a hearing by law, the receipt of evidence, and the exercise of discretion. The 90-day limit begins on the date the decision is final (Code of Civil Procedure Section 1094.6). Further, if you challenge an action taken by the City Council in court, you may be limited, by California law, including but not limited to Government Code Section 65009, to raising only those issues you or someone else raised in the public hearing, or in written correspondence delivered to the City Council prior to or at the public hearing. The City Council may be requested to reconsider a decision if the request is made prior to the next City Council meeting, regardless of whether it is a regular or special meeting.

NOTICE TO THE DISABLED AND VISUALLY OR HEARING IMPAIRED

In compliance with the Americans with Disabilities Act, the City of Pittsburg will provide special assistance for disabled residents. Upon request, an agenda for any meeting shall be made available in appropriate alternative formats. The Council Chamber is equipped with sound amplifier units for use by the hearing impaired. The units operate in conjunction with the Chamber's sound system. You may request the sound amplifier from the City Clerk for personal use during Council meetings. If you need special assistance to participate in this meeting, or are requesting a specially formatted agenda, please contact the City Clerk at 925-252-4850. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting or provide the requested agenda format. (28 CFR 35.102-35.104 ADA Title II)

DISRUPTIVE CONDUCT

The Council requests that you observe the order and decorum of our Council Chamber by turning off or setting to vibrate all cellular telephones and electronic devices, and that you refrain from making personal, impertinent, or slanderous remarks. Boisterous and disruptive behavior while the Council is in session, and the display of signs in a manner which violates the rights of others or prevents others from watching or fully participating in the Council meeting, is a violation of our Municipal Code and any person who engages in such conduct can be ordered to leave the Council Chamber by the Mayor.

LIVE MEDIA BROADCASTING ADVISEMENT

City Council meetings are webcast live on the City's website at www.pittsburgca.gov on the Agendas and Live Meetings page. Past meetings and approved minutes are also archived on that webpage. Watch the live meeting via the City's webcast (www.pittsburgca.gov), or on Delta TV Comcast Channel 32, or Delta TV AT&T U-Verse Channel 99. For more information, please contact the City Clerk's office at 252-4850.

City Council Outside Agency / Liaison / Sub-Committees Assignments - 2022

Updated December 20, 2021

OUTSIDE AGENCY BOARDS	COUNCIL MEMBER(S)	TYPE	MEETS	STAFF
ABAG	Shanelle Scales-Preston / Holland White Alt.	Standing	Annual	G. Evans
Delta Diablo**	Juan Banales / Shanelle Scales-Preston Alt.	Standing	2nd Wednesday	R. Abono
East Co. Co. County Habitat Conservancy	Juan Banales / Jelani Killings Alternate	Standing	Monthly	Planning
East County Water Management	Juan Banales / Jelani Killings Alternate	Standing	Annual	R. Abono
MCE Clean Energy Board	Shanelle Scales-Preston / Holland White Alt.	Standing	4 Per Year	D. Buchanan
TRANSPLAN / ECCRFFA	Holland White / Juan Banales Alternate	Standing	2nd Thursday	R. Abono
Tri-Delta Transit (2 reps)***	S. Scales-Preston & Merl Craft / Jelani Killings Alt.	Standing	Last Wednesday	R. Abono

LIAISON TO	COUNCIL MEMBER(S)	TYPE	MEETS	STAFF
East Bay League of Calif. Cities	Shanelle Scales-Preston / Merl Craft Alt.	Standing	3rd Thursday	*Rotational
Mayor's Conference	Holland White / Shanelle Scales-Preston Alt.	Standing	1st Thursday	G. Evans
School Districts Committee (2x2)	Shanelle Scales-Preston & Merl Craft / Jelani Killings Alt.	Standing	2nd Thursday even months	G. Evans

SUBCOMMITTEES	COUNCIL MEMBER(S)	TYPE	MEETS	STAFF
American Rescue Plan Act (ARPA)	Holland White / S. Scales-Preston / Juan Banales Alt.	Ad Hoc	As needed	G. Evans
CAC CDBG Subcommittee	S. Scales-Preston & Jelani Killings / Holland White Alt.	Standing	As needed	M. Aliotti
City Council Policy and Procedures Review	Juan Banales & Merl Craft	Ad Hoc	As needed	G. Evans
City Infrastructure and Transportation (2)	S. Scales-Preston & Juan Banales / Holland White Alt.	Standing	As needed	G. Evans
Community Services Subcommittee	Merl Craft & Shanelle Scales-Preston / Juan Banales Alt.	Standing	As needed	M. Aliotti
Constituent Management Services	S. Scales-Preston & Juan Banales / Holland White Alt.	Ad Hoc	As needed	G. Evans
Government Performance Subcommittee	Holland White & Jelani Killings	Ad Hoc	As needed	G. Evans
Hills Committee	Juan Banales & Jelani Killings / Merl Craft Alt.	Ad Hoc	As needed	G. Evans
Pittsburg Recognition Committee	Holland White / Shanelle Scales-Preston Alt.	Standing	As needed	J. Hecht
Economic Develop/Waterfront Subcommittee	Jelani Killings & Holland White / S. Scales-Preston Alt.	Standing	As needed	J. Davis
Finance Subcommittee (1)	Juan Banales & Holland White / S. Scales-Preston Alt.	Standing	As needed	P. Rodrigues
Land Use Subcommittee (3)	Juan Banales & Holland White / S. Scales-Preston Alt.	Standing	As needed	J. Davis
Pittsburg Arts & Community Foundation	Merl Craft & S. Scales-Preston / Jelani Killings Alt.	Standing	As needed	G. Evans
Pittsburg Police Activities League (PAL)	Holland White & S. Scales-Preston / Jelani Killings Alt.	Standing	Monthly	B. Addington
Power Company Advisory	Holland White & S. Scales-Preston / Juan Banales Alt.	Standing	As needed	D. Buchanan
Public Safety Subcommittee	Holland White & Shanelle Scales-Preston	Standing	As needed	B. Addington
Sister City Committee	Jelani Killings & Holland White / Merl Craft Alt.	Standing	As needed	K. Simonton

*Rotational Staff as assigned by City Manager
**Stipend of $170 per month
***Stipend of $100 per month

City of Pittsburg
65 Civic Avenue • Pittsburg, California 94565

Proclamation

MARTIN LUTHER KING, JR. DAY
JANUARY 16, 2023

WHEREAS, on January 15, 1929, Martin Luther King, Jr., was born, destined to make our world a greater and more noble one. He dedicated his life to ending the injustice of racism, gracing the world with his vision of a land guided by love instead of hatred and by acceptance instead of intolerance; and

WHEREAS, 59 years ago, Dr. King described his goals most eloquently in his famous "I Have a Dream" speech at the historic Civil Rights March on Washington. The impassioned plea that rose from the steps of the Lincoln Memorial that summer day stirred the entire Nation, awakening people everywhere to turn from the scourge of racism to embrace the promise of opportunity and democracy for all. He prophetically described a future in which our children are judged "not by the color of their skin, but by the content of their character." His unparalleled commitment to justice and nonviolence challenged us to look deeply within ourselves to find the roots of racism; and

WHEREAS, throughout his all too brief life, Martin Luther King, Jr. often confronted powerful and even violent opposition, sacrificing his liberty, his personal safety, and ultimately his life for the cause of freedom. Though an assassin's bullet silenced him forever at the young age of 39, Dr. King's words and deeds continue to live on within each of us. We, the inheritors of the fundamental rights he helped to secure, are forever grateful for his legacy.

NOW, THEREFORE, I, Shanelle Scales-Preston, Mayor, on behalf of the entire City Council of the City of Pittsburg, do hereby proclaim Monday, January 16, 2023 as Martin Luther King, Jr. Day and call upon the residents of this community to join in rededicating ourselves to the principles of justice and equality for all.

Shanelle Scales-Preston, Mayor

ATTEST:

Alice E. Evenson, City Clerk

January 16, 2023

City of Pittsburg

65 Civic Avenue • Pittsburg, California 94565

Proclamation

HUMAN TRAFFICKING AWARENESS MONTH
JANUARY 2023

WHEREAS, human trafficking is a form of interpersonal violence in which force, fraud or coercion is used to control victims for the purpose of commercial sexual and labor exploitation; that occurs in many industries and affects individuals of all genders, ages and backgrounds; and

WHEREAS, human trafficking is a lucrative and fast-growing criminal industry which relies upon exploitive and sometimes violent tactics to target vulnerable members of our communities. The crime of human trafficking violates an individual's privacy, dignity, security and humanity due to the systematic use of physical, emotional, sexual, psychological and economic exploitation, control and abuse; and

WHEREAS, the impact of human trafficking is wide-ranging, affecting foreign nationals as well as U.S. citizens, and society as a whole; and though awareness and concern around this industry has grown in recent years, human trafficking is consistently underreported; and

WHEREAS, in 2020, 16,658 human trafficking victims were identified nationwide through reports to the National Human Trafficking Resource Center, and California led all other states in reported cases of human trafficking, accounting for nearly 13% of all such reported cases. In Contra Costa County between 2019 and 2021, 108 cases of sex and labor trafficking were investigated, 207 suspected victims of human trafficking were identified, and the District Attorney filed 42 human trafficking cases through the collaborative efforts of partners to the Contra Costa Human Trafficking Task Force; and

WHEREAS, the County's Alliance to End Abuse convened the Contra Costa Human Trafficking Coalition with the aim of strengthening the County's comprehensive response to human trafficking initiated by county departments, law enforcement agencies, and numerous community-based organizations. The Contra Costa Human Trafficking Task Force, jointly led by Community Violence Solutions and the District Attorney's Office, strives to proactively identify and provide services to survivors, investigate and prosecute all forms of human trafficking, and build capacity within the Task Force and the communities it serves to respond to and prevent human trafficking using a collaborative approach involving its more than 35 multidisciplinary partners; and

WHEREAS, Contra Costa County is working to raise awareness of human trafficking with the belief that a more informed public will better understand how their behavior contributes to a patriarchal culture that facilitates and tolerates the systemic abuse of vulnerable populations; and will take action to combat and prevent human trafficking; and

WHEREAS, during this month, let us recognize the survivors of trafficking, and let us commit ourselves to building a future in which no person is denied their inherent human rights of freedom and dignity. Let us make it known that human trafficking has no place in this city, this county, this nation or this world.

NOW, THEREFORE, I, Shanelle Scales-Preston, Mayor, on behalf of the entire City Council hereby proclaim January 2023 as HUMAN TRAFFICK[illegible]ESS MONTH, and urge all residents to actively participate in the efforts to both raise awareness of [illegible]of human trafficking.

CITY OF PITTSBURG CONTRA COSTA CO., CALIF.

Shanelle Scales-Preston, Mayor

Alice E. Evenson, City Clerk

City of Pittsburg
65 Civic Avenue • Pittsburg, California 94565

Proclamation

HONORING ALICE E. EVENSON
JANAURY 17, 2023

WHEREAS, Alice E. Evenson has been an employee of the City of Pittsburg for 25 years and is currently serving her fifth term as the City's elected City Clerk; and

WHEREAS, Ms. Evenson during her tenure has maintained the City's legislative history and established an electronic agenda management and document management system, as well as upgraded the City Council Chamber with an electronic voting system, webcasting, LCD screens and a wireless sound system; and

WHEREAS, Ms. Evenson obtained her Certified Municipal Clerk certificate and followed with her Master Municipal Clerk Certificate in 2008; and

WHEREAS, Ms. Evenson is an active member of the International Institute of Municipal Clerks and the City Clerks Association of California and has served as a member of the Mentoring Committee; and

WHEREAS, on April 26, 2011, the City Clerks Association of California bestowed upon Ms. Evenson the distinguished honor of being named the "CITY CLERK OF THE YEAR"; and

WHEREAS, she has tendered her resignation from her staff position effective December 29, 2022; and

WHEREAS, the City of Pittsburg recognizes that this tribute is appropriate and deserving.

NOW, THEREFORE, I, Shanelle Scales-Preston, on behalf of the City Council of the City of Pittsburg, do hereby honor Alice E. Evenson for her contributions to the City of Pittsburg.

Shanelle Scales-Preston, Mayor

Melaine Venenciano, Director of Records and Council Services

ATTEST: January 17, 2023

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Chair and Governing Board Members

FROM: Garrett Evans, Executive Director

SUBJECT: Adoption of a Housing Authority Resolution Approving the 2023 Utility Allowance Schedule

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The U S Department of Housing and Urban Development (HUD) requires housing authorities to review allowances for tenant-furnished utilities and other services annually and determine a utility allowance schedule (Schedule). Pursuant to 24 CFR 982.517 (4)(c), this Schedule must be revised whenever there is an increase of ten percent (10%) or more in the utility rates since the last revision of the Schedule. The Housing Authority of the City of Pittsburg (Housing Authority) has revised the Utility Allowance Schedule for 2023 (the "2023 UA Schedule") to reflect a ten percent (10%) increase in utility rate costs.

FISCAL IMPACT

Because total assistance benefiting Section 8 participants consisting of both rent and utilities cannot exceed a threshold determined by the size and income of a family, an increase in utility allowance may result in a decrease in rental assistance in order to stay under a specified threshold.

Such increase in utility allowance, however, has no fiscal impact to the City's General Fund. Assistance benefiting Section 8 participants are derived from a federally funded program by HUD.

RECOMMENDATION

Housing Authority Board adopt this Resolution approving of the 2023 Utility Allowance Schedule reflecting the revisions to the utility rates.

BACKGROUND

Utility allowances are intended to cover the cost of utilities not included in the rent. The allowance is based on the typical cost of utilities and services paid by energy-conservative households that occupy housing of similar size and type in the same locality. Allowances are not based on the individual family's actual energy consumption and do not include non-essential utility costs, such as cable, satellite television or phone expenses.

SUBCOMMITTEE FINDINGS

The 2023 Utility Allowance Schedule was not discussed in a subcommittee.

STAFF ANALYSIS

The Housing Authority contracted with a vendor, Nelrod Company, to review the utility allowance data for the Section 8 Housing Choice Voucher Program and complete the study and analysis. This study reflects the 2021 baseline charges published by Pacific Gas & Electric Company, the City of Pittsburg Water Department, and Mt. Diablo Resource Recovery.

Due to the Nelrod Company's study indicating a ten percent (10%) differential in utility rates, the Housing Authority is requested to increase the Utility Allowance in compliance with federal regulations for 2023.

ATTACHMENTS: Resolution
2023 UA Schedules

Report Prepared By: Bruce Smargiasso, Housing Manager

Utility Allowance Schedule

See Public Reporting and Instructions on back.

The following allowances are used to determine the total cost of tenant-furnished utilities and appliances.

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

OMB Approval No. 25577-0169 exp.7/31/2022

Date (mm/dd/yyyy):

Locality: **Housing Authority of the City of Pittsburg, CA**

Unit Type: **Multi-Family (Apartment/Row House/Townhouse/Semi-Detached/Duplex)**

Utility or Service:	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR	6 BR
	Monthly Dollar Allowances						
Heating							
a. Natural Gas ***(includes climate credit)***	$22.00	$28.00	$32.00	$35.00	$39.00	$41.00	$45.00
b. Bottle Gas/Propane							
c. Electric	$19.00	$23.00	$29.00	$34.00	$41.00	$47.00	$65.00
d. Electric Heat Pump	$17.00	$20.00	$23.00	$26.00	$29.00	$32.00	$34.00
e. Oil							
Cooking							
a. Natural Gas	$6.00	$6.00	$9.00	$11.00	$15.00	$17.00	$19.00
b. Bottle Gas/Propane							
c. Electric	$8.00	$10.00	$14.00	$19.00	$23.00	$28.00	$30.00
Other Electric & Cooling							
Other Electric (Lights & Appliances) ***(includes climate credit)***	$25.00	$31.00	$45.00	$60.00	$69.00	$94.00	$104.00
Air Conditioning	$7.00	$8.00	$12.00	$15.00	$18.00	$22.00	$23.00
Water Heating							
a. Natural Gas	$11.00	$13.00	$19.00	$24.00	$32.00	$38.00	$41.00
b. Bottle Gas/Propane							
c. Electric	$20.00	$23.00	$29.00	$36.00	$42.00	$48.00	$52.00
d. Oil							
Water, Sewer, Trash Collection							
Water	$47.00	$48.00	$58.00	$67.00	$76.00	$88.00	$96.00
Sewer	$14.00	$14.00	$14.00	$14.00	$14.00	$14.00	$14.00
Trash Collection	$46.00	$46.00	$46.00	$46.00	$46.00	$46.00	$46.00
Tenant-supplied Appliances							
Range / Microwave Tenant-supplied	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00
Refrigerator Tenant-supplied	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00
Other--specify: Monthly Charges							

Actual Family Allowances

To be used by the family to compute allowance. *Complete below for the actual unit rented.*

Name of Family

Address of Unit

Number of Bedrooms

Utility or Service	per month cost
Heating	
Cooking	$
Other Electric	$
Air Conditioning	$
Water Heating	$
Water	$
Sewer	$
Trash Collection	$
Range / Microwave	$
Refrigerator	$
Other	$
Other	$
Total	$

Utility Allowance Schedule

See Public Reporting and Instructions on back.

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

OMB Approval
No. 25577-0169
exp.7/31/2022

The following allowances are used to determine the total cost of tenant-furished utilities and appliances.

Date (mm/dd/yyyy):

Locality: **Housing Authority of the City of Pittsburg, CA**

Unit Type: **Single-Family (Detached House)**

Utility or Service:	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR	6 BR
	Monthly Dollar Allowances						
Heating							
a. Natural Gas ***(includes climate credit)***	$34.00	$41.00	$47.00	$51.00	$56.00	$62.00	$67.00
b. Bottle Gas/Propane							
c. Electric	$40.00	$47.00	$54.00	$61.00	$65.00	$77.00	$84.00
d. Electric Heat Pump	$24.00	$28.00	$33.00	$37.00	$41.00	$45.00	$49.00
e. Oil							
Cooking							
a. Natural Gas	$6.00	$6.00	$9.00	$11.00	$15.00	$17.00	$19.00
b. Bottle Gas/Propane							
c. Electric	$8.00	$10.00	$14.00	$19.00	$23.00	$28.00	$30.00
Other Electric & Cooling							
Other Electric (Lights & Appliances) ***(includes climate credit)***	$40.00	$48.00	$69.00	$97.00	$124.00	$151.00	$165.00
Air Conditioning	$6.00	$7.00	$15.00	$23.00	$31.00	$40.00	$43.00
Water Heating							
a. Natural Gas	$15.00	$17.00	$24.00	$32.00	$39.00	$47.00	$51.00
b. Bottle Gas/Propane							
c. Electric	$24.00	$29.00	$37.00	$45.00	$53.00	$60.00	$65.00
d. Oil							
Water, Sewer, Trash Collection							
Water	$47.00	$48.00	$58.00	$67.00	$76.00	$88.00	$96.00
Sewer	$16.00	$16.00	$16.00	$16.00	$16.00	$16.00	$16.00
Trash Collection	$46.00	$46.00	$46.00	$46.00	$46.00	$46.00	$46.00
Tenant-supplied Appliances							
Range / Microwave Tenant-supplied	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00
Refrigerator Tenant-supplied	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00
Other--specify: Monthly Charges							

Actual Family Allowances

To be used by the family to compute allowance. *Complete below for the actual unit rented.*

Name of Family

Address of Unit

Number of Bedrooms

Utility or Service	per month cost
Heating	$
Cooking	$
Other Electric	$
Air Conditioning	$
Water Heating	$
Water	$
Sewer	$
Trash Collection	$
Range / Microwave	$
Refrigerator	$
Other	$
Other	$
Total	$

Seal of Certified Compliance 2022 ResidentLife Utility Allowance

The Nelrod Company 9/2022 Update

adapted from form HUD-52667
(7/2019)

BEFORE THE GOVERNING BOARD OF THE HOUSING AUTHORITY
OF THE CITY OF PITTSBURG

In the Matter of:

Adoption of a Housing Authority)
Resolution Approving the 2023) RESOLUTION NO. 23
Utility Allowance Schedule)

WHEREAS, the US Department of Housing and Urban Development (HUD) requires housing authorities to review allowances for tenant-furnished utilities & other services annually and determine a utility allowance schedule (Schedule). Pursuant to CFR 24 982.517 (4)(c), this Schedule must be revised whenever there is an increase of ten percent (10%) or more in the utility rates since the last revision of the Schedule; and

WHEREAS, the Housing Authority of the City of Pittsburg (Housing Authority) reviewed the utility allowance data for the Section 8 Housing Choice Voucher Program. This study reflects the new baseline charges published by Pacific Gas & Electric Company, the City of Pittsburg Water Department, and Mt. Diablo Resource Recovery; and

WHEREAS, the Housing Authority is required to revise its utility allowance in order to be compliant with federal regulations because the differential is greater than 10% from the prior year; and

WHEREAS, the Housing Authority has revised the Utility Allowance Schedule for 2023 (the “2023 UA Schedule”).

NOW, THEREFORE BE IT RESOLVED**,** the Governing Board of the Housing Authority of the City of Pittsburg hereby approves the 2023 UA Schedule and makes the 2023 UA Schedule available for review at Housing Authority located at 916 Cumberland Street, Pittsburg, CA 94565 and on its website.

PASSED AND ADOPTED by the Governing Board of the Housing Authority of the City of Pittsburg at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanell Scales-Preston, Chair

ATTEST:

_____
Alice E. Evenson, Agency Secretary

CITY OF PITTSBURG
HOUSING AUTHORITY MEETING MINUTES

DATE: September 19, 2022

LOCATION: Council Chamber, City Hall, 65 Civic Avenue, Pittsburg, CA 94565

CITY COUNCIL.AGENCY MEMBERS
Holland Barrett White, Mayor/Chair
Shanelle Scales-Preston, Vice-Mayor/Chair
Juan Antonio Banales, Council/Agency Member
Jelani Killings, Council/Agency Member
Marilyn Craft, Council/Agency Member
S.L. Floyd, Agency Member
Annie Hill Herring, Agency Member

APPOINTED OFFICIALS
Garrett Evans, City Manager/Executive Director
Donna Mooney, City Attorney/Legal Counsel
Alice E. Evenson, City Clerk/Agency Secretary (elected)
Nancy Parent, City Treasurer (elected)

CALL TO ORDER

Chair White called the meeting of the Housing Authority to order at 7:38 P.M. in the City Council Chamber at City Hall, 65 Civic Avenue, Pittsburg, California.

ROLL CALL

Member Banales was absent and excused.

CONSIDERATION

Chair White recused himself on Item 4 due to the proximity to his residence. He left the dais at this time.

Vice-Chair Scales-Preston chaired the following item.

4. Adoption of a Housing Authority Resolution Authorizing Acquisition of the Limited Partnership Interests in Gateway Mixed Use Development, a California Limited Partnership (the "Partnership"), a Capital Contribution to the Partnership to Pay-Off Existing Bond Debt, Substitution of Managing General Partner of the Partnership, and an Amendment to the Partnership Agreement Granting the Housing Authority Options to Acquire Both General Partners' Interests in the Partnership

On Motion by Member Craft, seconded by Member Floyd, to adopt and carried by the following vote:

AYES: Craft, Floyd, Herring, Killings, Scales-Preston
ABSENT: Banales, White [Recused]

Chair White returned to the dais at this time.

CONSENT CALENDAR

On Motion by Member Floyd, seconded by Member Herring, to adopt and carried by the following vote:

AYES: Craft, Floyd, Herring, Killings, Scales-Preston, White
ABSENT: Banales

5. Minutes of August 15, 2022

HOUSING AUTHORITY MEMBER REMARKS

There were no Housing Authority Member remarks.

ADJOURNMENT

The Housing Authority was adjourned at 8:05 P.M.

Respectfully submitted,

Alice E. Evenson, Secretary

HOUSING AUTHORIT□ OF THE CIT□ OF PITTSBURG
DISBURSEMENT SUMMAR□
FOR THE MONTH ENDED JUL□ 31, 2022

	C□#	Amount	HAP[1]	VASH[2]	UR[3]	Portability	Admin□Fee	TOTAL
VOUCHERS	51298-51419	$ 1,710,802.89	1,553,769.00	81,724.00	7,030.00	65,449.00	2,830.89	$ 1,710,802.89
	51420-51423	$ 49,293.33	37,159.00	-	250.00	11,790.00	94.33	$ 49,293.33
	51424-51426	$ 15,645.75	5,712.00	-	36.00	9,783.00	114.75	$ 15,645.75
	TOTAL	**$ 1,775,741□97**	**1,596,640□00**	**81,724□00**	**7,316□00**	**87,022□00**	**3,039□97**	**$ 1,775,741□97**

[1]Housing Assistance Payment [2]Veterans Affairs Supportive Housing [3]□tility Reimbursement

	Description	TOTAL
ADMINISTRATIVE E□PENSES	Salaries and Wages	$ 30,282.75
	Salaries- Overtime	-
	Retirement Miscellaneous	2,089.77
	Retirement - Pension Bonds	7,029.50
	Health Insurance - Employees	6,973.10
	CalPERS □nfunded Liability - Non Sworn	61,380.00
	Additional CalPERS Pension Contribution	358.20
	Life Insurance	70.68
	Dental Insurance	616.80
	Vision - Employee	67.68
	Workers' Compensation	1,467.24
	□nemployment Insurance	169.36
	Disability Insurance	145.26
	F I C A & Medicare	2,347.23
	Deferred Compensation - Employer	662.50
	Vac Buy-Bk/Empl Termination	965.92
	Pension 115 Trust	590.33
	Retiree OPEB Costs	2,811.50
	Office Supplies & Materials	-
	Computer Software Expense	-
	Postage	70.65
	Misc Equipment & Furniture	-
	□tilities - Electric	-
	□tilities - Water	17.32
	□tilities - Telephone Service	-
	□tilities - WiFi/Cellphone Service	-
	Membership Dues & Subscriptions	-
	Travel, Training & Conferences	-
	Insurance - Alloc Chgs	4,101.58
	Other Contractual & Professional Service	-
	Maintenance Agreements	-
	Maintenance & Repairs	-
	Building Rental	2,375.00
	Fleet Maintenance Alloc Chgs	588.08
	Building Maintenance Alloc Chgs	1,804.83
	Information Systems Alloc Chgs	1,790.75
	Admin Overhead Paid to City	4,926.54
	Capital Equipment & Furniture	-
	Other fees	-
	Transfer-Out to OPEB Fund	2,075.58
	Yardi Operating Expenses	224.59
		$ 136,002.74

	C□#	Reason	Amount
VOIDED CHECKS □ ADJUSTMENTS		No adjustments	$ -
		TOTAL	$ -

Prepared by□ GY

Reviewed by□

NET OF ISSUED AND VOIDED PA□MENTS $ 1,911,744□71

Payment Register

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Period From 07/2022 to 07/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
0	-1	haphcv	ANIEBA	Ebadi	07/01/2022	07/2022	EFT	P-663	hcv	2,510.00		
0	-2	haphcv	ANIEBA	Ebadi	07/01/2022	07/2022	EFT	P-663	hcv	-2,510.00		testing ach
1	-3	haphcv	ANIEBA	Ebadi	07/01/2022	07/2022	EFT	P-663	hcv	2,510.00		
1	-4	haphcv	ANIEBA	Ebadi	07/01/2022	07/2022	EFT	P-663	hcv	-2,510.00		testing ach
101	-5	haphcv	v0000001	Housing Authority of the City of Pittsburg	07/01/2022	07/2022	Check	P-1005	hcv	0.01		
51298	-6	haphcv	aawjow	OW & AAW, LLC	07/01/2022	07/2022	Check			3,507.00		
51299	-7	haphcv	ACLASS	A Classey Corp. DBA ACL Property Management	07/01/2022	07/2022	Check	P-436	hcv	2,817.00		
51300	-8	haphcv	addwes	Western Addition LLC	07/01/2022	07/2022	Check			5,735.00		
51301	-9	haphcv	ALAMOS	Alamo Square Apartments LLC	07/01/2022	07/2022	Check	P-330	hcv	2,601.00		
51302	-10	haphcv	COLGEO	Cole	07/01/2022	07/2022	Check	P-364	hcv-vash	1,297.00		
51303	-11	haphcv	DISOLG	Olga M. Disney	07/01/2022	07/2022	Check	P-485	hcv-vash	1,354.00		
51304	-12	haphcv	ESTPA	Rhodes	07/01/2022	07/2022	Check	P-765	hcv	1,541.00		
51305	-13	haphcv	GLOFED	Glover	07/01/2022	07/2022	Check	P-47	hcv	1,834.00		
51306	-14	haphcv	guimor	Mortgage	07/01/2022	07/2022	Check	P-852	hcv	2,299.00		
51307	-15	haphcv	HILDIA	Diamond Hillside Apartments	07/01/2022	07/2022	Check		hcv	3,560.00		
51308	-16	haphcv	LASTE	Lau	07/01/2022	07/2022	Check	P-61	hcv	2,364.00		
51309	-17	haphcv	LPMARH	Marina Heights Apartments, LP	07/01/2022	07/2022	Check			75,633.00		
51310	-18	haphcv	LMIAO	Lu	07/01/2022	07/2022	Check	P-246	hcv	2,725.00		
51311	-19	haphcv	MCDDAN	Dante McDonald	07/01/2022	07/2022	Check	P-195	hcv	2,190.00		
51312	-20	haphcv	MILDAR	Darryl H. Milburn	07/01/2022	07/2022	Check	P-520	hcv	1,955.00		
51313	-21	haphcv	ngumyh	Nguyen	07/01/2022	07/2022	Check	P-1151	portin	1,594.00		
51314	-22	haphcv	NGYBA	Ba Nguyen	07/01/2022	07/2022	Check	P-725	hcv	1,793.00		
51315	-23	haphcv	PACCAT	Pacheco	07/01/2022	07/2022	Check	P-488	hcv	1,969.00		
51316	-24	haphcv	PAYLOR	Lorene Paysinger	07/01/2022	07/2022	Check	P-514	hcv	1,809.00		
51317	-25	haphcv	PHOLIN	Linda Phon	07/01/2022	07/2022	Check	P-920	hcv	1,522.00		
51318	-26	haphcv	proeen	MSR Rental Properties, LLC	07/01/2022	07/2022	Check	P-649	hcv-vash	1,780.00		
51319	-27	haphcv	SALSHA	Shah	07/01/2022	07/2022	Check	P-90	hcv	1,727.00		
51320	-28	haphcv	sieoak	Sierra Pacific Properties	07/01/2022	07/2022	Check		hcv	6,277.00		
51321	-29	haphcv	SVET	Veterans Square LP	07/01/2022	07/2022	Check		hcv-pbv1	43,516.00		
51322	-30	haphcv	sulkha	Sultan	07/01/2022	07/2022	Check	P-393	hcv	1,671.00		
51323	-31	haphcv	t1000092	Royston	07/01/2022	07/2022	Check	P-788	hcv	91.00		
51324	-32	haphcv	t1000139	Castillo	07/01/2022	07/2022	Check	P-1097	hcv	3.00		
51325	-33	haphcv	t1000347	Lea III	07/01/2022	07/2022	Check	P-546	hcv	233.00		
51326	-34	haphcv	t1000420	Best	07/01/2022	07/2022	Check	P-122	hcv	18.00		
51327	-35	haphcv	t1000507	Smith	07/01/2022	07/2022	Check	P-844	hcv	92.00		
51328	-36	haphcv	t1000558	Combs	07/01/2022	07/2022	Check	P-229	hcv	253.00		
51329	-37	haphcv	t1000652	Rubio	07/01/2022	07/2022	Check	P-790	hcv	24.00		
51330	-38	haphcv	t1000720	Griffin	07/01/2022	07/2022	Check	P-385	hcv	8.00		

Payment Register

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Period From 07/2022 to 07/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51331	-39	haphcv	t1000983	Davis	07/01/2022	07/2022	Check	P-256	hcv	57.00		
51332	-40	haphcv	t1001148	Camp	07/01/2022	07/2022	Check	P-184	hcv	292.00		
51333	-41	haphcv	t1001728	Edwards	07/01/2022	07/2022	Check	P-298	hcv	132.00		
51334	-42	haphcv	t1001733	Cones	07/01/2022	07/2022	Check	P-231	hcv	33.00		
51335	-43	haphcv	t1001761	Washington	07/01/2022	07/2022	Check	P-942	hcv	101.00		
51336	-44	haphcv	t1001935	Gray	07/01/2022	07/2022	Check	P-378	hcv	35.00		
51337	-45	haphcv	t1002151	Thompson	07/01/2022	07/2022	Check	P-897	hcv	60.00		
51338	-46	haphcv	t1002194	Gregory	07/01/2022	07/2022	Check	P-383	hcv	45.00		
51339	-47	haphcv	t1002229	Spears	07/01/2022	07/2022	Check	P-855	hcv	135.00		
51340	-48	haphcv	t1002257	ackson	07/01/2022	07/2022	Check	P-473	hcv	253.00		
51341	-49	haphcv	t1002299	Rutledge	07/01/2022	07/2022	Check	P-795	hcv	37.00		
51342	-50	haphcv	t1002307	Ellingberg	07/01/2022	07/2022	Check	P-303	hcv	223.00		
51343	-51	haphcv	t1002333	Smith	07/01/2022	07/2022	Check	P-838	hcv	45.00		
51344	-52	haphcv	t1002364	Hampton	07/01/2022	07/2022	Check	P-1134	hcv	134.00		
51345	-53	haphcv	t1002519	Barlow	07/01/2022	07/2022	Check	P-98	hcv	148.00		
51346	-54	haphcv	t1002530	Lascano	07/01/2022	07/2022	Check	P-542	hcv	9.00		
51347	-55	haphcv	t1002622	Whaley	07/01/2022	07/2022	Check	P-52	hcv	4.00		
51348	-56	haphcv	t1002697	Parrott	07/01/2022	07/2022	Check	P-705	hcv	253.00		
51349	-57	haphcv	t1002707	Strausbaugh	07/01/2022	07/2022	Check	P-868	hcv	11.00		
51350	-58	haphcv	t1002835	Gasca	07/01/2022	07/2022	Check	P-1122	hcv	11.00		
51351	-59	haphcv	t1002855	Banks R	07/01/2022	07/2022	Check	P-92	hcv	47.00		
51352	-60	haphcv	t1002909	Thomas	07/01/2022	07/2022	Check	P-891	hcv	14.00		
51353	-61	haphcv	t1003049	Allen	07/01/2022	07/2022	Check	P-63	hcv	140.00		
51354	-62	haphcv	t1003100	Lavall	07/01/2022	07/2022	Check	P-977	hcv	25.00		
51355	-63	haphcv	t1003165	Reese	07/01/2022	07/2022	Check	P-1044	hcv	90.00		
51356	-64	haphcv	t1003247	Rothschild	07/01/2022	07/2022	Check	P-786	hcv	169.00		
51357	-65	haphcv	t1003293	Berry	07/01/2022	07/2022	Check	P-117	hcv	36.00		
51358	-66	haphcv	t1003949	Nichols	07/01/2022	07/2022	Check	P-676	hcv-pbv1	20.00		
51359	-67	haphcv	t1004030	Roper	07/01/2022	07/2022	Check	P-780	hcv	73.00		
51360	-68	haphcv	t1004056	Houston	07/01/2022	07/2022	Check	P-452	hcv	36.00		
51361	-69	haphcv	t1004182	Parker	07/01/2022	07/2022	Check	P-698	hcv	145.00		
51362	-70	haphcv	t1004258	Sanders	07/01/2022	07/2022	Check	P-803	hcv	15.00		
51363	-71	haphcv	t1004318	Edmond	07/01/2022	07/2022	Check	P-292	hcv	64.00		
51364	-72	haphcv	t1004451	McCray	07/01/2022	07/2022	Check	P-1028	hcv	3.00		
51365	-73	haphcv	t1004486	Alfred	07/01/2022	07/2022	Check	P-59	hcv	292.00		
51366	-74	haphcv	t1004506	Nichols	07/01/2022	07/2022	Check	P-674	hcv	80.00		
51367	-75	haphcv	t1004506	Nichols	07/01/2022	07/2022	Check	P-1018	hcv	7.00		
51368	-76	haphcv	t1004587	Warren	07/01/2022	07/2022	Check	P-939	hcv	79.00		
51369	-77	haphcv	t1004601	Bronson	07/01/2022	07/2022	Check	P-143	hcv	1.00		
51370	-78	haphcv	t1004657	Sanders	07/01/2022	07/2022	Check	P-805	hcv	115.00		

Payment Register

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Period From 07/2022 to 07/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51371	-79	haphcv	t1004699	Grigsby	07/01/2022	07/2022	Check	P-389	hcv	37.00		
51372	-80	haphcv	t1004951	Cornish	07/01/2022	07/2022	Check	P-240	hcv	18.00		
51373	-81	haphcv	t1004954	Smith	07/01/2022	07/2022	Check	P-851	hcv	277.00		
51374	-82	haphcv	t1004983	ackson	07/01/2022	07/2022	Check	P-479	hcv	103.00		
51375	-83	haphcv	t1005006	Williams	07/01/2022	07/2022	Check	P-1160	hcv	17.00		
51376	-84	haphcv	t1005029	Wagnon	07/01/2022	07/2022	Check	P-922	hcv	14.00		
51377	-85	haphcv	t1005040	Blanks	07/01/2022	07/2022	Check	P-126	hcv	31.00		
51378	-86	haphcv	t1005124	Hanif	07/01/2022	07/2022	Check	P-402	hcv	76.00		
51379	-87	haphcv	t1005128	Burrus	07/01/2022	07/2022	Check	P-173	hcv	153.00		
51380	-88	haphcv	t1005201	Irvin	07/01/2022	07/2022	Check	P-461	hcv	36.00		
51381	-89	haphcv	t1005247	Gomez	07/01/2022	07/2022	Check	P-362	hcv	41.00		
51382	-90	haphcv	t1005276	Lopez	07/01/2022	07/2022	Check	P-575	hcv	175.00		
51383	-91	haphcv	t1005293	Miller	07/01/2022	07/2022	Check	P-644	hcv	57.00		
51384	-92	haphcv	t1005312	Dones	07/01/2022	07/2022	Check	P-272	hcv	67.00		
51385	-93	haphcv	t1005322	Madison	07/01/2022	07/2022	Check	P-588	hcv	163.00		
51386	-94	haphcv	t1005332	Hearne	07/01/2022	07/2022	Check	P-427	hcv	27.00		
51387	-95	haphcv	t1005360	Ghani	07/01/2022	07/2022	Check	P-353	hcv	119.00		
51388	-96	haphcv	t1005382	ackson	07/01/2022	07/2022	Check	P-467	hcv	92.00		
51389	-97	haphcv	t1005434	Eddins	07/01/2022	07/2022	Check	P-289	hcv	1.00		
51390	-98	haphcv	t1005437	Lewis	07/01/2022	07/2022	Check	P-555	hcv	196.00		
51391	-99	haphcv	t1005470	Washington	07/01/2022	07/2022	Check	P-945	hcv	92.00		
51392	-100	haphcv	t1005471	Lewis	07/01/2022	07/2022	Check	P-561	hcv	48.00		
51393	-101	haphcv	t1005475	Mangum	07/01/2022	07/2022	Check	P-591	hcv	70.00		
51394	-102	haphcv	t1005479	Butler	07/01/2022	07/2022	Check	P-177	hcv	119.00		
51395	-103	haphcv	t1005483	Morris	07/01/2022	07/2022	Check	P-633	hcv	148.00		
51396	-104	haphcv	t1005563	Carter	07/01/2022	07/2022	Check	P-194	hcv	40.00		
51397	-105	haphcv	t1005568	Ferguson	07/01/2022	07/2022	Check	P-320	hcv-vash	18.00		
51398	-106	haphcv	t1005573	ohnson	07/01/2022	07/2022	Check	P-494	hcv	344.00		
51399	-107	haphcv	t1005605	Phifer r.	07/01/2022	07/2022	Check	P-728	hcv-vash	22.00		
51400	-108	haphcv	t1005619	Evans	07/01/2022	07/2022	Check	P-309	hcv	29.00		
51401	-109	haphcv	t1005652	Smith	07/01/2022	07/2022	Check	P-835	hcv	25.00		
51402	-110	haphcv	t1005662	Acree	07/01/2022	07/2022	Check	P-17	hcv	66.00		
51403	-111	haphcv	t1005678	Albert	07/01/2022	07/2022	Check	P-55	hcv	36.00		
51404	-112	haphcv	t1005732	Millanfriel	07/01/2022	07/2022	Check	P-640	hcv-pbv1	23.00		
51405	-113	haphcv	t1005736	Lewis	07/01/2022	07/2022	Check	P-559	hcv-pbv1	23.00		
51406	-114	haphcv	t1005754	endall	07/01/2022	07/2022	Check	P-523	hcv-pbv1	23.00		
51407	-115	haphcv	t1005785	Behn	07/01/2022	07/2022	Check	P-110	hcv-pbv1	23.00		
51408	-116	haphcv	TAMALB	Tam	07/01/2022	07/2022	Check	P-597	hcv	1,256.00		
51409	-117	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	07/01/2022	07/2022	Check			45,389.46		

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51410	-118	haphcv	v0000003	SACRAMENTO HO SING AND REDEVELOPMENT AGE	07/01/2022	07/2022	Check	P-966	hcv	77.02		
51411	-119	haphcv	v0000018	ing County Housing Authority	07/01/2022	07/2022	Check		hcv	1,088.13		
51412	-120	haphcv	v0000020	MERCED CO NTY HO SING A THORITY	07/01/2022	07/2022	Check	P-709	hcv	73.91		
51413	-121	haphcv	v0000022	Harris County Housing Authority	07/01/2022	07/2022	Check		hcv	766.87		
51414	-122	haphcv	v0000025	Suisun City Housing Authority	07/01/2022	07/2022	Check		hcv-vash	1,634.33		
51415	-123	haphcv	VENREN	VENTANA RENTAL HOMES	07/01/2022	07/2022	Check	P-185	hcv	389.00		
51416	-124	haphcv	vilsan	San Marcos Villas	07/01/2022	07/2022	Check			8,278.00		
51417	-125	haphcv	WES PP	Western pper Haight Street Apartments, LLC	07/01/2022	07/2022	Check	P-666	hcv	1,743.00		
51418	-126	haphcv	YINYE	Yeung	07/01/2022	07/2022	Check	P-261	hcv	1,515.00		
2	-127	haphcv	9thst	9th Street Associates, LP	07/01/2022	07/2022	EFT			5,530.00		
3	-128	haphcv	ABDMEE	Abdiani	07/01/2022	07/2022	EFT	P-2	hcv	848.00		
4	-129	haphcv	abjent	AB Enterprises, Inc. dba Blue Line Property Mgmt	07/01/2022	07/2022	EFT		hcv	17,249.00		
5	-130	haphcv	ADDLEO	Addison	07/01/2022	07/2022	EFT	P-926	hcv	1,812.00		
6	-131	haphcv	AGRAMI	Agrawal	07/01/2022	07/2022	EFT	P-647	hcv	1,461.00		
7	-132	haphcv	AG ROS	Aguilar	07/01/2022	07/2022	EFT	P-789	hcv	1,250.00		
8	-133	haphcv	AG ROSA	Aguirre	07/01/2022	07/2022	EFT	P-580	hcv	2,021.00		
9	-134	haphcv	ALEDEM	Demetrius Alexander	07/01/2022	07/2022	EFT	P-8	hcv	1,780.00		
10	-135	haphcv	ALE AN	Alexander	07/01/2022	07/2022	EFT	P-417	hcv	710.00		
11	-136	haphcv	ALVDAL	Dale Alvarez	07/01/2022	07/2022	EFT	P-703	hcv	1,220.00		
12	-137	haphcv	AMAFEL	Amarante	07/01/2022	07/2022	EFT	P-160	hcv-vash	1,483.00		
13	-138	haphcv	andcec	Cecilia Anderson	07/01/2022	07/2022	EFT	P-281	hcv	2,407.00		
14	-139	haphcv	ANDSHA	Shawn Anderson	07/01/2022	07/2022	EFT	P-496	hcv	1,501.00		
15	-140	haphcv	ANIEBA	Ebadi	07/01/2022	07/2022	EFT	P-663	hcv	2,510.00		
16	-141	haphcv	aptsto	Stoneman Apartments	07/01/2022	07/2022	EFT		hcv	42,001.00		
17	-142	haphcv	AREMAR	Bailey	07/01/2022	07/2022	EFT	P-468	hcv	2,001.00		
18	-143	haphcv	bahshr	Ba-Harani	07/01/2022	07/2022	EFT	P-627	hcv	2,199.00		
19	-144	haphcv	BAN A	Mel L. Banagan	07/01/2022	07/2022	EFT	P-137	hcv	1,950.00		
20	-145	haphcv	BARCAR	Carlos G. Barraza	07/01/2022	07/2022	EFT	P-668	hcv	804.00		
21	-146	haphcv	BAR EN	Bartlett	07/01/2022	07/2022	EFT			3,000.00		
22	-147	haphcv	barsco	Barbour	07/01/2022	07/2022	EFT	P-153	hcv	2,554.00		
23	-148	haphcv	BA OH	ohn Charles Bautista	07/01/2022	07/2022	EFT	P-50	hcv	1,965.00		
24	-149	haphcv	bayman	Baywood Property Management, Inc.	07/01/2022	07/2022	EFT	P-568	hcv	1,792.00		
25	-150	haphcv	BECCHR	Becerra	07/01/2022	07/2022	EFT	P-348	hcv	1,158.00		
26	-151	haphcv	BEEHOL	Hawkins	07/01/2022	07/2022	EFT		hcv	6,484.00		
27	-152	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	07/01/2022	07/2022	EFT	P-88	hcv	2,027.00		
28	-153	haphcv	belmont	Belmont Apartments	07/01/2022	07/2022	EFT		hcv	80,263.00		
29	-154	haphcv	benale	Benjamen	07/01/2022	07/2022	EFT	P-211	hcv	764.00		

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30	-155	haphcv	BERTEN	Berry r	07/01/2022	07/2022	EFT		hcv	5,622.00		
31	-156	haphcv	BETHEL	Bethel Global Development LLC	07/01/2022	07/2022	EFT		hcv	2,402.00		
32	-157	haphcv	bhagin	Bhatia	07/01/2022	07/2022	EFT	P-1080	hcv	2,784.00		
33	-158	haphcv	bhajim	Bhatia	07/01/2022	07/2022	EFT			2,726.00		
34	-159	haphcv	bhasom	Som N Bhatia	07/01/2022	07/2022	EFT			5,847.00		
35	-160	haphcv	BHASWA	Pinakin Bhatt	07/01/2022	07/2022	EFT	P-168	hcv	2,548.00		
36	-161	haphcv	BIC OS	Bachir	07/01/2022	07/2022	EFT	P-315	hcv	1,950.00		
37	-162	haphcv	BOOSTE	Booras	07/01/2022	07/2022	EFT	P-135	hcv	2,875.00		
38	-163	haphcv	bor201	2018-2 IH Borrower LP	07/01/2022	07/2022	EFT			4,079.00		
39	-164	haphcv	boyros	Boyd	07/01/2022	07/2022	EFT	P-230	hcv	2,698.00		
40	-165	haphcv	BOYVIC	Boyko	07/01/2022	07/2022	EFT	P-892	hcv	2,051.00		
41	-166	haphcv	BRA EL	elly Ann Bradford	07/01/2022	07/2022	EFT	P-166	hcv	1,356.00		
42	-167	haphcv	BRIMAR	Briggs	07/01/2022	07/2022	EFT	P-493	hcv	3,081.00		
43	-168	haphcv	BRO AN	Brown	07/01/2022	07/2022	EFT	P-1161	hcv-home	2,125.00		
44	-169	haphcv	brojess	Platt	07/01/2022	07/2022	EFT	P-108	hcv	1,477.00		
45	-170	haphcv	BROLA	Brown	07/01/2022	07/2022	EFT	P-645	hcv	1,119.00		
46	-171	haphcv	BSAPPH	Blue Sapphire Homes, Inc.	07/01/2022	07/2022	EFT	P-747	hcv	2,589.00		
47	-172	haphcv	B IH O	Huong T. Bui	07/01/2022	07/2022	EFT		hcv	4,335.00		
48	-173	haphcv	B R OE	oe Burns	07/01/2022	07/2022	EFT	P-571	hcv-vash	1,079.00		
49	-174	haphcv	CANMOM	Cannon	07/01/2022	07/2022	EFT	P-560	hcv	3,283.00		
50	-175	haphcv	CARCLA	Clara Beatriz Cardenas	07/01/2022	07/2022	EFT			3,170.00		
51	-176	haphcv	CARDON	Carson	07/01/2022	07/2022	EFT	P-865	hcv	2,025.00		
52	-177	haphcv	CARLLC	Carpino, LLC	07/01/2022	07/2022	EFT	P-46	hcv	1,985.00		
53	-178	haphcv	CASTLE	Castle Creek Company, Inc.	07/01/2022	07/2022	EFT	P-866	hcv	1,528.00		
54	-179	haphcv	CHACHR	Chambers	07/01/2022	07/2022	EFT	P-193	hcv	2,150.00		
55	-180	haphcv	CHACOR	Cora Ann Chambers	07/01/2022	07/2022	EFT	P-651	hcv	515.00		
56	-181	haphcv	chap.m	P. M. Chaobal	07/01/2022	07/2022	EFT	P-432	hcv	2,165.00		
57	-182	haphcv	CHECHA	Chen	07/01/2022	07/2022	EFT	P-722	hcv	474.00		
58	-183	haphcv	chehon	Chen	07/01/2022	07/2022	EFT		hcv	4,994.00		
59	-184	haphcv	CHE IE	ienlin Chen	07/01/2022	07/2022	EFT		hcv	4,117.00		
60	-185	haphcv	CHIHWA	Hwa-Yoong Chiu	07/01/2022	07/2022	EFT	P-913	hcv	2,380.00		
61	-186	haphcv	CHOADA	Ada Choi	07/01/2022	07/2022	EFT	P-271	hcv	2,750.00		
62	-187	haphcv	chochu	Choi	07/01/2022	07/2022	EFT		hcv	3,231.00		
63	-188	haphcv	chomic	Choi	07/01/2022	07/2022	EFT	P-590	hcv	2,500.00		
64	-189	haphcv	chucha	Chung	07/01/2022	07/2022	EFT	P-712	hcv	1,945.00		
65	-190	haphcv	CITHO	Pittsburg Housing Authority	07/01/2022	07/2022	EFT		hcv	7,104.00		
66	-191	haphcv	CLA A	uan F. Clara	07/01/2022	07/2022	EFT	P-853	hcv	1,717.00		
67	-192	haphcv	coapin	Ping Cao	07/01/2022	07/2022	EFT	P-671	hcv	2,435.00		
68	-193	haphcv	CORADO	Cortesi III	07/01/2022	07/2022	EFT	P-629	hcv	1,920.00		
69	-194	haphcv	cordav	Cortesi	07/01/2022	07/2022	EFT	P-340	hcv	1,583.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
70	-195	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	07/01/2022	07/2022	EFT			89,059.00		
71	-196	haphcv	CRE EA	eannette D. Crespo	07/01/2022	07/2022	EFT	P-1001	hcv	2,442.00		
72	-197	haphcv	crospat	Patricia Crosby	07/01/2022	07/2022	EFT	P-714	hcv	1,950.00		
73	-198	haphcv	DAI S	Dailey	07/01/2022	07/2022	EFT	P-775	hcv	1,464.00		
74	-199	haphcv	DAMTO	Dam uang To	07/01/2022	07/2022	EFT	P-463	hcv	2,721.00		
75	-200	haphcv	danfre	French Evans	07/01/2022	07/2022	EFT	P-848	hcv	1,714.00		
76	-201	haphcv	DAVA D	Audrey Davis	07/01/2022	07/2022	EFT	P-242	hcv	1,348.00		
77	-202	haphcv	DAV ES	Davis	07/01/2022	07/2022	EFT	P-504	hcv	973.00		
78	-203	haphcv	DAV EV	evin Davidson	07/01/2022	07/2022	EFT	P-612	hcv	1,629.00		
79	-204	haphcv	DAVPA	Paulette Davis	07/01/2022	07/2022	EFT	P-232	hcv	1,138.00		
80	-205	haphcv	DAVROS	Davis	07/01/2022	07/2022	EFT	P-146	hcv	1,429.00		
81	-206	haphcv	DAY AG	agdeep or Shashi Dayal	07/01/2022	07/2022	EFT		hcv	3,685.00		
82	-207	haphcv	DEAWAY	Dea	07/01/2022	07/2022	EFT	P-228	hcv	2,714.00		
83	-208	haphcv	DELCHA	Charles Dellamore	07/01/2022	07/2022	EFT	P-808	hcv	1,666.00		
84	-209	haphcv	DELLAT	David De La Torre	07/01/2022	07/2022	EFT	P-791	hcv	1,757.00		
85	-210	haphcv	doabri	Doan	07/01/2022	07/2022	EFT		hcv	10,509.00		
86	-211	haphcv	doanna	Do	07/01/2022	07/2022	EFT		hcv	4,872.00		
87	-212	haphcv	Dunest	Dunlap	07/01/2022	07/2022	EFT	P-213	hcv	1,026.00		
88	-213	haphcv	duntyr	Duncan	07/01/2022	07/2022	EFT	P-279	hcv	1,417.00		
89	-214	haphcv	D OLIN	Linda Duong	07/01/2022	07/2022	EFT	P-919	hcv	1,345.00		
90	-215	haphcv	eastle	Mercy Housing California XXXVIII	07/01/2022	07/2022	EFT			4,767.00		
91	-216	haphcv	ENGLED	Doris Engle Family Ltd Partnership	07/01/2022	07/2022	EFT	P-771	hcv	1,337.00		
92	-217	haphcv	espalm	Alma B Espiritu	07/01/2022	07/2022	EFT	P-58	hcv	2,200.00		
93	-218	haphcv	ESP OH	Espinoza	07/01/2022	07/2022	EFT	P-376	hcv	1,540.00		
94	-219	haphcv	ES GER	Gerardo M. Esquivel	07/01/2022	07/2022	EFT	P-1057	hcv	1,318.00		
95	-220	haphcv	fanjia	ianxin Fang	07/01/2022	07/2022	EFT		hcv	5,300.00		
96	-221	haphcv	fanxia	Li	07/01/2022	07/2022	EFT	P-662	hcv	2,794.00		
97	-222	haphcv	fenjin	Mao	07/01/2022	07/2022	EFT	P-929	hcv	2,339.00		
98	-223	haphcv	FIEBAR	Barbara . Fierner	07/01/2022	07/2022	EFT	P-787	hcv	1,875.00		
99	-224	haphcv	FIE OS	oseph Field	07/01/2022	07/2022	EFT	P-740	hcv	1,137.00		
100	-225	haphcv	FIGHER	Figueroa	07/01/2022	07/2022	EFT	P-134	hcv	1,589.00		
101	-226	haphcv	fletoc	Brewster Fleeton	07/01/2022	07/2022	EFT	P-125	hcv	1,460.00		
102	-227	haphcv	FLOALE	Alexander Flowers	07/01/2022	07/2022	EFT	P-219	hcv	1,395.00		
103	-228	haphcv	foxcre	Fox Creek Apartments	07/01/2022	07/2022	EFT			30,511.00		
104	-229	haphcv	framo	Monica Fraga	07/01/2022	07/2022	EFT	P-130	hcv	1,866.00		
105	-230	haphcv	FRARE	Frazier	07/01/2022	07/2022	EFT		hcv	3,858.00		
106	-231	haphcv	F LDAR	Fuller	07/01/2022	07/2022	EFT	P-429	hcv	2,164.00		
107	-232	haphcv	fulfan	Fan Fuller	07/01/2022	07/2022	EFT	P-887	hcv-vash	1,526.00		
108	-233	haphcv	GAIGIA	Gaines	07/01/2022	07/2022	EFT	P-804	hcv	2,050.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
109	-234	haphcv	gaokel	Gao	07/01/2022	07/2022	EFT	P-1024	hcv	2,312.00		
110	-235	haphcv	GARADR	Adraine Gardner	07/01/2022	07/2022	EFT	P-901	hcv	1,466.00		
111	-236	haphcv	GARANT	Antoinette L Garcia	07/01/2022	07/2022	EFT	P-902	hcv	1,167.00		
112	-237	haphcv	gardav	David Gardner	07/01/2022	07/2022	EFT		hcv	3,846.00		
113	-238	haphcv	garrup	Rupesh Garg	07/01/2022	07/2022	EFT	P-782	hcv	2,808.00		
114	-239	haphcv	GARWIL	William H. Gardiner	07/01/2022	07/2022	EFT	P-273	hcv	1,258.00		
115	-240	haphcv	gateway	Gateway Apartments	07/01/2022	07/2022	EFT			9,880.00		
116	-241	haphcv	GHAPAR	Ghaboulidashti	07/01/2022	07/2022	EFT	P-1119	hcv	1,094.00		
117	-242	haphcv	GHOVER	Vernon or Eva Gholson	07/01/2022	07/2022	EFT		hcv	2,634.00		
118	-243	haphcv	GIL AC	acqueline Gill	07/01/2022	07/2022	EFT	P-439	hcv	1,534.00		
119	-244	haphcv	gilmah	Gill	07/01/2022	07/2022	EFT		hcv	4,412.00		
120	-245	haphcv	GILS	Gill	07/01/2022	07/2022	EFT	P-755	hcv	1,548.00		
121	-246	haphcv	GOLDAS	Gold A and S LLC	07/01/2022	07/2022	EFT		hcv	4,636.00		
122	-247	haphcv	GOMHAD	Gomez	07/01/2022	07/2022	EFT	P-360	hcv	846.00		
123	-248	haphcv	GON ES	esse Gonzaga	07/01/2022	07/2022	EFT		hcv	2,807.00		
124	-249	haphcv	GONMAR	Gonsalves	07/01/2022	07/2022	EFT	P-889	hcv	2,336.00		
125	-250	haphcv	gontin	Gong	07/01/2022	07/2022	EFT	P-237	hcv	2,139.00		
126	-251	haphcv	GREFRA	Greene	07/01/2022	07/2022	EFT	P-440	hcv	2,978.00		
127	-252	haphcv	GREROD	Green	07/01/2022	07/2022	EFT	P-380	hcv	962.00		
128	-253	haphcv	GRER P	Grewal	07/01/2022	07/2022	EFT	P-1070	hcv	2,936.00		
129	-254	haphcv	GRIPAT	Patricia Gridley	07/01/2022	07/2022	EFT	P-164	hcv	975.00		
130	-255	haphcv	GROITA	Italo Grossi	07/01/2022	07/2022	EFT	P-570	hcv	1,588.00		
131	-256	haphcv	G AAMP	Guardado	07/01/2022	07/2022	EFT	P-80	hcv	1,413.00		
132	-257	haphcv	G A RY	Guan	07/01/2022	07/2022	EFT		hcv	4,173.00		
133	-258	haphcv	G NBOB	Hang	07/01/2022	07/2022	EFT	P-614	hcv	1,359.00		
134	-259	haphcv	gupabe	Abhilash Gupta	07/01/2022	07/2022	EFT			4,518.00		
135	-260	haphcv	H01WAT	Watson, Sr.	07/01/2022	07/2022	EFT	P-948	hcv	878.00		
136	-261	haphcv	HACNIC	Hackett	07/01/2022	07/2022	EFT	P-161	hcv	1,973.00		
137	-262	haphcv	hafash	Asharfun Nisha Hafiz	07/01/2022	07/2022	EFT	P-895	hcv	1,667.00		
138	-263	haphcv	hagjef	effrey Paul Hagler	07/01/2022	07/2022	EFT		hcv	5,215.00		
139	-264	haphcv	HALDEL	Hall	07/01/2022	07/2022	EFT	P-85	hcv	1,780.00		
140	-265	haphcv	HARCLA	Hardison	07/01/2022	07/2022	EFT	P-196	hcv	2,165.00		
141	-266	haphcv	HARDAV	Hart	07/01/2022	07/2022	EFT	P-1114	hcv	1,938.00		
142	-267	haphcv	HARLAW	Harrold	07/01/2022	07/2022	EFT		hcv	7,258.00		
143	-268	haphcv	HARPRO	Hartz Property Management	07/01/2022	07/2022	EFT	P-843	hcv	1,720.00		
144	-269	haphcv	hawdel	Delta Hawaii Garden Apartments LLC	07/01/2022	07/2022	EFT		hcv	9,057.00		
145	-270	haphcv	hechuan	He	07/01/2022	07/2022	EFT	P-103	hcv	1,917.00		
146	-271	haphcv	hejiyu	He	07/01/2022	07/2022	EFT	P-307	hcv	1,836.00		
147	-272	haphcv	hendav	David T. Hennigan	07/01/2022	07/2022	EFT			18,379.00		
148	-273	haphcv	hensil	Henderson	07/01/2022	07/2022	EFT		hcv	4,156.00		

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149	-274	haphcv	HERELI	Herrera	07/01/2022	07/2022	EFT	P-995	hcv	650.00		
150	-275	haphcv	HILMAR	Hill	07/01/2022	07/2022	EFT	P-119	hcv	278.00		
151	-276	haphcv	HIRCHA	Hira	07/01/2022	07/2022	EFT	P-182	hcv	1,828.00		
152	-277	haphcv	HOACAR	Carl E. Hoard II	07/01/2022	07/2022	EFT	P-1105	hcv	2,705.00		
153	-278	haphcv	HOAHAN	Hoang	07/01/2022	07/2022	EFT	P-1148	portin	2,608.00		
154	-279	haphcv	HOAHAV	Hoag	07/01/2022	07/2022	EFT	P-324	hcv	2,560.00		
155	-280	haphcv	HOALBE	Albert Ho	07/01/2022	07/2022	EFT	P-526	hcv	1,740.00		
156	-281	haphcv	HOF OY	Hoffman	07/01/2022	07/2022	EFT	P-783	hcv	1,284.00		
157	-282	haphcv	HOLRON	Ronald G. Holmes	07/01/2022	07/2022	EFT	P-989	hcv	1,022.00		
158	-283	haphcv	holsrh	SRH Holdings LLC	07/01/2022	07/2022	EFT	P-12	hcv	3,342.00		
159	-284	haphcv	hominv	Invitation Homes	07/01/2022	07/2022	EFT		hcv	4,537.00		
160	-285	haphcv	HOTONY	Tony Ho	07/01/2022	07/2022	EFT	P-724	hcv	1,142.00		
161	-286	haphcv	H ACHE	Huang	07/01/2022	07/2022	EFT	P-625	hcv	2,773.00		
162	-287	haphcv	H AFAN	Fanny ao Huang	07/01/2022	07/2022	EFT	P-296	hcv	1,633.00		
163	-288	haphcv	H AMIN	Ming in Huang	07/01/2022	07/2022	EFT	P-254	hcv	2,337.00		
164	-289	haphcv	huatao	Huang	07/01/2022	07/2022	EFT		hcv	7,395.00		
165	-290	haphcv	H AXIA	Huang	07/01/2022	07/2022	EFT	P-397	hcv	2,586.00		
166	-291	haphcv	H NANC	Nancy Xiu hen Hu	07/01/2022	07/2022	EFT	P-959	hcv	2,137.00		
167	-292	haphcv	huythi	Huynh	07/01/2022	07/2022	EFT	P-172	hcv	2,400.00		
168	-293	haphcv	IGREEN	IGreen House Inc. ane S Schmidt	07/01/2022	07/2022	EFT	P-1166	hcv	388.00		
169	-294	haphcv	ihprw	IH5 Property West LP	07/01/2022	07/2022	EFT	P-742	hcv	3,194.00		
170	-295	haphcv	INV EY	eyee Investment LLC	07/01/2022	07/2022	EFT	P-735	hcv	1,233.00		
171	-296	haphcv	IRVLAS	Irving	07/01/2022	07/2022	EFT	P-346	hcv	1,720.00		
172	-297	haphcv	isomic	Michael or ay Isola	07/01/2022	07/2022	EFT		hcv	2,374.00		
173	-298	haphcv	ABLOV	Love	07/01/2022	07/2022	EFT	P-874	hcv	1,827.00		
174	-299	haphcv	ACBRA	ackson	07/01/2022	07/2022	EFT	P-294	hcv	2,083.00		
175	-300	haphcv	ACCON	ackson	07/01/2022	07/2022	EFT	P-18	hcv	2,868.00		
176	-301	haphcv	AIDEE	ain	07/01/2022	07/2022	EFT		hcv	5,943.00		
177	-302	haphcv	AISAM	ain	07/01/2022	07/2022	EFT		hcv	7,100.00		
178	-303	haphcv	AIVIS	ain	07/01/2022	07/2022	EFT	P-1043	hcv	2,100.00		
179	-304	haphcv	jasnle	Le	07/01/2022	07/2022	EFT	P-328	hcv	2,770.00		
180	-305	haphcv	IA HA	hang	07/01/2022	07/2022	EFT	P-824	hcv	1,486.00		
181	-306	haphcv	OH RY	ohnson	07/01/2022	07/2022	EFT	P-731	hcv	1,963.00		
182	-307	haphcv	OHRON	ohnson	07/01/2022	07/2022	EFT	P-407	hcv	1,480.00		
183	-308	haphcv	ONSHA	ones	07/01/2022	07/2022	EFT	P-1125	hcv	1,939.00		
184	-309	haphcv	O MOS	ouya	07/01/2022	07/2022	EFT	P-799	hcv	1,027.00		
185	-310	haphcv	junhou	Hou	07/01/2022	07/2022	EFT	P-171	hcv	2,554.00		
186	-311	haphcv	ALOMP	alra	07/01/2022	07/2022	EFT	P-481	hcv	3,698.00		
187	-312	haphcv	kanwei	ang	07/01/2022	07/2022	EFT		hcv	4,171.00		
188	-313	haphcv	A NAV	aur	07/01/2022	07/2022	EFT	P-97	hcv	2,497.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
189	-314	haphcv	CPLLC	C Prime LLC	07/01/2022	07/2022	EFT	P-1165	hcv	1,535.00		
190	-315	haphcv	kemgro	. E. M. Group LLC	07/01/2022	07/2022	EFT	P-133	hcv	1,811.00		
191	-316	haphcv	ESANT	Anthony eslinke	07/01/2022	07/2022	EFT		hcv	3,305.00		
192	-317	haphcv	EVMOF	Moffett	07/01/2022	07/2022	EFT	P-842	hcv	2,053.00		
193	-318	haphcv	HAFAR	han	07/01/2022	07/2022	EFT	P-525	hcv	1,405.00		
194	-319	haphcv	kirkkw	W irker Creek, LLC	07/01/2022	07/2022	EFT		hcv	3,797.00		
195	-320	haphcv	IT OH	itta	07/01/2022	07/2022	EFT	P-862	hcv	2,760.00		
196	-321	haphcv	A IY	uang	07/01/2022	07/2022	EFT		hcv	6,902.00		
197	-322	haphcv	kuasim	uang	07/01/2022	07/2022	EFT	P-957	hcv	1,161.00		
198	-323	haphcv	DI	dzislaw ujawa	07/01/2022	07/2022	EFT	P-665	hcv	1,311.00		
199	-324	haphcv	kwadan	Daniel wan	07/01/2022	07/2022	EFT		hcv	2,044.00		
200	-325	haphcv	LAFTHO	LaFleur	07/01/2022	07/2022	EFT	P-418	hcv	1,594.00		
201	-326	haphcv	LAMCHO	Lam	07/01/2022	07/2022	EFT	P-201	hcv	1,703.00		
202	-327	haphcv	LAMSHI	Manly-Lampkin	07/01/2022	07/2022	EFT	P-369	hcv	1,043.00		
203	-328	haphcv	LARPET	Peter C. Larsen	07/01/2022	07/2022	EFT	P-792	hcv	1,522.00		
204	-329	haphcv	LAS EV	Lassair	07/01/2022	07/2022	EFT	P-543	hcv	405.00		
205	-330	haphcv	LATLLC	Latif, LLC	07/01/2022	07/2022	EFT		hcv	4,633.00		
206	-331	haphcv	lcstar	LCSTAR, LLC	07/01/2022	07/2022	EFT		hcv	3,234.00		
207	-332	haphcv	ledaot	Le	07/01/2022	07/2022	EFT	P-215	hcv	1,134.00		
208	-333	haphcv	LEE AC	ack Wai Lee	07/01/2022	07/2022	EFT	P-544	hcv	1,355.00		
209	-334	haphcv	leesiu	Siu Wan Windytiti Lee	07/01/2022	07/2022	EFT	P-216	hcv	2,051.00		
210	-335	haphcv	LEESTE	Steven Lee	07/01/2022	07/2022	EFT	P-681	hcv	1,638.00		
211	-336	haphcv	LEEY H	Yuhjen uang Lee	07/01/2022	07/2022	EFT	P-233	hcv	1,932.00		
212	-337	haphcv	LEH YN	Le	07/01/2022	07/2022	EFT	P-221	hcv	2,461.00		
213	-338	haphcv	LELENA	Le	07/01/2022	07/2022	EFT	P-677	hcv	864.00		
214	-339	haphcv	LERYIP	Yiping I. and Frederic Leroudier	07/01/2022	07/2022	EFT			4,017.00		
215	-340	haphcv	leujoh	ohn M. Leung	07/01/2022	07/2022	EFT		hcv	7,183.00		
216	-341	haphcv	LE MAY	May Leung or Rodney Chen	07/01/2022	07/2022	EFT		hcv	2,785.00		
217	-342	haphcv	leupet	Peter Leung	07/01/2022	07/2022	EFT	P-181	hcv	2,346.00		
218	-343	haphcv	lido	ames . Busby & Irvin Deutcher/DBA Crestview Apts	07/01/2022	07/2022	EFT		hcv	10,251.00		
219	-344	haphcv	LIFA I	Faqiang Li	07/01/2022	07/2022	EFT	P-794	hcv	2,700.00		
220	-345	haphcv	LI IE	Li	07/01/2022	07/2022	EFT	P-737	hcv	1,921.00		
221	-346	haphcv	LI INH	inhuan Li	07/01/2022	07/2022	EFT	P-507	hcv	1,515.00		
222	-347	haphcv	LI OSH	Li	07/01/2022	07/2022	EFT	P-770	hcv	1,123.00		
223	-348	haphcv	LINTIM	Tim Lindstrom c/o AAA Property Management	07/01/2022	07/2022	EFT	P-682	hcv	1,166.00		
224	-349	haphcv	LIVPA	Paul Livson	07/01/2022	07/2022	EFT	P-101	hcv-vash	744.00		
225	-350	haphcv	LIWEIM	Li	07/01/2022	07/2022	EFT	P-425	hcv	1,620.00		
226	-351	haphcv	LIYING	Ying Hong Li	07/01/2022	07/2022	EFT		hcv	3,323.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
227	-352	haphcv	LI BEL	hong Li	07/01/2022	07/2022	EFT	P-946	hcv	1,513.00		
228	-353	haphcv	lonpau	Paul Long	07/01/2022	07/2022	EFT	P-516	hcv	1,403.00		
229	-354	haphcv	losmed	Los Medanos Village Apartments	07/01/2022	07/2022	EFT		hcv	13,860.00		
230	-355	haphcv	LO TON	Tony or Yvonne Louie	07/01/2022	07/2022	EFT	P-21	hcv	1,106.00		
231	-356	haphcv	LOYANT	Loyola	07/01/2022	07/2022	EFT	P-664	hcv	547.00		
232	-357	haphcv	LO OS	ose Loza	07/01/2022	07/2022	EFT	P-981	hcv	983.00		
233	-358	haphcv	L IAND	Lui	07/01/2022	07/2022	EFT		hcv	2,830.00		
234	-359	haphcv	luiwei	Wei Liu Guangxin Frank Liu	07/01/2022	07/2022	EFT	P-974	hcv	1,446.00		
235	-360	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	07/01/2022	07/2022	Check		hcv	4,856.00		
236	-361	haphcv	L NC R	Curtis H. Lundberg	07/01/2022	07/2022	EFT	P-708	hcv	560.00		
237	-362	haphcv	L XIANG	Lu	07/01/2022	07/2022	EFT			8,406.00		
238	-363	haphcv	lychiv	Chi Vien Ly	07/01/2022	07/2022	EFT	P-455	hcv	1,073.00		
239	-364	haphcv	macyol	McDonald	07/01/2022	07/2022	EFT	P-756	hcv	2,102.00		
240	-365	haphcv	MADMAS	Massey	07/01/2022	07/2022	EFT	P-64	hcv	1,903.00		
241	-366	haphcv	MADRA	Madra	07/01/2022	07/2022	EFT		hcv	3,106.00		
242	-367	haphcv	mahrad	Radha Mahesram	07/01/2022	07/2022	EFT	P-831	hcv	3,010.00		
243	-368	haphcv	MAHTAR	Tariq	07/01/2022	07/2022	EFT	P-517	hcv	2,452.00		
244	-369	haphcv	majenn	Ma	07/01/2022	07/2022	EFT		hcv	3,873.00		
245	-370	haphcv	malrah	Malik	07/01/2022	07/2022	EFT	P-944	hcv	3,735.00		
246	-371	haphcv	MAN EF	eff Mann	07/01/2022	07/2022	EFT		hcv	6,267.00		
247	-372	haphcv	MARGLE	Glenn Marshall	07/01/2022	07/2022	EFT	P-1093	hcv	2,469.00		
248	-373	haphcv	MARHAR	Harrison	07/01/2022	07/2022	EFT	P-415	hcv	588.00		
249	-374	haphcv	MARTEA	Martinez	07/01/2022	07/2022	EFT	P-363	hcv	2,746.00		
250	-375	haphcv	MASDEM	Mason	07/01/2022	07/2022	EFT	P-603	hcv	2,545.00		
251	-376	haphcv	MATL I	Lui	07/01/2022	07/2022	EFT	P-325	hcv	1,617.00		
252	-377	haphcv	MATREA	Matrixone Realty	07/01/2022	07/2022	EFT	P-519	hcv	1,091.00		
253	-378	haphcv	MCCHEI	McCarthy	07/01/2022	07/2022	EFT	P-950	hcv	1,943.00		
254	-379	haphcv	MCL AN	McLean	07/01/2022	07/2022	EFT	P-476	hcv	1,230.00		
255	-380	haphcv	MEADOW	Meadow Glen Apartments	07/01/2022	07/2022	EFT	P-498	hcv	1,925.00		
256	-381	haphcv	MEITAT	Mei	07/01/2022	07/2022	EFT	P-837	hcv	3,564.00		
257	-382	haphcv	menjin	inyu Meng	07/01/2022	07/2022	EFT	P-11	hcv	1,939.00		
258	-383	haphcv	MENSAB	Sabine Menzel	07/01/2022	07/2022	EFT		hcv	4,355.00		
259	-384	haphcv	MER OH	ohnson	07/01/2022	07/2022	EFT	P-500	hcv	748.00		
260	-385	haphcv	ME HEC	Hector Meza	07/01/2022	07/2022	EFT	P-678	hcv	932.00		
261	-386	haphcv	MILAND	Miloslavich	07/01/2022	07/2022	EFT	P-860	hcv	1,904.00		
262	-387	haphcv	MILCAR	Miller	07/01/2022	07/2022	EFT	P-423	hcv	2,244.00		
263	-388	haphcv	MILHOM	Millennium Homes	07/01/2022	07/2022	EFT	P-78	hcv	2,187.00		
264	-389	haphcv	MILMAR	Maryann Miller	07/01/2022	07/2022	EFT	P-535	hcv	798.00		
265	-390	haphcv	mircar	Miranda	07/01/2022	07/2022	EFT	P-650	hcv	579.00		

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266	-391	haphcv	MIRHAS	Hassan Mirabedi	07/01/2022	07/2022	EFT		hcv	10,118.00		
267	-392	haphcv	MITGWE	Gwendolyn Mitchell	07/01/2022	07/2022	EFT		hcv	3,680.00		
268	-393	haphcv	MOMRAE	Raees	07/01/2022	07/2022	EFT	P-1104	hcv	1,703.00		
269	-394	haphcv	MONROD	Rodney Montgomery	07/01/2022	07/2022	EFT	P-321	hcv	1,822.00		
270	-395	haphcv	MORERI	Morris	07/01/2022	07/2022	EFT	P-73	hcv	1,312.00		
271	-396	haphcv	MOR OS	Diane Morin	07/01/2022	07/2022	EFT	P-183	hcv	2,090.00		
272	-397	haphcv	MYNDMG	Brien Brothers, LLC C/O Mynd Management, IC.	07/01/2022	07/2022	EFT	P-961	hcv	16.00		
273	-398	haphcv	myninc	Mynd Management Inc,	07/01/2022	07/2022	EFT		hcv	3,245.00		
274	-399	haphcv	NABEHS	Ehsan Nabkel	07/01/2022	07/2022	EFT	P-421	hcv	3,083.00		
275	-400	haphcv	NARSHI	Shinder Paul Narabut	07/01/2022	07/2022	EFT		hcv	5,474.00		
276	-401	haphcv	ncasso	NC Associates, Inc.	07/01/2022	07/2022	EFT		hcv	16,452.00		
277	-402	haphcv	NELMIC	c/o ennifer Diaz	07/01/2022	07/2022	EFT	P-167	hcv	3,189.00		
278	-403	haphcv	NESG Y	Guy Nesbeth	07/01/2022	07/2022	EFT	P-928	hcv	1,760.00		
279	-404	haphcv	NGDOMI	Dominic Y Ng	07/01/2022	07/2022	EFT		hcv	2,820.00		
280	-405	haphcv	ngknow	Ng	07/01/2022	07/2022	EFT	P-115	hcv	2,042.00		
281	-406	haphcv	NGPATR	Ng	07/01/2022	07/2022	EFT	P-609	hcv	408.00		
282	-407	haphcv	nguhieu	Hieu Nguyen	07/01/2022	07/2022	EFT	P-538	hcv	1,643.00		
283	-408	haphcv	NG H Y	Huy uang Nguyen	07/01/2022	07/2022	EFT	P-518	hcv	2,103.00		
284	-409	haphcv	NG MAI	Nguyen	07/01/2022	07/2022	EFT	P-582	hcv	1,951.00		
285	-410	haphcv	NG Y	uyen Nguyen	07/01/2022	07/2022	EFT	P-541	hcv	1,900.00		
286	-411	haphcv	NG TIE	Nguyen	07/01/2022	07/2022	EFT	P-458	hcv	688.00		
287	-412	haphcv	NICNIC	Nicholson	07/01/2022	07/2022	EFT	P-719	hcv	2,357.00		
288	-413	haphcv	nierne	Ernest Nichols III	07/01/2022	07/2022	EFT		hcv	3,243.00		
289	-414	haphcv	NILPET	Niloufari	07/01/2022	07/2022	EFT		hcv	4,203.00		
290	-415	haphcv	norfin	Northstar Financial Group, LLC	07/01/2022	07/2022	EFT		hcv-vash	2,547.00		
291	-416	haphcv	NOR EV	evin Nord	07/01/2022	07/2022	EFT	P-121	hcv	1,762.00		
292	-417	haphcv	NORRIC	Norte	07/01/2022	07/2022	EFT	P-567	hcv	2,553.00		
293	-418	haphcv	NORSTA	North State Financial, Inc.	07/01/2022	07/2022	EFT	P-701	hcv	810.00		
294	-419	haphcv	nwmgmt	New Way Management Services, Inc.	07/01/2022	07/2022	EFT		hcv	26,291.00		
295	-420	haphcv	OBRSHE	O'Brien	07/01/2022	07/2022	EFT	P-596	hcv	823.00		
296	-421	haphcv	ODE EN	Odei	07/01/2022	07/2022	EFT	P-602	hcv	1,497.00		
297	-422	haphcv	OEWDWI	Owens	07/01/2022	07/2022	EFT	P-690	hcv	546.00		
298	-423	haphcv	OLEDIA	Oles	07/01/2022	07/2022	EFT	P-144	hcv	1,540.00		
299	-424	haphcv	OMOESE	Esosa A. Omokaro	07/01/2022	07/2022	EFT	P-987	hcv	1,578.00		
300	-425	haphcv	ORTSAN	Ortiz	07/01/2022	07/2022	EFT	P-437	hcv	1,785.00		
301	-426	haphcv	OS CHI	Chinenye Osuagwu	07/01/2022	07/2022	EFT	P-704	hcv	2,716.00		
302	-427	haphcv	ozemut	Mutlu Ozer	07/01/2022	07/2022	EFT	P-72	hcv	2,180.00		
303	-428	haphcv	PACDIA	Diablo Pacific, Inc.	07/01/2022	07/2022	EFT	P-785	hcv	3,525.00		
304	-429	haphcv	pacliv	Pacific Living, LLC	07/01/2022	07/2022	EFT	P-802	hcv	2,769.00		

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305	-430	haphcv	PATBOS	Boss	07/01/2022	07/2022	EFT	P-258	hcv	1,273.00		
306	-431	haphcv	PATHEM	Hemangini & Vijendra Patel	07/01/2022	07/2022	EFT	P-441	hcv	2,957.00		
307	-432	haphcv	PAT O	okila Patel	07/01/2022	07/2022	EFT	P-379	hcv	422.00		
308	-433	haphcv	PATLLC	Patiala, LLC	07/01/2022	07/2022	EFT		hcv	2,214.00		
309	-434	haphcv	patvir	Virendra M. Patel	07/01/2022	07/2022	EFT	P-1120	hcv	558.00		
310	-435	haphcv	paujas	ason Pauline	07/01/2022	07/2022	EFT	P-941	hcv	1,910.00		
311	-436	haphcv	PEALOY	Peacock	07/01/2022	07/2022	EFT	P-311	hcv	1,391.00		
312	-437	haphcv	PEASCO	Scott Pease	07/01/2022	07/2022	EFT	P-984	hcv	1,510.00		
313	-438	haphcv	PERALO	Perez	07/01/2022	07/2022	EFT	P-474	hcv	1,486.00		
314	-439	haphcv	PERECA	Maria Del Carmen Perez	07/01/2022	07/2022	EFT	P-923	hcv	268.00		
315	-440	haphcv	PERLOW	Lowde Y. Perkins	07/01/2022	07/2022	EFT	P-927	hcv	863.00		
316	-441	haphcv	PHACON	Pham	07/01/2022	07/2022	EFT	P-41	hcv	2,336.00		
317	-442	haphcv	PHOMAY	Pho	07/01/2022	07/2022	EFT	P-533	hcv	2,649.00		
318	-443	haphcv	pitpar	Pittsburg Park Apartments	07/01/2022	07/2022	EFT		hcv	2,455.00		
319	-444	haphcv	Pittssk	S Pittsburg Bay Point	07/01/2022	07/2022	EFT	P-381	hcv	1,267.00		
320	-445	haphcv	POIBAY	Bay Point Orphans Fund, LLC	07/01/2022	07/2022	EFT	P-903	hcv	1,780.00		
321	-446	haphcv	proih5	IH5 Property West LP	07/01/2022	07/2022	EFT	P-413	hcv	1,769.00		
322	-447	haphcv	promar	Marples Property Management	07/01/2022	07/2022	EFT	P-1129	hcv	1,852.00		
323	-448	haphcv	PROMEA	A. Meadows Property Management	07/01/2022	07/2022	EFT		hcv	3,352.00		
324	-449	haphcv	propar	Parks Property Management	07/01/2022	07/2022	EFT	P-883	hcv	1,711.00		
325	-450	haphcv	prosto	Stokley Properties LLC Harbor	07/01/2022	07/2022	EFT		hcv	2,659.00		
326	-451	haphcv	PR PS	Property psurge, Inc.	07/01/2022	07/2022	EFT	P-813	hcv	2,087.00		
327	-452	haphcv	qaqamj	Amjad aqish	07/01/2022	07/2022	EFT	P-628	hcv	674.00		
328	-453	haphcv	ISAM	Sam or Sonia uinones	07/01/2022	07/2022	EFT	P-867	hcv	1,800.00		
329	-454	haphcv	RADAMO	Radford	07/01/2022	07/2022	EFT	P-767	hcv	1,432.00		
330	-455	haphcv	RA L	Raju	07/01/2022	07/2022	EFT	P-87	hcv	1,703.00		
331	-456	haphcv	RA PAR	Paramjit . Raju	07/01/2022	07/2022	EFT		hcv	2,190.00		
332	-457	haphcv	RAMCHR	Ramirez	07/01/2022	07/2022	EFT	P-1149	hcv	2,818.00		
333	-458	haphcv	RAMENR	Enrique Ramirez	07/01/2022	07/2022	EFT	P-601	hcv	425.00		
334	-459	haphcv	RAMERI	Erika Ramirez	07/01/2022	07/2022	EFT	P-692	hcv	1,345.00		
335	-460	haphcv	RAMHOR	Ramsey Horton	07/01/2022	07/2022	EFT			3,206.00		
336	-461	haphcv	RAM AV	Ramos Avila	07/01/2022	07/2022	EFT	P-116	hcv	1,996.00		
337	-462	haphcv	RAMROH	Ram-Cline	07/01/2022	07/2022	EFT	P-442	hcv	2,171.00		
338	-463	haphcv	raudav	David Raughton	07/01/2022	07/2022	EFT	P-114	hcv	1,933.00		
339	-464	haphcv	rcprop	RayCaro Inc.	07/01/2022	07/2022	EFT	P-510	hcv	1,569.00		
340	-465	haphcv	realam	Amerasia Real Estate Fund LLC	07/01/2022	07/2022	EFT			3,966.00		
341	-466	haphcv	relwoo	Reliant - Woods Grove, LP	07/01/2022	07/2022	EFT			19,093.00		
342	-467	haphcv	remeri	Eric Franklin Remson	07/01/2022	07/2022	EFT	P-683	hcv	633.00		
343	-468	haphcv	rhport	RH Portofino Owner CA LLC	07/01/2022	07/2022	EFT		hcv	11,714.00		
344	-469	haphcv	rickam	ameryn Victoria Ray	07/01/2022	07/2022	EFT	P-539	hcv	1,868.00		

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345	-470	haphcv	rilrog	Linda Riley	07/01/2022	07/2022	EFT	P-377	hcv	1,901.00		
346	-471	haphcv	RISINV	Rising Investments LLC	07/01/2022	07/2022	EFT		hcv	7,154.00		
347	-472	haphcv	ROBDAN	Daniels	07/01/2022	07/2022	EFT	P-914	hcv	2,656.00		
348	-473	haphcv	R F AS	Ruffin	07/01/2022	07/2022	EFT	P-1109	hcv	2,263.00		
349	-474	haphcv	R IELV	Elvira Ruiz	07/01/2022	07/2022	EFT	P-718	hcv	1,855.00		
350	-475	haphcv	R SCON	Russell	07/01/2022	07/2022	EFT	P-574	hcv	2,300.00		
351	-476	haphcv	SANMAR	Santos	07/01/2022	07/2022	EFT	P-1083	hcv	1,171.00		
352	-477	haphcv	schgre	Schulz	07/01/2022	07/2022	EFT	P-482	hcv	1,567.00		
353	-478	haphcv	SCIRIC	Richard M. Sciortino	07/01/2022	07/2022	EFT	P-620	hcv	2,210.00		
354	-479	haphcv	SEL AC	Selinger	07/01/2022	07/2022	EFT	P-545	hcv	1,658.00		
355	-480	haphcv	SERYO	Seroy	07/01/2022	07/2022	EFT	P-165	hcv	1,606.00		
356	-481	haphcv	SHAMOH	Sharma	07/01/2022	07/2022	EFT	P-879	hcv	1,016.00		
357	-482	haphcv	SHAPAT	Shailesh & Bela Patel	07/01/2022	07/2022	EFT		hcv	1,128.00		
358	-483	haphcv	SHEMOH	Shekib	07/01/2022	07/2022	EFT	P-991	hcv	1,938.00		
359	-484	haphcv	SHIYIH	Yihui Shi	07/01/2022	07/2022	EFT	P-760	hcv	1,304.00		
360	-485	haphcv	shoinv	Shorten Investments LLC	07/01/2022	07/2022	EFT			10,984.00		
361	-486	haphcv	siecor	Sierra Pacific Properties Inc	07/01/2022	07/2022	EFT			20,098.00		
362	-487	haphcv	siena	Siena Court Apartments	07/01/2022	07/2022	EFT			19,098.00		
363	-488	haphcv	siepep	Sierra Pacific Properties c/o Ernie . Davis	07/01/2022	07/2022	EFT			9,289.00		
364	-489	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	07/01/2022	07/2022	EFT			33,174.00		
365	-490	haphcv	SIIFRA	Frank M. Siino	07/01/2022	07/2022	EFT	P-129	hcv	944.00		
366	-491	haphcv	SIINO	oseph Michael Siino	07/01/2022	07/2022	EFT	P-626	hcv	1,680.00		
367	-492	haphcv	SILGLO	Silva	07/01/2022	07/2022	EFT	P-285	hcv	530.00		
368	-493	haphcv	SIMMAR	Marc . Simpson	07/01/2022	07/2022	EFT	P-447	hcv	1,642.00		
369	-494	haphcv	SINRAM	Singh	07/01/2022	07/2022	EFT	P-113	hcv	2,974.00		
370	-495	haphcv	SINSON	Son Singh	07/01/2022	07/2022	EFT	P-290	hcv	1,500.00		
371	-496	haphcv	SITCRY	Situ	07/01/2022	07/2022	EFT	P-435	hcv	1,250.00		
372	-497	haphcv	SMILIO	Smith	07/01/2022	07/2022	EFT	P-288	hcv	1,975.00		
373	-498	haphcv	SMIMOL	Molly Smith	07/01/2022	07/2022	EFT	P-297	hcv	2,000.00		
374	-499	haphcv	SMISHE	Smith	07/01/2022	07/2022	EFT	P-849	hcv	798.00		
375	-500	haphcv	SOSCIN	Sosa	07/01/2022	07/2022	EFT	P-630	hcv	2,448.00		
376	-501	haphcv	SPEANG	Angela E. Robinson-Spencer	07/01/2022	07/2022	EFT	P-394	hcv	1,241.00		
377	-502	haphcv	sroram	Srouji	07/01/2022	07/2022	EFT	P-71	hcv-vash	2,186.00		
378	-503	haphcv	STRALE	Stroud	07/01/2022	07/2022	EFT	P-274	hcv	1,234.00		
379	-504	haphcv	STRDAR	Streeter	07/01/2022	07/2022	EFT	P-450	hcv	867.00		
380	-505	haphcv	sukabb	Sukarto	07/01/2022	07/2022	EFT		hcv	3,180.00		
381	-506	haphcv	S LI	Su	07/01/2022	07/2022	EFT	P-1150	hcv	2,190.00		
382	-507	haphcv	S MMIT	Summit Venture Group, LLC	07/01/2022	07/2022	EFT	P-205	hcv	2,733.00		

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383	-508	haphcv	S R AM	amaljeet Surila	07/01/2022	07/2022	EFT	P-723	hcv	1,684.00		
384	-509	haphcv	S SPAD	Paduro-Silva	07/01/2022	07/2022	EFT	P-267	hcv	2,195.00		
385	-510	haphcv	svekon	ondratiouk	07/01/2022	07/2022	EFT	P-707	hcv	3,338.00		
386	-511	haphcv	SY OYC	oyce Hui Sy	07/01/2022	07/2022	EFT		hcv	6,713.00		
387	-512	haphcv	TENY N	Yun Teng	07/01/2022	07/2022	EFT	P-762	hcv	1,574.00		
388	-513	haphcv	TERNAT	Terry	07/01/2022	07/2022	EFT	P-882	hcv	1,923.00		
389	-514	haphcv	THESIL	Silvia Thein and Ada Choi	07/01/2022	07/2022	EFT	P-573	hcv	1,602.00		
390	-515	haphcv	THOTE	Thornton	07/01/2022	07/2022	EFT	P-632	hcv	2,862.00		
391	-516	haphcv	TONYOW	Tong	07/01/2022	07/2022	EFT	P-206	hcv	1,938.00		
392	-517	haphcv	TOVLO	Lourdes or Raymond Tovar	07/01/2022	07/2022	EFT	P-772	hcv	1,374.00		
393	-518	haphcv	TRARAP	Tran	07/01/2022	07/2022	EFT		hcv	5,705.00		
394	-519	haphcv	TRARIC	Tran	07/01/2022	07/2022	EFT	P-308	hcv	2,789.00		
395	-520	haphcv	TRATH	Thuy Tran	07/01/2022	07/2022	EFT	P-905	hcv	1,148.00		
396	-521	haphcv	TRITHA	Thanh Van Trinh	07/01/2022	07/2022	EFT	P-638	hcv	1,486.00		
397	-522	haphcv	TR SEA	Truong	07/01/2022	07/2022	EFT	P-876	hcv	1,208.00		
398	-523	haphcv	TR VAN	Truong	07/01/2022	07/2022	EFT	P-975	hcv	1,717.00		
399	-524	haphcv	TR XAV	Truong	07/01/2022	07/2022	EFT	P-1069	hcv	1,256.00		
400	-525	haphcv	SCERI	Erica schold	07/01/2022	07/2022	EFT	P-62	hcv	2,950.00		
401	-526	haphcv	v0000006	College Park City HA	07/01/2022	07/2022	EFT		hcv	1,037.17		
402	-527	haphcv	VALLID	Lidia Valladares	07/01/2022	07/2022	EFT	P-764	hcv	1,561.00		
403	-528	haphcv	VALVIC	Valenzuela	07/01/2022	07/2022	EFT	P-854	hcv	2,875.00		
404	-529	haphcv	VASGAR	Gary D. Vasconcellos	07/01/2022	07/2022	EFT	P-255	hcv	1,720.00		
405	-530	haphcv	VERHOM	Veritel Homes LLC	07/01/2022	07/2022	EFT		hcv	2,329.00		
406	-531	haphcv	VICA E	Vickers	07/01/2022	07/2022	EFT	P-459	hcv	2,648.00		
407	-532	haphcv	VIEN N	Nuno G Vieira	07/01/2022	07/2022	EFT		hcv	4,306.00		
408	-533	haphcv	vukuyen	Vu	07/01/2022	07/2022	EFT	P-757	hcv	1,239.00		
409	-534	haphcv	WAFSTE	Wafer	07/01/2022	07/2022	EFT	P-616	hcv	1,213.00		
410	-535	haphcv	WANLIN	Lining Wan	07/01/2022	07/2022	EFT	P-218	hcv	2,235.00		
411	-536	haphcv	WANWEI	Wang	07/01/2022	07/2022	EFT	P-316	hcv	1,940.00		
412	-537	haphcv	wanyur	Yu Ruo Wang	07/01/2022	07/2022	EFT	P-925	hcv	2,016.00		
413	-538	haphcv	WARBRI	Warren	07/01/2022	07/2022	EFT	P-16	hcv	2,583.00		
414	-539	haphcv	weiisi	Isidoro Weitzman	07/01/2022	07/2022	EFT	P-187	hcv-vash	1,600.00		
415	-540	haphcv	WENHOL	Wen	07/01/2022	07/2022	EFT	P-69	hcv	793.00		
416	-541	haphcv	WHILEW	Lewis White & Ruth White	07/01/2022	07/2022	EFT			5,878.00		
417	-542	haphcv	WI FEN	Wijayanti	07/01/2022	07/2022	EFT	P-776	hcv	989.00		
418	-543	haphcv	WILADR	Wilson	07/01/2022	07/2022	EFT	P-875	hcv	1,950.00		
419	-544	haphcv	wilkat	Wilson	07/01/2022	07/2022	EFT	P-234	hcv	1,152.00		
420	-545	haphcv	WILL AT	athy D. Williams	07/01/2022	07/2022	EFT	P-253	hcv	2,705.00		
421	-546	haphcv	WILLTAS	Williams	07/01/2022	07/2022	EFT	P-401	hcv	2,800.00		
422	-547	haphcv	WINDEV	Windeler Development Group, Inc.	07/01/2022	07/2022	EFT	P-335	hcv	987.00		

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423	-548	haphcv	wolwar	Wolfeld	07/01/2022	07/2022	EFT		hcv	5,650.00		
424	-549	haphcv	wonhar	Har Pan Wong	07/01/2022	07/2022	EFT		hcv	6,838.00		
425	-550	haphcv	WON OA	oanne Wong	07/01/2022	07/2022	EFT	P-654	hcv	1,450.00		
426	-551	haphcv	WON IN	inney Ming Wong	07/01/2022	07/2022	EFT	P-744	hcv	634.00		
427	-552	haphcv	WONSHI	Wong	07/01/2022	07/2022	EFT	P-222	hcv-vash	1,460.00		
428	-553	haphcv	WONVIN	Wong	07/01/2022	07/2022	EFT	P-809	hcv	1,646.00		
429	-554	haphcv	W HONG	Hong Wu	07/01/2022	07/2022	EFT		hcv	3,592.00		
430	-555	haphcv	W HAN	Wu	07/01/2022	07/2022	EFT	P-51	hcv	3,468.00		
431	-556	haphcv	WYADRE	Drewcillia Wyatt	07/01/2022	07/2022	EFT	P-268	hcv	2,462.00		
432	-557	haphcv	X CHAO	Xu	07/01/2022	07/2022	EFT	P-621	hcv	2,429.00		
433	-558	haphcv	X PING	Ping Ping Xu	07/01/2022	07/2022	EFT		hcv	2,384.00		
434	-559	haphcv	X HO	Xu	07/01/2022	07/2022	EFT	P-661	hcv	2,853.00		
435	-560	haphcv	yeyifa	Ye	07/01/2022	07/2022	EFT	P-1033	hcv	2,471.00		
436	-561	haphcv	yipsal	Sally Yip	07/01/2022	07/2022	EFT	P-872	hcv	912.00		
437	-562	haphcv	YON IA	Lu	07/01/2022	07/2022	EFT	P-586	hcv	1,790.00		
438	-563	haphcv	YO CHR	You	07/01/2022	07/2022	EFT	P-784	hcv	2,407.00		
439	-564	haphcv	yueche	Cheung	07/01/2022	07/2022	EFT	P-815	hcv	1,295.00		
440	-565	haphcv	ALMOH	Mohammad almaiyar	07/01/2022	07/2022	EFT		hcv	1,583.00		
441	-566	haphcv	HA IE	hao	07/01/2022	07/2022	EFT	P-45	hcv	769.00		
442	-567	haphcv	HA AT	hao	07/01/2022	07/2022	EFT	P-672	hcv	1,938.00		
443	-568	haphcv	HAWEI	Wei Bin hang or Gao Wei	07/01/2022	07/2022	EFT	P-94	hcv	1,988.00		
444	-569	haphcv	HAXIR	Xirong hao	07/01/2022	07/2022	EFT	P-186	hcv	862.00		
445	-570	haphcv	HAYAN	Yan hang	07/01/2022	07/2022	EFT	P-801	hcv	1,898.00		
446	-571	haphcv	HEXIA	heng	07/01/2022	07/2022	EFT	P-605	hcv	1,462.00		
447	-572	haphcv	HIXLI	Li	07/01/2022	07/2022	EFT	P-878	hcv	2,583.00		
448	-573	haphcv	HO OY	hou	07/01/2022	07/2022	EFT	P-475	hcv	1,932.00		
449	-574	haphcv	H SHE	hu	07/01/2022	07/2022	EFT		hcv	10,800.00		
450	-575	haphcv	H YIN	hu	07/01/2022	07/2022	EFT		hcv	4,009.00		
451	-576	haphcv	zhweij	hang	07/01/2022	07/2022	EFT	P-118	hcv	1,130.00		
101	-577	haphcv	v0000001	Housing Authority of the City of Pittsburg	07/01/2022	07/2022	Check	P-1005	hcv	-0.01		
51415	-578	haphcv	VENREN	VENTANA RENTAL HOMES	07/01/2022	07/2022	Check	P-185	hcv	-389.00		ATD 6/30/2022
51419	-579	haphcv	v0000001	Housing Authority of the City of Pittsburg	07/01/2022	07/2022	Check	P-1005	hcv	0.01		
452	-580	haphcv	SHAPAT	Shailesh & Bela Patel	07/01/2022	07/2022	EFT	P-1167	hcv	500.00		
453	-581	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	07/01/2022	07/2022	EFT		portin	1,854.00		
454	-582	haphcv	v0000056	Mims	07/01/2022	07/2022	EFT		hcv	2,169.00		
51419	-583	haphcv	v0000001	Housing Authority of the City of Pittsburg	07/01/2022	07/2022	Check	P-1005	hcv	-0.01		Test run
454	-587	haphcv	v0000056	Mims	07/05/2022	07/2022	EFT		hcv	-2,169.00		Incorrect account

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Period From 07/2022 to 07/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
109	-588	haphcv	gaokel	Gao	07/06/2022	07/2022	EFT	P-1024	hcv	-2,312.00		Incorrect account
326	-589	haphcv	PR PS	Property psurge, Inc.	07/06/2022	07/2022	EFT	P-813	hcv	-2,087.00		Incorrect account
148	-590	haphcv	hensil	Henderson	07/06/2022	07/2022	EFT		hcv	-4,156.00		Incorrect account
163	-591	haphcv	H AMIN	Ming in Huang	07/05/2022	07/2022	EFT	P-254	hcv	-2,337.00		Incorrect account
96	-592	haphcv	fanxia	Li	07/01/2022	07/2022	EFT	P-662	hcv	-2,794.00		Incorrect account
162	-593	haphcv	H AFAN	Fanny ao Huang	07/01/2022	07/2022	EFT	P-296	hcv	-1,633.00		Incorrect account
1	-594	haphcv	t1003049	Allen	07/08/2022	07/2022	Check		hcv	0.00		TOA ero Dollar Adjustment
2	-595	haphcv	t1005732	Millanfriel	07/08/2022	07/2022	Check		hcv-pbv1	0.00		TOA ero Dollar Adjustment
3	-596	haphcv	sieoak	Sierra Pacific Properties	07/08/2022	07/2022	Check		hcv	0.00		
51420	-597	haphcv	t1003246	illion	07/08/2022	07/2022	Check	P-1189	hcv	4.00		
51421	-598	haphcv	t1004020	Rollins	07/08/2022	07/2022	Check		hcv	29.00		
51422	-599	haphcv	t1005382	ackson	07/08/2022	07/2022	Check		hcv	140.00		
51423	-600	haphcv	t1005422	Sailbury	07/08/2022	07/2022	Check		hcv	77.00		
455	-601	haphcv	ALEDEM	Demetrius Alexander	07/11/2022	07/2022	EFT		hcv	184.00		
456	-602	haphcv	andcec	Cecilia Anderson	07/11/2022	07/2022	EFT		hcv	145.00		
457	-603	haphcv	aptsto	Stoneman Apartments	07/11/2022	07/2022	EFT		hcv	1,269.00		
458	-604	haphcv	belmont	Belmont Apartments	07/11/2022	07/2022	EFT		hcv	1,850.00		
459	-605	haphcv	CHECHA	Chen	07/11/2022	07/2022	EFT		hcv	3,432.00		
460	-606	haphcv	fanxia	Li	07/11/2022	07/2022	EFT	P-662	hcv	2,794.00		
4	-607	haphcv	foxcre	Fox Creek Apartments	07/11/2022	07/2022	EFT		hcv	0.00		
461	-608	haphcv	FRRINV	FRR Investments LLC	07/11/2022	07/2022	EFT		hcv	3,036.00		
462	-609	haphcv	gaokel	Gao	07/11/2022	07/2022	EFT	P-1024	hcv	2,312.00		
463	-610	haphcv	gilmah	Gill	07/11/2022	07/2022	EFT		hcv	848.00		
464	-611	haphcv	G A RY	Guan	07/11/2022	07/2022	EFT		hcv	653.00		
5	-612	haphcv	hagjef	effrey Paul Hagler	07/11/2022	07/2022	EFT		hcv	0.00		
465	-613	haphcv	hensil	Henderson	07/11/2022	07/2022	EFT		hcv	4,156.00		
466	-614	haphcv	H AFAN	Fanny ao Huang	07/11/2022	07/2022	EFT	P-296	hcv	1,633.00		
467	-615	haphcv	H AMIN	Ming in Huang	07/11/2022	07/2022	EFT	P-254	hcv	2,337.00		
468	-616	haphcv	IGREEN	IGreen House Inc. ane S Schmidt	07/11/2022	07/2022	EFT		hcv	215.00		
469	-617	haphcv	CPLLC	C Prime LLC	07/11/2022	07/2022	EFT	P-1185	hcv	540.00		
470	-618	haphcv	LEESTE	Steven Lee	07/11/2022	07/2022	EFT		hcv	488.00		
471	-619	haphcv	LER OS	oseph C. Lerma	07/11/2022	07/2022	EFT	P-1217	hcv	100.00		
6	-620	haphcv	leujoh	ohn M. Leung	07/11/2022	07/2022	EFT		hcv	0.00		
472	-621	haphcv	MENSAB	Sabine Menzel	07/11/2022	07/2022	EFT		hcv	856.00		
7	-622	haphcv	PATHEM	Hemangini & Vijendra Patel	07/11/2022	07/2022	EFT		hcv	0.00		
473	-623	haphcv	PR PS	Property psurge, Inc.	07/11/2022	07/2022	EFT	P-813	hcv	2,087.00		
474	-624	haphcv	RAMENR	Enrique Ramirez	07/11/2022	07/2022	EFT		hcv	90.00		
8	-625	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	07/11/2022	07/2022	EFT		hcv	0.00		
475	-626	haphcv	STRALE	Stroud	07/11/2022	07/2022	EFT		hcv	205.00		

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Period From 07/2022 to 07/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
476	-627	haphcv	THA Y	Thai	07/11/2022	07/2022	EFT		hcv	4,495.00		
477	-628	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	07/11/2022	07/2022	EFT		hcv-vash	1,977.33		
478	-629	haphcv	v0000056	Mims	07/11/2022	07/2022	EFT		hcv	2,169.00		
479	-630	haphcv	v0000064	Lee	07/11/2022	07/2022	EFT		hcv	3,060.00		
480	-631	haphcv	WANLIN	Lining Wan	07/11/2022	07/2022	EFT		hcv	158.00		
481	-632	haphcv	WYADRE	Drewcillia Wyatt	07/11/2022	07/2022	EFT		hcv	216.00		
30000001	-633	hcvport	t2027014	Pervoe	07/11/2022	07/2022	Check	P-1266	portin	54.00		
50000001	-634	hcvport	hagjef	effrey Paul Hagler	07/11/2022	07/2022	EFT	P-1265	portin	2,810.00		
50000002	-635	hcvport	siewoo	Sierra Pacific Properties c/o Ernie . Davis	07/11/2022	07/2022	EFT		portin	371.00		
50000003	-636	hcvport	v0000061	Garschi	07/11/2022	07/2022	EFT		portin	4,629.00		
50000004	-637	hcvport	v0000062	Santa Fe Triplex LLC	07/11/2022	07/2022	EFT	P-1198	portin	2,043.00		
50000004	-638	hcvport	v0000062	Santa Fe Triplex LLC	07/11/2022	07/2022	EFT	P-1198	portin	-2,043.00		bank did not receive eft file
50000003	-639	hcvport	v0000061	Garschi	07/11/2022	07/2022	EFT		portin	-4,629.00		bank did not receive eft file
50000002	-640	hcvport	siewoo	Sierra Pacific Properties c/o Ernie . Davis	07/11/2022	07/2022	EFT		portin	-371.00		bank did not receive eft file
50000001	-641	hcvport	hagjef	effrey Paul Hagler	07/11/2022	07/2022	EFT	P-1265	portin	-2,810.00		bank did not receive eft file
50000005	-642	hcvport	hagjef	effrey Paul Hagler	07/11/2022	07/2022	EFT	P-1265	portin	2,810.00		
50000006	-643	hcvport	siewoo	Sierra Pacific Properties c/o Ernie . Davis	07/11/2022	07/2022	EFT		portin	371.00		
50000007	-644	hcvport	v0000061	Garschi	07/11/2022	07/2022	EFT		portin	4,629.00		
50000008	-645	hcvport	v0000062	Santa Fe Triplex LLC	07/11/2022	07/2022	EFT	P-1198	portin	2,043.00		
478	-646	haphcv	v0000056	Mims	07/11/2022	07/2022	EFT		hcv	-2,169.00		Incorrect account
51424	-647	haphcv	LA STE	Lau	07/15/2022	07/2022	Check		hcv	23.00		
51425	-648	haphcv	PHOLIN	Linda Phon	07/15/2022	07/2022	Check		hcv	22.00		
51426	-649	haphcv	t1002333	Smith	07/15/2022	07/2022	Check		hcv	36.00		
482	-650	haphcv	fenjin	Mao	07/15/2022	07/2022	EFT		hcv	1,542.00		
483	-651	haphcv	foxcre	Fox Creek Apartments	07/15/2022	07/2022	EFT		hcv	363.00		
484	-652	haphcv	gupabe	Abhilash Gupta	07/15/2022	07/2022	EFT		hcv	1,438.00		
485	-653	haphcv	MEITAT	Mei	07/15/2022	07/2022	EFT		hcv	155.00		
486	-654	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	07/15/2022	07/2022	EFT		hcv-vash	6,425.66		
487	-655	haphcv	v0000056	Mims	07/15/2022	07/2022	EFT		hcv	2,169.00		
30000002	-656	hcvport	v0000057	Mims	07/15/2022	07/2022	Check	P-1299	portin	1,511.00		
50000009	-657	hcvport	v0000065	Marx	07/15/2022	07/2022	EFT	P-1269	portin	1,080.00		
50000010	-658	hcvport	kirkkw	W irker Creek, LLC	07/15/2022	07/2022	EFT		portin	955.00		
51412	-659	haphcv	v0000020	MERCED CO NTY HO SING A THORITY	07/15/2022	07/2022	Check	P-709	hcv	-73.91		issue error receipt check
388	-660	haphcv	TERNAT	Terry	07/01/2022	07/2022	EFT	P-882	hcv	-1,923.00		incorrect tenant portin status
388	-661	haphcv	TERNAT	Terry	07/01/2022	07/2022	EFT	P-1306	hcv-home	1,923.00		
51363	-662	haphcv	t1004318	Edmond	07/27/2022	07/2022	Check	P-292	hcv	-64.00		Fraud check

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Period From 07/2022 to 07/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
9	-663	haphcv	MADMAS	Massey	07/27/2022	07/2022	EFT		hcv	0.00		
931	-1279	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	07/01/2022	07/2022	Check		hcv	4,856.00		
Grand Total										**1,775,741.97**		

HOUSING AUTHORIT□ OF THE CIT□ OF PITTSBURG
DISBURSEMENT SUMMAR□
FOR THE MONTH ENDED AUGUST 31, 2022

	C□#	Amount	HAP[1]	VASH[2]	UR[3]	Portability	Admin□Fee	TOTAL
VOUCHERS	51427-51552	$ 1,744,645.90	1,449,329.47	122,399.00	6,870.00	155,994.00	10,053.43	$ 1,744,645.90
	51553-51558	$ 47,976.22	20,892.00	20,322.65	1,003.00	5,498.00	260.57	$ 47,976.22
	TOTAL	**$ 1,792,622□12**	**1,470,221□47**	**142,721□65**	**7,873□00**	**161,492□00**	**10,314□00**	**$ 1,792,622□12**

[1]Housing Assistance Payment [2]Veterans Affairs Supportive Housing [3]□tility Reimbursement

	Description	TOTAL
ADMINISTRATIVE E□PENSES	Salaries and Wages	$ 43,599.57
	Salaries- Overtime	-
	Retirement Miscellaneous	3,021.44
	Retirement - Pension Bonds	7,029.50
	Health Insurance - Employees	8,716.36
	CalPERS □nfunded Liability - Non Sworn	-
	Additional CalPERS Pension Contribution	420.91
	Life Insurance	78.34
	Dental Insurance	894.83
	Vision - Employee	93.77
	Workers' Compensation	2,116.19
	□nemployment Insurance	243.32
	Disability Insurance	-
	F I C A & Medicare	3,371.86
	Deferred Compensation - Employer	923.75
	Vac Buy-Bk/Empl Termination	965.92
	Pension 115 Trust	590.33
	Retiree OPEB Costs	2,811.50
	Office Supplies & Materials	312.91
	Computer Software Expense	-
	Postage	-
	Misc Equipment & Furniture	-
	□tilities - Electric	1,597.33
	□tilities - Water	13.84
	□tilities - Telephone Service	354.27
	□tilities - WiFi/Cellphone Service	76.40
	Membership Dues & Subscriptions	-
	Travel, Training & Conferences	-
	Insurance - Alloc Chgs	4,101.58
	Other Contractual & Professional Service	-
	Maintenance Agreements	-
	Maintenance & Repairs	(140.00)
	Building Rental	-
	Fleet Maintenance Alloc Chgs	588.08
	Building Maintenance Alloc Chgs	1,804.83
	Information Systems Alloc Chgs	1,790.75
	Admin Overhead Paid to City	4,926.54
	Capital Equipment & Furniture	-
	Other fees	-
	Transfer-Out to OPEB Fund	2,075.58
	Yardi Operating Expenses	2,199.00
		$ 94,578.70

	C□#	Reason			Amount
VOIDED CHECKS ADJUSTMENTS □		No adjustments			$ -
				TOTAL	$ -

Prepared by□ GY

Reviewed by□

NET OF ISSUED AND VOIDED PA□MENTS $ 1,887,200□82

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Period From 08/2022 to 08/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51427	-664	haphcv	aawjow	OW & AAW, LLC	08/01/2022	08/2022	Check			3,507.00		
51428	-665	haphcv	ACLASS	A Classey Corp. DBA ACL Property Management	08/01/2022	08/2022	Check	P-1889	hcv	2,817.00		
51429	-666	haphcv	addwes	Western Addition LLC	08/01/2022	08/2022	Check			5,654.00		
51430	-667	haphcv	ALAMOS	Alamo Square Apartments LLC	08/01/2022	08/2022	Check	P-1397	hcv	2,562.00		
51431	-668	haphcv	COLGEO	Cole	08/01/2022	08/2022	Check	P-2214	hcv-vash	1,297.00		
51432	-669	haphcv	DISOLG	Olga M. Disney	08/01/2022	08/2022	Check	P-1756	hcv-vash	1,354.00		
51433	-670	haphcv	ESTPA	Rhodes	08/01/2022	08/2022	Check	P-1902	hcv	1,541.00		
51434	-671	haphcv	GLOFED	Glover	08/01/2022	08/2022	Check	P-2050	hcv	1,834.00		
51435	-672	haphcv	guimor	Mortgage	08/01/2022	08/2022	Check	P-1488	hcv-home	2,299.00		
51436	-673	haphcv	HILDIA	Diamond Hillside Apartments	08/01/2022	08/2022	Check		hcv	3,560.00		
51437	-674	haphcv	LASTE	Lau	08/01/2022	08/2022	Check	P-2443	hcv	2,387.00		
51438	-675	haphcv	LPMARH	Marina Heights Apartments, LP	08/01/2022	08/2022	Check			69,340.00		
51439	-676	haphcv	LMIAO	Lu	08/01/2022	08/2022	Check	P-2500	hcv	2,725.00		
51440	-677	haphcv	MCDDAN	Dante McDonald	08/01/2022	08/2022	Check	P-2051	hcv	2,190.00		
51441	-678	haphcv	MILDAR	Darryl H. Milburn	08/01/2022	08/2022	Check	P-1665	hcv	1,955.00		
51442	-679	haphcv	NGYBA	Ba Nguyen	08/01/2022	08/2022	Check	P-2121	hcv	1,793.00		
51443	-680	haphcv	PACCAT	Pacheco	08/01/2022	08/2022	Check	P-2502	hcv	1,969.00		
51444	-681	haphcv	PAYLOR	Lorene Paysinger	08/01/2022	08/2022	Check	P-1641	hcv	1,809.00		
51445	-682	haphcv	PHOLIN	Linda Phon	08/01/2022	08/2022	Check	P-2370	hcv	1,544.00		
51446	-683	haphcv	proeen	MSR Rental Properties, LLC	08/01/2022	08/2022	Check	P-1768	hcv-vash	1,780.00		
51447	-684	haphcv	SALSHA	Shah	08/01/2022	08/2022	Check	P-1710	hcv	1,727.00		
51448	-685	haphcv	sieoak	Sierra Pacific Properties	08/01/2022	08/2022	Check		hcv	6,257.00		
51449	-686	haphcv	SVET	Veterans Square LP	08/01/2022	08/2022	Check		hcv-pbv1	43,516.00		
51450	-687	haphcv	sulkha	Sultan	08/01/2022	08/2022	Check	P-1653	hcv	1,671.00		
51451	-688	haphcv	t1000092	Royston	08/01/2022	08/2022	Check	P-1637	hcv	91.00		
51452	-689	haphcv	t1000139	Castillo	08/01/2022	08/2022	Check	P-1807	hcv	3.00		
51453	-690	haphcv	t1000347	Lea III	08/01/2022	08/2022	Check	P-1359	hcv	233.00		
51454	-691	haphcv	t1000420	Best	08/01/2022	08/2022	Check	P-1437	hcv	18.00		
51455	-692	haphcv	t1000507	Smith	08/01/2022	08/2022	Check	P-2461	hcv	92.00		
51456	-693	haphcv	t1000558	Combs	08/01/2022	08/2022	Check	P-1512	hcv	253.00		
51457	-694	haphcv	t1000652	Rubio	08/01/2022	08/2022	Check	P-2022	hcv	24.00		
51458	-695	haphcv	t1000720	Griffin	08/01/2022	08/2022	Check	P-1972	hcv	8.00		
51459	-696	haphcv	t1000983	Davis	08/01/2022	08/2022	Check	P-2025	hcv	57.00		
51460	-697	haphcv	t1000983	Davis	08/01/2022	08/2022	Check	P-2562	hcv	57.00		
51461	-698	haphcv	t1001148	Camp	08/01/2022	08/2022	Check	P-2318	hcv	292.00		
51462	-699	haphcv	t1001640	Brown	08/01/2022	08/2022	Check	P-2563	hcv	62.00		
51463	-700	haphcv	t1001728	Edwards	08/01/2022	08/2022	Check	P-1721	hcv	132.00		
51464	-701	haphcv	t1001733	Cones	08/01/2022	08/2022	Check	P-1624	hcv	33.00		
51465	-702	haphcv	t1001761	Washington	08/01/2022	08/2022	Check	P-2056	hcv	101.00		

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Period From 08/2022 to 08/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51466	-703	haphcv	t1002151	Thompson	08/01/2022	08/2022	Check	P-1743	hcv	60.00		
51467	-704	haphcv	t1002194	Gregory	08/01/2022	08/2022	Check	P-1885	hcv	45.00		
51468	-705	haphcv	t1002229	Spears	08/01/2022	08/2022	Check	P-1598	hcv	135.00		
51469	-706	haphcv	t1002257	ackson	08/01/2022	08/2022	Check	P-1928	hcv	253.00		
51470	-707	haphcv	t1002299	Rutledge	08/01/2022	08/2022	Check	P-2109	hcv	37.00		
51471	-708	haphcv	t1002307	Ellingberg	08/01/2022	08/2022	Check	P-1331	hcv	223.00		
51472	-709	haphcv	t1002307	Ellingberg	08/01/2022	08/2022	Check	P-2564	hcv	223.00		
51473	-710	haphcv	t1002333	Smith	08/01/2022	08/2022	Check	P-2368	hcv	57.00		
51474	-711	haphcv	t1002364	Hampton	08/01/2022	08/2022	Check	P-1567	hcv	134.00		
51475	-712	haphcv	t1002519	Barlow	08/01/2022	08/2022	Check	P-1425	hcv	148.00		
51476	-713	haphcv	t1002530	Lascano	08/01/2022	08/2022	Check	P-1944	hcv	9.00		
51477	-714	haphcv	t1002622	Whaley	08/01/2022	08/2022	Check	P-1530	hcv	4.00		
51478	-715	haphcv	t1002638	Davis	08/01/2022	08/2022	Check	P-2261	hcv	14.00		
51479	-716	haphcv	t1002697	Parrott	08/01/2022	08/2022	Check	P-2088	hcv	253.00		
51480	-717	haphcv	t1002707	Strausbaugh	08/01/2022	08/2022	Check	P-1335	hcv	11.00		
51481	-718	haphcv	t1002835	Gasca	08/01/2022	08/2022	Check	P-2297	hcv	11.00		
51482	-719	haphcv	t1002855	Banks R	08/01/2022	08/2022	Check	P-1429	hcv	47.00		
51483	-720	haphcv	t1003049	Allen	08/01/2022	08/2022	Check	P-2393	hcv	128.00		
51484	-721	haphcv	t1003100	Lavall	08/01/2022	08/2022	Check	P-2358	hcv	25.00		
51485	-722	haphcv	t1003165	Reese	08/01/2022	08/2022	Check	P-2286	hcv	90.00		
51486	-723	haphcv	t1003246	illion	08/01/2022	08/2022	Check	P-2397	hcv	4.00		
51487	-724	haphcv	t1003247	Rothschild	08/01/2022	08/2022	Check	P-2140	hcv	169.00		
51488	-725	haphcv	t1003293	Berry	08/01/2022	08/2022	Check	P-1537	hcv	36.00		
51489	-726	haphcv	t1003949	Nichols	08/01/2022	08/2022	Check	P-2220	hcv-pbv1	20.00		
51490	-727	haphcv	t1004020	Rollins	08/01/2022	08/2022	Check	P-2231	hcv	26.00		
51491	-728	haphcv	t1004030	Roper	08/01/2022	08/2022	Check	P-2493	hcv	73.00		
51492	-729	haphcv	t1004056	Houston	08/01/2022	08/2022	Check	P-1952	hcv	36.00		
51493	-730	haphcv	t1004056	Houston	08/01/2022	08/2022	Check	P-2565	hcv	24.00		
51494	-731	haphcv	t1004182	Parker	08/01/2022	08/2022	Check	P-1601	hcv	145.00		
51495	-732	haphcv	t1004258	Sanders	08/01/2022	08/2022	Check	P-1739	hcv	15.00		
51496	-733	haphcv	t1004318	Edmond	08/01/2022	08/2022	Check	P-1899	hcv	64.00		
51497	-734	haphcv	t1004318	Edmond	08/01/2022	08/2022	Check	P-2557	hcv	64.00		
51498	-735	haphcv	t1004318	Edmond	08/01/2022	08/2022	Check	P-2557	hcv	64.00		
51499	-736	haphcv	t1004486	Alfred	08/01/2022	08/2022	Check	P-1954	hcv	292.00		
51500	-737	haphcv	t1004506	Nichols	08/01/2022	08/2022	Check	P-2180	hcv	80.00		
51501	-738	haphcv	t1004587	Warren	08/01/2022	08/2022	Check	P-1904	hcv	79.00		
51502	-739	haphcv	t1004601	Bronson	08/01/2022	08/2022	Check	P-2033	hcv	1.00		
51503	-740	haphcv	t1004657	Sanders	08/01/2022	08/2022	Check	P-1346	hcv	115.00		
51504	-741	haphcv	t1004699	Grigsby	08/01/2022	08/2022	Check	P-2497	hcv	37.00		
51505	-742	haphcv	t1004951	Cornish	08/01/2022	08/2022	Check	P-1372	hcv	18.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51506	-743	haphcv	t1004983	ackson	08/01/2022	08/2022	Check	P-1908	hcv	103.00		
51507	-744	haphcv	t1005006	Williams	08/01/2022	08/2022	Check	P-1447	hcv	17.00		
51508	-745	haphcv	t1005029	Wagnon	08/01/2022	08/2022	Check	P-1374	hcv	14.00		
51509	-746	haphcv	t1005040	Blanks	08/01/2022	08/2022	Check	P-2007	hcv	31.00		
51510	-747	haphcv	t1005124	Hanif	08/01/2022	08/2022	Check	P-1451	hcv	76.00		
51511	-748	haphcv	t1005124	Hanif	08/01/2022	08/2022	Check	P-2559	hcv	208.00		
51512	-749	haphcv	t1005128	Burrus	08/01/2022	08/2022	Check	P-1504	hcv	153.00		
51513	-750	haphcv	t1005201	Irvin	08/01/2022	08/2022	Check	P-1552	hcv	36.00		
51514	-751	haphcv	t1005247	Gomez	08/01/2022	08/2022	Check	P-1350	hcv	41.00		
51515	-752	haphcv	t1005276	Lopez	08/01/2022	08/2022	Check	P-2162	hcv	175.00		
51516	-753	haphcv	t1005293	Miller	08/01/2022	08/2022	Check	P-2364	hcv	25.00		
51517	-754	haphcv	t1005312	Dones	08/01/2022	08/2022	Check	P-1652	hcv	67.00		
51518	-755	haphcv	t1005322	Madison	08/01/2022	08/2022	Check	P-2158	hcv	163.00		
51519	-756	haphcv	t1005332	Hearne	08/01/2022	08/2022	Check	P-1668	hcv	27.00		
51520	-757	haphcv	t1005332	Hearne	08/01/2022	08/2022	Check	P-2560	hcv	27.00		
51521	-758	haphcv	t1005360	Ghani	08/01/2022	08/2022	Check	P-2150	hcv	119.00		
51522	-759	haphcv	t1005382	ackson	08/01/2022	08/2022	Check	P-1400	hcv	232.00		
51523	-760	haphcv	t1005393	Thomas	08/01/2022	08/2022	Check	P-2561	hcv	277.00		
51524	-761	haphcv	t1005422	Sailbury	08/01/2022	08/2022	Check	P-2388	hcv	36.00		
51525	-762	haphcv	t1005434	Eddins	08/01/2022	08/2022	Check		hcv	5.00		
51526	-763	haphcv	t1005437	Lewis	08/01/2022	08/2022	Check	P-1965	hcv	196.00		
51527	-764	haphcv	t1005470	Washington	08/01/2022	08/2022	Check	P-2118	hcv	92.00		
51528	-765	haphcv	t1005471	Lewis	08/01/2022	08/2022	Check	P-1456	hcv	48.00		
51529	-766	haphcv	t1005475	Mangum	08/01/2022	08/2022	Check	P-2018	hcv	70.00		
51530	-767	haphcv	t1005479	Butler	08/01/2022	08/2022	Check	P-1857	hcv	119.00		
51531	-768	haphcv	t1005483	Morris	08/01/2022	08/2022	Check	P-1629	hcv	148.00		
51532	-769	haphcv	t1005563	Carter	08/01/2022	08/2022	Check	P-1416	hcv	40.00		
51533	-770	haphcv	t1005568	Ferguson	08/01/2022	08/2022	Check	P-2207	hcv-vash	18.00		
51534	-771	haphcv	t1005573	ohnson	08/01/2022	08/2022	Check	P-1673	hcv	344.00		
51535	-772	haphcv	t1005605	Phifer r.	08/01/2022	08/2022	Check	P-1759	hcv-vash	22.00		
51536	-773	haphcv	t1005619	Evans	08/01/2022	08/2022	Check	P-1921	hcv	29.00		
51537	-774	haphcv	t1005732	Millanfriel	08/01/2022	08/2022	Check	P-2391	hcv-pbv1	9.00		
51538	-775	haphcv	t1005736	Lewis	08/01/2022	08/2022	Check	P-2221	hcv-pbv1	23.00		
51539	-776	haphcv	t1005754	endall	08/01/2022	08/2022	Check	P-2227	hcv-pbv1	23.00		
51540	-777	haphcv	t1005785	Behn	08/01/2022	08/2022	Check	P-2229	hcv-pbv1	23.00		
51541	-778	haphcv	t1005785	Behn	08/01/2022	08/2022	Check	P-2558	hcv-pbv1	23.00		
51542	-779	haphcv	TAMALB	Tam	08/01/2022	08/2022	Check	P-1830	hcv	1,256.00		
51543	-780	haphcv	v0000003	SACRAMENTO HO SING AND REDEVELOPMENT AGE	08/01/2022	08/2022	Check		hcv	179.08		
51544	-781	haphcv	v0000018	ing County Housing Authority	08/01/2022	08/2022	Check		hcv	1,088.13		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51545	-782	haphcv	v0000019	Tulare County Housing Authority	08/01/2022	08/2022	Check	P-2419	hcv	76.62		
51546	-783	haphcv	v0000020	MERCED CO NTY HO SING A THORITY	08/01/2022	08/2022	Check	P-2413	hcv	77.20		
51547	-784	haphcv	v0000022	Harris County Housing Authority	08/01/2022	08/2022	Check		hcv	766.87		
51548	-785	haphcv	v0000025	Suisun City Housing Authority	08/01/2022	08/2022	Check		hcv-vash	1,634.33		
51549	-786	haphcv	VENREN	VENTANA RENTAL HOMES	08/01/2022	08/2022	Check	P-1782	hcv-vash	1,766.00		
51550	-787	haphcv	vilsan	San Marcos Villas	08/01/2022	08/2022	Check	P-2238	hcv	1,520.00		
51551	-788	haphcv	WES PP	Western pper Haight Street Apartments, LLC	08/01/2022	08/2022	Check	P-2163	hcv	1,743.00		
51552	-789	haphcv	YINYE	Yeung	08/01/2022	08/2022	Check	P-1733	hcv	1,515.00		
488	-790	haphcv	9thst	9th Street Associates, LP	08/01/2022	08/2022	EFT		hcv	4,789.00		
489	-791	haphcv	ABDMEE	Abdiani	08/01/2022	08/2022	EFT	P-1572	hcv	848.00		
490	-792	haphcv	abjent	AB Enterprises, Inc. dba Blue Line Property Mgmt	08/01/2022	08/2022	EFT		hcv	13,846.00		
491	-793	haphcv	ADDLEO	Addison	08/01/2022	08/2022	EFT	P-1958	hcv	1,812.00		
492	-794	haphcv	AGRAMI	Agrawal	08/01/2022	08/2022	EFT	P-1633	hcv	1,461.00		
493	-795	haphcv	AG ROS	Aguilar	08/01/2022	08/2022	EFT	P-2021	hcv	1,250.00		
494	-796	haphcv	AG ROSA	Aguirre	08/01/2022	08/2022	EFT	P-1605	hcv	2,021.00		
495	-797	haphcv	ALEDEM	Demetrius Alexander	08/01/2022	08/2022	EFT	P-2359	hcv	1,964.00		
496	-798	haphcv	ALE AN	Alexander	08/01/2022	08/2022	EFT	P-1910	hcv	710.00		
497	-799	haphcv	ALVDAL	Dale Alvarez	08/01/2022	08/2022	EFT	P-1462	hcv	1,220.00		
498	-800	haphcv	AMAFEL	Amarante	08/01/2022	08/2022	EFT	P-1783	hcv-vash	1,483.00		
499	-801	haphcv	andcec	Cecilia Anderson	08/01/2022	08/2022	EFT	P-2232	hcv	2,552.00		
500	-802	haphcv	ANDSHA	Shawn Anderson	08/01/2022	08/2022	EFT	P-2024	hcv	1,501.00		
501	-803	haphcv	ANIEBA	Ebadi	08/01/2022	08/2022	EFT	P-2000	hcv	2,510.00		
502	-804	haphcv	aptsto	Stoneman Apartments	08/01/2022	08/2022	EFT		hcv	39,335.00		
503	-805	haphcv	AREMAR	Bailey	08/01/2022	08/2022	EFT	P-1987	hcv	2,001.00		
504	-806	haphcv	bahshr	Ba-Harani	08/01/2022	08/2022	EFT	P-1741	hcv	2,199.00		
505	-807	haphcv	BAN A	Mel L. Banagan	08/01/2022	08/2022	EFT	P-2400	hcv	1,950.00		
506	-808	haphcv	BARCAR	Carlos G. Barraza	08/01/2022	08/2022	EFT	P-2097	hcv	804.00		
507	-809	haphcv	BAR EN	Bartlett	08/01/2022	08/2022	EFT			3,000.00		
508	-810	haphcv	barsco	Barbour	08/01/2022	08/2022	EFT	P-1914	hcv	2,554.00		
509	-811	haphcv	BA OH	ohn Charles Bautista	08/01/2022	08/2022	EFT	P-1634	hcv	1,965.00		
510	-812	haphcv	bayman	Baywood Property Management, Inc.	08/01/2022	08/2022	EFT	P-1486	hcv	1,792.00		
511	-813	haphcv	BECCHR	Becerra	08/01/2022	08/2022	EFT	P-2069	hcv	1,158.00		
512	-814	haphcv	BEEHOL	Hawkins	08/01/2022	08/2022	EFT		hcv	6,484.00		
513	-815	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	08/01/2022	08/2022	EFT	P-2077	hcv	2,027.00		
514	-816	haphcv	belmont	Belmont Apartments	08/01/2022	08/2022	EFT		hcv	78,769.00		
515	-817	haphcv	benale	Benjamen	08/01/2022	08/2022	EFT	P-2071	hcv	764.00		
516	-818	haphcv	BERTEN	Berry r	08/01/2022	08/2022	EFT		hcv	4,247.00		
517	-819	haphcv	BETHEL	Bethel Global Development LLC	08/01/2022	08/2022	EFT		hcv	2,402.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
518	-820	haphcv	bhagin	Bhatia	08/01/2022	08/2022	EFT	P-2293	hcv	2,784.00		
519	-821	haphcv	bhajim	Bhatia	08/01/2022	08/2022	EFT			2,726.00		
520	-822	haphcv	bhasom	Som N Bhatia	08/01/2022	08/2022	EFT			5,847.00		
521	-823	haphcv	BHASWA	Pinakin Bhatt	08/01/2022	08/2022	EFT	P-1492	hcv	2,548.00		
522	-824	haphcv	BIC OS	Bachir	08/01/2022	08/2022	EFT	P-1559	hcv	1,950.00		
523	-825	haphcv	BOOSTE	Booras	08/01/2022	08/2022	EFT	P-1502	hcv	2,875.00		
524	-826	haphcv	bor201	2018-2 IH Borrower LP	08/01/2022	08/2022	EFT	P-2012	hcv	2,122.00		
525	-827	haphcv	boyros	Boyd	08/01/2022	08/2022	EFT	P-1623	hcv	2,698.00		
526	-828	haphcv	BOYVIC	Boyko	08/01/2022	08/2022	EFT	P-1621	hcv	2,051.00		
527	-829	haphcv	BRA EL	elly Ann Bradford	08/01/2022	08/2022	EFT	P-1589	hcv	1,356.00		
528	-830	haphcv	BRIMAR	Briggs	08/01/2022	08/2022	EFT	P-1672	hcv	3,081.00		
529	-831	haphcv	BRO AN	Brown	08/01/2022	08/2022	EFT	P-1948	hcv-home	2,125.00		
530	-832	haphcv	brojess	Platt	08/01/2022	08/2022	EFT	P-1354	hcv	1,477.00		
531	-833	haphcv	BSAPPH	Blue Sapphire Homes, Inc.	08/01/2022	08/2022	EFT	P-2378	hcv	2,541.00		
532	-834	haphcv	B IH O	Huong T. Bui	08/01/2022	08/2022	EFT		hcv	4,335.00		
533	-835	haphcv	B R OE	oe Burns	08/01/2022	08/2022	EFT	P-1755	hcv-vash	1,079.00		
534	-836	haphcv	CANMOM	Cannon	08/01/2022	08/2022	EFT	P-1917	hcv	3,283.00		
535	-837	haphcv	CARCLA	Clara Beatriz Cardenas	08/01/2022	08/2022	EFT			3,170.00		
536	-838	haphcv	CARDON	Carson	08/01/2022	08/2022	EFT	P-1506	hcv	2,025.00		
537	-839	haphcv	CARLLC	Carpino, LLC	08/01/2022	08/2022	EFT	P-1448	hcv	1,985.00		
538	-840	haphcv	CASTLE	Castle Creek Company, Inc.	08/01/2022	08/2022	EFT	P-2103	hcv	1,528.00		
539	-841	haphcv	CHACHR	Chambers	08/01/2022	08/2022	EFT	P-1415	hcv	2,150.00		
540	-842	haphcv	CHACOR	Cora Ann Chambers	08/01/2022	08/2022	EFT	P-1685	hcv	515.00		
541	-843	haphcv	chap.m	P. M. Chaobal	08/01/2022	08/2022	EFT	P-2365	hcv	2,190.00		
542	-844	haphcv	CHECHA	Chen	08/01/2022	08/2022	EFT	P-1406	hcv	2,190.00		
543	-845	haphcv	chehon	Chen	08/01/2022	08/2022	EFT		hcv	4,994.00		
544	-846	haphcv	CHE IE	ienlin Chen	08/01/2022	08/2022	EFT		hcv	4,117.00		
545	-847	haphcv	CHIHWA	Hwa-Yoong Chiu	08/01/2022	08/2022	EFT	P-1661	hcv	2,380.00		
546	-848	haphcv	CHOADA	Ada Choi	08/01/2022	08/2022	EFT	P-1651	hcv	2,750.00		
547	-849	haphcv	chochu	Choi	08/01/2022	08/2022	EFT		hcv	3,231.00		
548	-850	haphcv	chomic	Choi	08/01/2022	08/2022	EFT	P-2017	hcv	2,500.00		
549	-851	haphcv	chucha	Chung	08/01/2022	08/2022	EFT	P-2177	hcv	1,945.00		
550	-852	haphcv	CITHO	Pittsburg Housing Authority	08/01/2022	08/2022	EFT		hcv	7,052.00		
551	-853	haphcv	CLA A	uan F. Clara	08/01/2022	08/2022	EFT	P-1887	hcv	1,717.00		
552	-854	haphcv	CORADO	Cortesi III	08/01/2022	08/2022	EFT	P-1561	hcv	1,920.00		
553	-855	haphcv	cordav	Cortesi	08/01/2022	08/2022	EFT	P-1881	hcv	1,583.00		
554	-856	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	08/01/2022	08/2022	EFT			87,481.00		
555	-857	haphcv	CRE EA	eannette D. Crespo	08/01/2022	08/2022	EFT	P-1364	hcv	2,442.00		
556	-858	haphcv	crospat	Patricia Crosby	08/01/2022	08/2022	EFT	P-1957	hcv	1,950.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
557	-859	haphcv	DAI S	Dailey	08/01/2022	08/2022	EFT	P-1923	hcv	1,464.00		
558	-860	haphcv	DAMTO	Dam uang To	08/01/2022	08/2022	EFT	P-2362	hcv	2,704.00		
559	-861	haphcv	danfre	French Evans	08/01/2022	08/2022	EFT	P-1691	hcv	1,714.00		
560	-862	haphcv	DAVA D	Audrey Davis	08/01/2022	08/2022	EFT	P-1328	hcv	1,348.00		
561	-863	haphcv	DAV ES	Davis	08/01/2022	08/2022	EFT	P-1643	hcv	973.00		
562	-864	haphcv	DAV EV	evin Davidson	08/01/2022	08/2022	EFT	P-2126	hcv	1,629.00		
563	-865	haphcv	davpau	Paulette Davis	08/01/2022	08/2022	EFT	P-1441	hcv	1,138.00		
564	-866	haphcv	DAVROS	Davis	08/01/2022	08/2022	EFT	P-2037	hcv	1,429.00		
565	-867	haphcv	DAY AG	agdeep or Shashi Dayal	08/01/2022	08/2022	EFT		hcv	3,685.00		
566	-868	haphcv	DEAWAY	Dea	08/01/2022	08/2022	EFT	P-1511	hcv	2,714.00		
567	-869	haphcv	DELCHA	Charles Dellamore	08/01/2022	08/2022	EFT	P-2043	hcv	1,666.00		
568	-870	haphcv	DELLAT	David De La Torre	08/01/2022	08/2022	EFT		hcv	2,393.00		
569	-871	haphcv	doabri	Doan	08/01/2022	08/2022	EFT		hcv	7,779.00		
570	-872	haphcv	doanna	Do	08/01/2022	08/2022	EFT		hcv	4,872.00		
571	-873	haphcv	Dunest	Dunlap	08/01/2022	08/2022	EFT	P-1376	hcv	1,026.00		
572	-874	haphcv	duntyr	Duncan	08/01/2022	08/2022	EFT	P-2509	hcv-home	1,417.00		
573	-875	haphcv	D OLIN	Linda Duong	08/01/2022	08/2022	EFT	P-1642	hcv	1,345.00		
574	-876	haphcv	eastle	Mercy Housing California XXXVIII	08/01/2022	08/2022	EFT			2,912.00		
575	-877	haphcv	ENGLED	Doris Engle Family Ltd Partnership	08/01/2022	08/2022	EFT	P-1557	hcv	1,337.00		
576	-878	haphcv	espalm	Alma B Espiritu	08/01/2022	08/2022	EFT	P-1953	hcv	2,200.00		
577	-879	haphcv	ESP OH	Espinoza	08/01/2022	08/2022	EFT	P-2005	hcv	1,540.00		
578	-880	haphcv	ES GER	Gerardo M. Esquivel	08/01/2022	08/2022	EFT	P-1395	hcv	1,318.00		
579	-881	haphcv	fanjia	ianxin Fang	08/01/2022	08/2022	EFT		hcv	5,300.00		
580	-882	haphcv	fanxia	Li	08/01/2022	08/2022	EFT	P-1814	hcv	2,794.00		
581	-883	haphcv	fenjin	Mao	08/01/2022	08/2022	EFT	P-2375	hcv	3,110.00		
582	-884	haphcv	FIEBAR	Barbara . Fierner	08/01/2022	08/2022	EFT	P-1636	hcv	1,875.00		
583	-885	haphcv	FIE OS	oseph Field	08/01/2022	08/2022	EFT	P-2135	hcv	1,137.00		
584	-886	haphcv	FIGHER	Figueroa	08/01/2022	08/2022	EFT	P-2028	hcv	1,589.00		
585	-887	haphcv	fletoc	Brewster Fleeton	08/01/2022	08/2022	EFT	P-1956	hcv	1,460.00		
586	-888	haphcv	FLOALE	Alexander Flowers	08/01/2022	08/2022	EFT	P-1422	hcv	1,395.00		
587	-889	haphcv	foxcre	Fox Creek Apartments	08/01/2022	08/2022	EFT			31,096.00		
588	-890	haphcv	framo	Monica Fraga	08/01/2022	08/2022	EFT	P-1607	hcv	1,866.00		
589	-891	haphcv	FRARE	Frazier	08/01/2022	08/2022	EFT		hcv	3,858.00		
590	-892	haphcv	FRRINV	FRR Investments LLC	08/01/2022	08/2022	EFT	P-2396	hcv	2,760.00		
591	-893	haphcv	F LDAR	Fuller	08/01/2022	08/2022	EFT	P-1323	hcv	2,101.00		
592	-894	haphcv	fulfan	Fan Fuller	08/01/2022	08/2022	EFT	P-2196	hcv-vash	1,526.00		
593	-895	haphcv	GAIGIA	Gaines	08/01/2022	08/2022	EFT	P-1345	hcv	2,050.00		
594	-896	haphcv	gaokel	Gao	08/01/2022	08/2022	EFT	P-2273	hcv	2,312.00		
595	-897	haphcv	GARADR	Adraine Gardner	08/01/2022	08/2022	EFT	P-2143	hcv	1,466.00		
596	-898	haphcv	GARANT	Antoinette L Garcia	08/01/2022	08/2022	EFT	P-1713	hcv	1,167.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
597	-899	haphcv	gardav	David Gardner	08/01/2022	08/2022	EFT		hcv	3,846.00		
598	-900	haphcv	garrup	Rupesh Garg	08/01/2022	08/2022	EFT	P-1352	hcv	2,808.00		
599	-901	haphcv	GARWIL	William H. Gardiner	08/01/2022	08/2022	EFT	P-1522	hcv	1,258.00		
600	-902	haphcv	gateway	Gateway Apartments	08/01/2022	08/2022	EFT			9,847.00		
601	-903	haphcv	GHAPAR	Ghaboulidashti	08/01/2022	08/2022	EFT	P-1930	hcv-home	1,094.00		
602	-904	haphcv	GHOVER	Vernon or Eva Gholson	08/01/2022	08/2022	EFT		hcv	2,634.00		
603	-905	haphcv	GIL AC	acqueline Gill	08/01/2022	08/2022	EFT	P-1650	hcv	1,534.00		
604	-906	haphcv	gilmah	Gill	08/01/2022	08/2022	EFT		hcv	5,260.00		
605	-907	haphcv	GILS	Gill	08/01/2022	08/2022	EFT	P-1494	hcv	1,548.00		
606	-908	haphcv	GOLDAS	Gold A and S LLC	08/01/2022	08/2022	EFT	P-1505	hcv	2,318.00		
607	-909	haphcv	GOMHAD	Gomez	08/01/2022	08/2022	EFT	P-2136	hcv-home	846.00		
608	-910	haphcv	GON ES	esse Gonzaga	08/01/2022	08/2022	EFT		hcv	1,887.00		
609	-911	haphcv	GONMAR	Gonsalves	08/01/2022	08/2022	EFT	P-1646	hcv	2,336.00		
610	-912	haphcv	gontin	Gong	08/01/2022	08/2022	EFT	P-2120	hcv	2,139.00		
611	-913	haphcv	GREFRA	Greene	08/01/2022	08/2022	EFT	P-2085	hcv	2,978.00		
612	-914	haphcv	GREROD	Green	08/01/2022	08/2022	EFT	P-1947	hcv-home	962.00		
613	-915	haphcv	GRIPAT	Patricia Gridley	08/01/2022	08/2022	EFT	P-2039	hcv	975.00		
614	-916	haphcv	GROITA	Italo Grossi	08/01/2022	08/2022	EFT	P-2102	hcv	1,588.00		
615	-917	haphcv	G AAMP	Guardado	08/01/2022	08/2022	EFT	P-1449	hcv	1,413.00		
616	-918	haphcv	G A RY	Guan	08/01/2022	08/2022	EFT		hcv	7,016.00		
617	-919	haphcv	G NBOB	Hang	08/01/2022	08/2022	EFT	P-1348	hcv	1,359.00		
618	-920	haphcv	gupabe	Abhilash Gupta	08/01/2022	08/2022	EFT			5,237.00		
619	-921	haphcv	H01WAT	Watson, Sr.	08/01/2022	08/2022	EFT	P-1683	hcv-home	878.00		
620	-922	haphcv	hafash	Asharfun Nisha Hafiz	08/01/2022	08/2022	EFT	P-1569	hcv	1,667.00		
621	-923	haphcv	hagjef	effrey Paul Hagler	08/01/2022	08/2022	EFT		hcv	5,263.00		
622	-924	haphcv	HALDEL	Hall	08/01/2022	08/2022	EFT	P-2054	hcv	1,780.00		
623	-925	haphcv	HARCLA	Hardison	08/01/2022	08/2022	EFT	P-1418	hcv	2,165.00		
624	-926	haphcv	HARDAV	Hart	08/01/2022	08/2022	EFT	P-1696	hcv	1,938.00		
625	-927	haphcv	HARLAW	Harrold	08/01/2022	08/2022	EFT		hcv	7,258.00		
10	-928	haphcv	HARPRO	Hartz Property Management	08/01/2022	08/2022	EFT		hcv	0.00		
626	-929	haphcv	hawdel	Delta Hawaii Garden Apartments LLC	08/01/2022	08/2022	EFT		hcv	9,057.00		
627	-930	haphcv	hechuan	He	08/01/2022	08/2022	EFT	P-1576	hcv	1,917.00		
628	-931	haphcv	hejiyu	He	08/01/2022	08/2022	EFT	P-2178	hcv	1,836.00		
629	-932	haphcv	hendav	David T. Hennigan	08/01/2022	08/2022	EFT			18,379.00		
630	-933	haphcv	hensil	Henderson	08/01/2022	08/2022	EFT		hcv	2,307.00		
631	-934	haphcv	HERELI	Herrera	08/01/2022	08/2022	EFT	P-2154	hcv	650.00		
632	-935	haphcv	HILMAR	Hill	08/01/2022	08/2022	EFT	P-2060	hcv	278.00		
633	-936	haphcv	HIRCHA	Hira	08/01/2022	08/2022	EFT	P-1876	hcv	1,828.00		
634	-937	haphcv	HOACAR	Carl E. Hoard II	08/01/2022	08/2022	EFT	P-1321	hcv	2,681.00		
635	-938	haphcv	HOAHAV	Hoag	08/01/2022	08/2022	EFT	P-1459	hcv	2,560.00		

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636	-939	haphcv	HOALBE	Albert Ho	08/01/2022	08/2022	EFT	P-1541	hcv	1,740.00		
637	-940	haphcv	HOF OY	Hoffman	08/01/2022	08/2022	EFT	P-1728	hcv	1,284.00		
638	-941	haphcv	HOLRON	Ronald G. Holmes	08/01/2022	08/2022	EFT	P-1578	hcv	1,022.00		
639	-942	haphcv	holsrh	SRH Holdings LLC	08/01/2022	08/2022	EFT	P-1942	hcv	3,342.00		
640	-943	haphcv	hominv	Invitation Homes	08/01/2022	08/2022	EFT	P-2316	hcv	2,585.00		
641	-944	haphcv	HOTONY	Tony Ho	08/01/2022	08/2022	EFT	P-1732	hcv	1,142.00		
642	-945	haphcv	H AFAN	Fanny ao Huang	08/01/2022	08/2022	EFT	P-2067	hcv	1,633.00		
643	-946	haphcv	H AMIN	Ming in Huang	08/01/2022	08/2022	EFT	P-2075	hcv	2,337.00		
644	-947	haphcv	huatao	Huang	08/01/2022	08/2022	EFT		hcv	7,395.00		
645	-948	haphcv	H AXIA	Huang	08/01/2022	08/2022	EFT	P-2072	hcv	2,586.00		
646	-949	haphcv	H NANC	Nancy Xiu hen Hu	08/01/2022	08/2022	EFT	P-2380	hcv	2,016.00		
647	-950	haphcv	huythi	Huynh	08/01/2022	08/2022	EFT	P-1960	hcv	2,400.00		
648	-951	haphcv	IGREEN	IGreen House Inc. ane S Schmidt	08/01/2022	08/2022	EFT	P-1322	hcv	603.00		
649	-952	haphcv	ihprw	IH5 Property West LP	08/01/2022	08/2022	EFT	P-1716	hcv	3,194.00		
650	-953	haphcv	INV EY	eyee Investment LLC	08/01/2022	08/2022	EFT	P-1526	hcv	1,233.00		
651	-954	haphcv	IRVLAS	Irving	08/01/2022	08/2022	EFT	P-1609	hcv	1,720.00		
652	-955	haphcv	isomic	Michael or ay Isola	08/01/2022	08/2022	EFT		hcv	2,374.00		
653	-956	haphcv	ABLOV	Love	08/01/2022	08/2022	EFT	P-1369	hcv	1,827.00		
654	-957	haphcv	ACBRA	ackson	08/01/2022	08/2022	EFT	P-1878	hcv	2,083.00		
655	-958	haphcv	ACCON	ackson	08/01/2022	08/2022	EFT	P-2186	hcv	2,868.00		
656	-959	haphcv	AIDEE	ain	08/01/2022	08/2022	EFT		hcv	5,361.00		
657	-960	haphcv	AISAM	ain	08/01/2022	08/2022	EFT		hcv	7,250.00		
658	-961	haphcv	AIVIS	ain	08/01/2022	08/2022	EFT	P-2285	hcv	2,100.00		
659	-962	haphcv	jasnle	Le	08/01/2022	08/2022	EFT	P-1610	hcv	2,770.00		
660	-963	haphcv	IA HA	hang	08/01/2022	08/2022	EFT	P-2184	hcv	1,486.00		
661	-964	haphcv	OH RY	ohnson	08/01/2022	08/2022	EFT	P-1403	hcv	1,963.00		
662	-965	haphcv	OHRON	ohnson	08/01/2022	08/2022	EFT	P-1737	hcv	1,480.00		
663	-966	haphcv	ONSHA	ones	08/01/2022	08/2022	EFT	P-2092	hcv	1,939.00		
664	-967	haphcv	O MOS	ouya	08/01/2022	08/2022	EFT	P-1656	hcv	1,027.00		
665	-968	haphcv	junhou	Hou	08/01/2022	08/2022	EFT	P-1516	hcv	2,554.00		
666	-969	haphcv	ALOMP	alra	08/01/2022	08/2022	EFT	P-2013	hcv	3,698.00		
667	-970	haphcv	kanwei	ang	08/01/2022	08/2022	EFT		hcv	4,171.00		
668	-971	haphcv	A NAV	aur	08/01/2022	08/2022	EFT	P-1888	hcv	2,497.00		
669	-972	haphcv	CPLLC	C Prime LLC	08/01/2022	08/2022	EFT	P-1390	hcv	1,535.00		
670	-973	haphcv	kemgro	. E. M. Group LLC	08/01/2022	08/2022	EFT	P-2091	hcv	1,811.00		
671	-974	haphcv	ESANT	Anthony eslinke	08/01/2022	08/2022	EFT		hcv	3,305.00		
672	-975	haphcv	EVMOF	Moffett	08/01/2022	08/2022	EFT	P-1363	hcv	2,053.00		
673	-976	haphcv	HAFAR	han	08/01/2022	08/2022	EFT	P-2065	hcv	1,405.00		
674	-977	haphcv	kirkkw	W irker Creek, LLC	08/01/2022	08/2022	EFT		hcv	2,972.00		
675	-978	haphcv	IT OH	itta	08/01/2022	08/2022	EFT	P-2046	hcv	2,760.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
676	-979	haphcv	A IY	uang	08/01/2022	08/2022	EFT		hcv	6,902.00		
677	-980	haphcv	kuasim	uang	08/01/2022	08/2022	EFT	P-2151	hcv	1,161.00		
678	-981	haphcv	DI	dzislaw ujawa	08/01/2022	08/2022	EFT	P-1940	hcv	1,311.00		
679	-982	haphcv	kwadan	Daniel wan	08/01/2022	08/2022	EFT	P-1577	hcv	1,925.00		
680	-983	haphcv	LAFTHO	LaFleur	08/01/2022	08/2022	EFT	P-1644	hcv	1,594.00		
681	-984	haphcv	LAMCHO	Lam	08/01/2022	08/2022	EFT	P-2445	hcv	1,184.00		
682	-985	haphcv	LAMSHI	Manly-Lampkin	08/01/2022	08/2022	EFT	P-1562	hcv	1,043.00		
683	-986	haphcv	LARPET	Peter C. Larsen	08/01/2022	08/2022	EFT	P-1645	hcv	1,522.00		
684	-987	haphcv	LAS EV	Lassair	08/01/2022	08/2022	EFT	P-2048	hcv-home	405.00		
685	-988	haphcv	LATLLC	Latif, LLC	08/01/2022	08/2022	EFT		hcv	4,633.00		
686	-989	haphcv	lcstar	LCSTAR, LLC	08/01/2022	08/2022	EFT		hcv	3,234.00		
687	-990	haphcv	ledaot	Le	08/01/2022	08/2022	EFT	P-1593	hcv	1,134.00		
688	-991	haphcv	LEE AC	ack Wai Lee	08/01/2022	08/2022	EFT	P-2062	hcv	1,355.00		
689	-992	haphcv	leesiu	Siu Wan Windytiti Lee	08/01/2022	08/2022	EFT	P-1427	hcv	2,051.00		
690	-993	haphcv	LEESTE	Steven Lee	08/01/2022	08/2022	EFT	P-1327	hcv	2,126.00		
691	-994	haphcv	LEEY H	Yuhjen uang Lee	08/01/2022	08/2022	EFT	P-1622	hcv	1,932.00		
692	-995	haphcv	LEH YN	Le	08/01/2022	08/2022	EFT	P-2159	hcv	2,461.00		
693	-996	haphcv	LELENA	Le	08/01/2022	08/2022	EFT	P-1893	hcv	864.00		
694	-997	haphcv	LER OS	oseph C. Lerma	08/01/2022	08/2022	EFT	P-1326	hcv	100.00		
695	-998	haphcv	LERYIP	Yiping I. and Frederic Leroudier	08/01/2022	08/2022	EFT			4,017.00		
696	-999	haphcv	leujoh	ohn M. Leung	08/01/2022	08/2022	EFT		hcv	7,023.00		
697	-1000	haphcv	LE MAY	May Leung or Rodney Chen	08/01/2022	08/2022	EFT		hcv	2,785.00		
698	-1001	haphcv	leupet	Peter Leung	08/01/2022	08/2022	EFT	P-1592	hcv	2,346.00		
699	-1002	haphcv	lido	ames . Busby & Irvin Deutcher/DBA Crestview Apts	08/01/2022	08/2022	EFT		hcv	9,895.00		
700	-1003	haphcv	LIFA I	Faqiang Li	08/01/2022	08/2022	EFT	P-2108	hcv	2,700.00		
701	-1004	haphcv	LI IE	Li	08/01/2022	08/2022	EFT	P-2555	hcv	2,095.00		
702	-1005	haphcv	LI INH	inhuan Li	08/01/2022	08/2022	EFT	P-1612	hcv	1,515.00		
703	-1006	haphcv	LI OSH	Li	08/01/2022	08/2022	EFT	P-1915	hcv	1,123.00		
704	-1007	haphcv	LINTIM	Tim Lindstrom c/o AAA Property Management	08/01/2022	08/2022	EFT	P-1594	hcv	1,166.00		
705	-1008	haphcv	LIVPA	Paul Livson	08/01/2022	08/2022	EFT	P-2208	hcv-vash	744.00		
706	-1009	haphcv	LIWEIM	Li	08/01/2022	08/2022	EFT	P-1367	hcv	1,620.00		
707	-1010	haphcv	LIYING	Ying Hong Li	08/01/2022	08/2022	EFT	P-1365	hcv	107.00		
708	-1011	haphcv	LI BEL	hong Li	08/01/2022	08/2022	EFT	P-1377	hcv	1,513.00		
709	-1012	haphcv	lonpau	Paul Long	08/01/2022	08/2022	EFT	P-1729	hcv	1,403.00		
710	-1013	haphcv	losmed	Los Medanos Village Apartments	08/01/2022	08/2022	EFT		hcv	13,042.00		
711	-1014	haphcv	LO TON	Tony or Yvonne Louie	08/01/2022	08/2022	EFT	P-1532	hcv	1,106.00		
712	-1015	haphcv	LOYANT	Loyola	08/01/2022	08/2022	EFT	P-1833	hcv	547.00		
713	-1016	haphcv	LO OS	ose Loza	08/01/2022	08/2022	EFT	P-1549	hcv	983.00		

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714	-1017	haphcv	L IAND	Lui	08/01/2022	08/2022	EFT		hcv	2,830.00		
715	-1018	haphcv	luiwei	Wei Liu Guangxin Frank Liu	08/01/2022	08/2022	EFT	P-1392	hcv	1,446.00		
716	-1019	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	08/01/2022	08/2022	Check	P-2306	hcv	1,214.00		
717	-1020	haphcv	L XIANG	Lu	08/01/2022	08/2022	EFT			8,406.00		
718	-1021	haphcv	lychiv	Chi Vien Ly	08/01/2022	08/2022	EFT	P-1599	hcv	1,073.00		
719	-1022	haphcv	macyol	McDonald	08/01/2022	08/2022	EFT	P-1939	hcv	2,102.00		
720	-1023	haphcv	MADRA	Madra	08/01/2022	08/2022	EFT		hcv	3,106.00		
721	-1024	haphcv	mahrad	Radha Mahesram	08/01/2022	08/2022	EFT	P-1411	hcv	3,010.00		
722	-1025	haphcv	MAHTAR	Tariq	08/01/2022	08/2022	EFT	P-1507	hcv	2,452.00		
723	-1026	haphcv	majenn	Ma	08/01/2022	08/2022	EFT		hcv	3,873.00		
724	-1027	haphcv	malrah	Malik	08/01/2022	08/2022	EFT	P-2117	hcv	3,735.00		
725	-1028	haphcv	MAN EF	eff Mann	08/01/2022	08/2022	EFT		hcv	6,267.00		
726	-1029	haphcv	MARGLE	Glenn Marshall	08/01/2022	08/2022	EFT	P-2295	hcv	2,469.00		
727	-1030	haphcv	MARHAR	Harrison	08/01/2022	08/2022	EFT	P-1695	hcv-home	588.00		
728	-1031	haphcv	MARTEA	Martinez	08/01/2022	08/2022	EFT	P-2156	hcv	2,746.00		
729	-1032	haphcv	MASDEM	Mason	08/01/2022	08/2022	EFT	P-2442	hcv-home	2,545.00		
730	-1033	haphcv	MATL I	Lui	08/01/2022	08/2022	EFT	P-2169	hcv	1,617.00		
731	-1034	haphcv	MATREA	Matrixone Realty	08/01/2022	08/2022	EFT	P-1900	hcv	1,091.00		
732	-1035	haphcv	MCCHEI	McCarthy	08/01/2022	08/2022	EFT	P-1555	hcv	1,943.00		
11	-1036	haphcv	MCL AN	McLean	08/01/2022	08/2022	EFT		hcv	0.00		
733	-1037	haphcv	MEADOW	Meadow Glen Apartments	08/01/2022	08/2022	EFT	P-1894	hcv	1,925.00		
734	-1038	haphcv	MEITAT	Mei	08/01/2022	08/2022	EFT	P-2367	hcv	3,719.00		
735	-1039	haphcv	menjin	inyu Meng	08/01/2022	08/2022	EFT	P-2047	hcv	1,939.00		
736	-1040	haphcv	MENSAB	Sabine Menzel	08/01/2022	08/2022	EFT		hcv	5,211.00		
737	-1041	haphcv	MER OH	ohnson	08/01/2022	08/2022	EFT	P-1882	hcv-home	748.00		
738	-1042	haphcv	ME HEC	Hector Meza	08/01/2022	08/2022	EFT	P-1596	hcv	932.00		
739	-1043	haphcv	MILAND	Miloslavich	08/01/2022	08/2022	EFT	P-1333	hcv	1,904.00		
740	-1044	haphcv	MILCAR	Miller	08/01/2022	08/2022	EFT	P-1687	hcv	2,244.00		
741	-1045	haphcv	MILHOM	Millennium Homes	08/01/2022	08/2022	EFT	P-1982	hcv	2,187.00		
742	-1046	haphcv	MILMAR	Maryann Miller	08/01/2022	08/2022	EFT	P-1711	hcv	798.00		
743	-1047	haphcv	mircar	Miranda	08/01/2022	08/2022	EFT	P-1880	hcv-home	579.00		
744	-1048	haphcv	MIRHAS	Hassan Mirabedi	08/01/2022	08/2022	EFT		hcv	10,118.00		
745	-1049	haphcv	MITGWE	Gwendolyn Mitchell	08/01/2022	08/2022	EFT		hcv	4,210.00		
746	-1050	haphcv	MOMRAE	Raees	08/01/2022	08/2022	EFT	P-1410	hcv	1,703.00		
747	-1051	haphcv	MONROD	Rodney Montgomery	08/01/2022	08/2022	EFT	P-1866	hcv	1,822.00		
748	-1052	haphcv	MORERI	Morris	08/01/2022	08/2022	EFT	P-2119	hcv	1,312.00		
749	-1053	haphcv	MOR OS	Diane Morin	08/01/2022	08/2022	EFT	P-2317	hcv	2,090.00		
750	-1054	haphcv	MYNDMG	Brien Brothers, LLC C/O Mynd Management, IC.	08/01/2022	08/2022	EFT	P-1735	hcv	16.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
751	-1055	haphcv	myninc	Mynd Management Inc,	08/01/2022	08/2022	EFT		hcv	3,245.00		
752	-1056	haphcv	NABEHS	Ehsan Nabkel	08/01/2022	08/2022	EFT	P-2175	hcv	3,083.00		
753	-1057	haphcv	NARSHI	Shinder Paul Narabut	08/01/2022	08/2022	EFT		hcv	5,214.00		
754	-1058	haphcv	ncasso	NC Associates, Inc.	08/01/2022	08/2022	EFT		hcv	16,887.00		
755	-1059	haphcv	NELMIC	c/o ennifer Diaz	08/01/2022	08/2022	EFT	P-1455	hcv	3,189.00		
756	-1060	haphcv	NESG Y	Guy Nesbeth	08/01/2022	08/2022	EFT	P-1542	hcv	1,760.00		
757	-1061	haphcv	NGDOMI	Dominic Y Ng	08/01/2022	08/2022	EFT		hcv	2,820.00		
758	-1062	haphcv	ngknow	Ng	08/01/2022	08/2022	EFT	P-1584	hcv	2,042.00		
759	-1063	haphcv	NGPATR	Ng	08/01/2022	08/2022	EFT	P-1479	hcv	408.00		
760	-1064	haphcv	nguhieu	Hieu Nguyen	08/01/2022	08/2022	EFT	P-1538	hcv	1,643.00		
761	-1065	haphcv	NG H Y	Huy uang Nguyen	08/01/2022	08/2022	EFT	P-1724	hcv	2,103.00		
762	-1066	haphcv	NG MAI	Nguyen	08/01/2022	08/2022	EFT	P-2132	hcv	1,951.00		
763	-1067	haphcv	NG Y	uyen Nguyen	08/01/2022	08/2022	EFT	P-1943	hcv	1,900.00		
764	-1068	haphcv	NG TIE	Nguyen	08/01/2022	08/2022	EFT	P-2089	hcv	688.00		
765	-1069	haphcv	NICNIC	Nicholson	08/01/2022	08/2022	EFT	P-2155	hcv	2,357.00		
766	-1070	haphcv	nierne	Ernest Nichols III	08/01/2022	08/2022	EFT		hcv	3,243.00		
767	-1071	haphcv	NILPET	Niloufari	08/01/2022	08/2022	EFT		hcv	4,203.00		
768	-1072	haphcv	norfin	Northstar Financial Group, LLC	08/01/2022	08/2022	EFT		hcv-vash	2,547.00		
769	-1073	haphcv	NOR EV	evin Nord	08/01/2022	08/2022	EFT	P-1436	hcv	1,762.00		
770	-1074	haphcv	NORRIC	Norte	08/01/2022	08/2022	EFT	P-1361	hcv	2,553.00		
771	-1075	haphcv	NORSTA	North State Financial, Inc.	08/01/2022	08/2022	EFT	P-1545	hcv	810.00		
772	-1076	haphcv	nwmgmt	New Way Management Services, Inc.	08/01/2022	08/2022	EFT		hcv	22,447.00		
773	-1077	haphcv	OBRSHE	O'Brien	08/01/2022	08/2022	EFT	P-1726	hcv	823.00		
774	-1078	haphcv	ODE EN	Odei	08/01/2022	08/2022	EFT	P-1419	hcv	1,497.00		
775	-1079	haphcv	OEWDWI	Owens	08/01/2022	08/2022	EFT	P-2171	hcv-home	546.00		
776	-1080	haphcv	OLEDIA	Oles	08/01/2022	08/2022	EFT	P-1818	hcv	1,540.00		
777	-1081	haphcv	OMOESE	Esosa A. Omokaro	08/01/2022	08/2022	EFT	P-1974	hcv	1,578.00		
778	-1082	haphcv	ORTSAN	Ortiz	08/01/2022	08/2022	EFT	P-2553	hcv	1,785.00		
779	-1083	haphcv	OS CHI	Chinenye Osuagwu	08/01/2022	08/2022	EFT	P-2087	hcv	2,716.00		
780	-1084	haphcv	ozemut	Mutlu Ozer	08/01/2022	08/2022	EFT	P-1843	hcv	2,180.00		
781	-1085	haphcv	PACDIA	Diablo Pacific, Inc.	08/01/2022	08/2022	EFT	P-2139	hcv	3,525.00		
782	-1086	haphcv	pacliv	Pacific Living, LLC	08/01/2022	08/2022	EFT	P-1738	hcv	2,769.00		
783	-1087	haphcv	PATBOS	Boss	08/01/2022	08/2022	EFT	P-1941	hcv	1,273.00		
784	-1088	haphcv	PATHEM	Hemangini & Vijendra Patel	08/01/2022	08/2022	EFT		hcv	2,933.00		
785	-1089	haphcv	PAT O	okila Patel	08/01/2022	08/2022	EFT	P-1606	hcv	422.00		
786	-1090	haphcv	PATLLC	Patiala, LLC	08/01/2022	08/2022	EFT		hcv	2,214.00		
787	-1091	haphcv	patvir	Virendra M. Patel	08/01/2022	08/2022	EFT	P-2083	hcv	558.00		
788	-1092	haphcv	paujas	ason Pauline	08/01/2022	08/2022	EFT	P-2055	hcv	1,910.00		
789	-1093	haphcv	PEALOY	Peacock	08/01/2022	08/2022	EFT	P-1864	hcv	1,391.00		
790	-1094	haphcv	PEASCO	Scott Pease	08/01/2022	08/2022	EFT	P-2093	hcv	1,510.00		

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791	-1095	haphcv	PERALO	Perez	08/01/2022	08/2022	EFT	P-2131	hcv	1,486.00		
792	-1096	haphcv	PERECA	Maria Del Carmen Perez	08/01/2022	08/2022	EFT	P-1432	hcv	268.00		
793	-1097	haphcv	PERLOW	Lowde Y. Perkins	08/01/2022	08/2022	EFT	P-2130	hcv	863.00		
794	-1098	haphcv	PHACON	Pham	08/01/2022	08/2022	EFT	P-1508	hcv	2,336.00		
795	-1099	haphcv	PHOMAY	Pho	08/01/2022	08/2022	EFT	P-2469	hcv	2,816.00		
796	-1100	haphcv	pitpar	Pittsburg Park Apartments	08/01/2022	08/2022	EFT		hcv	2,455.00		
797	-1101	haphcv	Pittssk	S Pittsburg Bay Point	08/01/2022	08/2022	EFT	P-1604	hcv	1,267.00		
798	-1102	haphcv	proih5	IH5 Property West LP	08/01/2022	08/2022	EFT	P-1689	hcv	1,769.00		
799	-1103	haphcv	promar	Marples Property Management	08/01/2022	08/2022	EFT	P-1895	hcv	1,852.00		
800	-1104	haphcv	PROMEA	A. Meadows Property Management	08/01/2022	08/2022	EFT		hcv	3,584.00		
801	-1105	haphcv	propar	Parks Property Management	08/01/2022	08/2022	EFT		hcv	2,025.00		
802	-1106	haphcv	prosto	Stokley Properties LLC Harbor	08/01/2022	08/2022	EFT		hcv	2,659.00		
803	-1107	haphcv	PR PS	Property psurge, Inc.	08/01/2022	08/2022	EFT	P-2061	hcv	2,087.00		
804	-1108	haphcv	qaqamj	Amjad aqish	08/01/2022	08/2022	EFT	P-2094	hcv	674.00		
805	-1109	haphcv	ISAM	Sam or Sonia uinones	08/01/2022	08/2022	EFT	P-1334	hcv	1,800.00		
806	-1110	haphcv	RADAMO	Radford	08/01/2022	08/2022	EFT	P-2129	hcv	1,432.00		
807	-1111	haphcv	RA L	Raju	08/01/2022	08/2022	EFT	P-1581	hcv	1,703.00		
808	-1112	haphcv	RA PAR	Paramjit . Raju	08/01/2022	08/2022	EFT		hcv	2,190.00		
809	-1113	haphcv	RAMCHR	Ramirez	08/01/2022	08/2022	EFT	P-1703	hcv	2,818.00		
810	-1114	haphcv	RAMENR	Enrique Ramirez	08/01/2022	08/2022	EFT	P-2405	hcv	515.00		
811	-1115	haphcv	RAMERI	Erika Ramirez	08/01/2022	08/2022	EFT	P-1858	hcv	1,345.00		
812	-1116	haphcv	RAMHOR	Ramsey Horton	08/01/2022	08/2022	EFT	P-2217	hcv-vash	1,321.00		
813	-1117	haphcv	RAM AV	Ramos Avila	08/01/2022	08/2022	EFT	P-1536	hcv	1,996.00		
814	-1118	haphcv	RAMROH	Ram-Cline	08/01/2022	08/2022	EFT	P-1381	hcv	2,171.00		
815	-1119	haphcv	raudav	David Raughton	08/01/2022	08/2022	EFT	P-1472	hcv	1,933.00		
816	-1120	haphcv	rcprop	RayCaro Inc.	08/01/2022	08/2022	EFT	P-1731	hcv	1,569.00		
817	-1121	haphcv	reacro	Croskey Real Estate, Inc.	08/01/2022	08/2022	EFT	P-2394	hcv	1,745.00		
818	-1122	haphcv	realam	Amerasia Real Estate Fund LLC	08/01/2022	08/2022	EFT			3,966.00		
819	-1123	haphcv	relwoo	Reliant - Woods Grove, LP	08/01/2022	08/2022	EFT			20,696.00		
820	-1124	haphcv	remeri	Eric Franklin Remson	08/01/2022	08/2022	EFT	P-2166	hcv	633.00		
821	-1125	haphcv	rhport	RH Portofino Owner CA LLC	08/01/2022	08/2022	EFT		hcv	11,714.00		
822	-1126	haphcv	rickam	ameryn Victoria Ray	08/01/2022	08/2022	EFT	P-2311	hcv	1,868.00		
823	-1127	haphcv	RISINV	Rising Investments LLC	08/01/2022	08/2022	EFT		hcv	7,154.00		
824	-1128	haphcv	ROBDAN	Daniels	08/01/2022	08/2022	EFT	P-1669	hcv	2,656.00		
825	-1129	haphcv	R F AS	Ruffin	08/01/2022	08/2022	EFT	P-1568	hcv	2,263.00		
826	-1130	haphcv	R IELV	Elvira Ruiz	08/01/2022	08/2022	EFT	P-1386	hcv	1,855.00		
827	-1131	haphcv	R SCON	Russell	08/01/2022	08/2022	EFT	P-1712	hcv	2,300.00		
828	-1132	haphcv	SANMAR	Santos	08/01/2022	08/2022	EFT	P-2294	hcv	1,171.00		
829	-1133	haphcv	schgre	Schulz	08/01/2022	08/2022	EFT	P-2026	hcv	1,567.00		
830	-1134	haphcv	SCIRIC	Richard M. Sciortino	08/01/2022	08/2022	EFT	P-1725	hcv	2,210.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
831	-1135	haphcv	SEL AC	Selinger	08/01/2022	08/2022	EFT	P-1358	hcv	1,658.00		
832	-1136	haphcv	SERYO	Seroy	08/01/2022	08/2022	EFT	P-1851	hcv	1,606.00		
833	-1137	haphcv	SHAMOH	Sharma	08/01/2022	08/2022	EFT	P-1347	hcv	1,016.00		
834	-1138	haphcv	SHAPAT	Shailesh & Bela Patel	08/01/2022	08/2022	EFT		hcv	1,128.00		
835	-1139	haphcv	SHEMOH	Shekib	08/01/2022	08/2022	EFT	P-1708	hcv	1,938.00		
836	-1140	haphcv	SHIYIH	Yihui Shi	08/01/2022	08/2022	EFT	P-1655	hcv	1,304.00		
837	-1141	haphcv	shoinv	Shorten Investments LLC	08/01/2022	08/2022	EFT	P-1845	hcv	2,843.00		
838	-1142	haphcv	siecor	Sierra Pacific Properties Inc	08/01/2022	08/2022	EFT			18,432.00		
839	-1143	haphcv	siena	Siena Court Apartments	08/01/2022	08/2022	EFT			17,946.00		
840	-1144	haphcv	siepep	Sierra Pacific Properties c/o Ernie . Davis	08/01/2022	08/2022	EFT			9,289.00		
841	-1145	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	08/01/2022	08/2022	EFT			28,378.00		
842	-1146	haphcv	SIIFRA	Frank M. Siino	08/01/2022	08/2022	EFT	P-2098	hcv	944.00		
843	-1147	haphcv	SIINO	oseph Michael Siino	08/01/2022	08/2022	EFT	P-1320	hcv	1,654.00		
844	-1148	haphcv	SILGLO	Silva	08/01/2022	08/2022	EFT		hcv	680.00		
845	-1149	haphcv	SIMMAR	Marc . Simpson	08/01/2022	08/2022	EFT	P-2063	hcv	1,642.00		
846	-1150	haphcv	SINRAM	Singh	08/01/2022	08/2022	EFT	P-1407	hcv	2,377.00		
847	-1151	haphcv	SINSON	Son Singh	08/01/2022	08/2022	EFT	P-2137	hcv	1,500.00		
848	-1152	haphcv	SITCRY	Situ	08/01/2022	08/2022	EFT	P-1717	hcv	1,250.00		
849	-1153	haphcv	SMILIO	Smith	08/01/2022	08/2022	EFT	P-2260	hcv	1,975.00		
850	-1154	haphcv	SMIMOL	Molly Smith	08/01/2022	08/2022	EFT	P-1720	hcv	2,000.00		
851	-1155	haphcv	SMISHE	Smith	08/01/2022	08/2022	EFT	P-2106	hcv-home	798.00		
852	-1156	haphcv	SOSCIN	Sosa	08/01/2022	08/2022	EFT	P-1501	hcv	2,448.00		
853	-1157	haphcv	speang	Angela E. Robinson-Spencer	08/01/2022	08/2022	EFT	P-2165	hcv	1,241.00		
854	-1158	haphcv	sroram	Srouji	08/01/2022	08/2022	EFT	P-1762	hcv-vash	2,186.00		
855	-1159	haphcv	STRALE	Stroud	08/01/2022	08/2022	EFT	P-2383	hcv	1,439.00		
856	-1160	haphcv	STRDAR	Streeter	08/01/2022	08/2022	EFT	P-1680	hcv	867.00		
857	-1161	haphcv	S LI	Su	08/01/2022	08/2022	EFT	P-1417	hcv	2,190.00		
858	-1162	haphcv	S MMIT	Summit Venture Group, LLC	08/01/2022	08/2022	EFT	P-1338	hcv	2,733.00		
859	-1163	haphcv	S R AM	amaljeet Surila	08/01/2022	08/2022	EFT	P-1480	hcv	1,684.00		
860	-1164	haphcv	S SPAD	Paduro-Silva	08/01/2022	08/2022	EFT	P-1465	hcv	2,195.00		
861	-1165	haphcv	svekon	ondratiouk	08/01/2022	08/2022	EFT	P-2168	hcv	3,338.00		
862	-1166	haphcv	SY OYC	oyce Hui Sy	08/01/2022	08/2022	EFT		hcv	6,713.00		
863	-1167	haphcv	TENY N	Yun Teng	08/01/2022	08/2022	EFT	P-1387	hcv	1,574.00		
864	-1168	haphcv	TERNAT	Terry	08/01/2022	08/2022	EFT	P-2457	hcv-home	1,923.00		
865	-1169	haphcv	THA Y	Thai	08/01/2022	08/2022	EFT	P-2233	hcv	2,593.00		
866	-1170	haphcv	THESIL	Silvia Thein and Ada Choi	08/01/2022	08/2022	EFT	P-2015	hcv	1,602.00		
867	-1171	haphcv	THOTE	Thornton	08/01/2022	08/2022	EFT	P-2082	hcv	2,862.00		
868	-1172	haphcv	TONYOW	Tong	08/01/2022	08/2022	EFT	P-2029	hcv	1,938.00		

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869	-1173	haphcv	TOVLO	Lourdes or Raymond Tovar	08/01/2022	08/2022	EFT	P-1356	hcv	1,374.00		
870	-1174	haphcv	TRARAP	Tran	08/01/2022	08/2022	EFT		hcv	5,705.00		
871	-1175	haphcv	TRARIC	Tran	08/01/2022	08/2022	EFT	P-1460	hcv	2,789.00		
872	-1176	haphcv	TRATH	Thuy Tran	08/01/2022	08/2022	EFT	P-2095	hcv	1,148.00		
873	-1177	haphcv	TRITHA	Thanh Van Trinh	08/01/2022	08/2022	EFT		hcv	1,636.00		
874	-1178	haphcv	TR SEA	Truong	08/01/2022	08/2022	EFT	P-1666	hcv	1,208.00		
875	-1179	haphcv	TR VAN	Truong	08/01/2022	08/2022	EFT	P-2003	hcv	1,717.00		
876	-1180	haphcv	SCERI	Erica schold	08/01/2022	08/2022	EFT	P-2392	hcv	2,950.00		
877	-1181	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	08/01/2022	08/2022	EFT			69,757.50		
878	-1182	haphcv	v0000006	College Park City HA	08/01/2022	08/2022	EFT		hcv	1,037.17		
879	-1183	haphcv	v0000056	Mims	08/01/2022	08/2022	EFT	P-1396	hcv	1,276.00		
880	-1184	haphcv	v0000064	Lee	08/01/2022	08/2022	EFT	P-2230	hcv	2,700.00		
881	-1185	haphcv	VALLID	Lidia Valladares	08/01/2022	08/2022	EFT	P-1991	hcv	1,561.00		
882	-1186	haphcv	VALVIC	Valenzuela	08/01/2022	08/2022	EFT	P-1597	hcv	2,875.00		
883	-1187	haphcv	VASGAR	Gary D. Vasconcellos	08/01/2022	08/2022	EFT	P-1563	hcv	1,720.00		
884	-1188	haphcv	VERHOM	Veritel Homes LLC	08/01/2022	08/2022	EFT	P-2504	hcv	2,165.00		
885	-1189	haphcv	VICA E	Vickers	08/01/2022	08/2022	EFT	P-1466	hcv	2,648.00		
886	-1190	haphcv	VIEN N	Nuno G Vieira	08/01/2022	08/2022	EFT		hcv	4,306.00		
887	-1191	haphcv	vukuyen	Vu	08/01/2022	08/2022	EFT	P-1342	hcv	1,239.00		
888	-1192	haphcv	WAFSTE	Wafer	08/01/2022	08/2022	EFT	P-1906	hcv	1,213.00		
889	-1193	haphcv	WANLIN	Lining Wan	08/01/2022	08/2022	EFT	P-2529	hcv	3,010.00		
890	-1194	haphcv	WANWEI	Wang	08/01/2022	08/2022	EFT	P-1586	hcv	1,940.00		
891	-1195	haphcv	wanyur	Yu Ruo Wang	08/01/2022	08/2022	EFT	P-1546	hcv	2,016.00		
892	-1196	haphcv	WARBRI	Warren	08/01/2022	08/2022	EFT	P-2556	hcv	2,076.00		
893	-1197	haphcv	weiisi	Isidoro Weitzman	08/01/2022	08/2022	EFT	P-1776	hcv-vash	1,600.00		
894	-1198	haphcv	WENHOL	Wen	08/01/2022	08/2022	EFT	P-1583	hcv	793.00		
895	-1199	haphcv	WHILEW	Lewis White & Ruth White	08/01/2022	08/2022	EFT			6,152.00		
896	-1200	haphcv	WI FEN	Wijayanti	08/01/2022	08/2022	EFT		hcv	2,881.00		
897	-1201	haphcv	WILADR	Wilson	08/01/2022	08/2022	EFT	P-2084	hcv	1,950.00		
898	-1202	haphcv	wilkat	Wilson	08/01/2022	08/2022	EFT	P-1959	hcv	1,152.00		
899	-1203	haphcv	WILL AT	athy D. Williams	08/01/2022	08/2022	EFT	P-1378	hcv	2,705.00		
900	-1204	haphcv	WILLTAS	Williams	08/01/2022	08/2022	EFT	P-1450	hcv	2,800.00		
901	-1205	haphcv	WINDEV	Windeler Development Group, Inc.	08/01/2022	08/2022	EFT	P-2116	hcv	987.00		
902	-1206	haphcv	wolwar	Wolfeld	08/01/2022	08/2022	EFT	P-1384	hcv	2,826.00		
903	-1207	haphcv	wonhar	Har Pan Wong	08/01/2022	08/2022	EFT		hcv	6,838.00		
904	-1208	haphcv	WON OA	oanne Wong	08/01/2022	08/2022	EFT	P-1414	hcv	1,450.00		
905	-1209	haphcv	WON IN	inney Ming Wong	08/01/2022	08/2022	EFT	P-1497	hcv	634.00		
906	-1210	haphcv	WONSHI	Wong	08/01/2022	08/2022	EFT	P-1765	hcv-vash	1,460.00		
907	-1211	haphcv	WONVIN	Wong	08/01/2022	08/2022	EFT	P-1498	hcv	1,646.00		

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908	-1212	haphcv	W HONG	Hong Wu	08/01/2022	08/2022	EFT		hcv	3,592.00		
909	-1213	haphcv	W HAN	Wu	08/01/2022	08/2022	EFT	P-1529	hcv	3,468.00		
910	-1214	haphcv	WYADRE	Drewcillia Wyatt	08/01/2022	08/2022	EFT	P-2399	hcv	2,570.00		
911	-1215	haphcv	X CHAO	Xu	08/01/2022	08/2022	EFT	P-1828	hcv	2,429.00		
912	-1216	haphcv	X PING	Ping Ping Xu	08/01/2022	08/2022	EFT		hcv	1,602.00		
913	-1217	haphcv	X HO	Xu	08/01/2022	08/2022	EFT	P-1620	hcv	2,853.00		
914	-1218	haphcv	yeyifa	Ye	08/01/2022	08/2022	EFT	P-2277	hcv	2,471.00		
915	-1219	haphcv	yipsal	Sally Yip	08/01/2022	08/2022	EFT	P-1688	hcv	912.00		
916	-1220	haphcv	YON IA	Lu	08/01/2022	08/2022	EFT	P-1336	hcv	1,790.00		
917	-1221	haphcv	YO CHR	You	08/01/2022	08/2022	EFT	P-2465	hcv	2,407.00		
918	-1222	haphcv	yueche	Cheung	08/01/2022	08/2022	EFT	P-2554	hcv	1,220.00		
919	-1223	haphcv	ALMOH	Mohammad almaiyar	08/01/2022	08/2022	EFT		hcv	1,583.00		
920	-1224	haphcv	HA IE	hao	08/01/2022	08/2022	EFT	P-1571	hcv	769.00		
921	-1225	haphcv	HA AT	hao	08/01/2022	08/2022	EFT	P-1920	hcv	1,938.00		
922	-1226	haphcv	HAWEI	Wei Bin hang or Gao Wei	08/01/2022	08/2022	EFT	P-1385	hcv	1,988.00		
923	-1227	haphcv	HAXIR	Xirong hao	08/01/2022	08/2022	EFT	P-1368	hcv	862.00		
924	-1228	haphcv	HAYAN	Yan hang	08/01/2022	08/2022	EFT	P-2142	hcv	1,898.00		
925	-1229	haphcv	HEXIA	heng	08/01/2022	08/2022	EFT	P-1481	hcv	1,462.00		
926	-1230	haphcv	HIXLI	Li	08/01/2022	08/2022	EFT	P-1922	hcv	2,583.00		
927	-1231	haphcv	HO OY	hou	08/01/2022	08/2022	EFT	P-1632	hcv	1,932.00		
928	-1232	haphcv	H SHE	hu	08/01/2022	08/2022	EFT		hcv	5,400.00		
929	-1233	haphcv	H YIN	hu	08/01/2022	08/2022	EFT		hcv	4,009.00		
930	-1234	haphcv	zhweij	hang	08/01/2022	08/2022	EFT	P-1533	hcv	1,130.00		
30000003	-1235	hcvport	LPMARH	Marina Heights Apartments, LP	08/01/2022	08/2022	Check		portin	5,710.00		
30000004	-1236	hcvport	ngumyh	Nguyen	08/01/2022	08/2022	Check	P-2305	portin	1,594.00		
30000005	-1237	hcvport	sieoak	Sierra Pacific Properties	08/01/2022	08/2022	Check		portin	2,671.00		
30000006	-1238	hcvport	t1005652	Smith	08/01/2022	08/2022	Check	P-1464	portin	25.00		
30000007	-1239	hcvport	t1005678	Albert	08/01/2022	08/2022	Check	P-2268	portin	36.00		
30000008	-1240	hcvport	t2027014	Pervoe	08/01/2022	08/2022	Check	P-2236	portin	54.00		
30000009	-1241	hcvport	v0000057	Mims	08/01/2022	08/2022	Check	P-2446	portin	1,673.00		
30000010	-1242	hcvport	vilsan	San Marcos Villas	08/01/2022	08/2022	Check		portin	5,916.00		
50000011	-1243	hcvport	9thst	9th Street Associates, LP	08/01/2022	08/2022	EFT	P-2462	portin	741.00		
50000012	-1244	hcvport	aptsto	Stoneman Apartments	08/01/2022	08/2022	EFT		portin	5,069.00		
50000013	-1245	hcvport	belmont	Belmont Apartments	08/01/2022	08/2022	EFT		portin	6,314.00		
50000014	-1246	hcvport	bor201	2018-2 IH Borrower LP	08/01/2022	08/2022	EFT	P-1785	portin	1,957.00		
50000015	-1247	hcvport	BROLA	Brown	08/01/2022	08/2022	EFT	P-2079	portin	1,119.00		
50000016	-1248	hcvport	coapin	Ping Cao	08/01/2022	08/2022	EFT	P-1519	portin	2,435.00		
50000017	-1249	hcvport	creeks	Creekside Apt Investors LLC DBA Creekside Village	08/01/2022	08/2022	EFT		portin	2,965.00		
50000018	-1250	hcvport	doabri	Doan	08/01/2022	08/2022	EFT	P-1937	portin	2,730.00		

Payment Register

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Period From 08/2022 to 08/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
50000019	-1251	hcvport	eastle	Mercy Housing California XXXVIII	08/01/2022	08/2022	EFT	P-2251	portin	1,751.00		
50000020	-1252	hcvport	GRER P	Grewal	08/01/2022	08/2022	EFT	P-2185	portin	2,936.00		
50000021	-1253	hcvport	HACNIC	Hackett	08/01/2022	08/2022	EFT	P-2269	portin	1,973.00		
50000022	-1254	hcvport	hagjef	effrey Paul Hagler	08/01/2022	08/2022	EFT	P-2235	portin	2,810.00		
50000023	-1255	hcvport	HOAHAN	Hoang	08/01/2022	08/2022	EFT	P-2304	portin	2,608.00		
50000024	-1256	hcvport	hominv	Invitation Homes	08/01/2022	08/2022	EFT	P-1749	portin	1,952.00		
50000025	-1257	hcvport	kirkkw	W irker Creek, LLC	08/01/2022	08/2022	EFT	P-1391	portin	1,780.00		
50000026	-1258	hcvport	LIYING	Ying Hong Li	08/01/2022	08/2022	EFT	P-2237	portin	3,216.00		
50000027	-1259	hcvport	majenn	Ma	08/01/2022	08/2022	EFT		portin	3,324.00		
50000028	-1260	hcvport	RAMHOR	Ramsey Horton	08/01/2022	08/2022	EFT	P-1746	portin	1,885.00		
50000029	-1261	hcvport	shoinv	Shorten Investments LLC	08/01/2022	08/2022	EFT		portin	5,761.00		
50000030	-1262	hcvport	siecor	Sierra Pacific Properties Inc	08/01/2022	08/2022	EFT		portin	4,436.00		
50000031	-1263	hcvport	siena	Siena Court Apartments	08/01/2022	08/2022	EFT	P-1750	portin	954.00		
50000032	-1264	hcvport	siewoo	Sierra Pacific Properties c/o Ernie . Davis	08/01/2022	08/2022	EFT		portin	2,532.00		
50000033	-1265	hcvport	TR XAV	Truong	08/01/2022	08/2022	EFT	P-2030	portin	1,256.00		
50000034	-1266	hcvport	v0000061	Garschi	08/01/2022	08/2022	EFT	P-2404	portin	2,723.00		
50000035	-1267	hcvport	v0000062	Santa Fe Triplex LLC	08/01/2022	08/2022	EFT	P-2248	portin	2,043.00		
50000036	-1268	hcvport	v0000065	Marx	08/01/2022	08/2022	EFT	P-2532	portin	1,080.00		
50000037	-1269	hcvport	VERHOM	Veritel Homes LLC	08/01/2022	08/2022	EFT	P-2382	portin	1,769.00		
751	-1277	haphcv	myninc	Mynd Management Inc,	08/01/2022	08/2022	EFT		hcv	-3,245.00		Change Ownership
235	-1278	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	08/03/2022	08/2022	Check		hcv	-4,856.00		Bank rejected
30000008	-1283	hcvport	t2027014	Pervoe	08/11/2022	08/2022	Check	P-2236	portin	-54.00		spilled coffee
51553	-1284	haphcv	t1004983	ackson	08/15/2022	08/2022	Check	P-2581	hcv	103.00		
932	-1285	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	08/15/2022	08/2022	EFT	P-2574	hcv	321.00		
933	-1286	haphcv	myninc	Mynd Management Inc,	08/15/2022	08/2022	EFT		hcv	3,245.00		
934	-1287	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	08/15/2022	08/2022	EFT		hcv-vash	8,066.66		
50000038	-1288	hcvport	v0000002	CONTRA COSTA HO SING A THORITY	08/15/2022	08/2022	EFT	P-2590	portin	260.57		
30000011	-1289	hcvport	t2027014	Pervoe	08/15/2022	08/2022	Check	P-2582	portin	54.00		
12	-1290	haphcv	t1000347	Lea III	08/11/2022	08/2022	Check		hcv	0.00		TOA ero Dollar Adjustment
13	-1291	haphcv	t1004258	Sanders	08/11/2022	08/2022	Check		hcv	0.00		TOA ero Dollar Adjustment
14	-1292	haphcv	t1004506	Nichols	08/11/2022	08/2022	Check		hcv	0.00		TOA ero Dollar Adjustment
15	-1293	haphcv	t1005029	Wagnon	08/11/2022	08/2022	Check		hcv	0.00		TOA ero Dollar Adjustment
16	-1294	haphcv	t1005483	Morris	08/11/2022	08/2022	Check		hcv	0.00		TOA ero Dollar Adjustment
17	-1295	haphcv	DISOLG	Olga M. Disney	08/15/2022	08/2022	Check		hcv-vash	0.00		
18	-1296	haphcv	LPMARH	Marina Heights Apartments, LP	08/15/2022	08/2022	Check		hcv	0.00		
51554	-1297	haphcv	t1000048	Thornton	08/15/2022	08/2022	Check	P-2716	hcv	50.00		
51555	-1298	haphcv	t1001330	Davis	08/15/2022	08/2022	Check	P-2736	hcv	36.00		

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Period From 08/2022 to 08/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51556	-1299	haphcv	t1005141	Barr	08/15/2022	08/2022	Check		hcv-vash	240.00		
51557	-1300	haphcv	t1005260	Williams	08/15/2022	08/2022	Check		hcv	429.00		
51558	-1301	haphcv	t1005269	Nawabi	08/15/2022	08/2022	Check		hcv	38.00		
50000039	-1302	hcvport	belmont	Belmont Apartments	08/15/2022	08/2022	EFT		portin	2,705.00		
30000012	-1303	hcvport	LPMARH	Marina Heights Apartments, LP	08/15/2022	08/2022	Check		portin	30.00		
30000013	-1304	hcvport	ngumyh	Nguyen	08/15/2022	08/2022	Check		portin	1,880.00		
30000014	-1305	hcvport	t2026998	Williams	08/15/2022	08/2022	Check	P-2640	portin	53.00		
30000015	-1306	hcvport	t2027014	Pervoe	08/15/2022	08/2022	Check	P-2236	portin	54.00		
30000016	-1307	hcvport	vilsan	San Marcos Villas	08/15/2022	08/2022	Check		portin	883.00		
935	-1308	haphcv	AMAFEL	Amarante	08/15/2022	08/2022	EFT		hcv-vash	17.00		
936	-1309	haphcv	aptsto	Stoneman Apartments	08/15/2022	08/2022	EFT		hcv	1,037.00		
937	-1310	haphcv	BAR EN	Bartlett	08/15/2022	08/2022	EFT		hcv-vash	268.00		
938	-1311	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	08/15/2022	08/2022	EFT		hcv	318.00		
939	-1312	haphcv	belmont	Belmont Apartments	08/15/2022	08/2022	EFT		hcv	116.00		
19	-1313	haphcv	CARCLA	Clara Beatriz Cardenas	08/15/2022	08/2022	EFT		hcv	0.00		
940	-1314	haphcv	chochu	Choi	08/15/2022	08/2022	EFT		hcv	2,370.00		
20	-1315	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	08/15/2022	08/2022	EFT		hcv	0.00		
941	-1316	haphcv	DAVROS	Davis	08/15/2022	08/2022	EFT		hcv	48.00		
21	-1317	haphcv	doabri	Doan	08/15/2022	08/2022	EFT		hcv	0.00		
22	-1318	haphcv	gateway	Gateway Apartments	08/15/2022	08/2022	EFT		hcv	0.00		
942	-1319	haphcv	hawdel	Delta Hawaii Garden Apartments LLC	08/15/2022	08/2022	EFT		hcv	16.00		
23	-1320	haphcv	hendav	David T. Hennigan	08/15/2022	08/2022	EFT		hcv	0.00		
943	-1321	haphcv	AISAM	ain	08/15/2022	08/2022	EFT		hcv	1,231.00		
944	-1322	haphcv	OHRON	ohnson	08/15/2022	08/2022	EFT		hcv	42.00		
945	-1323	haphcv	leujoh	ohn M. Leung	08/15/2022	08/2022	EFT		hcv	380.00		
946	-1324	haphcv	lido	ames . Busby & Irvin Deutcher/DBA Crestview Apts	08/15/2022	08/2022	EFT		hcv	685.00		
947	-1325	haphcv	LIVPA	Paul Livson	08/15/2022	08/2022	EFT		hcv-vash	2,868.00		
24	-1326	haphcv	losmed	Los Medanos Village Apartments	08/15/2022	08/2022	EFT		hcv	0.00		
948	-1327	haphcv	ncasso	NC Associates, Inc.	08/15/2022	08/2022	EFT		hcv	260.00		
949	-1328	haphcv	NILPET	Niloufari	08/15/2022	08/2022	EFT		hcv	278.00		
25	-1329	haphcv	norfin	Northstar Financial Group, LLC	08/15/2022	08/2022	EFT		hcv-vash	0.00		
26	-1330	haphcv	pacliv	Pacific Living, LLC	08/15/2022	08/2022	EFT		hcv	0.00		
950	-1331	haphcv	PEALOY	Peacock	08/15/2022	08/2022	EFT		hcv	88.00		
951	-1332	haphcv	pitpar	Pittsburg Park Apartments	08/15/2022	08/2022	EFT		hcv	458.00		
27	-1333	haphcv	realam	Amerasia Real Estate Fund LLC	08/15/2022	08/2022	EFT		hcv-vash	0.00		
952	-1334	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	08/15/2022	08/2022	EFT		hcv	786.00		
953	-1335	haphcv	STRDAR	Streeter	08/15/2022	08/2022	EFT		hcv	1,418.00		
954	-1336	haphcv	sukabb	Sukarto	08/15/2022	08/2022	EFT		hcv	738.00		

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Period From 08/2022 to 08/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
955	-1337	haphcv	THESIL	Silvia Thein and Ada Choi	08/15/2022	08/2022	EFT		hcv	70.00		
28	-1338	haphcv	THOTE	Thornton	08/15/2022	08/2022	EFT		hcv	0.00		
956	-1339	haphcv	v0000002	CONTRA COSTA HOSING AUTHORITY	08/15/2022	08/2022	EFT		hcv-vash	9,102.99		
957	-1340	haphcv	v0000059	Tran	08/15/2022	08/2022	EFT		hcv	3,708.00		
958	-1341	haphcv	v0000066	Tram	08/15/2022	08/2022	EFT		hcv	3,245.00		
959	-1342	haphcv	XUHO	Xu	08/15/2022	08/2022	EFT		hcv	34.00		
716	-1346	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	08/19/2022	08/2022	Check	P-2306	hcv	-1,214.00		Returned 8/18/22
931	-1347	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	08/19/2022	08/2022	Check		hcv	-4,856.00		Returned 8/18/22
51559	-1348	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	08/19/2022	08/2022	Check		hcv	6,070.00		
30000015	-2837	hcvport	t2027014	Pervoe	08/31/2022	08/2022	Check	P-2236	portin	-54.00		
Grand Total										**1,792,622.12**		

HOUSING AUTHORITY OF THE CITY OF PITTSBURG
DISBURSEMENT SUMMARY
FOR THE MONTH ENDED SEPTEMBER 30, 2022

VOUCHERS

Ck#	Amount	HAP[1]	VASH[2]	UR[3]	Portability	Admin. Fee	TOTAL
51560-51668	$ 1,758,160.92	1,635,580.67	19,381.33	6,869.00	94,205.00	2,124.92	$ 1,758,160.92
51669-51673	$ 33,141.02	31,332.69	1,553.00	277.25	-	94.33	$ 33,257.27
1879	$ 5,001.00	5,001.00	-	-	-	-	$ 5,001.00
TOTAL	**$ 1,796,302.94**	**1,671,914.36**	**20,934.33**	**7,146.25**	**94,205.00**	**2,219.25**	**$ 1,796,419.19**

[1]Housing Assistance Payment [2]Veterans Affairs Supportive Housing [3]Utility Reimbursement

ADMINISTRATIVE EXPENSES

Description	TOTAL
Salaries and Wages	$ 47,404.56
Salaries- Overtime	121.57
Retirement Miscellaneous	3,252.10
Retirement - Pension Bonds	7,029.50
Health Insurance - Employees	8,716.36
CalPERS Unfunded Liability - Non Sworn	-
Additional CalPERS Pension Contribution	450.14
Life Insurance	78.34
Dental Insurance	894.82
Vision - Employee	93.76
Workers' Compensation	2,291.02
Unemployment Insurance	264.91
Disability Insurance	-
F I C A & Medicare	3,670.36
Deferred Compensation - Employer	972.50
Vac Buy-Bk/Empl Termination	965.92
Pension 115 Trust	590.33
Retiree OPEB Costs	2,811.50
Office Supplies & Materials	1,010.06
Computer Software Expense	-
Postage	-
Misc Equipment & Furniture	-
Utilities - Electric	1,728.09
Utilities - Water	18.05
Utilities - Telephone Service	1,060.36
Utilities - WiFi/Cellphone Service	-
Membership Dues & Subscriptions	-
Travel, Training & Conferences	-
Insurance - Alloc Chgs	4,101.58
Other Contractual & Professional Service	-
Maintenance Agreements	0.90
Maintenance & Repairs	3,219.86
Building Rental	-
Fleet Maintenance Alloc Chgs	604.08
Building Maintenance Alloc Chgs	1,804.83
Information Systems Alloc Chgs	1,790.75
Admin Overhead Paid to City	4,926.54
Capital Equipment & Furniture	-
Other fees	-
Transfer-Out to OPEB Fund	2,075.58
Yardi Operating Expenses	-
	$ 101,948.37

VOIDED CHECKS & ADJUSTMENTS

Ck#	Reason	Amount
	No adjustments	$ -
	TOTAL	$ -

Prepared by: GY

Reviewed by:

NET OF ISSUED AND VOIDED PAYMENTS $ 1,898,367.56

Payment Register

Period From 09/2022 to 09/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
30000017	-1356	hcvport	LPMARH	Marina Heights Apartments, LP	09/01/2022	09/2022	Check		portin	4,263.00		
30000018	-1357	hcvport	sieoak	Sierra Pacific Properties	09/01/2022	09/2022	Check	P-3629	portin	1,780.00		
30000019	-1358	hcvport	t1005678	Albert	09/01/2022	09/2022	Check	P-3711	portin	36.00		
30000020	-1359	hcvport	t2026998	Williams	09/01/2022	09/2022	Check	P-3497	portin	53.00		
30000021	-1360	hcvport	v0000057	Mims	09/01/2022	09/2022	Check	P-3367	portin	1,673.00		
30000022	-1361	hcvport	vilsan	San Marcos Villas	09/01/2022	09/2022	Check		portin	6,564.00		
50000040	-1362	hcvport	9thst	9th Street Associates, LP	09/01/2022	09/2022	EFT	P-3375	portin	741.00		
50000041	-1363	hcvport	aptsto	Stoneman Apartments	09/01/2022	09/2022	EFT		portin	5,069.00		
50000042	-1364	hcvport	belmont	Belmont Apartments	09/01/2022	09/2022	EFT		portin	11,060.00		
50000043	-1365	hcvport	bor201	2018-2 IH Borrower LP	09/01/2022	09/2022	EFT	P-3725	portin	1,957.00		
50000044	-1366	hcvport	BROLA	Brown	09/01/2022	09/2022	EFT	P-3166	portin	1,119.00		
50000045	-1367	hcvport	coapin	Ping Cao	09/01/2022	09/2022	EFT	P-3549	portin	2,453.00		
50000046	-1368	hcvport	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/01/2022	09/2022	EFT		portin	2,965.00		
50000047	-1369	hcvport	doabri	Doan	09/01/2022	09/2022	EFT	P-3850	portin	2,730.00		
50000048	-1370	hcvport	eastle	Mercy Housing California XXXVIII	09/01/2022	09/2022	EFT		portin	1,751.00		
50000049	-1371	hcvport	GRERP	Grewal	09/01/2022	09/2022	EFT	P-3203	portin	2,936.00		
50000050	-1372	hcvport	HACNIC	Hackett	09/01/2022	09/2022	EFT	P-3254	portin	1,973.00		
50000051	-1373	hcvport	hagjef	effrey Paul Hagler	09/01/2022	09/2022	EFT	P-4080	portin	2,514.00		
50000052	-1374	hcvport	HOAHAN	Hoang	09/01/2022	09/2022	EFT	P-3289	portin	2,608.00		
50000053	-1375	hcvport	hominv	Invitation Homes	09/01/2022	09/2022	EFT	P-3016	portin	1,952.00		
50000054	-1376	hcvport	kirkkw	W irker Creek, LLC	09/01/2022	09/2022	EFT	P-2835	portin	1,780.00		
50000055	-1377	hcvport	LIYING	Ying Hong Li	09/01/2022	09/2022	EFT	P-3223	portin	3,216.00		
50000056	-1378	hcvport	majenn	Ma	09/01/2022	09/2022	EFT	P-3630	portin	1,908.00		
50000057	-1379	hcvport	ngumyh	Nguyen	09/01/2022	09/2022	EFT	P-3496	portin	2,137.00		
50000058	-1380	hcvport	RAMHOR	Ramsey Horton	09/01/2022	09/2022	EFT	P-3690	portin	1,885.00		
50000059	-1381	hcvport	shoinv	Shorten Investments LLC	09/01/2022	09/2022	EFT		portin	5,761.00		
50000060	-1382	hcvport	siecor	Sierra Pacific Properties Inc	09/01/2022	09/2022	EFT		portin	3,574.00		
50000061	-1383	hcvport	siena	Siena Court Apartments	09/01/2022	09/2022	EFT	P-3017	portin	954.00		
50000062	-1384	hcvport	siewoo	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT		portin	2,532.00		
50000063	-1385	hcvport	TRXAV	Truong	09/01/2022	09/2022	EFT	P-3474	portin	1,256.00		
50000064	-1386	hcvport	v0000061	Garschi	09/01/2022	09/2022	EFT	P-3695	portin	2,723.00		
50000065	-1387	hcvport	v0000062	Santa Fe Triplex LLC	09/01/2022	09/2022	EFT	P-3230	portin	2,043.00		
50000066	-1388	hcvport	v0000065	Marx	09/01/2022	09/2022	EFT	P-3423	portin	1,080.00		
50000067	-1389	hcvport	v0000068	inke Li DBA 's Property Management Co	09/01/2022	09/2022	EFT		portin	5,390.00		
50000068	-1390	hcvport	VERHOM	Veritel Homes LLC	09/01/2022	09/2022	EFT	P-3326	portin	1,769.00		
51560	-1391	haphcv	aawjow	OW & AAW, LLC	09/01/2022	09/2022	Check			3,507.00		
51561	-1392	haphcv	ACLASS	A Classey Corp. DBA ACL Property Management	09/01/2022	09/2022	Check	P-3787	hcv	2,817.00		
51562	-1393	haphcv	addwes	Western Addition LLC	09/01/2022	09/2022	Check			4,015.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51563	-1394	haphcv	ALAMOS	Alamo Square Apartments LLC	09/01/2022	09/2022	Check	P-2841	hcv	2,562.00		
51564	-1395	haphcv	COLGEO	Cole	09/01/2022	09/2022	Check	P-3590	hcv-vash	1,297.00		
51565	-1396	haphcv	DISOLG	Olga M. Disney	09/01/2022	09/2022	Check		hcv-vash	1,320.00		
51566	-1397	haphcv	ESTPA	Rhodes	09/01/2022	09/2022	Check	P-3796	hcv	1,541.00		
33	-1398	haphcv	GLOFED	Glover	09/01/2022	09/2022	Check		hcv	0.00		
51567	-1399	haphcv	guimor	Mortgage	09/01/2022	09/2022	Check	P-2912	hcv-home	2,299.00		
51568	-1400	haphcv	HILDIA	Diamond Hillside Apartments	09/01/2022	09/2022	Check		hcv	3,560.00		
51569	-1401	haphcv	LASTE	Lau	09/01/2022	09/2022	Check	P-3364	hcv	2,387.00		
51570	-1402	haphcv	LPMARH	Marina Heights Apartments, LP	09/01/2022	09/2022	Check			67,446.00		
51571	-1403	haphcv	LMIAO	Lu	09/01/2022	09/2022	Check		hcv	2,901.00		
51572	-1404	haphcv	MCDDAN	Dante McDonald	09/01/2022	09/2022	Check	P-3489	hcv	2,190.00		
51573	-1405	haphcv	MILDAR	Darryl H. Milburn	09/01/2022	09/2022	Check	P-3649	hcv	1,955.00		
51574	-1406	haphcv	NGYBA	Ba Nguyen	09/01/2022	09/2022	Check	P-3176	hcv	1,793.00		
51575	-1407	haphcv	PAYLOR	Lorene Paysinger	09/01/2022	09/2022	Check	P-2973	hcv	1,809.00		
51576	-1408	haphcv	PHOLIN	Linda Phon	09/01/2022	09/2022	Check	P-3314	hcv	1,544.00		
51577	-1409	haphcv	proeen	MSR Rental Properties, LLC	09/01/2022	09/2022	Check	P-3034	hcv-vash	1,780.00		
51578	-1410	haphcv	SALSHA	Shah	09/01/2022	09/2022	Check	P-3006	hcv	1,727.00		
51579	-1411	haphcv	sieoak	Sierra Pacific Properties	09/01/2022	09/2022	Check		hcv	6,267.00		
51580	-1412	haphcv	SVET	Veterans Square LP	09/01/2022	09/2022	Check		hcv-pbv1	43,516.00		
51581	-1413	haphcv	t1000048	Thornton	09/01/2022	09/2022	Check	P-3470	hcv	50.00		
51582	-1414	haphcv	t1000092	Royston	09/01/2022	09/2022	Check	P-3625	hcv	91.00		
51583	-1415	haphcv	t1000139	Castillo	09/01/2022	09/2022	Check	P-3046	hcv	3.00		
51584	-1416	haphcv	t1000347	Lea III	09/01/2022	09/2022	Check	P-3633	hcv	211.00		
51585	-1417	haphcv	t1000420	Best	09/01/2022	09/2022	Check	P-2891	hcv	18.00		
51586	-1418	haphcv	t1000507	Smith	09/01/2022	09/2022	Check	P-3374	hcv	92.00		
51587	-1419	haphcv	t1000558	Combs	09/01/2022	09/2022	Check	P-3921	hcv	253.00		
51588	-1420	haphcv	t1000606	Parrish	09/01/2022	09/2022	Check	P-3455	hcv	277.00		
51589	-1421	haphcv	t1000652	Rubio	09/01/2022	09/2022	Check	P-3142	hcv	24.00		
51590	-1422	haphcv	t1000720	Griffin	09/01/2022	09/2022	Check	P-3121	hcv	8.00		
51591	-1423	haphcv	t1000983	Davis	09/01/2022	09/2022	Check	P-3145	hcv	57.00		
51592	-1424	haphcv	t1001148	Camp	09/01/2022	09/2022	Check	P-3893	hcv	292.00		
51593	-1425	haphcv	t1001330	Davis	09/01/2022	09/2022	Check	P-3514	hcv	36.00		
51594	-1426	haphcv	t1001728	Edwards	09/01/2022	09/2022	Check	P-3672	hcv	132.00		
51595	-1427	haphcv	t1001733	Cones	09/01/2022	09/2022	Check	P-3613	hcv	33.00		
51596	-1428	haphcv	t1001761	Washington	09/01/2022	09/2022	Check	P-3494	hcv	101.00		
51597	-1429	haphcv	t1002151	Thompson	09/01/2022	09/2022	Check	P-3201	hcv	60.00		
51598	-1430	haphcv	t1002194	Gregory	09/01/2022	09/2022	Check	P-3784	hcv	45.00		
51599	-1431	haphcv	t1002229	Spears	09/01/2022	09/2022	Check	P-2956	hcv	135.00		
51600	-1432	haphcv	t1002257	ackson	09/01/2022	09/2022	Check	P-3101	hcv	253.00		
51601	-1433	haphcv	t1002307	Ellingberg	09/01/2022	09/2022	Check	P-3809	hcv	223.00		
51602	-1434	haphcv	t1002333	Smith	09/01/2022	09/2022	Check	P-3313	hcv	57.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51603	-1435	haphcv	t1002364	Hampton	09/01/2022	09/2022	Check	P-3445	hcv	134.00		
51604	-1436	haphcv	t1002519	Barlow	09/01/2022	09/2022	Check	P-2880	hcv	148.00		
51605	-1437	haphcv	t1002530	Lascano	09/01/2022	09/2022	Check	P-3857	hcv	9.00		
51606	-1438	haphcv	t1002622	Whaley	09/01/2022	09/2022	Check	P-2926	hcv	4.00		
51607	-1439	haphcv	t1002638	Davis	09/01/2022	09/2022	Check	P-3628	hcv	14.00		
51608	-1440	haphcv	t1002697	Parrott	09/01/2022	09/2022	Check	P-3518	hcv	253.00		
51609	-1441	haphcv	t1002707	Strausbaugh	09/01/2022	09/2022	Check	P-3813	hcv	11.00		
51610	-1442	haphcv	t1002835	Gasca	09/01/2022	09/2022	Check	P-3443	hcv	11.00		
51611	-1443	haphcv	t1002855	Banks R	09/01/2022	09/2022	Check	P-2884	hcv	47.00		
51612	-1444	haphcv	t1003049	Allen	09/01/2022	09/2022	Check	P-3337	hcv	128.00		
51613	-1445	haphcv	t1003165	Reese	09/01/2022	09/2022	Check	P-3273	hcv	90.00		
51614	-1446	haphcv	t1003246	illion	09/01/2022	09/2022	Check	P-3339	hcv	4.00		
51615	-1447	haphcv	t1003247	Rothschild	09/01/2022	09/2022	Check	P-3190	hcv	169.00		
51616	-1448	haphcv	t1003293	Berry	09/01/2022	09/2022	Check	P-2933	hcv	36.00		
51617	-1449	haphcv	t1003949	Nichols	09/01/2022	09/2022	Check	P-3595	hcv-pbv1	20.00		
51618	-1450	haphcv	t1004020	Rollins	09/01/2022	09/2022	Check	P-3218	hcv	26.00		
51619	-1451	haphcv	t1004056	Houston	09/01/2022	09/2022	Check	P-3864	hcv	36.00		
51620	-1452	haphcv	t1004182	Parker	09/01/2022	09/2022	Check	P-2959	hcv	145.00		
51621	-1453	haphcv	t1004318	Edmond	09/01/2022	09/2022	Check	P-3794	hcv	64.00		
51622	-1454	haphcv	t1004486	Alfred	09/01/2022	09/2022	Check	P-3103	hcv	292.00		
51623	-1455	haphcv	t1004506	Nichols	09/01/2022	09/2022	Check	P-3259	hcv	31.00		
51624	-1456	haphcv	t1004587	Warren	09/01/2022	09/2022	Check	P-3798	hcv	79.00		
51625	-1457	haphcv	t1004601	Bronson	09/01/2022	09/2022	Check	P-4076	hcv	33.00		
51626	-1458	haphcv	t1004657	Sanders	09/01/2022	09/2022	Check	P-3821	hcv	115.00		
51627	-1459	haphcv	t1004951	Cornish	09/01/2022	09/2022	Check	P-2873	hcv	18.00		
51628	-1460	haphcv	t1004983	ackson	09/01/2022	09/2022	Check	P-3084	hcv	103.00		
51629	-1461	haphcv	t1005006	Williams	09/01/2022	09/2022	Check	P-2900	hcv	17.00		
51630	-1462	haphcv	t1005040	Blanks	09/01/2022	09/2022	Check	P-3131	hcv	31.00		
51631	-1463	haphcv	t1005081	Harris	09/01/2022	09/2022	Check	P-3762	hcv	19.00		
51632	-1464	haphcv	t1005124	Hanif	09/01/2022	09/2022	Check	P-3868	hcv	76.00		
51633	-1465	haphcv	t1005128	Burrus	09/01/2022	09/2022	Check	P-3914	hcv	153.00		
51634	-1466	haphcv	t1005141	Barr	09/01/2022	09/2022	Check	P-3698	hcv-vash	5.00		
51635	-1467	haphcv	t1005201	Irvin	09/01/2022	09/2022	Check	P-2944	hcv	36.00		
51636	-1468	haphcv	t1005247	Gomez	09/01/2022	09/2022	Check	P-2858	hcv	41.00		
51637	-1469	haphcv	t1005260	Williams	09/01/2022	09/2022	Check	P-3512	hcv	143.00		
51638	-1470	haphcv	t1005269	Nawabi	09/01/2022	09/2022	Check	P-3539	hcv	19.00		
51639	-1471	haphcv	t1005276	Lopez	09/01/2022	09/2022	Check	P-3568	hcv	175.00		
51640	-1472	haphcv	t1005293	Miller	09/01/2022	09/2022	Check	P-3310	hcv	25.00		
51641	-1473	haphcv	t1005312	Dones	09/01/2022	09/2022	Check	P-2983	hcv	67.00		
51642	-1474	haphcv	t1005322	Madison	09/01/2022	09/2022	Check	P-3564	hcv	163.00		
51643	-1475	haphcv	t1005332	Hearne	09/01/2022	09/2022	Check	P-3652	hcv	27.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51644	□-1476	haphcv	t1005360	Ghani	09/01/2022	09/2022	Check	P-3558	hcv	119.00		
51645	□-1477	haphcv	t1005382	□ackson	09/01/2022	09/2022	Check	P-2844	hcv	232.00		
51646	□-1478	haphcv	t1005422	Sailbury	09/01/2022	09/2022	Check	P-3332	hcv	36.00		
51647	□-1479	haphcv	t1005434	Eddins	09/01/2022	09/2022	Check	P-3368	hcv	3.00		
51648	□-1480	haphcv	t1005437	Lewis	09/01/2022	09/2022	Check	P-3114	hcv	196.00		
51649	□-1481	haphcv	t1005470	Washington	09/01/2022	09/2022	Check	P-3174	hcv	92.00		
51650	□-1482	haphcv	t1005471	Lewis	09/01/2022	09/2022	Check	P-3873	hcv	48.00		
51651	□-1483	haphcv	t1005475	Mangum	09/01/2022	09/2022	Check	P-3139	hcv	70.00		
51652	□-1484	haphcv	t1005479	Butler	09/01/2022	09/2022	Check	P-3066	hcv	119.00		
51653	□-1485	haphcv	t1005563	Carter	09/01/2022	09/2022	Check	P-3837	hcv	40.00		
51654	□-1486	haphcv	t1005568	Ferguson	09/01/2022	09/2022	Check	P-3586	hcv-vash	18.00		
51655	□-1487	haphcv	t1005573	□ohnson	09/01/2022	09/2022	Check	P-3655	hcv	344.00		
51656	□-1488	haphcv	t1005605	Phifer □r.	09/01/2022	09/2022	Check	P-3025	hcv-vash	22.00		
51657	□-1489	haphcv	t1005619	Evans	09/01/2022	09/2022	Check	P-3096	hcv	29.00		
51658	□-1490	haphcv	t1005732	Millanfriel	09/01/2022	09/2022	Check	P-3335	hcv-pbv1	9.00		
51659	□-1491	haphcv	t1005736	Lewis	09/01/2022	09/2022	Check	P-3596	hcv-pbv1	23.00		
51660	□-1492	haphcv	t1005754	□endall	09/01/2022	09/2022	Check	P-3602	hcv-pbv1	23.00		
51661	□-1493	haphcv	t1005785	Behn	09/01/2022	09/2022	Check	P-3216	hcv-pbv1	23.00		
51662	□-1494	haphcv	TAMALB	Tam	09/01/2022	09/2022	Check	P-3740	hcv	1,256.00		
51663	□-1495	haphcv	v0000022	Harris County Housing Authority	09/01/2022	09/2022	Check	□	hcv	766.87		
51664	□-1496	haphcv	v0000025	Suisun City Housing Authority	09/01/2022	09/2022	Check	□	hcv-vash	1,634.33		
51665	□-1497	haphcv	v0000070	Franchise Tax Board	09/01/2022	09/2022	Check	P-4086	hcv	243.75		
51666	□-1498	haphcv	vilsan	San Marcos Villas	09/01/2022	09/2022	Check	P-3224	hcv	1,520.00		
51667	□-1499	haphcv	WES□PP	Western □pper Haight Street Apartments, LLC	09/01/2022	09/2022	Check	P-3569	hcv	1,743.00		
51668	□-1500	haphcv	YINYE□	Yeung	09/01/2022	09/2022	Check	P-3683	hcv	1,515.00		
960	□-1501	haphcv	9thst	9th Street Associates, LP	09/01/2022	09/2022	EFT	□	hcv	4,789.00		
961	□-1502	haphcv	ABDMEE	Abdiani	09/01/2022	09/2022	EFT	P-3968	hcv	848.00		
962	□-1503	haphcv	abjent	AB□ Enterprises, Inc. dba Blue Line Property Mgmt	09/01/2022	09/2022	EFT	□	hcv	16,137.00		
963	□-1504	haphcv	ADDLEO	Addison	09/01/2022	09/2022	EFT	P-3107	hcv	1,812.00		
964	□-1505	haphcv	AGRAMI	Agrawal	09/01/2022	09/2022	EFT	P-3621	hcv	1,461.00		
965	□-1506	haphcv	AG□ROS	Aguilar	09/01/2022	09/2022	EFT	P-3141	hcv	1,250.00		
966	□-1507	haphcv	AG□ROSA	Aguirre	09/01/2022	09/2022	EFT	P-2963	hcv	2,021.00		
967	□-1508	haphcv	ALEDEM	Demetrius Alexander	09/01/2022	09/2022	EFT	P-3306	hcv	1,964.00		
968	□-1509	haphcv	ALE□AN	Alexander	09/01/2022	09/2022	EFT	P-3086	hcv	710.00		
969	□-1510	haphcv	ALVDAL	Dale Alvarez	09/01/2022	09/2022	EFT	P-3454	hcv	1,675.00		
970	□-1511	haphcv	AMAFEL	Amarante	09/01/2022	09/2022	EFT	P-3467	hcv-vash	1,500.00		
971	□-1512	haphcv	andcec	Cecilia Anderson	09/01/2022	09/2022	EFT	P-3219	hcv	2,552.00		
972	□-1513	haphcv	ANDSHA	Shawn Anderson	09/01/2022	09/2022	EFT	P-3144	hcv	1,501.00		
973	□-1514	haphcv	ANIEBA	Ebadi	09/01/2022	09/2022	EFT	P-3954	hcv	2,510.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
974	-1515	haphcv	aptsto	Stoneman Apartments	09/01/2022	09/2022	EFT		hcv	39,193.00		
975	-1516	haphcv	AREMAR	Bailey	09/01/2022	09/2022	EFT	P-3942	hcv	2,001.00		
976	-1517	haphcv	bahshr	Ba-Harani	09/01/2022	09/2022	EFT	P-3687	hcv	2,199.00		
977	-1518	haphcv	BAN A	Mel L. Banagan	09/01/2022	09/2022	EFT	P-3341	hcv	1,950.00		
978	-1519	haphcv	BARCAR	Carlos G. Barraza	09/01/2022	09/2022	EFT	P-3524	hcv	804.00		
979	-1520	haphcv	BAR EN	Bartlett	09/01/2022	09/2022	EFT			3,001.00		
980	-1521	haphcv	barsco	Barbour	09/01/2022	09/2022	EFT	P-3090	hcv	2,554.00		
981	-1522	haphcv	BA OH	ohn Charles Bautista	09/01/2022	09/2022	EFT	P-3622	hcv	1,965.00		
982	-1523	haphcv	bayman	Baywood Property Management, Inc.	09/01/2022	09/2022	EFT	P-2910	hcv	1,792.00		
983	-1524	haphcv	BECCHR	Becerra	09/01/2022	09/2022	EFT	P-3161	hcv	1,158.00		
984	-1525	haphcv	BEEHOL	Hawkins	09/01/2022	09/2022	EFT		hcv	6,484.00		
985	-1526	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	09/01/2022	09/2022	EFT		hcv	3,096.00		
986	-1527	haphcv	belmont	Belmont Apartments	09/01/2022	09/2022	EFT		hcv	76,887.00		
987	-1528	haphcv	benale	Benjamen	09/01/2022	09/2022	EFT	P-3162	hcv	764.00		
988	-1529	haphcv	BERTEN	Berry r	09/01/2022	09/2022	EFT		hcv	4,247.00		
989	-1530	haphcv	BETHEL	Bethel Global Development LLC	09/01/2022	09/2022	EFT		hcv	2,402.00		
990	-1531	haphcv	bhagin	Bhatia	09/01/2022	09/2022	EFT	P-3280	hcv	2,784.00		
991	-1532	haphcv	bhajim	Bhatia	09/01/2022	09/2022	EFT			2,759.00		
992	-1533	haphcv	bhasom	Som N Bhatia	09/01/2022	09/2022	EFT			5,847.00		
993	-1534	haphcv	BHASWA	Pinakin Bhatt	09/01/2022	09/2022	EFT	P-2916	hcv	2,548.00		
994	-1535	haphcv	BIC OS	Bachir	09/01/2022	09/2022	EFT	P-3957	hcv	1,950.00		
995	-1536	haphcv	BOOSTE	Booras	09/01/2022	09/2022	EFT	P-3912	hcv	2,875.00		
996	-1537	haphcv	bor201	2018-2 IH Borrower LP	09/01/2022	09/2022	EFT	P-3135	hcv	2,122.00		
997	-1538	haphcv	boyros	Boyd	09/01/2022	09/2022	EFT	P-3612	hcv	2,698.00		
998	-1539	haphcv	BOYVIC	Boyko	09/01/2022	09/2022	EFT	P-3639	hcv	2,044.00		
999	-1540	haphcv	BRA EL	elly Ann Bradford	09/01/2022	09/2022	EFT	P-2951	hcv	1,356.00		
1000	-1541	haphcv	BRIMAR	Briggs	09/01/2022	09/2022	EFT	P-3654	hcv	3,081.00		
1001	-1542	haphcv	BRO AN	Brown	09/01/2022	09/2022	EFT	P-3861	hcv-home	2,125.00		
1002	-1543	haphcv	brojess	Platt	09/01/2022	09/2022	EFT	P-3507	hcv	1,477.00		
1003	-1544	haphcv	BSAPPH	Blue Sapphire Homes, Inc.	09/01/2022	09/2022	EFT	P-3322	hcv	2,541.00		
1004	-1545	haphcv	B IH O	Huong T. Bui	09/01/2022	09/2022	EFT		hcv	4,335.00		
1005	-1546	haphcv	B R OE	oe Burns	09/01/2022	09/2022	EFT	P-3417	hcv-vash	1,010.00		
1006	-1547	haphcv	CANMOM	Cannon	09/01/2022	09/2022	EFT	P-3093	hcv	3,283.00		
1007	-1548	haphcv	CARCLA	Clara Beatriz Cardenas	09/01/2022	09/2022	EFT			2,922.00		
1008	-1549	haphcv	CARDON	Carson	09/01/2022	09/2022	EFT	P-3110	hcv	2,025.00		
1009	-1550	haphcv	CARLLC	Carpino, LLC	09/01/2022	09/2022	EFT	P-2901	hcv	1,985.00		
1010	-1551	haphcv	CASTLE	Castle Creek Company, Inc.	09/01/2022	09/2022	EFT	P-3530	hcv	1,528.00		
1011	-1552	haphcv	CHACHR	Chambers	09/01/2022	09/2022	EFT	P-3836	hcv	2,150.00		
1012	-1553	haphcv	CHACOR	Cora Ann Chambers	09/01/2022	09/2022	EFT	P-3664	hcv	515.00		
1013	-1554	haphcv	chap.m	P. M. Chaobal	09/01/2022	09/2022	EFT	P-3311	hcv	2,190.00		
1014	-1555	haphcv	CHECHA	Chen	09/01/2022	09/2022	EFT	P-2850	hcv	2,190.00		

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1015	-1556	haphcv	chehon	Chen	09/01/2022	09/2022	EFT		hcv	4,994.00		
1016	-1557	haphcv	CHE IE	ienlin Chen	09/01/2022	09/2022	EFT		hcv	4,117.00		
1017	-1558	haphcv	CHIHWA	Hwa-Yoong Chiu	09/01/2022	09/2022	EFT	P-2991	hcv	2,380.00		
1018	-1559	haphcv	CHOADA	Ada Choi	09/01/2022	09/2022	EFT	P-2982	hcv	2,750.00		
1019	-1560	haphcv	chochu	Choi	09/01/2022	09/2022	EFT		hcv	4,021.00		
1020	-1561	haphcv	chomic	Choi	09/01/2022	09/2022	EFT	P-3138	hcv	2,500.00		
1021	-1562	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	P-3197	hcv	1,945.00		
1022	-1563	haphcv	CITHO	Pittsburg Housing Authority	09/01/2022	09/2022	EFT		hcv	5,942.00		
1023	-1564	haphcv	CLA A	uan F. Clara	09/01/2022	09/2022	EFT	P-3391	hcv	1,537.00		
1024	-1565	haphcv	CORADO	Cortesi III	09/01/2022	09/2022	EFT	P-3959	hcv	1,920.00		
1025	-1566	haphcv	cordav	Cortesi	09/01/2022	09/2022	EFT	P-3780	hcv	1,583.00		
1026	-1567	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/01/2022	09/2022	EFT			85,927.00		
1027	-1568	haphcv	CRE EA	eannette D. Crespo	09/01/2022	09/2022	EFT	P-2867	hcv	2,442.00		
1028	-1569	haphcv	crospat	Patricia Crosby	09/01/2022	09/2022	EFT	P-3106	hcv	1,950.00		
1029	-1570	haphcv	DAI S	Dailey	09/01/2022	09/2022	EFT	P-3098	hcv	1,464.00		
1030	-1571	haphcv	DAMTO	Dam uang To	09/01/2022	09/2022	EFT	P-3989	hcv	2,704.00		
1031	-1572	haphcv	danfre	French Evans	09/01/2022	09/2022	EFT	P-3381	hcv	1,628.00		
1032	-1573	haphcv	DAVA D	Audrey Davis	09/01/2022	09/2022	EFT	P-3806	hcv	1,348.00		
1033	-1574	haphcv	DAV ES	Davis	09/01/2022	09/2022	EFT	P-2975	hcv	973.00		
1034	-1575	haphcv	DAV EV	evin Davidson	09/01/2022	09/2022	EFT	P-3180	hcv	1,629.00		
1035	-1576	haphcv	davpau	Paulette Davis	09/01/2022	09/2022	EFT	P-2895	hcv	1,138.00		
1036	-1577	haphcv	DAVROS	Davis	09/01/2022	09/2022	EFT	P-3499	hcv	1,477.00		
1037	-1578	haphcv	DAY AG	agdeep or Shashi Dayal	09/01/2022	09/2022	EFT		hcv	3,685.00		
1038	-1579	haphcv	DEAWAY	Dea	09/01/2022	09/2022	EFT	P-3920	hcv	2,714.00		
1039	-1580	haphcv	DELCHA	Charles Dellamore	09/01/2022	09/2022	EFT	P-3483	hcv	1,666.00		
1040	-1581	haphcv	DELLAT	David De La Torre	09/01/2022	09/2022	EFT	P-3424	hcv	1,969.00		
1041	-1582	haphcv	doabri	Doan	09/01/2022	09/2022	EFT		hcv	2,895.00		
1042	-1583	haphcv	doanna	Do	09/01/2022	09/2022	EFT		hcv	4,872.00		
1043	-1584	haphcv	Dunest	Dunlap	09/01/2022	09/2022	EFT	P-2875	hcv	1,026.00		
1044	-1585	haphcv	duntyr	Duncan	09/01/2022	09/2022	EFT	P-3403	hcv-home	1,417.00		
1045	-1586	haphcv	D OLIN	Linda Duong	09/01/2022	09/2022	EFT	P-2974	hcv	1,345.00		
1046	-1587	haphcv	eastle	Mercy Housing California XXXVIII	09/01/2022	09/2022	EFT			3,236.00		
1047	-1588	haphcv	ENGLED	Doris Engle Family Ltd Partnership	09/01/2022	09/2022	EFT	P-3956	hcv	1,337.00		
1048	-1589	haphcv	espalm	Alma B Espiritu	09/01/2022	09/2022	EFT	P-3865	hcv	2,200.00		
1049	-1590	haphcv	ESP OH	Espinoza	09/01/2022	09/2022	EFT	P-3129	hcv	1,540.00		
1050	-1591	haphcv	ES GER	Gerardo M. Esquivel	09/01/2022	09/2022	EFT		hcv	1,822.00		
1051	-1592	haphcv	fanjia	ianxin Fang	09/01/2022	09/2022	EFT		hcv	5,300.00		
1052	-1593	haphcv	fanxia	Li	09/01/2022	09/2022	EFT	P-3052	hcv	2,794.00		
1053	-1594	haphcv	fenjin	Mao	09/01/2022	09/2022	EFT	P-3319	hcv	3,110.00		
1054	-1595	haphcv	FIEBAR	Barbara . Fierner	09/01/2022	09/2022	EFT	P-3624	hcv	1,875.00		

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1055	-1596	haphcv	FIE OS	oseph Field	09/01/2022	09/2022	EFT	P-3187	hcv	1,137.00		
1056	-1597	haphcv	FIGHER	Figueroa	09/01/2022	09/2022	EFT	P-3148	hcv	1,589.00		
1057	-1598	haphcv	fletoc	Brewster Fleeton	09/01/2022	09/2022	EFT	P-3105	hcv	1,460.00		
1058	-1599	haphcv	FLOALE	Alexander Flowers	09/01/2022	09/2022	EFT	P-3843	hcv	1,395.00		
1059	-1600	haphcv	foxcre	Fox Creek Apartments	09/01/2022	09/2022	EFT			29,835.00		
1060	-1601	haphcv	framo	Monica Fraga	09/01/2022	09/2022	EFT	P-2965	hcv	1,866.00		
1061	-1602	haphcv	FRARE	Frazier	09/01/2022	09/2022	EFT		hcv	3,858.00		
1062	-1603	haphcv	FRRINV	FRR Investments LLC	09/01/2022	09/2022	EFT	P-3338	hcv	2,760.00		
1063	-1604	haphcv	F LDAR	Fuller	09/01/2022	09/2022	EFT	P-3801	hcv	2,101.00		
1064	-1605	haphcv	fulfan	Fan Fuller	09/01/2022	09/2022	EFT	P-3026	hcv-vash	1,526.00		
1065	-1606	haphcv	GAIGIA	Gaines	09/01/2022	09/2022	EFT	P-3820	hcv	2,050.00		
1066	-1607	haphcv	gaokel	Gao	09/01/2022	09/2022	EFT		hcv	3,902.00		
1067	-1608	haphcv	GARADR	Adraine Gardner	09/01/2022	09/2022	EFT	P-3509	hcv	1,096.00		
1068	-1609	haphcv	GARANT	Antoinette L Garcia	09/01/2022	09/2022	EFT	P-3009	hcv	1,167.00		
1069	-1610	haphcv	gardav	David Gardner	09/01/2022	09/2022	EFT		hcv	3,846.00		
1070	-1611	haphcv	garrup	Rupesh Garg	09/01/2022	09/2022	EFT	P-2860	hcv	2,808.00		
1071	-1612	haphcv	GARWIL	William H. Gardiner	09/01/2022	09/2022	EFT	P-3928	hcv	1,258.00		
1072	-1613	haphcv	gateway	Gateway Apartments	09/01/2022	09/2022	EFT			9,622.00		
1073	-1614	haphcv	GHAPAR	Ghaboulidashti	09/01/2022	09/2022	EFT	P-3845	hcv-home	1,094.00		
1074	-1615	haphcv	GHOVER	Vernon or Eva Gholson	09/01/2022	09/2022	EFT		hcv	2,634.00		
1075	-1616	haphcv	GIL AC	acqueline Gill	09/01/2022	09/2022	EFT	P-2981	hcv	1,534.00		
1076	-1617	haphcv	gilmah	Gill	09/01/2022	09/2022	EFT		hcv	5,260.00		
1077	-1618	haphcv	GILS	Gill	09/01/2022	09/2022	EFT	P-2918	hcv	1,548.00		
1078	-1619	haphcv	GOLDAS	Gold A and S LLC	09/01/2022	09/2022	EFT	P-3915	hcv	2,318.00		
1079	-1620	haphcv	GOMHAD	Gomez	09/01/2022	09/2022	EFT	P-3188	hcv-home	846.00		
1080	-1621	haphcv	GON ES	esse Gonzaga	09/01/2022	09/2022	EFT		hcv	1,887.00		
1081	-1622	haphcv	GONMAR	Gonsalves	09/01/2022	09/2022	EFT	P-2978	hcv	2,336.00		
1082	-1623	haphcv	gontin	Gong	09/01/2022	09/2022	EFT	P-3501	hcv	2,139.00		
1083	-1624	haphcv	GREFRA	Greene	09/01/2022	09/2022	EFT	P-3515	hcv	2,978.00		
1084	-1625	haphcv	GREROD	Green	09/01/2022	09/2022	EFT	P-3860	hcv-home	962.00		
1085	-1626	haphcv	GRIPAT	Patricia Gridley	09/01/2022	09/2022	EFT		hcv	731.25		
1086	-1627	haphcv	GROITA	Italo Grossi	09/01/2022	09/2022	EFT	P-3529	hcv	1,588.00		
1087	-1628	haphcv	G AAMP	Guardado	09/01/2022	09/2022	EFT	P-3866	hcv	1,413.00		
1088	-1629	haphcv	G A RY	Guan	09/01/2022	09/2022	EFT		hcv	4,826.00		
1089	-1630	haphcv	G NBOB	Hang	09/01/2022	09/2022	EFT	P-2856	hcv	1,359.00		
1090	-1631	haphcv	gupabe	Abhilash Gupta	09/01/2022	09/2022	EFT			5,237.00		
1091	-1632	haphcv	H01WAT	Watson, Sr.	09/01/2022	09/2022	EFT	P-3503	hcv-home	921.00		
1092	-1633	haphcv	hafash	Asharfun Nisha Hafiz	09/01/2022	09/2022	EFT	P-3965	hcv	1,667.00		
1093	-1634	haphcv	hagjef	effrey Paul Hagler	09/01/2022	09/2022	EFT		hcv	5,157.00		
1094	-1635	haphcv	HALDEL	Hall	09/01/2022	09/2022	EFT	P-3492	hcv	1,780.00		
1095	-1636	haphcv	HARCLA	Hardison	09/01/2022	09/2022	EFT	P-3839	hcv	2,165.00		

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1096	-1637	haphcv	HARDAV	Hart	09/01/2022	09/2022	EFT	P-2993	hcv	1,938.00		
1097	-1638	haphcv	HARLAW	Harrold	09/01/2022	09/2022	EFT		hcv	7,273.00		
1098	-1639	haphcv	HARPRO	Hartz Property Management	09/01/2022	09/2022	EFT	P-3373	hcv	1,720.00		
1099	-1640	haphcv	hawdel	Delta Hawaii Garden Apartments LLC	09/01/2022	09/2022	EFT		hcv	9,009.00		
1100	-1641	haphcv	hechuan	He	09/01/2022	09/2022	EFT	P-3971	hcv	1,917.00		
1101	-1642	haphcv	hejiyu	He	09/01/2022	09/2022	EFT	P-3198	hcv	1,836.00		
1102	-1643	haphcv	hendav	David T. Hennigan	09/01/2022	09/2022	EFT			18,208.00		
1103	-1644	haphcv	hensil	Henderson	09/01/2022	09/2022	EFT		hcv	2,307.00		
1104	-1645	haphcv	HERELI	Herrera	09/01/2022	09/2022	EFT	P-3560	hcv	650.00		
1105	-1646	haphcv	HILMAR	Hill	09/01/2022	09/2022	EFT	P-3152	hcv	278.00		
1106	-1647	haphcv	HIRCHA	Hira	09/01/2022	09/2022	EFT	P-3080	hcv	1,828.00		
1107	-1648	haphcv	HOACAR	Carl E. Hoard II	09/01/2022	09/2022	EFT	P-3799	hcv	2,681.00		
1108	-1649	haphcv	HOAHAV	Hoag	09/01/2022	09/2022	EFT	P-3875	hcv	2,560.00		
1109	-1650	haphcv	HOALBE	Albert Ho	09/01/2022	09/2022	EFT	P-2935	hcv	1,740.00		
1110	-1651	haphcv	HOF OY	Hoffman	09/01/2022	09/2022	EFT	P-3679	hcv	1,284.00		
1111	-1652	haphcv	HOLRON	Ronald G. Holmes	09/01/2022	09/2022	EFT	P-3972	hcv	1,022.00		
1112	-1653	haphcv	holsrh	SRH Holdings LLC	09/01/2022	09/2022	EFT	P-3855	hcv	3,342.00		
1113	-1654	haphcv	hominv	Invitation Homes	09/01/2022	09/2022	EFT	P-3891	hcv	2,585.00		
1114	-1655	haphcv	HOTONY	Tony Ho	09/01/2022	09/2022	EFT	P-3196	hcv	1,142.00		
1115	-1656	haphcv	H AFAN	Fanny ao Huang	09/01/2022	09/2022	EFT	P-3159	hcv	1,633.00		
1116	-1657	haphcv	H AMIN	Ming in Huang	09/01/2022	09/2022	EFT	P-3614	hcv	2,337.00		
1117	-1658	haphcv	huatao	Huang	09/01/2022	09/2022	EFT		hcv	7,496.00		
1118	-1659	haphcv	H AXIA	Huang	09/01/2022	09/2022	EFT	P-3980	hcv	2,575.00		
1119	-1660	haphcv	H NANC	Nancy Xiu hen Hu	09/01/2022	09/2022	EFT	P-3324	hcv	2,016.00		
1120	-1661	haphcv	huythi	Huynh	09/01/2022	09/2022	EFT	P-3109	hcv	2,400.00		
1121	-1662	haphcv	IGREEN	IGreen House Inc. ane S Schmidt	09/01/2022	09/2022	EFT	P-3800	hcv	603.00		
1122	-1663	haphcv	ihprw	IH5 Property West LP	09/01/2022	09/2022	EFT	P-3012	hcv	3,194.00		
1123	-1664	haphcv	INV EY	eyee Investment LLC	09/01/2022	09/2022	EFT	P-3932	hcv	1,233.00		
1124	-1665	haphcv	IRVLAS	Irving	09/01/2022	09/2022	EFT	P-2967	hcv	1,720.00		
1125	-1666	haphcv	isomic	Michael or ay Isola	09/01/2022	09/2022	EFT		hcv	2,374.00		
1126	-1667	haphcv	ABLOV	Love	09/01/2022	09/2022	EFT	P-2871	hcv	1,827.00		
1127	-1668	haphcv	ACBRA	ackson	09/01/2022	09/2022	EFT	P-3777	hcv	2,083.00		
1128	-1669	haphcv	ACCON	ackson	09/01/2022	09/2022	EFT	P-3204	hcv	2,868.00		
1129	-1670	haphcv	AIDEE	ain	09/01/2022	09/2022	EFT		hcv	7,587.00		
1130	-1671	haphcv	AISAM	ain	09/01/2022	09/2022	EFT		hcv	8,481.00		
1131	-1672	haphcv	AIVIS	ain	09/01/2022	09/2022	EFT	P-3775	hcv	2,100.00		
1132	-1673	haphcv	jasnle	Le	09/01/2022	09/2022	EFT	P-2968	hcv	2,770.00		
1133	-1674	haphcv	IA HA	hang	09/01/2022	09/2022	EFT		hcv	1,570.00		
1134	-1675	haphcv	OH RY	ohnson	09/01/2022	09/2022	EFT	P-2847	hcv	1,963.00		
1135	-1676	haphcv	OHRON	ohnson	09/01/2022	09/2022	EFT	P-3458	hcv	1,501.00		
1136	-1677	haphcv	ONSHA	ones	09/01/2022	09/2022	EFT		hcv	3,395.00		

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1137	-1678	haphcv	O MOS	ouya	09/01/2022	09/2022	EFT	P-3450	hcv	1,064.00		
1138	-1679	haphcv	junhou	Hou	09/01/2022	09/2022	EFT	P-3924	hcv	2,554.00		
1139	-1680	haphcv	ALOMP	alra	09/01/2022	09/2022	EFT	P-3136	hcv	3,698.00		
1140	-1681	haphcv	kanwei	ang	09/01/2022	09/2022	EFT		hcv	4,171.00		
1141	-1682	haphcv	A NAV	aur	09/01/2022	09/2022	EFT	P-3786	hcv	2,497.00		
1142	-1683	haphcv	CPLLC	C Prime LLC	09/01/2022	09/2022	EFT	P-2834	hcv	1,535.00		
1143	-1684	haphcv	kemgro	. E. M. Group LLC	09/01/2022	09/2022	EFT	P-3520	hcv	1,811.00		
1144	-1685	haphcv	ESANT	Anthony eslinke	09/01/2022	09/2022	EFT		hcv	3,305.00		
1145	-1686	haphcv	EVMOF	Moffett	09/01/2022	09/2022	EFT	P-2866	hcv	2,053.00		
1146	-1687	haphcv	HAFAR	han	09/01/2022	09/2022	EFT	P-3157	hcv	1,405.00		
1147	-1688	haphcv	kirkkw	W irker Creek, LLC	09/01/2022	09/2022	EFT		hcv	2,972.00		
1148	-1689	haphcv	IT OH	itta	09/01/2022	09/2022	EFT	P-3485	hcv	2,760.00		
1149	-1690	haphcv	A IY	uang	09/01/2022	09/2022	EFT		hcv	6,902.00		
1150	-1691	haphcv	kuasim	uang	09/01/2022	09/2022	EFT	P-3559	hcv	1,161.00		
1151	-1692	haphcv	DI	dzislaw ujawa	09/01/2022	09/2022	EFT	P-3853	hcv	1,311.00		
1152	-1693	haphcv	kwadan	Daniel wan	09/01/2022	09/2022	EFT		hcv	3,656.00		
1153	-1694	haphcv	LAFTHO	LaFleur	09/01/2022	09/2022	EFT	P-2976	hcv	1,594.00		
1154	-1695	haphcv	LAMCHO	Lam	09/01/2022	09/2022	EFT	P-3366	hcv	1,184.00		
1155	-1696	haphcv	LAMSHI	Manly-Lampkin	09/01/2022	09/2022	EFT	P-3960	hcv	1,043.00		
1156	-1697	haphcv	LARPET	Peter C. Larsen	09/01/2022	09/2022	EFT	P-2977	hcv	1,522.00		
1157	-1698	haphcv	LAS EV	Lassair	09/01/2022	09/2022	EFT	P-3487	hcv-home	405.00		
1158	-1699	haphcv	LATLLC	Latif, LLC	09/01/2022	09/2022	EFT		hcv	4,633.00		
1159	-1700	haphcv	lcstar	LCSTAR, LLC	09/01/2022	09/2022	EFT		hcv	3,234.00		
1160	-1701	haphcv	ledaot	Le	09/01/2022	09/2022	EFT		hcv	2,034.00		
1161	-1702	haphcv	LEE AC	ack Wai Lee	09/01/2022	09/2022	EFT	P-3154	hcv	1,355.00		
1162	-1703	haphcv	leesiu	Siu Wan Windytiti Lee	09/01/2022	09/2022	EFT	P-2882	hcv	2,051.00		
1163	-1704	haphcv	LEESTE	Steven Lee	09/01/2022	09/2022	EFT	P-3805	hcv	2,126.00		
1164	-1705	haphcv	LEEY H	Yuhjen uang Lee	09/01/2022	09/2022	EFT	P-3611	hcv	1,932.00		
1165	-1706	haphcv	LEH YN	Le	09/01/2022	09/2022	EFT	P-3565	hcv	2,461.00		
1166	-1707	haphcv	LELENA	Le	09/01/2022	09/2022	EFT	P-3789	hcv	864.00		
1167	-1708	haphcv	LER OS	oseph C. Lerma	09/01/2022	09/2022	EFT	P-3804	hcv	100.00		
1168	-1709	haphcv	LERYIP	Yiping I. and Frederic Leroudier	09/01/2022	09/2022	EFT			4,017.00		
1169	-1710	haphcv	leujoh	ohn M. Leung	09/01/2022	09/2022	EFT		hcv	4,634.00		
1170	-1711	haphcv	LE MAY	May Leung or Rodney Chen	09/01/2022	09/2022	EFT		hcv	2,785.00		
1171	-1712	haphcv	leupet	Peter Leung	09/01/2022	09/2022	EFT	P-2954	hcv	2,346.00		
1172	-1713	haphcv	lido	ames . Busby & Irvin Deutcher/DBA Crestview Apts	09/01/2022	09/2022	EFT		hcv	10,772.00		
1173	-1714	haphcv	LIFA I	Faqiang Li	09/01/2022	09/2022	EFT	P-3405	hcv	2,321.00		
1174	-1715	haphcv	LI IE	Li	09/01/2022	09/2022	EFT	P-3434	hcv	2,095.00		
1175	-1716	haphcv	LI INH	inhuan Li	09/01/2022	09/2022	EFT	P-2970	hcv	1,515.00		
1176	-1717	haphcv	LI OSH	Li	09/01/2022	09/2022	EFT	P-3091	hcv	1,123.00		

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1177	-1718	haphcv	LINTIM	Tim Lindstrom c/o AAA Property Management	09/01/2022	09/2022	EFT	P-3996	hcv	1,122.00		
1178	-1719	haphcv	LIVPA	Paul Livson	09/01/2022	09/2022	EFT	P-3697	hcv-vash	1,775.00		
1179	-1720	haphcv	LIWEIM	Li	09/01/2022	09/2022	EFT	P-2869	hcv	1,620.00		
1180	-1721	haphcv	LIYING	Ying Hong Li	09/01/2022	09/2022	EFT	P-3502	hcv	189.00		
1181	-1722	haphcv	LI BEL	hong Li	09/01/2022	09/2022	EFT	P-2876	hcv	1,513.00		
1182	-1723	haphcv	lonpau	Paul Long	09/01/2022	09/2022	EFT	P-3680	hcv	1,403.00		
1183	-1724	haphcv	losmed	Los Medanos Village Apartments	09/01/2022	09/2022	EFT		hcv	15,014.00		
1184	-1725	haphcv	LO TON	Tony or Yvonne Louie	09/01/2022	09/2022	EFT	P-2928	hcv	1,106.00		
1185	-1726	haphcv	LOYANT	Loyola	09/01/2022	09/2022	EFT	P-3743	hcv	547.00		
1186	-1727	haphcv	LO OS	ose Loza	09/01/2022	09/2022	EFT	P-2941	hcv	983.00		
1187	-1728	haphcv	L IAND	Lui	09/01/2022	09/2022	EFT		hcv	2,830.00		
1188	-1729	haphcv	luiwei	Wei Liu Guangxin Frank Liu	09/01/2022	09/2022	EFT	P-2837	hcv	1,446.00		
1189	-1730	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	09/01/2022	09/2022	EFT	P-3290	hcv	1,214.00		
1190	-1731	haphcv	L XIANG	Lu	09/01/2022	09/2022	EFT			8,406.00		
1191	-1732	haphcv	lychiv	Chi Vien Ly	09/01/2022	09/2022	EFT	P-2957	hcv	1,073.00		
1192	-1733	haphcv	macyol	McDonald	09/01/2022	09/2022	EFT	P-3852	hcv	2,102.00		
1193	-1734	haphcv	MADRA	Madra	09/01/2022	09/2022	EFT	P-3913	hcv	1,056.00		
1194	-1735	haphcv	mahrad	Radha Mahesram	09/01/2022	09/2022	EFT	P-3832	hcv	3,010.00		
1195	-1736	haphcv	MAHTAR	Tariq	09/01/2022	09/2022	EFT	P-3916	hcv	2,452.00		
1196	-1737	haphcv	majenn	Ma	09/01/2022	09/2022	EFT		hcv	3,873.00		
1197	-1738	haphcv	malrah	Malik	09/01/2022	09/2022	EFT	P-3173	hcv	3,735.00		
1198	-1739	haphcv	MAN EF	eff Mann	09/01/2022	09/2022	EFT		hcv	6,267.00		
1199	-1740	haphcv	MARGLE	Glenn Marshall	09/01/2022	09/2022	EFT	P-3282	hcv	2,469.00		
1200	-1741	haphcv	MARHAR	Harrison	09/01/2022	09/2022	EFT	P-2992	hcv-home	588.00		
1201	-1742	haphcv	MARTEA	Martinez	09/01/2022	09/2022	EFT	P-3562	hcv	2,746.00		
1202	-1743	haphcv	MASDEM	Mason	09/01/2022	09/2022	EFT	P-3363	hcv-home	2,545.00		
1203	-1744	haphcv	MATL I	Lui	09/01/2022	09/2022	EFT	P-3575	hcv	1,617.00		
1204	-1745	haphcv	MCCHEI	McCarthy	09/01/2022	09/2022	EFT	P-2947	hcv	1,943.00		
1205	-1746	haphcv	MCL AN	McLean	09/01/2022	09/2022	EFT		hcv	249.00		
1206	-1747	haphcv	MEADOW	Meadow Glen Apartments	09/01/2022	09/2022	EFT	P-3790	hcv	1,925.00		
1207	-1748	haphcv	MEITAT	Mei	09/01/2022	09/2022	EFT	P-3312	hcv	3,719.00		
1208	-1749	haphcv	menjin	inyu Meng	09/01/2022	09/2022	EFT	P-3486	hcv	1,939.00		
1209	-1750	haphcv	MENSAB	Sabine Menzel	09/01/2022	09/2022	EFT		hcv	5,211.00		
1210	-1751	haphcv	MER OH	ohnson	09/01/2022	09/2022	EFT	P-3781	hcv-home	748.00		
1211	-1752	haphcv	ME HEC	Hector Meza	09/01/2022	09/2022	EFT	P-4017	hcv	656.00		
1212	-1753	haphcv	MILAND	Miloslavich	09/01/2022	09/2022	EFT	P-3811	hcv	1,904.00		
1213	-1754	haphcv	MILHOM	Millennium Homes	09/01/2022	09/2022	EFT	P-3938	hcv	2,187.00		
1214	-1755	haphcv	MILMAR	Maryann Miller	09/01/2022	09/2022	EFT	P-3007	hcv	798.00		
1215	-1756	haphcv	mircar	Miranda	09/01/2022	09/2022	EFT	P-3779	hcv-home	579.00		

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1216	-1757	haphcv	MIRHAS	Hassan Mirabedi	09/01/2022	09/2022	EFT		hcv	10,118.00		
1217	-1758	haphcv	MITGWE	Gwendolyn Mitchell	09/01/2022	09/2022	EFT		hcv	4,210.00		
1218	-1759	haphcv	momrae	Raees	09/01/2022	09/2022	EFT	P-3831	hcv	1,703.00		
1219	-1760	haphcv	MONROD	Rodney Montgomery	09/01/2022	09/2022	EFT	P-3981	hcv	1,791.00		
1220	-1761	haphcv	MORERI	Morris	09/01/2022	09/2022	EFT	P-3175	hcv	1,312.00		
1221	-1762	haphcv	MOR OS	Diane Morin	09/01/2022	09/2022	EFT	P-3892	hcv	2,090.00		
1222	-1763	haphcv	MYNDMG	Brien Brothers, LLC C/O Mynd Management, IC.	09/01/2022	09/2022	EFT	P-3685	hcv	16.00		
1223	-1764	haphcv	NABEHS	Ehsan Nabkel	09/01/2022	09/2022	EFT	P-3195	hcv	3,083.00		
1224	-1765	haphcv	NARSHI	Shinder Paul Narabut	09/01/2022	09/2022	EFT		hcv	5,214.00		
1225	-1766	haphcv	ncasso	NC Associates, Inc.	09/01/2022	09/2022	EFT		hcv	16,499.00		
1226	-1767	haphcv	NELMIC	c/o ennifer Diaz	09/01/2022	09/2022	EFT	P-3872	hcv	3,189.00		
1227	-1768	haphcv	NESG Y	Guy Nesbeth	09/01/2022	09/2022	EFT	P-2936	hcv	1,760.00		
1228	-1769	haphcv	NGDOMI	Dominic Y Ng	09/01/2022	09/2022	EFT		hcv	1,701.00		
1229	-1770	haphcv	ngknow	Ng	09/01/2022	09/2022	EFT	P-3978	hcv	2,042.00		
1230	-1771	haphcv	NGPATR	Ng	09/01/2022	09/2022	EFT	P-2904	hcv	408.00		
1231	-1772	haphcv	nguhieu	Hieu Nguyen	09/01/2022	09/2022	EFT	P-2934	hcv	1,643.00		
1232	-1773	haphcv	NG H Y	Huy uang Nguyen	09/01/2022	09/2022	EFT	P-3675	hcv	2,103.00		
1233	-1774	haphcv	NG MAI	Nguyen	09/01/2022	09/2022	EFT	P-3184	hcv	1,951.00		
1234	-1775	haphcv	NG Y	uyen Nguyen	09/01/2022	09/2022	EFT	P-3856	hcv	1,900.00		
1235	-1776	haphcv	NG TIE	Nguyen	09/01/2022	09/2022	EFT	P-3448	hcv	296.00		
1236	-1777	haphcv	NICNIC	Nicholson	09/01/2022	09/2022	EFT	P-3561	hcv	2,357.00		
1237	-1778	haphcv	nierne	Ernest Nichols III	09/01/2022	09/2022	EFT		hcv	3,243.00		
1238	-1779	haphcv	NILPET	Niloufari	09/01/2022	09/2022	EFT		hcv	4,481.00		
1239	-1780	haphcv	norfin	Northstar Financial Group, LLC	09/01/2022	09/2022	EFT		hcv-vash	927.00		
1240	-1781	haphcv	NOR EV	evin Nord	09/01/2022	09/2022	EFT	P-2890	hcv	1,762.00		
1241	-1782	haphcv	NORRIC	Norte	09/01/2022	09/2022	EFT	P-2864	hcv	2,553.00		
1242	-1783	haphcv	NORSTA	North State Financial, Inc.	09/01/2022	09/2022	EFT	P-2938	hcv	810.00		
1243	-1784	haphcv	nwmgmt	New Way Management Services, Inc.	09/01/2022	09/2022	EFT		hcv	22,957.00		
1244	-1785	haphcv	OBRSHE	O'Brien	09/01/2022	09/2022	EFT	P-3677	hcv	823.00		
1245	-1786	haphcv	ODE EN	Odei	09/01/2022	09/2022	EFT	P-3840	hcv	1,497.00		
1246	-1787	haphcv	OEWDWI	Owens	09/01/2022	09/2022	EFT	P-3577	hcv-home	546.00		
1247	-1788	haphcv	OLEDIA	Oles	09/01/2022	09/2022	EFT	P-3500	hcv	1,540.00		
1248	-1789	haphcv	OMOESE	Esosa A. Omokaro	09/01/2022	09/2022	EFT	P-3123	hcv	1,578.00		
1249	-1790	haphcv	ORTSAN	Ortiz	09/01/2022	09/2022	EFT	P-3432	hcv	1,893.00		
1250	-1791	haphcv	OS CHI	Chinenye Osuagwu	09/01/2022	09/2022	EFT	P-3517	hcv	2,716.00		
1251	-1792	haphcv	ozemut	Mutlu Ozer	09/01/2022	09/2022	EFT	P-3752	hcv	2,180.00		
1252	-1793	haphcv	pacliv	Pacific Living, LLC	09/01/2022	09/2022	EFT		hcv	2,220.00		
1253	-1794	haphcv	PATBOS	Boss	09/01/2022	09/2022	EFT	P-3854	hcv	1,273.00		
1254	-1795	haphcv	PATHEM	Hemangini & Vijendra Patel	09/01/2022	09/2022	EFT	P-3333	hcv	2,945.00		
1255	-1796	haphcv	PAT O	okila Patel	09/01/2022	09/2022	EFT	P-2964	hcv	422.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1256	□-1797	haphcv	PATLLC	Patiala, LLC	09/01/2022	09/2022	EFT	□	hcv	2,214.00		
1257	□-1798	haphcv	patvir	Virendra M. Patel	09/01/2022	09/2022	EFT	P-3169	hcv	558.00		
1258	□-1799	haphcv	paujas	□ason Pauline	09/01/2022	09/2022	EFT	P-3493	hcv	1,910.00		
1259	□-1800	haphcv	PEALOY	Peacock	09/01/2022	09/2022	EFT	P-3551	hcv	1,435.00		
1260	□-1801	haphcv	PEASCO	Scott Pease	09/01/2022	09/2022	EFT	P-3521	hcv	1,510.00		
1261	□-1802	haphcv	PERALO	Perez	09/01/2022	09/2022	EFT	P-3546	hcv	1,448.00		
1262	□-1803	haphcv	PERECA	Maria Del Carmen Perez	09/01/2022	09/2022	EFT	P-2887	hcv	268.00		
1263	□-1804	haphcv	PERLOW	Lowde Y. Perkins	09/01/2022	09/2022	EFT	P-3183	hcv	863.00		
1264	□-1805	haphcv	phacon	Pham	09/01/2022	09/2022	EFT	P-3917	hcv	2,336.00		
1265	□-1806	haphcv	PHOMAY	Pho	09/01/2022	09/2022	EFT	P-3384	hcv	2,818.00		
1266	□-1807	haphcv	pitpar	Pittsburg Park Apartments	09/01/2022	09/2022	EFT	□	hcv	2,913.00		
1267	□-1808	haphcv	Pittssk	S□ Pittsburg Bay Point	09/01/2022	09/2022	EFT	P-2962	hcv	1,267.00		
1268	□-1809	haphcv	proih5	IH5 Property West LP	09/01/2022	09/2022	EFT	□	hcv	2,739.00		
1269	□-1810	haphcv	promar	Marples Property Management	09/01/2022	09/2022	EFT	P-3791	hcv	1,852.00		
1270	□-1811	haphcv	PROMEA	A. Meadows Property Management	09/01/2022	09/2022	EFT	□	hcv	3,584.00		
1271	□-1812	haphcv	propar	Parks Property Management	09/01/2022	09/2022	EFT	P-3404	hcv	1,711.00		
1272	□-1813	haphcv	prosto	Stokley Properties LLC Harbor	09/01/2022	09/2022	EFT	□	hcv	2,659.00		
1273	□-1814	haphcv	PR□PS□	Property □psurge, Inc.	09/01/2022	09/2022	EFT	P-3153	hcv	2,087.00		
1274	□-1815	haphcv	qaqamj	Amjad □aqish	09/01/2022	09/2022	EFT	P-3522	hcv	674.00		
1275	□-1816	haphcv	□□ISAM	Sam or Sonia □uinones	09/01/2022	09/2022	EFT	P-3812	hcv	1,800.00		
1276	□-1817	haphcv	RADAMO	Radford	09/01/2022	09/2022	EFT	P-3182	hcv	1,432.00		
1277	□-1818	haphcv	RA□□□L	Raju	09/01/2022	09/2022	EFT	P-3975	hcv	1,703.00		
1278	□-1819	haphcv	RA□PAR	Paramjit □. Raju	09/01/2022	09/2022	EFT	□	hcv	2,190.00		
1279	□-1820	haphcv	RAMCHR	Ramirez	09/01/2022	09/2022	EFT	P-3449	hcv	376.00		
1280	□-1821	haphcv	RAMENR	Enrique Ramirez	09/01/2022	09/2022	EFT	P-3343	hcv	515.00		
1281	□-1822	haphcv	RAMERI	Erika Ramirez	09/01/2022	09/2022	EFT	P-3067	hcv	1,345.00		
1282	□-1823	haphcv	RAMHOR	Ramsey Horton	09/01/2022	09/2022	EFT	P-3592	hcv-vash	1,321.00		
1283	□-1824	haphcv	RAM□AV	Ramos Avila	09/01/2022	09/2022	EFT	P-2932	hcv	1,996.00		
1284	□-1825	haphcv	RAMROH	Ram-Cline	09/01/2022	09/2022	EFT	P-3823	hcv	2,171.00		
1285	□-1826	haphcv	raudav	David Raughton	09/01/2022	09/2022	EFT	P-3547	hcv	1,932.00		
1286	□-1827	haphcv	rcprop	RayCaro Inc.	09/01/2022	09/2022	EFT	P-3682	hcv	1,569.00		
1287	□-1828	haphcv	reacro	Croskey Real Estate, Inc.	09/01/2022	09/2022	EFT	P-3451	hcv	1,745.00		
1288	□-1829	haphcv	realam	Amerasia Real Estate Fund LLC	09/01/2022	09/2022	EFT	□	□	3,804.00		
1289	□-1830	haphcv	relwoo	Reliant - Woods Grove, LP	09/01/2022	09/2022	EFT	□	□	19,731.00		
1290	□-1831	haphcv	remeri	Eric Franklin Remson	09/01/2022	09/2022	EFT	P-3572	hcv	633.00		
1291	□-1832	haphcv	rhport	RH Portofino Owner CA LLC	09/01/2022	09/2022	EFT	□	hcv	11,714.00		
1292	□-1833	haphcv	rickam	□ameryn Victoria Ray	09/01/2022	09/2022	EFT	P-3294	hcv	1,868.00		
1293	□-1834	haphcv	risinv	Rising Investments LLC	09/01/2022	09/2022	EFT	□	hcv	7,154.00		
1294	□-1835	haphcv	R□F□AS	Ruffin	09/01/2022	09/2022	EFT	P-3964	hcv	2,263.00		
1295	□-1836	haphcv	R□IELV	Elvira Ruiz	09/01/2022	09/2022	EFT	P-3828	hcv	1,855.00		
1296	□-1837	haphcv	R□SCON	Russell	09/01/2022	09/2022	EFT	P-3008	hcv	2,300.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1297	-1838	haphcv	SANMAR	Santos	09/01/2022	09/2022	EFT	P-3281	hcv	1,171.00		
1298	-1839	haphcv	schgre	Schulz	09/01/2022	09/2022	EFT	P-3146	hcv	1,567.00		
1299	-1840	haphcv	SCIRIC	Richard M. Sciortino	09/01/2022	09/2022	EFT	P-3676	hcv	2,210.00		
1300	-1841	haphcv	SEL AC	Selinger	09/01/2022	09/2022	EFT	P-3632	hcv	1,658.00		
1301	-1842	haphcv	SERYO	Seroy	09/01/2022	09/2022	EFT	P-3061	hcv	1,606.00		
1302	-1843	haphcv	SHAMOH	Sharma	09/01/2022	09/2022	EFT	P-2855	hcv	1,016.00		
1303	-1844	haphcv	SHAPAT	Shailesh & Bela Patel	09/01/2022	09/2022	EFT		hcv	1,128.00		
1304	-1845	haphcv	SHEMOH	Shekib	09/01/2022	09/2022	EFT	P-3004	hcv	1,938.00		
1305	-1846	haphcv	SHIYIH	Yihui Shi	09/01/2022	09/2022	EFT	P-2986	hcv	1,304.00		
1306	-1847	haphcv	shoinv	Shorten Investments LLC	09/01/2022	09/2022	EFT	P-3754	hcv	2,843.00		
1307	-1848	haphcv	siecor	Sierra Pacific Properties Inc	09/01/2022	09/2022	EFT			20,408.00		
1308	-1849	haphcv	siena	Siena Court Apartments	09/01/2022	09/2022	EFT			18,016.00		
1309	-1850	haphcv	siepep	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT			9,289.00		
1310	-1851	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT			34,504.00		
1311	-1852	haphcv	SIIFRA	Frank M. Siino	09/01/2022	09/2022	EFT	P-3525	hcv	944.00		
1312	-1853	haphcv	SIINO	oseph Michael Siino	09/01/2022	09/2022	EFT	P-2854	hcv	1,654.00		
1313	-1854	haphcv	SILGLO	Silva	09/01/2022	09/2022	EFT	P-3395	hcv	490.00		
1314	-1855	haphcv	SIMMAR	Marc . Simpson	09/01/2022	09/2022	EFT	P-3155	hcv	1,642.00		
1315	-1856	haphcv	SINRAM	Singh	09/01/2022	09/2022	EFT	P-2851	hcv	2,377.00		
1316	-1857	haphcv	SINSON	Son Singh	09/01/2022	09/2022	EFT	P-3409	hcv	1,457.00		
1317	-1858	haphcv	SITCRY	Situ	09/01/2022	09/2022	EFT	P-3013	hcv	1,250.00		
1318	-1859	haphcv	SMILIO	Smith	09/01/2022	09/2022	EFT	P-3627	hcv	1,975.00		
1319	-1860	haphcv	SMIMOL	Molly Smith	09/01/2022	09/2022	EFT	P-3671	hcv	2,000.00		
1320	-1861	haphcv	SMISHE	Smith	09/01/2022	09/2022	EFT	P-3532	hcv-home	798.00		
1321	-1862	haphcv	SOSCIN	Sosa	09/01/2022	09/2022	EFT	P-3911	hcv	2,448.00		
1322	-1863	haphcv	speang	Angela E. Robinson-Spencer	09/01/2022	09/2022	EFT	P-3571	hcv	1,241.00		
1323	-1864	haphcv	sroram	Srouji	09/01/2022	09/2022	EFT	P-3029	hcv-vash	2,186.00		
1324	-1865	haphcv	STRALE	Stroud	09/01/2022	09/2022	EFT	P-3327	hcv	1,439.00		
1325	-1866	haphcv	STRDAR	Streeter	09/01/2022	09/2022	EFT	P-3419	hcv	1,576.00		
1326	-1867	haphcv	sukabb	Sukarto	09/01/2022	09/2022	EFT	P-3447	hcv	1,954.00		
1327	-1868	haphcv	S LI	Su	09/01/2022	09/2022	EFT	P-3838	hcv	2,190.00		
1328	-1869	haphcv	sulkha	Sultan	09/01/2022	09/2022	EFT	P-2984	hcv	1,671.00		
1329	-1870	haphcv	S MMIT	Summit Venture Group, LLC	09/01/2022	09/2022	EFT	P-3816	hcv	2,733.00		
1330	-1871	haphcv	S R AM	amaljeet Surila	09/01/2022	09/2022	EFT	P-2905	hcv	1,684.00		
1331	-1872	haphcv	S SPAD	Paduro-Silva	09/01/2022	09/2022	EFT	P-3879	hcv	2,195.00		
1332	-1873	haphcv	svekon	ondratiouk	09/01/2022	09/2022	EFT	P-3574	hcv	3,338.00		
1333	-1874	haphcv	SY OYC	oyce Hui Sy	09/01/2022	09/2022	EFT		hcv	6,713.00		
1334	-1875	haphcv	TENY N	Yun Teng	09/01/2022	09/2022	EFT	P-3829	hcv	1,574.00		
1335	-1876	haphcv	TERNAT	Terry	09/01/2022	09/2022	EFT	P-3371	hcv-home	1,923.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1336	-1877	haphcv	THA Y	Thai	09/01/2022	09/2022	EFT	P-3220	hcv	2,593.00		
1337	-1878	haphcv	THESIL	Silvia Thein and Ada Choi	09/01/2022	09/2022	EFT	P-4007	hcv	2,653.00		
1338	-1879	haphcv	THOTE	Thornton	09/01/2022	09/2022	EFT		hcv	2,660.00		
1339	-1880	haphcv	TONYOW	Tong	09/01/2022	09/2022	EFT	P-3473	hcv	1,938.00		
1340	-1881	haphcv	TOVLO	Lourdes or Raymond Tovar	09/01/2022	09/2022	EFT	P-2862	hcv	1,374.00		
1341	-1882	haphcv	TRARAP	Tran	09/01/2022	09/2022	EFT		hcv	5,705.00		
1342	-1883	haphcv	TRARIC	Tran	09/01/2022	09/2022	EFT	P-3876	hcv	2,789.00		
1343	-1884	haphcv	TRATH	Thuy Tran	09/01/2022	09/2022	EFT	P-3380	hcv	1,164.00		
1344	-1885	haphcv	TRITHA	Thanh Van Trinh	09/01/2022	09/2022	EFT	P-3396	hcv	1,486.00		
1345	-1886	haphcv	TR SEA	Truong	09/01/2022	09/2022	EFT	P-3650	hcv	1,208.00		
1346	-1887	haphcv	truvan	Truong	09/01/2022	09/2022	EFT	P-3127	hcv	1,717.00		
1347	-1888	haphcv	SCERI	Erica schold	09/01/2022	09/2022	EFT	P-3336	hcv	2,950.00		
1348	-1889	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	09/01/2022	09/2022	EFT			79,586.55		
1349	-1890	haphcv	v0000006	College Park City HA	09/01/2022	09/2022	EFT		hcv	1,037.17		
1350	-1891	haphcv	v0000056	Mims	09/01/2022	09/2022	EFT	P-2840	hcv	1,276.00		
1351	-1892	haphcv	v0000059	Tran	09/01/2022	09/2022	EFT		hcv	2,395.00		
1352	-1893	haphcv	v0000064	Lee	09/01/2022	09/2022	EFT	P-3217	hcv	2,700.00		
1353	-1894	haphcv	v0000066	Tram	09/01/2022	09/2022	EFT		hcv	3,245.00		
1354	-1895	haphcv	VALLID	Lidia Valladares	09/01/2022	09/2022	EFT	P-3946	hcv	1,561.00		
1355	-1896	haphcv	VALVIC	Valenzuela	09/01/2022	09/2022	EFT	P-2955	hcv	2,875.00		
1356	-1897	haphcv	VASGAR	Gary D. Vasconcellos	09/01/2022	09/2022	EFT	P-3961	hcv	1,720.00		
1357	-1898	haphcv	VERHOM	Veritel Homes LLC	09/01/2022	09/2022	EFT	P-3400	hcv	2,165.00		
1358	-1899	haphcv	VICA E	Vickers	09/01/2022	09/2022	EFT	P-3880	hcv	2,648.00		
1359	-1900	haphcv	VIEN N	Nuno G Vieira	09/01/2022	09/2022	EFT		hcv	4,306.00		
1360	-1901	haphcv	vukuyen	Vu	09/01/2022	09/2022	EFT	P-3990	hcv	1,239.00		
1361	-1902	haphcv	WAFSTE	Wafer	09/01/2022	09/2022	EFT	P-3082	hcv	1,213.00		
1362	-1903	haphcv	WANLIN	Lining Wan	09/01/2022	09/2022	EFT	P-3421	hcv	3,010.00		
1363	-1904	haphcv	WANWEI	Wang	09/01/2022	09/2022	EFT	P-2948	hcv	1,940.00		
1364	-1905	haphcv	wanyur	Yu Ruo Wang	09/01/2022	09/2022	EFT		hcv	2,736.00		
1365	-1906	haphcv	WARBRI	Warren	09/01/2022	09/2022	EFT	P-3435	hcv	2,076.00		
1366	-1907	haphcv	weiisi	Isidoro Weitzman	09/01/2022	09/2022	EFT	P-3718	hcv-vash	1,600.00		
1367	-1908	haphcv	WENHOL	Wen	09/01/2022	09/2022	EFT	P-3977	hcv	793.00		
1368	-1909	haphcv	WHILEW	Lewis White & Ruth White	09/01/2022	09/2022	EFT			6,015.00		
1369	-1910	haphcv	WI FEN	Wijayanti	09/01/2022	09/2022	EFT	P-3425	hcv	1,935.00		
1370	-1911	haphcv	WILADR	Wilson	09/01/2022	09/2022	EFT	P-3170	hcv	1,950.00		
1371	-1912	haphcv	wilkat	Wilson	09/01/2022	09/2022	EFT	P-3108	hcv	1,152.00		
1372	-1913	haphcv	WILL AT	athy D. Williams	09/01/2022	09/2022	EFT	P-2877	hcv	2,705.00		
1373	-1914	haphcv	WILLTAS	Williams	09/01/2022	09/2022	EFT	P-3867	hcv	2,800.00		
1374	-1915	haphcv	WINDEV	Windeler Development Group, Inc.	09/01/2022	09/2022	EFT	P-3172	hcv	987.00		
1375	-1916	haphcv	wolwar	Wolfeld	09/01/2022	09/2022	EFT	P-3826	hcv	2,826.00		

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1376	-1917	haphcv	wonhar	Har Pan Wong	09/01/2022	09/2022	EFT		hcv	6,830.00		
1377	-1918	haphcv	WON OA	oanne Wong	09/01/2022	09/2022	EFT	P-3835	hcv	1,450.00		
1378	-1919	haphcv	WON IN	inney Ming Wong	09/01/2022	09/2022	EFT	P-2922	hcv	634.00		
1379	-1920	haphcv	WONSHI	Wong	09/01/2022	09/2022	EFT	P-3032	hcv-vash	1,460.00		
1380	-1921	haphcv	WONVIN	Wong	09/01/2022	09/2022	EFT	P-2923	hcv	1,646.00		
1381	-1922	haphcv	W HONG	Hong Wu	09/01/2022	09/2022	EFT	P-3516	hcv	1,651.00		
1382	-1923	haphcv	W HAN	Wu	09/01/2022	09/2022	EFT	P-2925	hcv	3,468.00		
1383	-1924	haphcv	WYADRE	Drewcillia Wyatt	09/01/2022	09/2022	EFT	P-3982	hcv	2,423.00		
1384	-1925	haphcv	X CHAO	Xu	09/01/2022	09/2022	EFT	P-3739	hcv	2,429.00		
1385	-1926	haphcv	X PING	Ping Ping Xu	09/01/2022	09/2022	EFT		hcv	1,602.00		
1386	-1927	haphcv	X HO	Xu	09/01/2022	09/2022	EFT	P-3538	hcv	2,870.00		
1387	-1928	haphcv	yeyifa	Ye	09/01/2022	09/2022	EFT	P-3768	hcv	2,471.00		
1388	-1929	haphcv	yipsal	Sally Yip	09/01/2022	09/2022	EFT	P-3382	hcv	595.00		
1389	-1930	haphcv	YON IA	Lu	09/01/2022	09/2022	EFT	P-3814	hcv	1,790.00		
1390	-1931	haphcv	YO CHR	You	09/01/2022	09/2022	EFT	P-3379	hcv	2,395.00		
1391	-1932	haphcv	yueche	Cheung	09/01/2022	09/2022	EFT	P-3433	hcv	1,220.00		
1392	-1933	haphcv	ALMOH	Mohammad almaiyar	09/01/2022	09/2022	EFT		hcv	1,583.00		
1393	-1934	haphcv	HA IE	hao	09/01/2022	09/2022	EFT	P-3967	hcv	769.00		
1394	-1935	haphcv	HA AT	hao	09/01/2022	09/2022	EFT	P-3545	hcv	1,938.00		
1395	-1936	haphcv	HAWEI	Wei Bin hang or Gao Wei	09/01/2022	09/2022	EFT	P-3827	hcv	1,988.00		
1396	-1937	haphcv	HAXIR	Xirong hao	09/01/2022	09/2022	EFT	P-2870	hcv	862.00		
1397	-1938	haphcv	HAYAN	Yan hang	09/01/2022	09/2022	EFT	P-3191	hcv	1,898.00		
1398	-1939	haphcv	HEXIA	heng	09/01/2022	09/2022	EFT	P-2906	hcv	1,462.00		
1399	-1940	haphcv	HIXLI	Li	09/01/2022	09/2022	EFT	P-3097	hcv	2,583.00		
1400	-1941	haphcv	HO OY	hou	09/01/2022	09/2022	EFT	P-3706	hcv	1,691.00		
1401	-1942	haphcv	H SHE	hu	09/01/2022	09/2022	EFT		hcv	5,400.00		
1402	-1943	haphcv	H YIN	hu	09/01/2022	09/2022	EFT		hcv	6,457.00		
1403	-1944	haphcv	zhweij	hang	09/01/2022	09/2022	EFT	P-2929	hcv	1,130.00		
1021	-1945	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	P-3197	hcv	-1,945.00		
1403	-1946	haphcv	zhweij	hang	09/01/2022	09/2022	EFT	P-2929	hcv	-1,130.00		
1402	-1947	haphcv	H YIN	hu	09/01/2022	09/2022	EFT		hcv	-6,457.00		
1401	-1948	haphcv	H SHE	hu	09/01/2022	09/2022	EFT		hcv	-5,400.00		
1400	-1949	haphcv	HO OY	hou	09/01/2022	09/2022	EFT	P-3706	hcv	-1,691.00		
1399	-1950	haphcv	HIXLI	Li	09/01/2022	09/2022	EFT	P-3097	hcv	-2,583.00		
1398	-1951	haphcv	HEXIA	heng	09/01/2022	09/2022	EFT	P-2906	hcv	-1,462.00		
1397	-1952	haphcv	HAYAN	Yan hang	09/01/2022	09/2022	EFT	P-3191	hcv	-1,898.00		
1396	-1953	haphcv	HAXIR	Xirong hao	09/01/2022	09/2022	EFT	P-2870	hcv	-862.00		
1395	-1954	haphcv	HAWEI	Wei Bin hang or Gao Wei	09/01/2022	09/2022	EFT	P-3827	hcv	-1,988.00		
1394	-1955	haphcv	HA AT	hao	09/01/2022	09/2022	EFT	P-3545	hcv	-1,938.00		
1393	-1956	haphcv	HA IE	hao	09/01/2022	09/2022	EFT	P-3967	hcv	-769.00		
1392	-1957	haphcv	ALMOH	Mohammad almaiyar	09/01/2022	09/2022	EFT		hcv	-1,583.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1391	-1958	haphcv	yueche	Cheung	09/01/2022	09/2022	EFT	P-3433	hcv	-1,220.00		
1390	-1959	haphcv	YO CHR	You	09/01/2022	09/2022	EFT	P-3379	hcv	-2,395.00		
1389	-1960	haphcv	YON IA	Lu	09/01/2022	09/2022	EFT	P-3814	hcv	-1,790.00		
1388	-1961	haphcv	yipsal	Sally Yip	09/01/2022	09/2022	EFT	P-3382	hcv	-595.00		
1387	-1962	haphcv	yeyifa	Ye	09/01/2022	09/2022	EFT	P-3768	hcv	-2,471.00		
1386	-1963	haphcv	X HO	Xu	09/01/2022	09/2022	EFT	P-3538	hcv	-2,870.00		
1385	-1964	haphcv	X PING	Ping Ping Xu	09/01/2022	09/2022	EFT		hcv	-1,602.00		
1384	-1965	haphcv	X CHAO	Xu	09/01/2022	09/2022	EFT	P-3739	hcv	-2,429.00		
1383	-1966	haphcv	WYADRE	Drewcillia Wyatt	09/01/2022	09/2022	EFT	P-3982	hcv	-2,423.00		
1382	-1967	haphcv	W HAN	Wu	09/01/2022	09/2022	EFT	P-2925	hcv	-3,468.00		
1381	-1968	haphcv	W HONG	Hong Wu	09/01/2022	09/2022	EFT	P-3516	hcv	-1,651.00		
1380	-1969	haphcv	WONVIN	Wong	09/01/2022	09/2022	EFT	P-2923	hcv	-1,646.00		
1379	-1970	haphcv	WONSHI	Wong	09/01/2022	09/2022	EFT	P-3032	hcv-vash	-1,460.00		
1378	-1971	haphcv	WON IN	inney Ming Wong	09/01/2022	09/2022	EFT	P-2922	hcv	-634.00		
1377	-1972	haphcv	WON OA	oanne Wong	09/01/2022	09/2022	EFT	P-3835	hcv	-1,450.00		
1376	-1973	haphcv	wonhar	Har Pan Wong	09/01/2022	09/2022	EFT		hcv	-6,830.00		
1375	-1974	haphcv	wolwar	Wolfeld	09/01/2022	09/2022	EFT	P-3826	hcv	-2,826.00		
1374	-1975	haphcv	WINDEV	Windeler Development Group, Inc.	09/01/2022	09/2022	EFT	P-3172	hcv	-987.00		
1373	-1976	haphcv	WILLTAS	Williams	09/01/2022	09/2022	EFT	P-3867	hcv	-2,800.00		
1372	-1977	haphcv	WILL AT	athy D. Williams	09/01/2022	09/2022	EFT	P-2877	hcv	-2,705.00		
1371	-1978	haphcv	wilkat	Wilson	09/01/2022	09/2022	EFT	P-3108	hcv	-1,152.00		
1370	-1979	haphcv	WILADR	Wilson	09/01/2022	09/2022	EFT	P-3170	hcv	-1,950.00		
1369	-1980	haphcv	WI FEN	Wijayanti	09/01/2022	09/2022	EFT	P-3425	hcv	-1,935.00		
1368	-1981	haphcv	WHILEW	Lewis White & Ruth White	09/01/2022	09/2022	EFT			-6,015.00		
1367	-1982	haphcv	WENHOL	Wen	09/01/2022	09/2022	EFT	P-3977	hcv	-793.00		
1366	-1983	haphcv	weiisi	Isidoro Weitzman	09/01/2022	09/2022	EFT	P-3718	hcv-vash	-1,600.00		
1365	-1984	haphcv	WARBRI	Warren	09/01/2022	09/2022	EFT	P-3435	hcv	-2,076.00		
1364	-1985	haphcv	wanyur	Yu Ruo Wang	09/01/2022	09/2022	EFT		hcv	-2,736.00		
1363	-1986	haphcv	WANWEI	Wang	09/01/2022	09/2022	EFT	P-2948	hcv	-1,940.00		
1362	-1987	haphcv	WANLIN	Lining Wan	09/01/2022	09/2022	EFT	P-3421	hcv	-3,010.00		
1361	-1988	haphcv	WAFSTE	Wafer	09/01/2022	09/2022	EFT	P-3082	hcv	-1,213.00		
1360	-1989	haphcv	vukuyen	Vu	09/01/2022	09/2022	EFT	P-3990	hcv	-1,239.00		
1359	-1990	haphcv	VIEN N	Nuno G Vieira	09/01/2022	09/2022	EFT		hcv	-4,306.00		
1358	-1991	haphcv	VICA E	Vickers	09/01/2022	09/2022	EFT	P-3880	hcv	-2,648.00		
1357	-1992	haphcv	VERHOM	Veritel Homes LLC	09/01/2022	09/2022	EFT	P-3400	hcv	-2,165.00		
1356	-1993	haphcv	VASGAR	Gary D. Vasconcellos	09/01/2022	09/2022	EFT	P-3961	hcv	-1,720.00		
1355	-1994	haphcv	VALVIC	Valenzuela	09/01/2022	09/2022	EFT	P-2955	hcv	-2,875.00		
1354	-1995	haphcv	VALLID	Lidia Valladares	09/01/2022	09/2022	EFT	P-3946	hcv	-1,561.00		
1353	-1996	haphcv	v0000066	Tram	09/01/2022	09/2022	EFT		hcv	-3,245.00		
1352	-1997	haphcv	v0000064	Lee	09/01/2022	09/2022	EFT	P-3217	hcv	-2,700.00		
1351	-1998	haphcv	v0000059	Tran	09/01/2022	09/2022	EFT		hcv	-2,395.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1350	-1999	haphcv	v0000056	Mims	09/01/2022	09/2022	EFT	P-2840	hcv	-1,276.00		
1349	-2000	haphcv	v0000006	College Park City HA	09/01/2022	09/2022	EFT		hcv	-1,037.17		
1348	-2001	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	09/01/2022	09/2022	EFT			-79,586.55		
1347	-2002	haphcv	SCERI	Erica schold	09/01/2022	09/2022	EFT	P-3336	hcv	-2,950.00		
1346	-2003	haphcv	truvan	Truong	09/01/2022	09/2022	EFT	P-3127	hcv	-1,717.00		
1345	-2004	haphcv	TR SEA	Truong	09/01/2022	09/2022	EFT	P-3650	hcv	-1,208.00		
1344	-2005	haphcv	TRITHA	Thanh Van Trinh	09/01/2022	09/2022	EFT	P-3396	hcv	-1,486.00		
1343	-2006	haphcv	TRATH	Thuy Tran	09/01/2022	09/2022	EFT	P-3380	hcv	-1,164.00		
1342	-2007	haphcv	TRARIC	Tran	09/01/2022	09/2022	EFT	P-3876	hcv	-2,789.00		
1341	-2008	haphcv	TRARAP	Tran	09/01/2022	09/2022	EFT		hcv	-5,705.00		
1340	-2009	haphcv	TOVLO	Lourdes or Raymond Tovar	09/01/2022	09/2022	EFT	P-2862	hcv	-1,374.00		
1339	-2010	haphcv	TONYOW	Tong	09/01/2022	09/2022	EFT	P-3473	hcv	-1,938.00		
1338	-2011	haphcv	THOTE	Thornton	09/01/2022	09/2022	EFT		hcv	-2,660.00		
1337	-2012	haphcv	THESIL	Silvia Thein and Ada Choi	09/01/2022	09/2022	EFT	P-4007	hcv	-2,653.00		
1336	-2013	haphcv	THA Y	Thai	09/01/2022	09/2022	EFT	P-3220	hcv	-2,593.00		
1335	-2014	haphcv	TERNAT	Terry	09/01/2022	09/2022	EFT	P-3371	hcv-home	-1,923.00		
1334	-2015	haphcv	TENY N	Yun Teng	09/01/2022	09/2022	EFT	P-3829	hcv	-1,574.00		
1333	-2016	haphcv	SY OYC	oyce Hui Sy	09/01/2022	09/2022	EFT		hcv	-6,713.00		
1332	-2017	haphcv	svekon	ondratiouk	09/01/2022	09/2022	EFT	P-3574	hcv	-3,338.00		
1331	-2018	haphcv	S SPAD	Paduro-Silva	09/01/2022	09/2022	EFT	P-3879	hcv	-2,195.00		
1330	-2019	haphcv	S R AM	amaljeet Surila	09/01/2022	09/2022	EFT	P-2905	hcv	-1,684.00		
1329	-2020	haphcv	S MMIT	Summit Venture Group, LLC	09/01/2022	09/2022	EFT	P-3816	hcv	-2,733.00		
1328	-2021	haphcv	sulkha	Sultan	09/01/2022	09/2022	EFT	P-2984	hcv	-1,671.00		
1327	-2022	haphcv	S LI	Su	09/01/2022	09/2022	EFT	P-3838	hcv	-2,190.00		
1326	-2023	haphcv	sukabb	Sukarto	09/01/2022	09/2022	EFT	P-3447	hcv	-1,954.00		
1325	-2024	haphcv	STRDAR	Streeter	09/01/2022	09/2022	EFT	P-3419	hcv	-1,576.00		
1324	-2025	haphcv	STRALE	Stroud	09/01/2022	09/2022	EFT	P-3327	hcv	-1,439.00		
1323	-2026	haphcv	sroram	Srouji	09/01/2022	09/2022	EFT	P-3029	hcv-vash	-2,186.00		
1322	-2027	haphcv	speang	Angela E. Robinson-Spencer	09/01/2022	09/2022	EFT	P-3571	hcv	-1,241.00		
1321	-2028	haphcv	SOSCIN	Sosa	09/01/2022	09/2022	EFT	P-3911	hcv	-2,448.00		
1320	-2029	haphcv	SMISHE	Smith	09/01/2022	09/2022	EFT	P-3532	hcv-home	-798.00		
1319	-2030	haphcv	SMIMOL	Molly Smith	09/01/2022	09/2022	EFT	P-3671	hcv	-2,000.00		
1318	-2031	haphcv	SMILIO	Smith	09/01/2022	09/2022	EFT	P-3627	hcv	-1,975.00		
1317	-2032	haphcv	SITCRY	Situ	09/01/2022	09/2022	EFT	P-3013	hcv	-1,250.00		
1316	-2033	haphcv	SINSON	Son Singh	09/01/2022	09/2022	EFT	P-3409	hcv	-1,457.00		
1315	-2034	haphcv	SINRAM	Singh	09/01/2022	09/2022	EFT	P-2851	hcv	-2,377.00		
1314	-2035	haphcv	SIMMAR	Marc . Simpson	09/01/2022	09/2022	EFT	P-3155	hcv	-1,642.00		
1313	-2036	haphcv	SILGLO	Silva	09/01/2022	09/2022	EFT	P-3395	hcv	-490.00		
1312	-2037	haphcv	SIINO	oseph Michael Siino	09/01/2022	09/2022	EFT	P-2854	hcv	-1,654.00		
1311	-2038	haphcv	SIIFRA	Frank M. Siino	09/01/2022	09/2022	EFT	P-3525	hcv	-944.00		

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1310	-2039	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT			-34,504.00		
1309	-2040	haphcv	siepep	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT			-9,289.00		
1308	-2041	haphcv	siena	Siena Court Apartments	09/01/2022	09/2022	EFT			-18,016.00		
1307	-2042	haphcv	siecor	Sierra Pacific Properties Inc	09/01/2022	09/2022	EFT			-20,408.00		
1306	-2043	haphcv	shoinv	Shorten Investments LLC	09/01/2022	09/2022	EFT	P-3754	hcv	-2,843.00		
1305	-2044	haphcv	SHIYIH	Yihui Shi	09/01/2022	09/2022	EFT	P-2986	hcv	-1,304.00		
1304	-2045	haphcv	SHEMOH	Shekib	09/01/2022	09/2022	EFT	P-3004	hcv	-1,938.00		
1303	-2046	haphcv	SHAPAT	Shailesh & Bela Patel	09/01/2022	09/2022	EFT		hcv	-1,128.00		
1302	-2047	haphcv	SHAMOH	Sharma	09/01/2022	09/2022	EFT	P-2855	hcv	-1,016.00		
1301	-2048	haphcv	SERYO	Seroy	09/01/2022	09/2022	EFT	P-3061	hcv	-1,606.00		
1300	-2049	haphcv	SEL AC	Selinger	09/01/2022	09/2022	EFT	P-3632	hcv	-1,658.00		
1299	-2050	haphcv	SCIRIC	Richard M. Sciortino	09/01/2022	09/2022	EFT	P-3676	hcv	-2,210.00		
1298	-2051	haphcv	schgre	Schulz	09/01/2022	09/2022	EFT	P-3146	hcv	-1,567.00		
1297	-2052	haphcv	SANMAR	Santos	09/01/2022	09/2022	EFT	P-3281	hcv	-1,171.00		
1296	-2053	haphcv	R SCON	Russell	09/01/2022	09/2022	EFT	P-3008	hcv	-2,300.00		
1295	-2054	haphcv	R IELV	Elvira Ruiz	09/01/2022	09/2022	EFT	P-3828	hcv	-1,855.00		
1294	-2055	haphcv	R F AS	Ruffin	09/01/2022	09/2022	EFT	P-3964	hcv	-2,263.00		
1293	-2056	haphcv	risinv	Rising Investments LLC	09/01/2022	09/2022	EFT		hcv	-7,154.00		
1292	-2057	haphcv	rickam	ameryn Victoria Ray	09/01/2022	09/2022	EFT	P-3294	hcv	-1,868.00		
1291	-2058	haphcv	rhport	RH Portofino Owner CA LLC	09/01/2022	09/2022	EFT		hcv	-11,714.00		
1290	-2059	haphcv	remeri	Eric Franklin Remson	09/01/2022	09/2022	EFT	P-3572	hcv	-633.00		
1289	-2060	haphcv	relwoo	Reliant - Woods Grove, LP	09/01/2022	09/2022	EFT			-19,731.00		
1288	-2061	haphcv	realam	Amerasia Real Estate Fund LLC	09/01/2022	09/2022	EFT			-3,804.00		
1287	-2062	haphcv	reacro	Croskey Real Estate, Inc.	09/01/2022	09/2022	EFT	P-3451	hcv	-1,745.00		
1286	-2063	haphcv	rcprop	RayCaro Inc.	09/01/2022	09/2022	EFT	P-3682	hcv	-1,569.00		
1285	-2064	haphcv	raudav	David Raughton	09/01/2022	09/2022	EFT	P-3547	hcv	-1,932.00		
1284	-2065	haphcv	RAMROH	Ram-Cline	09/01/2022	09/2022	EFT	P-3823	hcv	-2,171.00		
1283	-2066	haphcv	RAM AV	Ramos Avila	09/01/2022	09/2022	EFT	P-2932	hcv	-1,996.00		
1282	-2067	haphcv	RAMHOR	Ramsey Horton	09/01/2022	09/2022	EFT	P-3592	hcv-vash	-1,321.00		
1281	-2068	haphcv	RAMERI	Erika Ramirez	09/01/2022	09/2022	EFT	P-3067	hcv	-1,345.00		
1280	-2069	haphcv	RAMENR	Enrique Ramirez	09/01/2022	09/2022	EFT	P-3343	hcv	-515.00		
1279	-2070	haphcv	RAMCHR	Ramirez	09/01/2022	09/2022	EFT	P-3449	hcv	-376.00		
1278	-2071	haphcv	RA PAR	Paramjit . Raju	09/01/2022	09/2022	EFT		hcv	-2,190.00		
1277	-2072	haphcv	RA L	Raju	09/01/2022	09/2022	EFT	P-3975	hcv	-1,703.00		
1276	-2073	haphcv	RADAMO	Radford	09/01/2022	09/2022	EFT	P-3182	hcv	-1,432.00		
1275	-2074	haphcv	ISAM	Sam or Sonia uinones	09/01/2022	09/2022	EFT	P-3812	hcv	-1,800.00		
1274	-2075	haphcv	qaqamj	Amjad aqish	09/01/2022	09/2022	EFT	P-3522	hcv	-674.00		
1273	-2076	haphcv	PR PS	Property psurge, Inc.	09/01/2022	09/2022	EFT	P-3153	hcv	-2,087.00		
1272	-2077	haphcv	prosto	Stokley Properties LLC Harbor	09/01/2022	09/2022	EFT		hcv	-2,659.00		

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1271	-2078	haphcv	propar	Parks Property Management	09/01/2022	09/2022	EFT	P-3404	hcv	-1,711.00		
1270	-2079	haphcv	PROMEA	A. Meadows Property Management	09/01/2022	09/2022	EFT		hcv	-3,584.00		
1269	-2080	haphcv	promar	Marples Property Management	09/01/2022	09/2022	EFT	P-3791	hcv	-1,852.00		
1268	-2081	haphcv	proih5	IH5 Property West LP	09/01/2022	09/2022	EFT		hcv	-2,739.00		
1267	-2082	haphcv	Pittssk	S Pittsburg Bay Point	09/01/2022	09/2022	EFT	P-2962	hcv	-1,267.00		
1266	-2083	haphcv	pitpar	Pittsburg Park Apartments	09/01/2022	09/2022	EFT		hcv	-2,913.00		
1265	-2084	haphcv	PHOMAY	Pho	09/01/2022	09/2022	EFT	P-3384	hcv	-2,818.00		
1264	-2085	haphcv	phacon	Pham	09/01/2022	09/2022	EFT	P-3917	hcv	-2,336.00		
1263	-2086	haphcv	PERLOW	Lowde Y. Perkins	09/01/2022	09/2022	EFT	P-3183	hcv	-863.00		
1262	-2087	haphcv	PERECA	Maria Del Carmen Perez	09/01/2022	09/2022	EFT	P-2887	hcv	-268.00		
1261	-2088	haphcv	PERALO	Perez	09/01/2022	09/2022	EFT	P-3546	hcv	-1,448.00		
1260	-2089	haphcv	PEASCO	Scott Pease	09/01/2022	09/2022	EFT	P-3521	hcv	-1,510.00		
1259	-2090	haphcv	PEALOY	Peacock	09/01/2022	09/2022	EFT	P-3551	hcv	-1,435.00		
1258	-2091	haphcv	paujas	ason Pauline	09/01/2022	09/2022	EFT	P-3493	hcv	-1,910.00		
1257	-2092	haphcv	patvir	Virendra M. Patel	09/01/2022	09/2022	EFT	P-3169	hcv	-558.00		
1256	-2093	haphcv	PATLLC	Patiala, LLC	09/01/2022	09/2022	EFT		hcv	-2,214.00		
1255	-2094	haphcv	PAT O	okila Patel	09/01/2022	09/2022	EFT	P-2964	hcv	-422.00		
1254	-2095	haphcv	PATHEM	Hemangini & Vijendra Patel	09/01/2022	09/2022	EFT	P-3333	hcv	-2,945.00		
1253	-2096	haphcv	PATBOS	Boss	09/01/2022	09/2022	EFT	P-3854	hcv	-1,273.00		
1252	-2097	haphcv	pacliv	Pacific Living, LLC	09/01/2022	09/2022	EFT		hcv	-2,220.00		
1251	-2098	haphcv	ozemut	Mutlu Ozer	09/01/2022	09/2022	EFT	P-3752	hcv	-2,180.00		
1250	-2099	haphcv	OS CHI	Chinenye Osuagwu	09/01/2022	09/2022	EFT	P-3517	hcv	-2,716.00		
1249	-2100	haphcv	ORTSAN	Ortiz	09/01/2022	09/2022	EFT	P-3432	hcv	-1,893.00		
1248	-2101	haphcv	OMOESE	Esosa A. Omokaro	09/01/2022	09/2022	EFT	P-3123	hcv	-1,578.00		
1247	-2102	haphcv	OLEDIA	Oles	09/01/2022	09/2022	EFT	P-3500	hcv	-1,540.00		
1246	-2103	haphcv	OEWDWI	Owens	09/01/2022	09/2022	EFT	P-3577	hcv-home	-546.00		
1245	-2104	haphcv	ODE EN	Odei	09/01/2022	09/2022	EFT	P-3840	hcv	-1,497.00		
1244	-2105	haphcv	OBRSHE	O'Brien	09/01/2022	09/2022	EFT	P-3677	hcv	-823.00		
1243	-2106	haphcv	nwmgmt	New Way Management Services, Inc.	09/01/2022	09/2022	EFT		hcv	-22,957.00		
1242	-2107	haphcv	NORSTA	North State Financial, Inc.	09/01/2022	09/2022	EFT	P-2938	hcv	-810.00		
1241	-2108	haphcv	NORRIC	Norte	09/01/2022	09/2022	EFT	P-2864	hcv	-2,553.00		
1240	-2109	haphcv	NOR EV	evin Nord	09/01/2022	09/2022	EFT	P-2890	hcv	-1,762.00		
1239	-2110	haphcv	norfin	Northstar Financial Group, LLC	09/01/2022	09/2022	EFT		hcv-vash	-927.00		
1238	-2111	haphcv	NILPET	Niloufari	09/01/2022	09/2022	EFT		hcv	-4,481.00		
1237	-2112	haphcv	nierne	Ernest Nichols III	09/01/2022	09/2022	EFT		hcv	-3,243.00		
1236	-2113	haphcv	NICNIC	Nicholson	09/01/2022	09/2022	EFT	P-3561	hcv	-2,357.00		
1235	-2114	haphcv	NG TIE	Nguyen	09/01/2022	09/2022	EFT	P-3448	hcv	-296.00		
1234	-2115	haphcv	NG Y	uyen Nguyen	09/01/2022	09/2022	EFT	P-3856	hcv	-1,900.00		
1233	-2116	haphcv	NG MAI	Nguyen	09/01/2022	09/2022	EFT	P-3184	hcv	-1,951.00		
1232	-2117	haphcv	NG H Y	Huy uang Nguyen	09/01/2022	09/2022	EFT	P-3675	hcv	-2,103.00		
1231	-2118	haphcv	nguhieu	Hieu Nguyen	09/01/2022	09/2022	EFT	P-2934	hcv	-1,643.00		

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1230	-2119	haphcv	NGPATR	Ng	09/01/2022	09/2022	EFT	P-2904	hcv	-408.00		
1229	-2120	haphcv	ngknow	Ng	09/01/2022	09/2022	EFT	P-3978	hcv	-2,042.00		
1228	-2121	haphcv	NGDOMI	Dominic Y Ng	09/01/2022	09/2022	EFT		hcv	-1,701.00		
1227	-2122	haphcv	NESG Y	Guy Nesbeth	09/01/2022	09/2022	EFT	P-2936	hcv	-1,760.00		
1226	-2123	haphcv	NELMIC	c/o ennifer Diaz	09/01/2022	09/2022	EFT	P-3872	hcv	-3,189.00		
1225	-2124	haphcv	ncasso	NC Associates, Inc.	09/01/2022	09/2022	EFT		hcv	-16,499.00		
1224	-2125	haphcv	NARSHI	Shinder Paul Narabut	09/01/2022	09/2022	EFT		hcv	-5,214.00		
1223	-2126	haphcv	NABEHS	Ehsan Nabkel	09/01/2022	09/2022	EFT	P-3195	hcv	-3,083.00		
1222	-2127	haphcv	MYNDMG	Brien Brothers, LLC C/O Mynd Management, IC.	09/01/2022	09/2022	EFT	P-3685	hcv	-16.00		
1221	-2128	haphcv	MOR OS	Diane Morin	09/01/2022	09/2022	EFT	P-3892	hcv	-2,090.00		
1220	-2129	haphcv	MORERI	Morris	09/01/2022	09/2022	EFT	P-3175	hcv	-1,312.00		
1219	-2130	haphcv	MONROD	Rodney Montgomery	09/01/2022	09/2022	EFT	P-3981	hcv	-1,791.00		
1218	-2131	haphcv	momrae	Raees	09/01/2022	09/2022	EFT	P-3831	hcv	-1,703.00		
1217	-2132	haphcv	MITGWE	Gwendolyn Mitchell	09/01/2022	09/2022	EFT		hcv	-4,210.00		
1216	-2133	haphcv	MIRHAS	Hassan Mirabedi	09/01/2022	09/2022	EFT		hcv	-10,118.00		
1215	-2134	haphcv	mircar	Miranda	09/01/2022	09/2022	EFT	P-3779	hcv-home	-579.00		
1214	-2135	haphcv	MILMAR	Maryann Miller	09/01/2022	09/2022	EFT	P-3007	hcv	-798.00		
1213	-2136	haphcv	MILHOM	Millennium Homes	09/01/2022	09/2022	EFT	P-3938	hcv	-2,187.00		
1212	-2137	haphcv	MILAND	Miloslavich	09/01/2022	09/2022	EFT	P-3811	hcv	-1,904.00		
1211	-2138	haphcv	ME HEC	Hector Meza	09/01/2022	09/2022	EFT	P-4017	hcv	-656.00		
1210	-2139	haphcv	MER OH	ohnson	09/01/2022	09/2022	EFT	P-3781	hcv-home	-748.00		
1209	-2140	haphcv	MENSAB	Sabine Menzel	09/01/2022	09/2022	EFT		hcv	-5,211.00		
1208	-2141	haphcv	menjin	inyu Meng	09/01/2022	09/2022	EFT	P-3486	hcv	-1,939.00		
1207	-2142	haphcv	MEITAT	Mei	09/01/2022	09/2022	EFT	P-3312	hcv	-3,719.00		
1206	-2143	haphcv	MEADOW	Meadow Glen Apartments	09/01/2022	09/2022	EFT	P-3790	hcv	-1,925.00		
1205	-2144	haphcv	MCL AN	McLean	09/01/2022	09/2022	EFT		hcv	-249.00		
1204	-2145	haphcv	MCCHEI	McCarthy	09/01/2022	09/2022	EFT	P-2947	hcv	-1,943.00		
1203	-2146	haphcv	MATL I	Lui	09/01/2022	09/2022	EFT	P-3575	hcv	-1,617.00		
1202	-2147	haphcv	MASDEM	Mason	09/01/2022	09/2022	EFT	P-3363	hcv-home	-2,545.00		
1201	-2148	haphcv	MARTEA	Martinez	09/01/2022	09/2022	EFT	P-3562	hcv	-2,746.00		
1200	-2149	haphcv	MARHAR	Harrison	09/01/2022	09/2022	EFT	P-2992	hcv-home	-588.00		
1199	-2150	haphcv	MARGLE	Glenn Marshall	09/01/2022	09/2022	EFT	P-3282	hcv	-2,469.00		
1198	-2151	haphcv	MAN EF	eff Mann	09/01/2022	09/2022	EFT		hcv	-6,267.00		
1197	-2152	haphcv	malrah	Malik	09/01/2022	09/2022	EFT	P-3173	hcv	-3,735.00		
1196	-2153	haphcv	majenn	Ma	09/01/2022	09/2022	EFT		hcv	-3,873.00		
1195	-2154	haphcv	MAHTAR	Tariq	09/01/2022	09/2022	EFT	P-3916	hcv	-2,452.00		
1194	-2155	haphcv	mahrad	Radha Mahesram	09/01/2022	09/2022	EFT	P-3832	hcv	-3,010.00		
1193	-2156	haphcv	MADRA	Madra	09/01/2022	09/2022	EFT	P-3913	hcv	-1,056.00		
1192	-2157	haphcv	macyol	McDonald	09/01/2022	09/2022	EFT	P-3852	hcv	-2,102.00		
1191	-2158	haphcv	lychiv	Chi Vien Ly	09/01/2022	09/2022	EFT	P-2957	hcv	-1,073.00		

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1190	-2159	haphcv	L XIANG	Lu	09/01/2022	09/2022	EFT			-8,406.00		
1189	-2160	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	09/01/2022	09/2022	EFT	P-3290	hcv	-1,214.00		
1188	-2161	haphcv	luiwei	Wei Liu Guangxin Frank Liu	09/01/2022	09/2022	EFT	P-2837	hcv	-1,446.00		
1187	-2162	haphcv	L IAND	Lui	09/01/2022	09/2022	EFT		hcv	-2,830.00		
1186	-2163	haphcv	LO OS	ose Loza	09/01/2022	09/2022	EFT	P-2941	hcv	-983.00		
1185	-2164	haphcv	LOYANT	Loyola	09/01/2022	09/2022	EFT	P-3743	hcv	-547.00		
1184	-2165	haphcv	LO TON	Tony or Yvonne Louie	09/01/2022	09/2022	EFT	P-2928	hcv	-1,106.00		
1183	-2166	haphcv	losmed	Los Medanos Village Apartments	09/01/2022	09/2022	EFT		hcv	-15,014.00		
1182	-2167	haphcv	lonpau	Paul Long	09/01/2022	09/2022	EFT	P-3680	hcv	-1,403.00		
1181	-2168	haphcv	LI BEL	hong Li	09/01/2022	09/2022	EFT	P-2876	hcv	-1,513.00		
1180	-2169	haphcv	LIYING	Ying Hong Li	09/01/2022	09/2022	EFT	P-3502	hcv	-189.00		
1179	-2170	haphcv	LIWEIM	Li	09/01/2022	09/2022	EFT	P-2869	hcv	-1,620.00		
1178	-2171	haphcv	LIVPA	Paul Livson	09/01/2022	09/2022	EFT	P-3697	hcv-vash	-1,775.00		
1177	-2172	haphcv	LINTIM	Tim Lindstrom c/o AAA Property Management	09/01/2022	09/2022	EFT	P-3996	hcv	-1,122.00		
1176	-2173	haphcv	LI OSH	Li	09/01/2022	09/2022	EFT	P-3091	hcv	-1,123.00		
1175	-2174	haphcv	LI INH	inhuan Li	09/01/2022	09/2022	EFT	P-2970	hcv	-1,515.00		
1174	-2175	haphcv	LI IE	Li	09/01/2022	09/2022	EFT	P-3434	hcv	-2,095.00		
1173	-2176	haphcv	LIFA I	Faqiang Li	09/01/2022	09/2022	EFT	P-3405	hcv	-2,321.00		
1172	-2177	haphcv	lido	ames . Busby & Irvin Deutcher/DBA Crestview Apts	09/01/2022	09/2022	EFT		hcv	-10,772.00		
1171	-2178	haphcv	leupet	Peter Leung	09/01/2022	09/2022	EFT	P-2954	hcv	-2,346.00		
1170	-2179	haphcv	LE MAY	May Leung or Rodney Chen	09/01/2022	09/2022	EFT		hcv	-2,785.00		
1169	-2180	haphcv	leujoh	ohn M. Leung	09/01/2022	09/2022	EFT		hcv	-4,634.00		
1168	-2181	haphcv	LERYIP	Yiping I. and Frederic Leroudier	09/01/2022	09/2022	EFT			-4,017.00		
1167	-2182	haphcv	LER OS	oseph C. Lerma	09/01/2022	09/2022	EFT	P-3804	hcv	-100.00		
1166	-2183	haphcv	LELENA	Le	09/01/2022	09/2022	EFT	P-3789	hcv	-864.00		
1165	-2184	haphcv	LEH YN	Le	09/01/2022	09/2022	EFT	P-3565	hcv	-2,461.00		
1164	-2185	haphcv	LEEY H	Yuhjen uang Lee	09/01/2022	09/2022	EFT	P-3611	hcv	-1,932.00		
1163	-2186	haphcv	LEESTE	Steven Lee	09/01/2022	09/2022	EFT	P-3805	hcv	-2,126.00		
1162	-2187	haphcv	leesiu	Siu Wan Windytiti Lee	09/01/2022	09/2022	EFT	P-2882	hcv	-2,051.00		
1161	-2188	haphcv	LEE AC	ack Wai Lee	09/01/2022	09/2022	EFT	P-3154	hcv	-1,355.00		
1160	-2189	haphcv	ledaot	Le	09/01/2022	09/2022	EFT		hcv	-2,034.00		
1159	-2190	haphcv	lcstar	LCSTAR, LLC	09/01/2022	09/2022	EFT		hcv	-3,234.00		
1158	-2191	haphcv	LATLLC	Latif, LLC	09/01/2022	09/2022	EFT		hcv	-4,633.00		
1157	-2192	haphcv	LAS EV	Lassair	09/01/2022	09/2022	EFT	P-3487	hcv-home	-405.00		
1156	-2193	haphcv	LARPET	Peter C. Larsen	09/01/2022	09/2022	EFT	P-2977	hcv	-1,522.00		
1155	-2194	haphcv	LAMSHI	Manly-Lampkin	09/01/2022	09/2022	EFT	P-3960	hcv	-1,043.00		
1154	-2195	haphcv	LAMCHO	Lam	09/01/2022	09/2022	EFT	P-3366	hcv	-1,184.00		
1153	-2196	haphcv	LAFTHO	LaFleur	09/01/2022	09/2022	EFT	P-2976	hcv	-1,594.00		
1152	-2197	haphcv	kwadan	Daniel wan	09/01/2022	09/2022	EFT		hcv	-3,656.00		

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1151	□-2198	haphcv	□□□□DI	□dzislaw □ujawa	09/01/2022	09/2022	EFT	P-3853	hcv	-1,311.00		
1150	□-2199	haphcv	kuasim	□uang	09/01/2022	09/2022	EFT	P-3559	hcv	-1,161.00		
1149	□-2200	haphcv	□□A□IY	□uang	09/01/2022	09/2022	EFT	□	hcv	-6,902.00		
1148	□-2201	haphcv	□IT□OH	□itta	09/01/2022	09/2022	EFT	P-3485	hcv	-2,760.00		
1147	□-2202	haphcv	kirkkw	□W □irker Creek, LLC	09/01/2022	09/2022	EFT	□	hcv	-2,972.00		
1146	□-2203	haphcv	□HAFAR	□han	09/01/2022	09/2022	EFT	P-3157	hcv	-1,405.00		
1145	□-2204	haphcv	□EVMOF	Moffett	09/01/2022	09/2022	EFT	P-2866	hcv	-2,053.00		
1144	□-2205	haphcv	□ESANT	Anthony □eslinke	09/01/2022	09/2022	EFT	□	hcv	-3,305.00		
1143	□-2206	haphcv	kemgro	□. E. M. Group LLC	09/01/2022	09/2022	EFT	P-3520	hcv	-1,811.00		
1142	□-2207	haphcv	□CPLLC	□C Prime LLC	09/01/2022	09/2022	EFT	P-2834	hcv	-1,535.00		
1141	□-2208	haphcv	□A□NAV	□aur	09/01/2022	09/2022	EFT	P-3786	hcv	-2,497.00		
1140	□-2209	haphcv	kanwei	□ang	09/01/2022	09/2022	EFT	□	hcv	-4,171.00		
1139	□-2210	haphcv	□ALOMP	□alra	09/01/2022	09/2022	EFT	P-3136	hcv	-3,698.00		
1138	□-2211	haphcv	junhou	Hou	09/01/2022	09/2022	EFT	P-3924	hcv	-2,554.00		
1137	□-2212	haphcv	□O□MOS	□ouya	09/01/2022	09/2022	EFT	P-3450	hcv	-1,064.00		
1136	□-2213	haphcv	□ONSHA	□ones	09/01/2022	09/2022	EFT	□	hcv	-3,395.00		
1135	□-2214	haphcv	□OHRON	□ohnson	09/01/2022	09/2022	EFT	P-3458	hcv	-1,501.00		
1134	□-2215	haphcv	□OH□RY	□ohnson	09/01/2022	09/2022	EFT	P-2847	hcv	-1,963.00		
1133	□-2216	haphcv	□IA□HA	□hang	09/01/2022	09/2022	EFT	□	hcv	-1,570.00		
1132	□-2217	haphcv	jasnle	Le	09/01/2022	09/2022	EFT	P-2968	hcv	-2,770.00		
1131	□-2218	haphcv	□AIVIS	□ain	09/01/2022	09/2022	EFT	P-3775	hcv	-2,100.00		
1130	□-2219	haphcv	□AISAM	□ain	09/01/2022	09/2022	EFT	□	hcv	-8,481.00		
1129	□-2220	haphcv	□AIDEE	□ain	09/01/2022	09/2022	EFT	□	hcv	-7,587.00		
1128	□-2221	haphcv	□ACCON	□ackson	09/01/2022	09/2022	EFT	P-3204	hcv	-2,868.00		
1127	□-2222	haphcv	□ACBRA	□ackson	09/01/2022	09/2022	EFT	P-3777	hcv	-2,083.00		
1126	□-2223	haphcv	□ABLOV	Love	09/01/2022	09/2022	EFT	P-2871	hcv	-1,827.00		
1125	□-2224	haphcv	isomic	Michael or □ay Isola	09/01/2022	09/2022	EFT	□	hcv	-2,374.00		
1124	□-2225	haphcv	IRVLAS	Irving	09/01/2022	09/2022	EFT	P-2967	hcv	-1,720.00		
1123	□-2226	haphcv	INV□EY	□eyee Investment LLC	09/01/2022	09/2022	EFT	P-3932	hcv	-1,233.00		
1122	□-2227	haphcv	ihprw	IH5 Property West LP	09/01/2022	09/2022	EFT	P-3012	hcv	-3,194.00		
1121	□-2228	haphcv	IGREEN	IGreen House Inc. □ane S Schmidt	09/01/2022	09/2022	EFT	P-3800	hcv	-603.00		
1120	□-2229	haphcv	huythi	Huynh	09/01/2022	09/2022	EFT	P-3109	hcv	-2,400.00		
1119	□-2230	haphcv	H□NANC	Nancy Xiu □hen Hu	09/01/2022	09/2022	EFT	P-3324	hcv	-2,016.00		
1118	□-2231	haphcv	H□AXIA	Huang	09/01/2022	09/2022	EFT	P-3980	hcv	-2,575.00		
1117	□-2232	haphcv	huatao	Huang	09/01/2022	09/2022	EFT	□	hcv	-7,496.00		
1116	□-2233	haphcv	H□AMIN	Ming □in Huang	09/01/2022	09/2022	EFT	P-3614	hcv	-2,337.00		
1115	□-2234	haphcv	H□AFAN	Fanny □ao Huang	09/01/2022	09/2022	EFT	P-3159	hcv	-1,633.00		
1114	□-2235	haphcv	HOTONY	Tony Ho	09/01/2022	09/2022	EFT	P-3196	hcv	-1,142.00		
1113	□-2236	haphcv	hominv	Invitation Homes	09/01/2022	09/2022	EFT	P-3891	hcv	-2,585.00		
1112	□-2237	haphcv	holsrh	SRH Holdings LLC	09/01/2022	09/2022	EFT	P-3855	hcv	-3,342.00		
1111	□-2238	haphcv	HOLRON	Ronald G. Holmes	09/01/2022	09/2022	EFT	P-3972	hcv	-1,022.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1110	-2239	haphcv	HOF OY	Hoffman	09/01/2022	09/2022	EFT	P-3679	hcv	-1,284.00		
1109	-2240	haphcv	HOALBE	Albert Ho	09/01/2022	09/2022	EFT	P-2935	hcv	-1,740.00		
1108	-2241	haphcv	HOAHAV	Hoag	09/01/2022	09/2022	EFT	P-3875	hcv	-2,560.00		
1107	-2242	haphcv	HOACAR	Carl E. Hoard II	09/01/2022	09/2022	EFT	P-3799	hcv	-2,681.00		
1106	-2243	haphcv	HIRCHA	Hira	09/01/2022	09/2022	EFT	P-3080	hcv	-1,828.00		
1105	-2244	haphcv	HILMAR	Hill	09/01/2022	09/2022	EFT	P-3152	hcv	-278.00		
1104	-2245	haphcv	HERELI	Herrera	09/01/2022	09/2022	EFT	P-3560	hcv	-650.00		
1103	-2246	haphcv	hensil	Henderson	09/01/2022	09/2022	EFT		hcv	-2,307.00		
1102	-2247	haphcv	hendav	David T. Hennigan	09/01/2022	09/2022	EFT			-18,208.00		
1101	-2248	haphcv	hejiyu	He	09/01/2022	09/2022	EFT	P-3198	hcv	-1,836.00		
1100	-2249	haphcv	hechuan	He	09/01/2022	09/2022	EFT	P-3971	hcv	-1,917.00		
1099	-2250	haphcv	hawdel	Delta Hawaii Garden Apartments LLC	09/01/2022	09/2022	EFT		hcv	-9,009.00		
1098	-2251	haphcv	HARPRO	Hartz Property Management	09/01/2022	09/2022	EFT	P-3373	hcv	-1,720.00		
1097	-2252	haphcv	HARLAW	Harrold	09/01/2022	09/2022	EFT		hcv	-7,273.00		
1096	-2253	haphcv	HARDAV	Hart	09/01/2022	09/2022	EFT	P-2993	hcv	-1,938.00		
1095	-2254	haphcv	HARCLA	Hardison	09/01/2022	09/2022	EFT	P-3839	hcv	-2,165.00		
1094	-2255	haphcv	HALDEL	Hall	09/01/2022	09/2022	EFT	P-3492	hcv	-1,780.00		
1093	-2256	haphcv	hagjef	effrey Paul Hagler	09/01/2022	09/2022	EFT		hcv	-5,157.00		
1092	-2257	haphcv	hafash	Asharfun Nisha Hafiz	09/01/2022	09/2022	EFT	P-3965	hcv	-1,667.00		
1091	-2258	haphcv	H01WAT	Watson, Sr.	09/01/2022	09/2022	EFT	P-3503	hcv-home	-921.00		
1090	-2259	haphcv	gupabe	Abhilash Gupta	09/01/2022	09/2022	EFT			-5,237.00		
1089	-2260	haphcv	G NBOB	Hang	09/01/2022	09/2022	EFT	P-2856	hcv	-1,359.00		
1088	-2261	haphcv	G A RY	Guan	09/01/2022	09/2022	EFT		hcv	-4,826.00		
1087	-2262	haphcv	G AAMP	Guardado	09/01/2022	09/2022	EFT	P-3866	hcv	-1,413.00		
1086	-2263	haphcv	GROITA	Italo Grossi	09/01/2022	09/2022	EFT	P-3529	hcv	-1,588.00		
1085	-2264	haphcv	GRIPAT	Patricia Gridley	09/01/2022	09/2022	EFT		hcv	-731.25		
1084	-2265	haphcv	GREROD	Green	09/01/2022	09/2022	EFT	P-3860	hcv-home	-962.00		
1083	-2266	haphcv	GREFRA	Greene	09/01/2022	09/2022	EFT	P-3515	hcv	-2,978.00		
1082	-2267	haphcv	gontin	Gong	09/01/2022	09/2022	EFT	P-3501	hcv	-2,139.00		
1081	-2268	haphcv	GONMAR	Gonsalves	09/01/2022	09/2022	EFT	P-2978	hcv	-2,336.00		
1080	-2269	haphcv	GON ES	esse Gonzaga	09/01/2022	09/2022	EFT		hcv	-1,887.00		
1079	-2270	haphcv	GOMHAD	Gomez	09/01/2022	09/2022	EFT	P-3188	hcv-home	-846.00		
1078	-2271	haphcv	GOLDAS	Gold A and S LLC	09/01/2022	09/2022	EFT	P-3915	hcv	-2,318.00		
1077	-2272	haphcv	GILS	Gill	09/01/2022	09/2022	EFT	P-2918	hcv	-1,548.00		
1076	-2273	haphcv	gilmah	Gill	09/01/2022	09/2022	EFT		hcv	-5,260.00		
1075	-2274	haphcv	GIL AC	acqueline Gill	09/01/2022	09/2022	EFT	P-2981	hcv	-1,534.00		
1074	-2275	haphcv	GHOVER	Vernon or Eva Gholson	09/01/2022	09/2022	EFT		hcv	-2,634.00		
1073	-2276	haphcv	GHAPAR	Ghaboulidashti	09/01/2022	09/2022	EFT	P-3845	hcv-home	-1,094.00		
1072	-2277	haphcv	gateway	Gateway Apartments	09/01/2022	09/2022	EFT			-9,622.00		
1071	-2278	haphcv	GARWIL	William H. Gardiner	09/01/2022	09/2022	EFT	P-3928	hcv	-1,258.00		
1070	-2279	haphcv	garrup	Rupesh Garg	09/01/2022	09/2022	EFT	P-2860	hcv	-2,808.00		

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1069	-2280	haphcv	gardav	David Gardner	09/01/2022	09/2022	EFT		hcv	-3,846.00		
1068	-2281	haphcv	GARANT	Antoinette L Garcia	09/01/2022	09/2022	EFT	P-3009	hcv	-1,167.00		
1067	-2282	haphcv	GARADR	Adraine Gardner	09/01/2022	09/2022	EFT	P-3509	hcv	-1,096.00		
1066	-2283	haphcv	gaokel	Gao	09/01/2022	09/2022	EFT		hcv	-3,902.00		
1065	-2284	haphcv	GAIGIA	Gaines	09/01/2022	09/2022	EFT	P-3820	hcv	-2,050.00		
1064	-2285	haphcv	fulfan	Fan Fuller	09/01/2022	09/2022	EFT	P-3026	hcv-vash	-1,526.00		
1063	-2286	haphcv	F LDAR	Fuller	09/01/2022	09/2022	EFT	P-3801	hcv	-2,101.00		
1062	-2287	haphcv	FRRINV	FRR Investments LLC	09/01/2022	09/2022	EFT	P-3338	hcv	-2,760.00		
1061	-2288	haphcv	FRARE	Frazier	09/01/2022	09/2022	EFT		hcv	-3,858.00		
1060	-2289	haphcv	framo	Monica Fraga	09/01/2022	09/2022	EFT	P-2965	hcv	-1,866.00		
1059	-2290	haphcv	foxcre	Fox Creek Apartments	09/01/2022	09/2022	EFT			-29,835.00		
1058	-2291	haphcv	FLOALE	Alexander Flowers	09/01/2022	09/2022	EFT	P-3843	hcv	-1,395.00		
1057	-2292	haphcv	fletoc	Brewster Fleeton	09/01/2022	09/2022	EFT	P-3105	hcv	-1,460.00		
1056	-2293	haphcv	FIGHER	Figueroa	09/01/2022	09/2022	EFT	P-3148	hcv	-1,589.00		
1055	-2294	haphcv	FIE OS	oseph Field	09/01/2022	09/2022	EFT	P-3187	hcv	-1,137.00		
1054	-2295	haphcv	FIEBAR	Barbara . Fierner	09/01/2022	09/2022	EFT	P-3624	hcv	-1,875.00		
1053	-2296	haphcv	fenjin	Mao	09/01/2022	09/2022	EFT	P-3319	hcv	-3,110.00		
1052	-2297	haphcv	fanxia	Li	09/01/2022	09/2022	EFT	P-3052	hcv	-2,794.00		
1051	-2298	haphcv	fanjia	ianxin Fang	09/01/2022	09/2022	EFT		hcv	-5,300.00		
1050	-2299	haphcv	ES GER	Gerardo M. Esquivel	09/01/2022	09/2022	EFT		hcv	-1,822.00		
1049	-2300	haphcv	ESP OH	Espinoza	09/01/2022	09/2022	EFT	P-3129	hcv	-1,540.00		
1048	-2301	haphcv	espalm	Alma B Espiritu	09/01/2022	09/2022	EFT	P-3865	hcv	-2,200.00		
1047	-2302	haphcv	ENGLED	Doris Engle Family Ltd Partnership	09/01/2022	09/2022	EFT	P-3956	hcv	-1,337.00		
1046	-2303	haphcv	eastle	Mercy Housing California XXXVIII	09/01/2022	09/2022	EFT			-3,236.00		
1045	-2304	haphcv	D OLIN	Linda Duong	09/01/2022	09/2022	EFT	P-2974	hcv	-1,345.00		
1044	-2305	haphcv	duntyr	Duncan	09/01/2022	09/2022	EFT	P-3403	hcv-home	-1,417.00		
1043	-2306	haphcv	Dunest	Dunlap	09/01/2022	09/2022	EFT	P-2875	hcv	-1,026.00		
1042	-2307	haphcv	doanna	Do	09/01/2022	09/2022	EFT		hcv	-4,872.00		
1041	-2308	haphcv	doabri	Doan	09/01/2022	09/2022	EFT		hcv	-2,895.00		
1040	-2309	haphcv	DELLAT	David De La Torre	09/01/2022	09/2022	EFT	P-3424	hcv	-1,969.00		
1039	-2310	haphcv	DELCHA	Charles Dellamore	09/01/2022	09/2022	EFT	P-3483	hcv	-1,666.00		
1038	-2311	haphcv	DEAWAY	Dea	09/01/2022	09/2022	EFT	P-3920	hcv	-2,714.00		
1037	-2312	haphcv	DAY AG	agdeep or Shashi Dayal	09/01/2022	09/2022	EFT		hcv	-3,685.00		
1036	-2313	haphcv	DAVROS	Davis	09/01/2022	09/2022	EFT	P-3499	hcv	-1,477.00		
1035	-2314	haphcv	davpau	Paulette Davis	09/01/2022	09/2022	EFT	P-2895	hcv	-1,138.00		
1034	-2315	haphcv	DAV EV	evin Davidson	09/01/2022	09/2022	EFT	P-3180	hcv	-1,629.00		
1033	-2316	haphcv	DAV ES	Davis	09/01/2022	09/2022	EFT	P-2975	hcv	-973.00		
1032	-2317	haphcv	DAVA D	Audrey Davis	09/01/2022	09/2022	EFT	P-3806	hcv	-1,348.00		
1031	-2318	haphcv	danfre	French Evans	09/01/2022	09/2022	EFT	P-3381	hcv	-1,628.00		
1030	-2319	haphcv	DAMTO	Dam uang To	09/01/2022	09/2022	EFT	P-3989	hcv	-2,704.00		
1029	-2320	haphcv	DAI S	Dailey	09/01/2022	09/2022	EFT	P-3098	hcv	-1,464.00		

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Period From 09/2022 to 09/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1028	-2321	haphcv	crospat	Patricia Crosby	09/01/2022	09/2022	EFT	P-3106	hcv	-1,950.00		
1027	-2322	haphcv	CRE EA	eannette D. Crespo	09/01/2022	09/2022	EFT	P-2867	hcv	-2,442.00		
1026	-2323	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/01/2022	09/2022	EFT			-85,927.00		
1025	-2324	haphcv	cordav	Cortesi	09/01/2022	09/2022	EFT	P-3780	hcv	-1,583.00		
1024	-2325	haphcv	CORADO	Cortesi III	09/01/2022	09/2022	EFT	P-3959	hcv	-1,920.00		
1023	-2326	haphcv	CLA A	uan F. Clara	09/01/2022	09/2022	EFT	P-3391	hcv	-1,537.00		
1022	-2327	haphcv	CITHO	Pittsburg Housing Authority	09/01/2022	09/2022	EFT		hcv	-5,942.00		
1020	-2328	haphcv	chomic	Choi	09/01/2022	09/2022	EFT	P-3138	hcv	-2,500.00		
1019	-2329	haphcv	chochu	Choi	09/01/2022	09/2022	EFT		hcv	-4,021.00		
1018	-2330	haphcv	CHOADA	Ada Choi	09/01/2022	09/2022	EFT	P-2982	hcv	-2,750.00		
1017	-2331	haphcv	CHIHWA	Hwa-Yoong Chiu	09/01/2022	09/2022	EFT	P-2991	hcv	-2,380.00		
1016	-2332	haphcv	CHE IE	ienlin Chen	09/01/2022	09/2022	EFT		hcv	-4,117.00		
1015	-2333	haphcv	chehon	Chen	09/01/2022	09/2022	EFT		hcv	-4,994.00		
1014	-2334	haphcv	CHECHA	Chen	09/01/2022	09/2022	EFT	P-2850	hcv	-2,190.00		
1013	-2335	haphcv	chap.m	P. M. Chaobal	09/01/2022	09/2022	EFT	P-3311	hcv	-2,190.00		
1012	-2336	haphcv	CHACOR	Cora Ann Chambers	09/01/2022	09/2022	EFT	P-3664	hcv	-515.00		
1011	-2337	haphcv	CHACHR	Chambers	09/01/2022	09/2022	EFT	P-3836	hcv	-2,150.00		
1010	-2338	haphcv	CASTLE	Castle Creek Company, Inc.	09/01/2022	09/2022	EFT	P-3530	hcv	-1,528.00		
1009	-2339	haphcv	CARLLC	Carpino, LLC	09/01/2022	09/2022	EFT	P-2901	hcv	-1,985.00		
1008	-2340	haphcv	CARDON	Carson	09/01/2022	09/2022	EFT	P-3110	hcv	-2,025.00		
1007	-2341	haphcv	CARCLA	Clara Beatriz Cardenas	09/01/2022	09/2022	EFT			-2,922.00		
1006	-2342	haphcv	CANMOM	Cannon	09/01/2022	09/2022	EFT	P-3093	hcv	-3,283.00		
1005	-2343	haphcv	B R OE	oe Burns	09/01/2022	09/2022	EFT	P-3417	hcv-vash	-1,010.00		
1004	-2344	haphcv	B IH O	Huong T. Bui	09/01/2022	09/2022	EFT		hcv	-4,335.00		
1003	-2345	haphcv	BSAPPH	Blue Sapphire Homes, Inc.	09/01/2022	09/2022	EFT	P-3322	hcv	-2,541.00		
1002	-2346	haphcv	brojess	Platt	09/01/2022	09/2022	EFT	P-3507	hcv	-1,477.00		
1001	-2347	haphcv	BRO AN	Brown	09/01/2022	09/2022	EFT	P-3861	hcv-home	-2,125.00		
1000	-2348	haphcv	BRIMAR	Briggs	09/01/2022	09/2022	EFT	P-3654	hcv	-3,081.00		
999	-2349	haphcv	BRA EL	elly Ann Bradford	09/01/2022	09/2022	EFT	P-2951	hcv	-1,356.00		
998	-2350	haphcv	BOYVIC	Boyko	09/01/2022	09/2022	EFT	P-3639	hcv	-2,044.00		
997	-2351	haphcv	boyros	Boyd	09/01/2022	09/2022	EFT	P-3612	hcv	-2,698.00		
996	-2352	haphcv	bor201	2018-2 IH Borrower LP	09/01/2022	09/2022	EFT	P-3135	hcv	-2,122.00		
995	-2353	haphcv	BOOSTE	Booras	09/01/2022	09/2022	EFT	P-3912	hcv	-2,875.00		
994	-2354	haphcv	BIC OS	Bachir	09/01/2022	09/2022	EFT	P-3957	hcv	-1,950.00		
993	-2355	haphcv	BHASWA	Pinakin Bhatt	09/01/2022	09/2022	EFT	P-2916	hcv	-2,548.00		
992	-2356	haphcv	bhasom	Som N Bhatia	09/01/2022	09/2022	EFT			-5,847.00		
991	-2357	haphcv	bhajim	Bhatia	09/01/2022	09/2022	EFT			-2,759.00		
990	-2358	haphcv	bhagin	Bhatia	09/01/2022	09/2022	EFT	P-3280	hcv	-2,784.00		
989	-2359	haphcv	BETHEL	Bethel Global Development LLC	09/01/2022	09/2022	EFT		hcv	-2,402.00		
988	-2360	haphcv	BERTEN	Berry r	09/01/2022	09/2022	EFT		hcv	-4,247.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
987	-2361	haphcv	benale	Benjamen	09/01/2022	09/2022	EFT	P-3162	hcv	-764.00		
986	-2362	haphcv	belmont	Belmont Apartments	09/01/2022	09/2022	EFT		hcv	-76,887.00		
985	-2363	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	09/01/2022	09/2022	EFT		hcv	-3,096.00		
984	-2364	haphcv	BEEHOL	Hawkins	09/01/2022	09/2022	EFT		hcv	-6,484.00		
983	-2365	haphcv	BECCHR	Becerra	09/01/2022	09/2022	EFT	P-3161	hcv	-1,158.00		
982	-2366	haphcv	bayman	Baywood Property Management, Inc.	09/01/2022	09/2022	EFT	P-2910	hcv	-1,792.00		
981	-2367	haphcv	BA OH	ohn Charles Bautista	09/01/2022	09/2022	EFT	P-3622	hcv	-1,965.00		
980	-2368	haphcv	barsco	Barbour	09/01/2022	09/2022	EFT	P-3090	hcv	-2,554.00		
979	-2369	haphcv	BAR EN	Bartlett	09/01/2022	09/2022	EFT			-3,001.00		
978	-2370	haphcv	BARCAR	Carlos G. Barraza	09/01/2022	09/2022	EFT	P-3524	hcv	-804.00		
977	-2371	haphcv	BAN A	Mel L. Banagan	09/01/2022	09/2022	EFT	P-3341	hcv	-1,950.00		
976	-2372	haphcv	bahshr	Ba-Harani	09/01/2022	09/2022	EFT	P-3687	hcv	-2,199.00		
975	-2373	haphcv	AREMAR	Bailey	09/01/2022	09/2022	EFT	P-3942	hcv	-2,001.00		
974	-2374	haphcv	aptsto	Stoneman Apartments	09/01/2022	09/2022	EFT		hcv	-39,193.00		
973	-2375	haphcv	ANIEBA	Ebadi	09/01/2022	09/2022	EFT	P-3954	hcv	-2,510.00		
972	-2376	haphcv	ANDSHA	Shawn Anderson	09/01/2022	09/2022	EFT	P-3144	hcv	-1,501.00		
970	-2377	haphcv	AMAFEL	Amarante	09/01/2022	09/2022	EFT	P-3467	hcv-vash	-1,500.00		
969	-2378	haphcv	ALVDAL	Dale Alvarez	09/01/2022	09/2022	EFT	P-3454	hcv	-1,675.00		
968	-2379	haphcv	ALE AN	Alexander	09/01/2022	09/2022	EFT	P-3086	hcv	-710.00		
967	-2380	haphcv	ALEDEM	Demetrius Alexander	09/01/2022	09/2022	EFT	P-3306	hcv	-1,964.00		
966	-2381	haphcv	AG ROSA	Aguirre	09/01/2022	09/2022	EFT	P-2963	hcv	-2,021.00		
965	-2382	haphcv	AG ROS	Aguilar	09/01/2022	09/2022	EFT	P-3141	hcv	-1,250.00		
964	-2383	haphcv	AGRAMI	Agrawal	09/01/2022	09/2022	EFT	P-3621	hcv	-1,461.00		
963	-2384	haphcv	ADDLEO	Addison	09/01/2022	09/2022	EFT	P-3107	hcv	-1,812.00		
962	-2385	haphcv	abjent	AB Enterprises, Inc. dba Blue Line Property Mgmt	09/01/2022	09/2022	EFT		hcv	-16,137.00		
961	-2386	haphcv	ABDMEE	Abdiani	09/01/2022	09/2022	EFT	P-3968	hcv	-848.00		
960	-2387	haphcv	9thst	9th Street Associates, LP	09/01/2022	09/2022	EFT		hcv	-4,789.00		
1404	-2388	haphcv	9thst	9th Street Associates, LP	09/01/2022	09/2022	EFT		hcv	4,789.00		
1405	-2389	haphcv	ABDMEE	Abdiani	09/01/2022	09/2022	EFT	P-3968	hcv	848.00		
1406	-2390	haphcv	abjent	AB Enterprises, Inc. dba Blue Line Property Mgmt	09/01/2022	09/2022	EFT		hcv	16,137.00		
1407	-2391	haphcv	ADDLEO	Addison	09/01/2022	09/2022	EFT	P-3107	hcv	1,812.00		
1408	-2392	haphcv	AGRAMI	Agrawal	09/01/2022	09/2022	EFT	P-3621	hcv	1,461.00		
1409	-2393	haphcv	AG ROS	Aguilar	09/01/2022	09/2022	EFT	P-3141	hcv	1,250.00		
1410	-2394	haphcv	AG ROSA	Aguirre	09/01/2022	09/2022	EFT	P-2963	hcv	2,021.00		
1411	-2395	haphcv	ALEDEM	Demetrius Alexander	09/01/2022	09/2022	EFT	P-3306	hcv	1,964.00		
1412	-2396	haphcv	ALE AN	Alexander	09/01/2022	09/2022	EFT	P-3086	hcv	710.00		
1413	-2397	haphcv	ALVDAL	Dale Alvarez	09/01/2022	09/2022	EFT	P-3454	hcv	1,675.00		
1414	-2398	haphcv	AMAFEL	Amarante	09/01/2022	09/2022	EFT	P-3467	hcv-vash	1,500.00		
1415	-2399	haphcv	ANDSHA	Shawn Anderson	09/01/2022	09/2022	EFT	P-3144	hcv	1,501.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1416	-2400	haphcv	ANIEBA	Ebadi	09/01/2022	09/2022	EFT	P-3954	hcv	2,510.00		
1417	-2401	haphcv	aptsto	Stoneman Apartments	09/01/2022	09/2022	EFT		hcv	39,193.00		
1418	-2402	haphcv	AREMAR	Bailey	09/01/2022	09/2022	EFT	P-3942	hcv	2,001.00		
1419	-2403	haphcv	bahshr	Ba-Harani	09/01/2022	09/2022	EFT	P-3687	hcv	2,199.00		
1420	-2404	haphcv	BAN A	Mel L. Banagan	09/01/2022	09/2022	EFT	P-3341	hcv	1,950.00		
1421	-2405	haphcv	BARCAR	Carlos G. Barraza	09/01/2022	09/2022	EFT	P-3524	hcv	804.00		
1422	-2406	haphcv	BAR EN	Bartlett	09/01/2022	09/2022	EFT			3,001.00		
1423	-2407	haphcv	barsco	Barbour	09/01/2022	09/2022	EFT	P-3090	hcv	2,554.00		
1424	-2408	haphcv	BA OH	ohn Charles Bautista	09/01/2022	09/2022	EFT	P-3622	hcv	1,965.00		
1425	-2409	haphcv	bayman	Baywood Property Management, Inc.	09/01/2022	09/2022	EFT	P-2910	hcv	1,792.00		
1426	-2410	haphcv	BECCHR	Becerra	09/01/2022	09/2022	EFT	P-3161	hcv	1,158.00		
1427	-2411	haphcv	BEEHOL	Hawkins	09/01/2022	09/2022	EFT		hcv	6,484.00		
1428	-2412	haphcv	bellcha	Charles Bell and Camino ohnson-Bell	09/01/2022	09/2022	EFT		hcv	3,096.00		
1429	-2413	haphcv	belmont	Belmont Apartments	09/01/2022	09/2022	EFT		hcv	76,887.00		
1430	-2414	haphcv	benale	Benjamen	09/01/2022	09/2022	EFT	P-3162	hcv	764.00		
1431	-2415	haphcv	BERTEN	Berry r	09/01/2022	09/2022	EFT		hcv	4,247.00		
1432	-2416	haphcv	BETHEL	Bethel Global Development LLC	09/01/2022	09/2022	EFT		hcv	2,402.00		
1433	-2417	haphcv	bhagin	Bhatia	09/01/2022	09/2022	EFT	P-3280	hcv	2,784.00		
1434	-2418	haphcv	bhajim	Bhatia	09/01/2022	09/2022	EFT			2,759.00		
1435	-2419	haphcv	bhasom	Som N Bhatia	09/01/2022	09/2022	EFT			5,847.00		
1436	-2420	haphcv	BHASWA	Pinakin Bhatt	09/01/2022	09/2022	EFT	P-2916	hcv	2,548.00		
1437	-2421	haphcv	BIC OS	Bachir	09/01/2022	09/2022	EFT	P-3957	hcv	1,950.00		
1438	-2422	haphcv	BOOSTE	Booras	09/01/2022	09/2022	EFT	P-3912	hcv	2,875.00		
1439	-2423	haphcv	bor201	2018-2 IH Borrower LP	09/01/2022	09/2022	EFT	P-3135	hcv	2,122.00		
1440	-2424	haphcv	boyros	Boyd	09/01/2022	09/2022	EFT	P-3612	hcv	2,698.00		
1441	-2425	haphcv	BOYVIC	Boyko	09/01/2022	09/2022	EFT	P-3639	hcv	2,044.00		
1442	-2426	haphcv	BRA EL	elly Ann Bradford	09/01/2022	09/2022	EFT	P-2951	hcv	1,356.00		
1443	-2427	haphcv	BRIMAR	Briggs	09/01/2022	09/2022	EFT	P-3654	hcv	3,081.00		
1444	-2428	haphcv	BRO AN	Brown	09/01/2022	09/2022	EFT	P-3861	hcv-home	2,125.00		
1445	-2429	haphcv	brojess	Platt	09/01/2022	09/2022	EFT	P-3507	hcv	1,477.00		
1446	-2430	haphcv	BSAPPH	Blue Sapphire Homes, Inc.	09/01/2022	09/2022	EFT	P-3322	hcv	2,541.00		
1447	-2431	haphcv	B IH O	Huong T. Bui	09/01/2022	09/2022	EFT		hcv	4,335.00		
1448	-2432	haphcv	B R OE	oe Burns	09/01/2022	09/2022	EFT	P-3417	hcv-vash	1,010.00		
1449	-2433	haphcv	CANMOM	Cannon	09/01/2022	09/2022	EFT	P-3093	hcv	3,283.00		
1450	-2434	haphcv	CARCLA	Clara Beatriz Cardenas	09/01/2022	09/2022	EFT			2,922.00		
1451	-2435	haphcv	CARDON	Carson	09/01/2022	09/2022	EFT	P-3110	hcv	2,025.00		
1452	-2436	haphcv	CARLLC	Carpino, LLC	09/01/2022	09/2022	EFT	P-2901	hcv	1,985.00		
1453	-2437	haphcv	CASTLE	Castle Creek Company, Inc.	09/01/2022	09/2022	EFT	P-3530	hcv	1,528.00		
1454	-2438	haphcv	CHACHR	Chambers	09/01/2022	09/2022	EFT	P-3836	hcv	2,150.00		
1455	-2439	haphcv	CHACOR	Cora Ann Chambers	09/01/2022	09/2022	EFT	P-3664	hcv	515.00		
1456	-2440	haphcv	chap.m	P. M. Chaobal	09/01/2022	09/2022	EFT	P-3311	hcv	2,190.00		

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Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1457	-2441	haphcv	CHECHA	Chen	09/01/2022	09/2022	EFT	P-2850	hcv	2,190.00		
1458	-2442	haphcv	chehon	Chen	09/01/2022	09/2022	EFT		hcv	4,994.00		
1459	-2443	haphcv	CHE IE	ienlin Chen	09/01/2022	09/2022	EFT		hcv	4,117.00		
1460	-2444	haphcv	CHIHWA	Hwa-Yoong Chiu	09/01/2022	09/2022	EFT	P-2991	hcv	2,380.00		
1461	-2445	haphcv	CHOADA	Ada Choi	09/01/2022	09/2022	EFT	P-2982	hcv	2,750.00		
1462	-2446	haphcv	chochu	Choi	09/01/2022	09/2022	EFT		hcv	4,021.00		
1463	-2447	haphcv	chomic	Choi	09/01/2022	09/2022	EFT	P-3138	hcv	2,500.00		
1464	-2448	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	P-3197	hcv	1,945.00		
1465	-2449	haphcv	CITHO	Pittsburg Housing Authority	09/01/2022	09/2022	EFT		hcv	5,942.00		
1466	-2450	haphcv	CLA A	uan F. Clara	09/01/2022	09/2022	EFT	P-3391	hcv	1,537.00		
1467	-2451	haphcv	CORADO	Cortesi III	09/01/2022	09/2022	EFT	P-3959	hcv	1,920.00		
1468	-2452	haphcv	cordav	Cortesi	09/01/2022	09/2022	EFT	P-3780	hcv	1,583.00		
1469	-2453	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/01/2022	09/2022	EFT			85,927.00		
1470	-2454	haphcv	CRE EA	eannette D. Crespo	09/01/2022	09/2022	EFT	P-2867	hcv	2,442.00		
1471	-2455	haphcv	crospat	Patricia Crosby	09/01/2022	09/2022	EFT	P-3106	hcv	1,950.00		
1472	-2456	haphcv	DAI S	Dailey	09/01/2022	09/2022	EFT	P-3098	hcv	1,464.00		
1473	-2457	haphcv	DAMTO	Dam uang To	09/01/2022	09/2022	EFT	P-3989	hcv	2,704.00		
1474	-2458	haphcv	danfre	French Evans	09/01/2022	09/2022	EFT	P-3381	hcv	1,628.00		
1475	-2459	haphcv	DAVA D	Audrey Davis	09/01/2022	09/2022	EFT	P-3806	hcv	1,348.00		
1476	-2460	haphcv	DAV ES	Davis	09/01/2022	09/2022	EFT	P-2975	hcv	973.00		
1477	-2461	haphcv	DAV EV	evin Davidson	09/01/2022	09/2022	EFT	P-3180	hcv	1,629.00		
1478	-2462	haphcv	davpau	Paulette Davis	09/01/2022	09/2022	EFT	P-2895	hcv	1,138.00		
1479	-2463	haphcv	DAVROS	Davis	09/01/2022	09/2022	EFT	P-3499	hcv	1,477.00		
1480	-2464	haphcv	DAY AG	agdeep or Shashi Dayal	09/01/2022	09/2022	EFT		hcv	3,685.00		
1481	-2465	haphcv	DEAWAY	Dea	09/01/2022	09/2022	EFT	P-3920	hcv	2,714.00		
1482	-2466	haphcv	DELCHA	Charles Dellamore	09/01/2022	09/2022	EFT	P-3483	hcv	1,666.00		
1483	-2467	haphcv	DELLAT	David De La Torre	09/01/2022	09/2022	EFT	P-3424	hcv	1,969.00		
1484	-2468	haphcv	doabri	Doan	09/01/2022	09/2022	EFT		hcv	2,895.00		
1485	-2469	haphcv	doanna	Do	09/01/2022	09/2022	EFT		hcv	4,872.00		
1486	-2470	haphcv	Dunest	Dunlap	09/01/2022	09/2022	EFT	P-2875	hcv	1,026.00		
1487	-2471	haphcv	duntyr	Duncan	09/01/2022	09/2022	EFT	P-3403	hcv-home	1,417.00		
1488	-2472	haphcv	D OLIN	Linda Duong	09/01/2022	09/2022	EFT	P-2974	hcv	1,345.00		
1489	-2473	haphcv	eastle	Mercy Housing California XXXVIII	09/01/2022	09/2022	EFT			3,236.00		
1490	-2474	haphcv	ENGLED	Doris Engle Family Ltd Partnership	09/01/2022	09/2022	EFT	P-3956	hcv	1,337.00		
1491	-2475	haphcv	espalm	Alma B Espiritu	09/01/2022	09/2022	EFT	P-3865	hcv	2,200.00		
1492	-2476	haphcv	ESP OH	Espinoza	09/01/2022	09/2022	EFT	P-3129	hcv	1,540.00		
1493	-2477	haphcv	ES GER	Gerardo M. Esquivel	09/01/2022	09/2022	EFT		hcv	1,822.00		
1494	-2478	haphcv	fanjia	ianxin Fang	09/01/2022	09/2022	EFT		hcv	5,300.00		
1495	-2479	haphcv	fanxia	Li	09/01/2022	09/2022	EFT	P-3052	hcv	2,794.00		
1496	-2480	haphcv	fenjin	Mao	09/01/2022	09/2022	EFT	P-3319	hcv	3,110.00		

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1497	-2481	haphcv	FIEBAR	Barbara . Fierner	09/01/2022	09/2022	EFT	P-3624	hcv	1,875.00		
1498	-2482	haphcv	FIE OS	oseph Field	09/01/2022	09/2022	EFT	P-3187	hcv	1,137.00		
1499	-2483	haphcv	FIGHER	Figueroa	09/01/2022	09/2022	EFT	P-3148	hcv	1,589.00		
1500	-2484	haphcv	fletoc	Brewster Fleeton	09/01/2022	09/2022	EFT	P-3105	hcv	1,460.00		
1501	-2485	haphcv	FLOALE	Alexander Flowers	09/01/2022	09/2022	EFT	P-3843	hcv	1,395.00		
1502	-2486	haphcv	foxcre	Fox Creek Apartments	09/01/2022	09/2022	EFT			29,835.00		
1503	-2487	haphcv	framo	Monica Fraga	09/01/2022	09/2022	EFT	P-2965	hcv	1,866.00		
1504	-2488	haphcv	FRARE	Frazier	09/01/2022	09/2022	EFT		hcv	3,858.00		
1505	-2489	haphcv	FRRINV	FRR Investments LLC	09/01/2022	09/2022	EFT	P-3338	hcv	2,760.00		
1506	-2490	haphcv	F LDAR	Fuller	09/01/2022	09/2022	EFT	P-3801	hcv	2,101.00		
1507	-2491	haphcv	fulfan	Fan Fuller	09/01/2022	09/2022	EFT	P-3026	hcv-vash	1,526.00		
1508	-2492	haphcv	GAIGIA	Gaines	09/01/2022	09/2022	EFT	P-3820	hcv	2,050.00		
1509	-2493	haphcv	gaokel	Gao	09/01/2022	09/2022	EFT		hcv	3,902.00		
1510	-2494	haphcv	GARADR	Adraine Gardner	09/01/2022	09/2022	EFT	P-3509	hcv	1,096.00		
1511	-2495	haphcv	GARANT	Antoinette L Garcia	09/01/2022	09/2022	EFT	P-3009	hcv	1,167.00		
1512	-2496	haphcv	gardav	David Gardner	09/01/2022	09/2022	EFT		hcv	3,846.00		
1513	-2497	haphcv	garrup	Rupesh Garg	09/01/2022	09/2022	EFT	P-2860	hcv	2,808.00		
1514	-2498	haphcv	GARWIL	William H. Gardiner	09/01/2022	09/2022	EFT	P-3928	hcv	1,258.00		
1515	-2499	haphcv	gateway	Gateway Apartments	09/01/2022	09/2022	EFT			9,622.00		
1516	-2500	haphcv	GHAPAR	Ghaboulidashti	09/01/2022	09/2022	EFT	P-3845	hcv-home	1,094.00		
1517	-2501	haphcv	GHOVER	Vernon or Eva Gholson	09/01/2022	09/2022	EFT		hcv	2,634.00		
1518	-2502	haphcv	GIL AC	acqueline Gill	09/01/2022	09/2022	EFT	P-2981	hcv	1,534.00		
1519	-2503	haphcv	gilmah	Gill	09/01/2022	09/2022	EFT		hcv	5,260.00		
1520	-2504	haphcv	GILS	Gill	09/01/2022	09/2022	EFT	P-2918	hcv	1,548.00		
1521	-2505	haphcv	GOLDAS	Gold A and S LLC	09/01/2022	09/2022	EFT	P-3915	hcv	2,318.00		
1522	-2506	haphcv	GOMHAD	Gomez	09/01/2022	09/2022	EFT	P-3188	hcv-home	846.00		
1523	-2507	haphcv	GON ES	esse Gonzaga	09/01/2022	09/2022	EFT		hcv	1,887.00		
1524	-2508	haphcv	GONMAR	Gonsalves	09/01/2022	09/2022	EFT	P-2978	hcv	2,336.00		
1525	-2509	haphcv	gontin	Gong	09/01/2022	09/2022	EFT	P-3501	hcv	2,139.00		
1526	-2510	haphcv	GREFRA	Greene	09/01/2022	09/2022	EFT	P-3515	hcv	2,978.00		
1527	-2511	haphcv	GREROD	Green	09/01/2022	09/2022	EFT	P-3860	hcv-home	962.00		
1528	-2512	haphcv	GRIPAT	Patricia Gridley	09/01/2022	09/2022	EFT		hcv	731.25		
1529	-2513	haphcv	GROITA	Italo Grossi	09/01/2022	09/2022	EFT	P-3529	hcv	1,588.00		
1530	-2514	haphcv	G AAMP	Guardado	09/01/2022	09/2022	EFT	P-3866	hcv	1,413.00		
1531	-2515	haphcv	G A RY	Guan	09/01/2022	09/2022	EFT		hcv	4,826.00		
1532	-2516	haphcv	G NBOB	Hang	09/01/2022	09/2022	EFT	P-2856	hcv	1,359.00		
1533	-2517	haphcv	gupabe	Abhilash Gupta	09/01/2022	09/2022	EFT			5,237.00		
1534	-2518	haphcv	H01WAT	Watson, Sr.	09/01/2022	09/2022	EFT	P-3503	hcv-home	921.00		
1535	-2519	haphcv	hafash	Asharfun Nisha Hafiz	09/01/2022	09/2022	EFT	P-3965	hcv	1,667.00		
1536	-2520	haphcv	hagjef	effrey Paul Hagler	09/01/2022	09/2022	EFT		hcv	5,157.00		
1537	-2521	haphcv	HALDEL	Hall	09/01/2022	09/2022	EFT	P-3492	hcv	1,780.00		

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1538	-2522	haphcv	HARCLA	Hardison	09/01/2022	09/2022	EFT	P-3839	hcv	2,165.00		
1539	-2523	haphcv	HARDAV	Hart	09/01/2022	09/2022	EFT	P-2993	hcv	1,938.00		
1540	-2524	haphcv	HARLAW	Harrold	09/01/2022	09/2022	EFT		hcv	7,273.00		
1541	-2525	haphcv	HARPRO	Hartz Property Management	09/01/2022	09/2022	EFT	P-3373	hcv	1,720.00		
1542	-2526	haphcv	hawdel	Delta Hawaii Garden Apartments LLC	09/01/2022	09/2022	EFT		hcv	9,009.00		
1543	-2527	haphcv	hechuan	He	09/01/2022	09/2022	EFT	P-3971	hcv	1,917.00		
1544	-2528	haphcv	hejiyu	He	09/01/2022	09/2022	EFT	P-3198	hcv	1,836.00		
1545	-2529	haphcv	hendav	David T. Hennigan	09/01/2022	09/2022	EFT			18,208.00		
1546	-2530	haphcv	hensil	Henderson	09/01/2022	09/2022	EFT		hcv	2,307.00		
1547	-2531	haphcv	HERELI	Herrera	09/01/2022	09/2022	EFT	P-3560	hcv	650.00		
1548	-2532	haphcv	HILMAR	Hill	09/01/2022	09/2022	EFT	P-3152	hcv	278.00		
1549	-2533	haphcv	HIRCHA	Hira	09/01/2022	09/2022	EFT	P-3080	hcv	1,828.00		
1550	-2534	haphcv	HOACAR	Carl E. Hoard II	09/01/2022	09/2022	EFT	P-3799	hcv	2,681.00		
1551	-2535	haphcv	HOAHAV	Hoag	09/01/2022	09/2022	EFT	P-3875	hcv	2,560.00		
1552	-2536	haphcv	HOALBE	Albert Ho	09/01/2022	09/2022	EFT	P-2935	hcv	1,740.00		
1553	-2537	haphcv	HOF OY	Hoffman	09/01/2022	09/2022	EFT	P-3679	hcv	1,284.00		
1554	-2538	haphcv	HOLRON	Ronald G. Holmes	09/01/2022	09/2022	EFT	P-3972	hcv	1,022.00		
1555	-2539	haphcv	holsrh	SRH Holdings LLC	09/01/2022	09/2022	EFT	P-3855	hcv	3,342.00		
1556	-2540	haphcv	hominv	Invitation Homes	09/01/2022	09/2022	EFT	P-3891	hcv	2,585.00		
1557	-2541	haphcv	HOTONY	Tony Ho	09/01/2022	09/2022	EFT	P-3196	hcv	1,142.00		
1558	-2542	haphcv	H AFAN	Fanny ao Huang	09/01/2022	09/2022	EFT	P-3159	hcv	1,633.00		
1559	-2543	haphcv	H AMIN	Ming in Huang	09/01/2022	09/2022	EFT	P-3614	hcv	2,337.00		
1560	-2544	haphcv	huatao	Huang	09/01/2022	09/2022	EFT		hcv	7,496.00		
1561	-2545	haphcv	H AXIA	Huang	09/01/2022	09/2022	EFT	P-3980	hcv	2,575.00		
1562	-2546	haphcv	H NANC	Nancy Xiu hen Hu	09/01/2022	09/2022	EFT	P-3324	hcv	2,016.00		
1563	-2547	haphcv	huythi	Huynh	09/01/2022	09/2022	EFT	P-3109	hcv	2,400.00		
1564	-2548	haphcv	IGREEN	IGreen House Inc. ane S Schmidt	09/01/2022	09/2022	EFT	P-3800	hcv	603.00		
1565	-2549	haphcv	ihprw	IH5 Property West LP	09/01/2022	09/2022	EFT	P-3012	hcv	3,194.00		
1566	-2550	haphcv	INV EY	eyee Investment LLC	09/01/2022	09/2022	EFT	P-3932	hcv	1,233.00		
1567	-2551	haphcv	IRVLAS	Irving	09/01/2022	09/2022	EFT	P-2967	hcv	1,720.00		
1568	-2552	haphcv	isomic	Michael or ay Isola	09/01/2022	09/2022	EFT		hcv	2,374.00		
1569	-2553	haphcv	ABLOV	Love	09/01/2022	09/2022	EFT	P-2871	hcv	1,827.00		
1570	-2554	haphcv	ACBRA	ackson	09/01/2022	09/2022	EFT	P-3777	hcv	2,083.00		
1571	-2555	haphcv	ACCON	ackson	09/01/2022	09/2022	EFT	P-3204	hcv	2,868.00		
1572	-2556	haphcv	AIDEE	ain	09/01/2022	09/2022	EFT		hcv	7,587.00		
1573	-2557	haphcv	AISAM	ain	09/01/2022	09/2022	EFT		hcv	8,481.00		
1574	-2558	haphcv	AIVIS	ain	09/01/2022	09/2022	EFT	P-3775	hcv	2,100.00		
1575	-2559	haphcv	jasnle	Le	09/01/2022	09/2022	EFT	P-2968	hcv	2,770.00		
1576	-2560	haphcv	IA HA	hang	09/01/2022	09/2022	EFT		hcv	1,570.00		
1577	-2561	haphcv	OH RY	ohnson	09/01/2022	09/2022	EFT	P-2847	hcv	1,963.00		
1578	-2562	haphcv	OHRON	ohnson	09/01/2022	09/2022	EFT	P-3458	hcv	1,501.00		

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1579	-2563	haphcv	ONSHA	ones	09/01/2022	09/2022	EFT		hcv	3,395.00		
1580	-2564	haphcv	O MOS	ouya	09/01/2022	09/2022	EFT	P-3450	hcv	1,064.00		
1581	-2565	haphcv	junhou	Hou	09/01/2022	09/2022	EFT	P-3924	hcv	2,554.00		
1582	-2566	haphcv	ALOMP	alra	09/01/2022	09/2022	EFT	P-3136	hcv	3,698.00		
1583	-2567	haphcv	kanwei	ang	09/01/2022	09/2022	EFT		hcv	4,171.00		
1584	-2568	haphcv	A NAV	aur	09/01/2022	09/2022	EFT	P-3786	hcv	2,497.00		
1585	-2569	haphcv	CPLLC	C Prime LLC	09/01/2022	09/2022	EFT	P-2834	hcv	1,535.00		
1586	-2570	haphcv	kemgro	. E. M. Group LLC	09/01/2022	09/2022	EFT	P-3520	hcv	1,811.00		
1587	-2571	haphcv	ESANT	Anthony eslinke	09/01/2022	09/2022	EFT		hcv	3,305.00		
1588	-2572	haphcv	EVMOF	Moffett	09/01/2022	09/2022	EFT	P-2866	hcv	2,053.00		
1589	-2573	haphcv	HAFAR	han	09/01/2022	09/2022	EFT	P-3157	hcv	1,405.00		
1590	-2574	haphcv	kirkkw	W irker Creek, LLC	09/01/2022	09/2022	EFT		hcv	2,972.00		
1591	-2575	haphcv	IT OH	itta	09/01/2022	09/2022	EFT	P-3485	hcv	2,760.00		
1592	-2576	haphcv	A IY	uang	09/01/2022	09/2022	EFT		hcv	6,902.00		
1593	-2577	haphcv	kuasim	uang	09/01/2022	09/2022	EFT	P-3559	hcv	1,161.00		
1594	-2578	haphcv	DI	dzislaw ujawa	09/01/2022	09/2022	EFT	P-3853	hcv	1,311.00		
1595	-2579	haphcv	kwadan	Daniel wan	09/01/2022	09/2022	EFT		hcv	3,656.00		
1596	-2580	haphcv	LAFTHO	LaFleur	09/01/2022	09/2022	EFT	P-2976	hcv	1,594.00		
1597	-2581	haphcv	LAMCHO	Lam	09/01/2022	09/2022	EFT	P-3366	hcv	1,184.00		
1598	-2582	haphcv	LAMSHI	Manly-Lampkin	09/01/2022	09/2022	EFT	P-3960	hcv	1,043.00		
1599	-2583	haphcv	LARPET	Peter C. Larsen	09/01/2022	09/2022	EFT	P-2977	hcv	1,522.00		
1600	-2584	haphcv	LAS EV	Lassair	09/01/2022	09/2022	EFT	P-3487	hcv-home	405.00		
1601	-2585	haphcv	LATLLC	Latif, LLC	09/01/2022	09/2022	EFT		hcv	4,633.00		
1602	-2586	haphcv	lcstar	LCSTAR, LLC	09/01/2022	09/2022	EFT		hcv	3,234.00		
1603	-2587	haphcv	ledaot	Le	09/01/2022	09/2022	EFT		hcv	2,034.00		
1604	-2588	haphcv	LEE AC	ack Wai Lee	09/01/2022	09/2022	EFT	P-3154	hcv	1,355.00		
1605	-2589	haphcv	leesiu	Siu Wan Windytiti Lee	09/01/2022	09/2022	EFT	P-2882	hcv	2,051.00		
1606	-2590	haphcv	LEESTE	Steven Lee	09/01/2022	09/2022	EFT	P-3805	hcv	2,126.00		
1607	-2591	haphcv	LEEY H	Yuhjen uang Lee	09/01/2022	09/2022	EFT	P-3611	hcv	1,932.00		
1608	-2592	haphcv	LEH YN	Le	09/01/2022	09/2022	EFT	P-3565	hcv	2,461.00		
1609	-2593	haphcv	LELENA	Le	09/01/2022	09/2022	EFT	P-3789	hcv	864.00		
1610	-2594	haphcv	LER OS	oseph C. Lerma	09/01/2022	09/2022	EFT	P-3804	hcv	100.00		
1611	-2595	haphcv	LERYIP	Yiping I. and Frederic Leroudier	09/01/2022	09/2022	EFT			4,017.00		
1612	-2596	haphcv	leujoh	ohn M. Leung	09/01/2022	09/2022	EFT		hcv	4,634.00		
1613	-2597	haphcv	LE MAY	May Leung or Rodney Chen	09/01/2022	09/2022	EFT		hcv	2,785.00		
1614	-2598	haphcv	leupet	Peter Leung	09/01/2022	09/2022	EFT	P-2954	hcv	2,346.00		
1615	-2599	haphcv	lido	ames . Busby & Irvin Deutcher/DBA Crestview Apts	09/01/2022	09/2022	EFT		hcv	10,772.00		
1616	-2600	haphcv	LIFA I	Faqiang Li	09/01/2022	09/2022	EFT	P-3405	hcv	2,321.00		
1617	-2601	haphcv	LI IE	Li	09/01/2022	09/2022	EFT	P-3434	hcv	2,095.00		
1618	-2602	haphcv	LI INH	inhuan Li	09/01/2022	09/2022	EFT	P-2970	hcv	1,515.00		

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1619	-2603	haphcv	LI OSH	Li	09/01/2022	09/2022	EFT	P-3091	hcv	1,123.00		
1620	-2604	haphcv	LINTIM	Tim Lindstrom c/o AAA Property Management	09/01/2022	09/2022	EFT	P-3996	hcv	1,122.00		
1621	-2605	haphcv	LIVPA	Paul Livson	09/01/2022	09/2022	EFT	P-3697	hcv-vash	1,775.00		
1622	-2606	haphcv	LIWEIM	Li	09/01/2022	09/2022	EFT	P-2869	hcv	1,620.00		
1623	-2607	haphcv	LIYING	Ying Hong Li	09/01/2022	09/2022	EFT	P-3502	hcv	189.00		
1624	-2608	haphcv	LI BEL	hong Li	09/01/2022	09/2022	EFT	P-2876	hcv	1,513.00		
1625	-2609	haphcv	lonpau	Paul Long	09/01/2022	09/2022	EFT	P-3680	hcv	1,403.00		
1626	-2610	haphcv	losmed	Los Medanos Village Apartments	09/01/2022	09/2022	EFT		hcv	15,014.00		
1627	-2611	haphcv	LO TON	Tony or Yvonne Louie	09/01/2022	09/2022	EFT	P-2928	hcv	1,106.00		
1628	-2612	haphcv	LOYANT	Loyola	09/01/2022	09/2022	EFT	P-3743	hcv	547.00		
1629	-2613	haphcv	LO OS	ose Loza	09/01/2022	09/2022	EFT	P-2941	hcv	983.00		
1630	-2614	haphcv	L IAND	Lui	09/01/2022	09/2022	EFT		hcv	2,830.00		
1631	-2615	haphcv	luiwei	Wei Liu Guangxin Frank Liu	09/01/2022	09/2022	EFT	P-2837	hcv	1,446.00		
1632	-2616	haphcv	lumthe	Entrust Group-FBO T.Lum IRA acct 34892	09/01/2022	09/2022	EFT	P-3290	hcv	1,214.00		
1633	-2617	haphcv	L XIANG	Lu	09/01/2022	09/2022	EFT			8,406.00		
1634	-2618	haphcv	lychiv	Chi Vien Ly	09/01/2022	09/2022	EFT	P-2957	hcv	1,073.00		
1635	-2619	haphcv	macyol	McDonald	09/01/2022	09/2022	EFT	P-3852	hcv	2,102.00		
1636	-2620	haphcv	MADRA	Madra	09/01/2022	09/2022	EFT	P-3913	hcv	1,056.00		
1637	-2621	haphcv	mahrad	Radha Mahesram	09/01/2022	09/2022	EFT	P-3832	hcv	3,010.00		
1638	-2622	haphcv	MAHTAR	Tariq	09/01/2022	09/2022	EFT	P-3916	hcv	2,452.00		
1639	-2623	haphcv	majenn	Ma	09/01/2022	09/2022	EFT		hcv	3,873.00		
1640	-2624	haphcv	malrah	Malik	09/01/2022	09/2022	EFT	P-3173	hcv	3,735.00		
1641	-2625	haphcv	MAN EF	eff Mann	09/01/2022	09/2022	EFT		hcv	6,267.00		
1642	-2626	haphcv	MARGLE	Glenn Marshall	09/01/2022	09/2022	EFT	P-3282	hcv	2,469.00		
1643	-2627	haphcv	MARHAR	Harrison	09/01/2022	09/2022	EFT	P-2992	hcv-home	588.00		
1644	-2628	haphcv	MARTEA	Martinez	09/01/2022	09/2022	EFT	P-3562	hcv	2,746.00		
1645	-2629	haphcv	MASDEM	Mason	09/01/2022	09/2022	EFT	P-3363	hcv-home	2,545.00		
1646	-2630	haphcv	MATL I	Lui	09/01/2022	09/2022	EFT	P-3575	hcv	1,617.00		
1647	-2631	haphcv	MCCHEI	McCarthy	09/01/2022	09/2022	EFT	P-2947	hcv	1,943.00		
1648	-2632	haphcv	MCL AN	McLean	09/01/2022	09/2022	EFT		hcv	249.00		
1649	-2633	haphcv	MEADOW	Meadow Glen Apartments	09/01/2022	09/2022	EFT	P-3790	hcv	1,925.00		
1650	-2634	haphcv	MEITAT	Mei	09/01/2022	09/2022	EFT	P-3312	hcv	3,719.00		
1651	-2635	haphcv	menjin	inyu Meng	09/01/2022	09/2022	EFT	P-3486	hcv	1,939.00		
1652	-2636	haphcv	MENSAB	Sabine Menzel	09/01/2022	09/2022	EFT		hcv	5,211.00		
1653	-2637	haphcv	MER OH	ohnson	09/01/2022	09/2022	EFT	P-3781	hcv-home	748.00		
1654	-2638	haphcv	ME HEC	Hector Meza	09/01/2022	09/2022	EFT	P-4017	hcv	656.00		
1655	-2639	haphcv	MILAND	Miloslavich	09/01/2022	09/2022	EFT	P-3811	hcv	1,904.00		
1656	-2640	haphcv	MILHOM	Millennium Homes	09/01/2022	09/2022	EFT	P-3938	hcv	2,187.00		
1657	-2641	haphcv	MILMAR	Maryann Miller	09/01/2022	09/2022	EFT	P-3007	hcv	798.00		

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1658	-2642	haphcv	mircar	Miranda	09/01/2022	09/2022	EFT	P-3779	hcv-home	579.00		
1659	-2643	haphcv	MIRHAS	Hassan Mirabedi	09/01/2022	09/2022	EFT		hcv	10,118.00		
1660	-2644	haphcv	MITGWE	Gwendolyn Mitchell	09/01/2022	09/2022	EFT		hcv	4,210.00		
1661	-2645	haphcv	momrae	Raees	09/01/2022	09/2022	EFT	P-3831	hcv	1,703.00		
1662	-2646	haphcv	MONROD	Rodney Montgomery	09/01/2022	09/2022	EFT	P-3981	hcv	1,791.00		
1663	-2647	haphcv	MORERI	Morris	09/01/2022	09/2022	EFT	P-3175	hcv	1,312.00		
1664	-2648	haphcv	MOR OS	Diane Morin	09/01/2022	09/2022	EFT	P-3892	hcv	2,090.00		
1665	-2649	haphcv	MYNDMG	Brien Brothers, LLC C/O Mynd Management, IC.	09/01/2022	09/2022	EFT	P-3685	hcv	16.00		
1666	-2650	haphcv	NABEHS	Ehsan Nabkel	09/01/2022	09/2022	EFT	P-3195	hcv	3,083.00		
1667	-2651	haphcv	NARSHI	Shinder Paul Narabut	09/01/2022	09/2022	EFT		hcv	5,214.00		
1668	-2652	haphcv	ncasso	NC Associates, Inc.	09/01/2022	09/2022	EFT		hcv	16,499.00		
1669	-2653	haphcv	NELMIC	c/o ennifer Diaz	09/01/2022	09/2022	EFT	P-3872	hcv	3,189.00		
1670	-2654	haphcv	NESG Y	Guy Nesbeth	09/01/2022	09/2022	EFT	P-2936	hcv	1,760.00		
1671	-2655	haphcv	NGDOMI	Dominic Y Ng	09/01/2022	09/2022	EFT		hcv	1,701.00		
1672	-2656	haphcv	ngknow	Ng	09/01/2022	09/2022	EFT	P-3978	hcv	2,042.00		
1673	-2657	haphcv	NGPATR	Ng	09/01/2022	09/2022	EFT	P-2904	hcv	408.00		
1674	-2658	haphcv	nguhieu	Hieu Nguyen	09/01/2022	09/2022	EFT	P-2934	hcv	1,643.00		
1675	-2659	haphcv	NG H Y	Huy uang Nguyen	09/01/2022	09/2022	EFT	P-3675	hcv	2,103.00		
1676	-2660	haphcv	NG MAI	Nguyen	09/01/2022	09/2022	EFT	P-3184	hcv	1,951.00		
1677	-2661	haphcv	NG Y	uyen Nguyen	09/01/2022	09/2022	EFT	P-3856	hcv	1,900.00		
1678	-2662	haphcv	NG TIE	Nguyen	09/01/2022	09/2022	EFT	P-3448	hcv	296.00		
1679	-2663	haphcv	NICNIC	Nicholson	09/01/2022	09/2022	EFT	P-3561	hcv	2,357.00		
1680	-2664	haphcv	nierne	Ernest Nichols III	09/01/2022	09/2022	EFT		hcv	3,243.00		
1681	-2665	haphcv	NILPET	Niloufari	09/01/2022	09/2022	EFT		hcv	4,481.00		
1682	-2666	haphcv	norfin	Northstar Financial Group, LLC	09/01/2022	09/2022	EFT		hcv-vash	927.00		
1683	-2667	haphcv	NOR EV	evin Nord	09/01/2022	09/2022	EFT	P-2890	hcv	1,762.00		
1684	-2668	haphcv	NORRIC	Norte	09/01/2022	09/2022	EFT	P-2864	hcv	2,553.00		
1685	-2669	haphcv	NORSTA	North State Financial, Inc.	09/01/2022	09/2022	EFT	P-2938	hcv	810.00		
1686	-2670	haphcv	nwmgmt	New Way Management Services, Inc.	09/01/2022	09/2022	EFT		hcv	22,957.00		
1687	-2671	haphcv	OBRSHE	O'Brien	09/01/2022	09/2022	EFT	P-3677	hcv	823.00		
1688	-2672	haphcv	ODE EN	Odei	09/01/2022	09/2022	EFT	P-3840	hcv	1,497.00		
1689	-2673	haphcv	OEWDWI	Owens	09/01/2022	09/2022	EFT	P-3577	hcv-home	546.00		
1690	-2674	haphcv	OLEDIA	Oles	09/01/2022	09/2022	EFT	P-3500	hcv	1,540.00		
1691	-2675	haphcv	OMOESE	Esosa A. Omokaro	09/01/2022	09/2022	EFT	P-3123	hcv	1,578.00		
1692	-2676	haphcv	ORTSAN	Ortiz	09/01/2022	09/2022	EFT	P-3432	hcv	1,893.00		
1693	-2677	haphcv	OS CHI	Chinenye Osuagwu	09/01/2022	09/2022	EFT	P-3517	hcv	2,716.00		
1694	-2678	haphcv	ozemut	Mutlu Ozer	09/01/2022	09/2022	EFT	P-3752	hcv	2,180.00		
1695	-2679	haphcv	PACDIA	Diablo Pacific, Inc.	09/01/2022	09/2022	EFT	P-3189	hcv	3,525.00		
1696	-2680	haphcv	pacliv	Pacific Living, LLC	09/01/2022	09/2022	EFT		hcv	2,220.00		
1697	-2681	haphcv	PATBOS	Boss	09/01/2022	09/2022	EFT	P-3854	hcv	1,273.00		

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1698	□-2682	haphcv	PATHEM	Hemangini & Vijendra Patel	09/01/2022	09/2022	EFT	P-3333	hcv	2,945.00		
1699	□-2683	haphcv	PAT□O□	□okila Patel	09/01/2022	09/2022	EFT	P-2964	hcv	422.00		
1700	□-2684	haphcv	PATLLC	Patiala, LLC	09/01/2022	09/2022	EFT	□	hcv	2,214.00		
1701	□-2685	haphcv	patvir	Virendra M. Patel	09/01/2022	09/2022	EFT	P-3169	hcv	558.00		
1702	□-2686	haphcv	paujas	□ason Pauline	09/01/2022	09/2022	EFT	P-3493	hcv	1,910.00		
1703	□-2687	haphcv	PEALOY	Peacock	09/01/2022	09/2022	EFT	P-3551	hcv	1,435.00		
1704	□-2688	haphcv	PEASCO	Scott Pease	09/01/2022	09/2022	EFT	P-3521	hcv	1,510.00		
1705	□-2689	haphcv	PERALO	Perez	09/01/2022	09/2022	EFT	P-3546	hcv	1,448.00		
1706	□-2690	haphcv	PERECA	Maria Del Carmen Perez	09/01/2022	09/2022	EFT	P-2887	hcv	268.00		
1707	□-2691	haphcv	PERLOW	Lowde Y. Perkins	09/01/2022	09/2022	EFT	P-3183	hcv	863.00		
1708	□-2692	haphcv	phacon	Pham	09/01/2022	09/2022	EFT	P-3917	hcv	2,336.00		
1709	□-2693	haphcv	PHOMAY	Pho	09/01/2022	09/2022	EFT	P-3384	hcv	2,818.00		
1710	□-2694	haphcv	pitpar	Pittsburg Park Apartments	09/01/2022	09/2022	EFT	□	hcv	2,913.00		
1711	□-2695	haphcv	Pittssk	S□ Pittsburg Bay Point	09/01/2022	09/2022	EFT	P-2962	hcv	1,267.00		
1712	□-2696	haphcv	proih5	IH5 Property West LP	09/01/2022	09/2022	EFT	□	hcv	2,739.00		
1713	□-2697	haphcv	promar	Marples Property Management	09/01/2022	09/2022	EFT	P-3791	hcv	1,852.00		
1714	□-2698	haphcv	PROMEA	A. Meadows Property Management	09/01/2022	09/2022	EFT	□	hcv	3,584.00		
1715	□-2699	haphcv	propar	Parks Property Management	09/01/2022	09/2022	EFT	P-3404	hcv	1,711.00		
1716	□-2700	haphcv	prosto	Stokley Properties LLC Harbor	09/01/2022	09/2022	EFT	□	hcv	2,659.00		
1717	□-2701	haphcv	PR□PS□	Property □psurge, Inc.	09/01/2022	09/2022	EFT	P-3153	hcv	2,087.00		
1718	□-2702	haphcv	qaqamj	Amjad □aqish	09/01/2022	09/2022	EFT	P-3522	hcv	674.00		
1719	□-2703	haphcv	□□ISAM	Sam or Sonia □uinones	09/01/2022	09/2022	EFT	P-3812	hcv	1,800.00		
1720	□-2704	haphcv	RADAMO	Radford	09/01/2022	09/2022	EFT	P-3182	hcv	1,432.00		
1721	□-2705	haphcv	RA□□□L	Raju	09/01/2022	09/2022	EFT	P-3975	hcv	1,703.00		
1722	□-2706	haphcv	RA□PAR	Paramjit □. Raju	09/01/2022	09/2022	EFT	□	hcv	2,190.00		
1723	□-2707	haphcv	RAMCHR	Ramirez	09/01/2022	09/2022	EFT	P-3449	hcv	376.00		
1724	□-2708	haphcv	RAMENR	Enrique Ramirez	09/01/2022	09/2022	EFT	P-3343	hcv	515.00		
1725	□-2709	haphcv	RAMERI	Erika Ramirez	09/01/2022	09/2022	EFT	P-3067	hcv	1,345.00		
1726	□-2710	haphcv	RAMHOR	Ramsey Horton	09/01/2022	09/2022	EFT	P-3592	hcv-vash	1,321.00		
1727	□-2711	haphcv	RAM□AV	Ramos Avila	09/01/2022	09/2022	EFT	P-2932	hcv	1,996.00		
1728	□-2712	haphcv	RAMROH	Ram-Cline	09/01/2022	09/2022	EFT	P-3823	hcv	2,171.00		
1729	□-2713	haphcv	raudav	David Raughton	09/01/2022	09/2022	EFT	P-3547	hcv	1,932.00		
1730	□-2714	haphcv	rcprop	RayCaro Inc.	09/01/2022	09/2022	EFT	P-3682	hcv	1,569.00		
1731	□-2715	haphcv	reacro	Croskey Real Estate, Inc.	09/01/2022	09/2022	EFT	P-3451	hcv	1,745.00		
1732	□-2716	haphcv	realam	Amerasia Real Estate Fund LLC	09/01/2022	09/2022	EFT	□	□	3,804.00		
1733	□-2717	haphcv	relwoo	Reliant - Woods Grove, LP	09/01/2022	09/2022	EFT	□	□	19,731.00		
1734	□-2718	haphcv	remeri	Eric Franklin Remson	09/01/2022	09/2022	EFT	P-3572	hcv	633.00		
1735	□-2719	haphcv	rhport	RH Portofino Owner CA LLC	09/01/2022	09/2022	EFT	□	hcv	11,714.00		
1736	□-2720	haphcv	rickam	□ameryn Victoria Ray	09/01/2022	09/2022	EFT	P-3294	hcv	1,868.00		
1737	□-2721	haphcv	risinv	Rising Investments LLC	09/01/2022	09/2022	EFT	□	hcv	7,154.00		
1738	□-2722	haphcv	R□F□AS	Ruffin	09/01/2022	09/2022	EFT	P-3964	hcv	2,263.00		

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1739	-2723	haphcv	RIELV	Elvira Ruiz	09/01/2022	09/2022	EFT	P-3828	hcv	1,855.00		
1740	-2724	haphcv	RSCON	Russell	09/01/2022	09/2022	EFT	P-3008	hcv	2,300.00		
1741	-2725	haphcv	SANMAR	Santos	09/01/2022	09/2022	EFT	P-3281	hcv	1,171.00		
1742	-2726	haphcv	schgre	Schulz	09/01/2022	09/2022	EFT	P-3146	hcv	1,567.00		
1743	-2727	haphcv	SCIRIC	Richard M. Sciortino	09/01/2022	09/2022	EFT	P-3676	hcv	2,210.00		
1744	-2728	haphcv	SELAC	Selinger	09/01/2022	09/2022	EFT	P-3632	hcv	1,658.00		
1745	-2729	haphcv	SERYO	Seroy	09/01/2022	09/2022	EFT	P-3061	hcv	1,606.00		
1746	-2730	haphcv	SHAMOH	Sharma	09/01/2022	09/2022	EFT	P-2855	hcv	1,016.00		
1747	-2731	haphcv	SHAPAT	Shailesh & Bela Patel	09/01/2022	09/2022	EFT		hcv	1,128.00		
1748	-2732	haphcv	SHEMOH	Shekib	09/01/2022	09/2022	EFT	P-3004	hcv	1,938.00		
1749	-2733	haphcv	SHIYIH	Yihui Shi	09/01/2022	09/2022	EFT	P-2986	hcv	1,304.00		
1750	-2734	haphcv	shoinv	Shorten Investments LLC	09/01/2022	09/2022	EFT	P-3754	hcv	2,843.00		
1751	-2735	haphcv	siecor	Sierra Pacific Properties Inc	09/01/2022	09/2022	EFT			20,408.00		
1752	-2736	haphcv	siena	Siena Court Apartments	09/01/2022	09/2022	EFT			18,016.00		
1753	-2737	haphcv	siepep	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT			9,289.00		
1754	-2738	haphcv	siewoo	Sierra Pacific Properties c/o Ernie . Davis	09/01/2022	09/2022	EFT			34,504.00		
1755	-2739	haphcv	SIIFRA	Frank M. Siino	09/01/2022	09/2022	EFT	P-3525	hcv	944.00		
1756	-2740	haphcv	SIINO	oseph Michael Siino	09/01/2022	09/2022	EFT	P-2854	hcv	1,654.00		
1757	-2741	haphcv	SILGLO	Silva	09/01/2022	09/2022	EFT	P-3395	hcv	490.00		
1758	-2742	haphcv	SIMMAR	Marc . Simpson	09/01/2022	09/2022	EFT	P-3155	hcv	1,642.00		
1759	-2743	haphcv	SINRAM	Singh	09/01/2022	09/2022	EFT	P-2851	hcv	2,377.00		
1760	-2744	haphcv	SINSON	Son Singh	09/01/2022	09/2022	EFT	P-3409	hcv	1,457.00		
1761	-2745	haphcv	SITCRY	Situ	09/01/2022	09/2022	EFT	P-3013	hcv	1,250.00		
1762	-2746	haphcv	SMILIO	Smith	09/01/2022	09/2022	EFT	P-3627	hcv	1,975.00		
1763	-2747	haphcv	SMIMOL	Molly Smith	09/01/2022	09/2022	EFT	P-3671	hcv	2,000.00		
1764	-2748	haphcv	SMISHE	Smith	09/01/2022	09/2022	EFT	P-3532	hcv-home	798.00		
1765	-2749	haphcv	SOSCIN	Sosa	09/01/2022	09/2022	EFT	P-3911	hcv	2,448.00		
1766	-2750	haphcv	speang	Angela E. Robinson-Spencer	09/01/2022	09/2022	EFT	P-3571	hcv	1,241.00		
1767	-2751	haphcv	sroram	Srouji	09/01/2022	09/2022	EFT	P-3029	hcv-vash	2,186.00		
1768	-2752	haphcv	STRALE	Stroud	09/01/2022	09/2022	EFT	P-3327	hcv	1,439.00		
1769	-2753	haphcv	STRDAR	Streeter	09/01/2022	09/2022	EFT	P-3419	hcv	1,576.00		
1770	-2754	haphcv	sukabb	Sukarto	09/01/2022	09/2022	EFT	P-3447	hcv	1,954.00		
1771	-2755	haphcv	SLI	Su	09/01/2022	09/2022	EFT	P-3838	hcv	2,190.00		
1772	-2756	haphcv	sulkha	Sultan	09/01/2022	09/2022	EFT	P-2984	hcv	1,671.00		
1773	-2757	haphcv	SMMIT	Summit Venture Group, LLC	09/01/2022	09/2022	EFT	P-3816	hcv	2,733.00		
1774	-2758	haphcv	SRAM	amaljeet Surila	09/01/2022	09/2022	EFT	P-2905	hcv	1,684.00		
1775	-2759	haphcv	SSPAD	Paduro-Silva	09/01/2022	09/2022	EFT	P-3879	hcv	2,195.00		
1776	-2760	haphcv	svekon	ondratiouk	09/01/2022	09/2022	EFT	P-3574	hcv	3,338.00		
1777	-2761	haphcv	SYOYC	oyce Hui Sy	09/01/2022	09/2022	EFT		hcv	6,713.00		

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1778	-2762	haphcv	TENY N	Yun Teng	09/01/2022	09/2022	EFT	P-3829	hcv	1,574.00		
1779	-2763	haphcv	TERNAT	Terry	09/01/2022	09/2022	EFT	P-3371	hcv-home	1,923.00		
1780	-2764	haphcv	THA Y	Thai	09/01/2022	09/2022	EFT	P-3220	hcv	2,593.00		
1781	-2765	haphcv	THESIL	Silvia Thein and Ada Choi	09/01/2022	09/2022	EFT	P-4007	hcv	2,653.00		
1782	-2766	haphcv	THOTE	Thornton	09/01/2022	09/2022	EFT		hcv	2,660.00		
1783	-2767	haphcv	TONYOW	Tong	09/01/2022	09/2022	EFT	P-3473	hcv	1,938.00		
1784	-2768	haphcv	TOVLO	Lourdes or Raymond Tovar	09/01/2022	09/2022	EFT	P-2862	hcv	1,374.00		
1785	-2769	haphcv	TRARAP	Tran	09/01/2022	09/2022	EFT		hcv	5,705.00		
1786	-2770	haphcv	TRARIC	Tran	09/01/2022	09/2022	EFT	P-3876	hcv	2,789.00		
1787	-2771	haphcv	TRATH	Thuy Tran	09/01/2022	09/2022	EFT	P-3380	hcv	1,164.00		
1788	-2772	haphcv	TRITHA	Thanh Van Trinh	09/01/2022	09/2022	EFT	P-3396	hcv	1,486.00		
1789	-2773	haphcv	TR SEA	Truong	09/01/2022	09/2022	EFT	P-3650	hcv	1,208.00		
1790	-2774	haphcv	truvan	Truong	09/01/2022	09/2022	EFT	P-3127	hcv	1,717.00		
1791	-2775	haphcv	SCERI	Erica schold	09/01/2022	09/2022	EFT	P-3336	hcv	2,950.00		
1792	-2776	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	09/01/2022	09/2022	EFT			79,586.55		
1793	-2777	haphcv	v0000006	College Park City HA	09/01/2022	09/2022	EFT		hcv	1,037.17		
1794	-2778	haphcv	v0000056	Mims	09/01/2022	09/2022	EFT	P-2840	hcv	1,276.00		
1795	-2779	haphcv	v0000059	Tran	09/01/2022	09/2022	EFT		hcv	2,395.00		
1796	-2780	haphcv	v0000064	Lee	09/01/2022	09/2022	EFT	P-3217	hcv	2,700.00		
1797	-2781	haphcv	v0000066	Tram	09/01/2022	09/2022	EFT		hcv	3,245.00		
1798	-2782	haphcv	VALLID	Lidia Valladares	09/01/2022	09/2022	EFT	P-3946	hcv	1,561.00		
1799	-2783	haphcv	VALVIC	Valenzuela	09/01/2022	09/2022	EFT	P-2955	hcv	2,875.00		
1800	-2784	haphcv	VASGAR	Gary D. Vasconcellos	09/01/2022	09/2022	EFT	P-3961	hcv	1,720.00		
1801	-2785	haphcv	VERHOM	Veritel Homes LLC	09/01/2022	09/2022	EFT	P-3400	hcv	2,165.00		
1802	-2786	haphcv	VICA E	Vickers	09/01/2022	09/2022	EFT	P-3880	hcv	2,648.00		
1803	-2787	haphcv	VIEN N	Nuno G Vieira	09/01/2022	09/2022	EFT		hcv	4,306.00		
1804	-2788	haphcv	vukuyen	Vu	09/01/2022	09/2022	EFT	P-3990	hcv	1,239.00		
1805	-2789	haphcv	WAFSTE	Wafer	09/01/2022	09/2022	EFT	P-3082	hcv	1,213.00		
1806	-2790	haphcv	WANLIN	Lining Wan	09/01/2022	09/2022	EFT	P-3421	hcv	3,010.00		
1807	-2791	haphcv	WANWEI	Wang	09/01/2022	09/2022	EFT	P-2948	hcv	1,940.00		
1808	-2792	haphcv	wanyur	Yu Ruo Wang	09/01/2022	09/2022	EFT		hcv	2,736.00		
1809	-2793	haphcv	WARBRI	Warren	09/01/2022	09/2022	EFT	P-3435	hcv	2,076.00		
1810	-2794	haphcv	weiisi	Isidoro Weitzman	09/01/2022	09/2022	EFT	P-3718	hcv-vash	1,600.00		
1811	-2795	haphcv	WENHOL	Wen	09/01/2022	09/2022	EFT	P-3977	hcv	793.00		
1812	-2796	haphcv	WHILEW	Lewis White & Ruth White	09/01/2022	09/2022	EFT			6,015.00		
1813	-2797	haphcv	WI FEN	Wijayanti	09/01/2022	09/2022	EFT	P-3425	hcv	1,935.00		
1814	-2798	haphcv	WILADR	Wilson	09/01/2022	09/2022	EFT	P-3170	hcv	1,950.00		
1815	-2799	haphcv	wilkat	Wilson	09/01/2022	09/2022	EFT	P-3108	hcv	1,152.00		
1816	-2800	haphcv	WILL AT	athy D. Williams	09/01/2022	09/2022	EFT	P-2877	hcv	2,705.00		
1817	-2801	haphcv	WILLTAS	Williams	09/01/2022	09/2022	EFT	P-3867	hcv	2,800.00		

Payment Register

Period□ From 09/2022 to 09/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1818	□-2802	haphcv	WINDEV	Windeler Development Group, Inc.	09/01/2022	09/2022	EFT	P-3172	hcv	987.00		
1819	□-2803	haphcv	wolwar	Wolfeld	09/01/2022	09/2022	EFT	P-3826	hcv	2,826.00		
1820	□-2804	haphcv	wonhar	Har Pan Wong	09/01/2022	09/2022	EFT	□	hcv	6,830.00		
1821	□-2805	haphcv	WON□OA	□oanne Wong	09/01/2022	09/2022	EFT	P-3835	hcv	1,450.00		
1822	□-2806	haphcv	WON□IN	□inney Ming Wong	09/01/2022	09/2022	EFT	P-2922	hcv	634.00		
1823	□-2807	haphcv	WONSHI	Wong	09/01/2022	09/2022	EFT	P-3032	hcv-vash	1,460.00		
1824	□-2808	haphcv	WONVIN	Wong	09/01/2022	09/2022	EFT	P-2923	hcv	1,646.00		
1825	□-2809	haphcv	W□HONG	Hong Wu	09/01/2022	09/2022	EFT	P-3516	hcv	1,651.00		
1826	□-2810	haphcv	W□□HAN	Wu	09/01/2022	09/2022	EFT	P-2925	hcv	3,468.00		
1827	□-2811	haphcv	WYADRE	Drewcillia Wyatt	09/01/2022	09/2022	EFT	P-3982	hcv	2,423.00		
1828	□-2812	haphcv	X□CHAO	Xu	09/01/2022	09/2022	EFT	P-3739	hcv	2,429.00		
1829	□-2813	haphcv	X□PING	Ping Ping Xu	09/01/2022	09/2022	EFT	□	hcv	1,602.00		
1830	□-2814	haphcv	X□□HO	Xu	09/01/2022	09/2022	EFT	P-3538	hcv	2,870.00		
1831	□-2815	haphcv	yeyifa	Ye	09/01/2022	09/2022	EFT	P-3768	hcv	2,471.00		
1832	□-2816	haphcv	yipsal	Sally Yip	09/01/2022	09/2022	EFT	P-3382	hcv	595.00		
1833	□-2817	haphcv	YON□IA	Lu	09/01/2022	09/2022	EFT	P-3814	hcv	1,790.00		
1834	□-2818	haphcv	YO□CHR	You	09/01/2022	09/2022	EFT	P-3379	hcv	2,395.00		
1835	□-2819	haphcv	yueche	Cheung	09/01/2022	09/2022	EFT	P-3433	hcv	1,220.00		
1836	□-2820	haphcv	□ALMOH	Mohammad □almaiyar	09/01/2022	09/2022	EFT	□	hcv	1,583.00		
1837	□-2821	haphcv	□HA□IE	□hao	09/01/2022	09/2022	EFT	P-3967	hcv	769.00		
1838	□-2822	haphcv	□HA□AT	□hao	09/01/2022	09/2022	EFT	P-3545	hcv	1,938.00		
1839	□-2823	haphcv	□HAWEI	Wei Bin □hang or Gao Wei	09/01/2022	09/2022	EFT	P-3827	hcv	1,988.00		
1840	□-2824	haphcv	□HAXIR	Xirong □hao	09/01/2022	09/2022	EFT	P-2870	hcv	862.00		
1841	□-2825	haphcv	□HAYAN	Yan □hang	09/01/2022	09/2022	EFT	P-3191	hcv	1,898.00		
1842	□-2826	haphcv	□HEXIA	□heng	09/01/2022	09/2022	EFT	P-2906	hcv	1,462.00		
1843	□-2827	haphcv	□HIXLI	Li	09/01/2022	09/2022	EFT	P-3097	hcv	2,583.00		
1844	□-2828	haphcv	□HO□OY	□hou	09/01/2022	09/2022	EFT	P-3706	hcv	1,691.00		
1845	□-2829	haphcv	□H□SHE	□hu	09/01/2022	09/2022	EFT	□	hcv	5,400.00		
1846	□-2830	haphcv	□H□YIN	□hu	09/01/2022	09/2022	EFT	□	hcv	6,457.00		
1847	□-2831	haphcv	zhweij	□hang	09/01/2022	09/2022	EFT	P-2929	hcv	1,130.00		
1464	□-2833	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	P-3197	hcv	-1,945.00		
1848	□-2834	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	P-3197	hcv	1,945.00		
1848	□-2835	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	P-3197	hcv	-1,945.00		
34	□-2836	haphcv	chucha	Chung	09/01/2022	09/2022	EFT	□	hcv	0.00		
971	□-2840	haphcv	andcec	Cecilia Anderson	09/07/2022	09/2022	EFT	P-3219	hcv	-2,552.00		
1849	□-2841	haphcv	andcec	Cecilia Anderson	09/07/2022	09/2022	EFT	P-3219	hcv	2,552.00		
51665	□-2842	haphcv	v0000070	Franchise Tax Board	09/08/2022	09/2022	Check	P-4086	hcv	-243.75		
51669	□-2843	haphcv	ALAMED	Alameda City Housing Authority	09/15/2022	09/2022	Check	P-4108	hcv	138.94		
51670	□-2844	haphcv	LPMARH	Marina Heights Apartments, LP	09/15/2022	09/2022	Check	□	hcv	1,060.00		
51671	□-2845	haphcv	t1000912	Gay	09/15/2022	09/2022	Check	□	hcv	144.00		
51672	□-2846	haphcv	t1001095	□ones	09/15/2022	09/2022	Check	P-4229	hcv	17.00		

Payment Register

Period From 09/2022 to 09/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
1850	-2847	haphcv	BAR EN	Bartlett	09/15/2022	09/2022	EFT		hcv	478.00		
35	-2848	haphcv	belmont	Belmont Apartments	09/15/2022	09/2022	EFT		hcv	0.00		
36	-2849	haphcv	CASTLE	Castle Creek Company, Inc.	09/15/2022	09/2022	EFT		hcv	0.00		
1851	-2850	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/15/2022	09/2022	EFT		hcv	948.00		
1852	-2851	haphcv	DAY AG	agdeep or Shashi Dayal	09/15/2022	09/2022	EFT		hcv	791.00		
1853	-2852	haphcv	doabri	Doan	09/15/2022	09/2022	EFT	P-4202	hcv	1,828.00		
1854	-2853	haphcv	Dunest	Dunlap	09/15/2022	09/2022	EFT		hcv	1,114.00		
1855	-2854	haphcv	D OLIN	Linda Duong	09/15/2022	09/2022	EFT		hcv	12.00		
1856	-2855	haphcv	foxcre	Fox Creek Apartments	09/15/2022	09/2022	EFT		hcv	1,213.00		
1857	-2856	haphcv	gilmah	Gill	09/15/2022	09/2022	EFT		hcv	556.00		
37	-2857	haphcv	GREFRA	Greene	09/15/2022	09/2022	EFT		hcv	0.00		
1858	-2858	haphcv	GRIPAT	Patricia Gridley	09/15/2022	09/2022	EFT	P-4104	hcv	243.75		
1859	-2859	haphcv	hensil	Henderson	09/15/2022	09/2022	EFT		hcv	2,959.00		
1860	-2860	haphcv	AIDEE	ain	09/15/2022	09/2022	EFT		hcv	6,940.00		
1861	-2861	haphcv	kanwei	ang	09/15/2022	09/2022	EFT		hcv	2,532.00		
1862	-2862	haphcv	ncasso	NC Associates, Inc.	09/15/2022	09/2022	EFT	P-4203	hcv	370.00		
1863	-2863	haphcv	NG MAI	Nguyen	09/15/2022	09/2022	EFT		hcv	1.00		
1864	-2864	haphcv	nwmgmt	New Way Management Services, Inc.	09/15/2022	09/2022	EFT		hcv	410.00		
1865	-2865	haphcv	PATLLC	Patiala, LLC	09/15/2022	09/2022	EFT		hcv	597.00		
1866	-2866	haphcv	patvir	Virendra M. Patel	09/15/2022	09/2022	EFT		hcv	1,667.00		
1867	-2867	haphcv	RAMENR	Enrique Ramirez	09/15/2022	09/2022	EFT		hcv	225.00		
1868	-2868	haphcv	SANMAR	Santos	09/15/2022	09/2022	EFT		hcv	98.00		
1869	-2869	haphcv	siecor	Sierra Pacific Properties Inc	09/15/2022	09/2022	EFT		hcv	423.00		
1870	-2870	haphcv	siena	Siena Court Apartments	09/15/2022	09/2022	EFT		hcv	59.00		
1871	-2871	haphcv	sroram	Srouji	09/15/2022	09/2022	EFT		hcv-vash	22.00		
1872	-2872	haphcv	STRALE	Stroud	09/15/2022	09/2022	EFT		hcv	71.00		
1873	-2873	haphcv	STRDAR	Streeter	09/15/2022	09/2022	EFT		hcv	2,345.00		
1874	-2874	haphcv	sukabb	Sukarto	09/15/2022	09/2022	EFT		hcv	4,229.00		
1875	-2875	haphcv	v0000002	CONTRA COSTA HO SING A THORITY	09/15/2022	09/2022	EFT		hcv-vash	1,603.33		
1876	-2876	haphcv	v0000059	Tran	09/15/2022	09/2022	EFT		hcv	660.00		
38	-2877	haphcv	wonhar	Har Pan Wong	09/15/2022	09/2022	EFT		hcv	0.00		
1877	-2878	haphcv	HA IE	hao	09/15/2022	09/2022	EFT		hcv	1,245.00		
51670	-2879	haphcv	LPMARH	Marina Heights Apartments, LP	09/15/2022	09/2022	Check		hcv	-1,060.00		
1851	-2880	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/15/2022	09/2022	EFT		hcv	-948.00		
1852	-2881	haphcv	DAY AG	agdeep or Shashi Dayal	09/15/2022	09/2022	EFT		hcv	-791.00		
1855	-2882	haphcv	D OLIN	Linda Duong	09/15/2022	09/2022	EFT		hcv	-12.00		
1863	-2883	haphcv	NG MAI	Nguyen	09/15/2022	09/2022	EFT		hcv	-1.00		
1870	-2884	haphcv	siena	Siena Court Apartments	09/15/2022	09/2022	EFT		hcv	-59.00		
1871	-2885	haphcv	sroram	Srouji	09/15/2022	09/2022	EFT		hcv-vash	-22.00		

Payment Register

Period From 09/2022 to 09/2022

Check #	Check Control	Bank Code	Payee Code	Payee Name	Check Date	Post Month	Payment Method	Payable Control#	Property	Amount	Interfund	Notes
51673	-2886	haphcv	LPMARH	Marina Heights Apartments, LP	09/15/2022	09/2022	Check		hcv	990.00		
39	-2887	haphcv	creeks	Creekside Apt Investors LLC DBA Creekside Village	09/15/2022	09/2022	EFT		hcv	0.00		
40	-2888	haphcv	DAY AG	agdeep or Shashi Dayal	09/15/2022	09/2022	EFT		hcv	0.00		
41	-2889	haphcv	D OLIN	Linda Duong	09/15/2022	09/2022	EFT		hcv	0.00		
42	-2890	haphcv	NG MAI	Nguyen	09/15/2022	09/2022	EFT		hcv	0.00		
43	-2891	haphcv	siena	Siena Court Apartments	09/15/2022	09/2022	EFT		hcv	0.00		
1878	-2892	haphcv	sroram	Srouji	09/15/2022	09/2022	EFT		hcv-vash	44.00		
1879	-2893	haphcv	WON OA	oanne Wong	09/16/2022	09/2022	EFT		hcv	5,001.00		
30000023	-2902	hcvport	v0000084	HVAC for Les$, Inc	09/27/2022	09/2022	Check	P-4343	sfd-273	360.00		
Grand Total										**1,796,419.19**		

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution to Approve Revisions to the Marina and Recreation Master Fee Schedule

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

Staff requests adoption of a resolution to approve revisions to related fees for the Marina and Recreation Department.

FISCAL IMPACT

Adoption of the proposed fees would provide a minimum of $7,400 in revenue for the Recreation Department and the Marina anticipates a 3% increase (approximately $65,000) in revenue associated with the adoption of new and updated fees. Changes to Marina fees will not impact the General Fund.

RECOMMENDATION

City Council adopt a resolution to approve revisions to the Master Fee Schedule.

BACKGROUND

The City's Master Fee Schedule is a compilation of the fees charged for services and development with the City of Pittsburg. All fees are reviewed from time to time to ensure compliance with applicable law

In February 2020, based on the results of the study and recommendations by Willdan Financial Services, the City Council approved Resolution 20-13745 amending the City's Master Fee Schedule. New fees were identified, and specified old fees discontinued and City Council authorized that City fees be adjusted annually by the average Consumer Price Index (CPI), to account for any changes in direct labor or labor-related costs and/or any other costs that may affect the City's ability to cover current costs of services.

SUBCOMMITTEE FINDINGS

Recreation rates proposed were not presented to a Subcommittee. Updates to Marina fees were supported by the Economic Development and Waterfront Subcommittee on September 26, 2022.

STAFF ANALYSIS

The Recreation and Marina fee changes are per Master Fee Schedule requirement of an annual Consumer Price Increase (CPI) increase and are recommended to be rounded to the next dollar to reflect an average of 5.5% CPI increase from prior year. However, substantial fee changes are proposed in a few areas as follows by Department:

Recreation Department

Phase 1 of the Community Center located at 340 Marina Boulevard will be opening in early Spring 2023 and will allow for access for meetings, classes, and private use in two classrooms. Proposed rates are in line with what is charged for the Library Conference Room located at 80 Power Avenue.

Marina Department

The Marina Fee Schedule shown reflects increases to existing fees and the addition of new fees. All increases are based on average charges at other local marinas (Antioch, Big Break, Lauritzen, Benicia, and Richmond) or aim to recover actual cost for performing or providing services to boaters. New fees for Marina Day-use Passes, Parking/Launching, and Advertisement for example, are fees commonly charged at other local marinas. Other new fees like Guest Berthing Deposits, Unauthorized Vehicle and Trailer Fees, and Pet Fees aim to influence customer behavior for the benefit and safety of others using Marina facilities.

The various departments evaluated the costs necessary to provide services while ensuring that fees are reasonably affordable for residents. Staff recommends the City Council adopt the proposed changes as per the attached spreadsheet including the addition of new fees effective January 1, 2023.

ATTACHMENTS: Resolution
Fee Schedule for Proposed Changes

Report Prepared By: Margaret Padua, Finance Manager

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Approving Revisions to the Marina and Recreation Fees in the Master Fee Schedule	)))	RESOLUTION NO. 23-

WHEREAS, the City's Master Fee Schedule is a compilation of the fees charged for services and development with the City of Pittsburg**;** and,

WHEREAS, in 2018, the City contracted with Willdan Financial Services to conduct a cost allocation plan and citywide comprehensive user fee study to update the City's Master Fee Schedule. Based on the results of the study and recommendations by Willdan Financial Services, the City Council approved Resolution 20-13745 amending the City's Master Fee Schedule in February 2020; and,

WHEREAS, staff recommends certain adjustments and additions to the Recreation and Marina fees to align with fees incurred for services and charged by other similar local public agencies.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Pittsburg hereby approves the attached revisions to the Master Fee Schedule regarding Marina and Recreation Fees.

PASSED AND ADOPTED by the City Council of the City of Pittsburg, at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:
:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

Recreation

(Fund 110 - General Fund)

Row #	Fee Description	Unit	Notes	Proposed Fees
55	Community Center Classromm (Building Rental)	Per Hour		$45.00
56	Community Center Classromm (Janitorial)		Fee for All Rentals	$64.00
57	Community Center Classrom (Deposit)		Refundable Deposit	$130.00

Marina

(Fund 550 - Marina)

Row #	Fee Description	Unit	Notes	Proposed Fees
4	Overnight Guest Berthing	Per Night	$1.00/foot with $20 minimum	$1.00
5	Unauthorized Guest Berthing	Per Night	$1.00/foot with $20 minimum	$1.00
6	Guest Berthing Deposit	Per Reservation	100% of reservation cost if cancelled within 24 hours of expected arrival. 50% of reservation cost if cancelled within 72 hours of expected arrival, no penalty if cancelled prior to 72 hours of expected arrival	See notes
8	Marina Day - Use Pass	Per Occurrence	$5.00 or free with fuel purchase	$5.00
9	Electronic Key Fee	Per Key		$22.50
	Service Fees			
11	Pump out Service, boats up to 31' - 35'	Per Service		$35.50
12	Pump out Service, boats up to 36'- 40'	Per Service		$43.50
13	Pump out Service, boats up to 41'+	Per Service		$54.50
31	Small Pet Fee	Per Month/Per Occurrence	Monthly for Live aboards / Per Occurrence for Guests and Recreational Moorers	$15.00/$5.00
32	Large Pet Fee	Per Month/Per Occurrence	Monthly for Live aboards / Per Occurrence for Guests and Recreational Moorers	$25.00/$5.00
	Other Fees			
33	Kayak and Stand Up Paddle Board Rentals			$25.00
35	Write-off/Collection Processing Fee			$35.00
36	Boat Trailer Storage Fee	Per Month		$80.00
37	Unauthorized Trailer Storage Fee	Per Day		$50.00
38	Unauthorized Vehicle Parking Fee	Per Day		$50.00
39	Advertisement Installation Fee	Per Ad		Actual Cost
40	Advertisement Maintenance Fee	Per Ad		Actual Cost
41	Advertisement Fee	Per Month		$15.00
42	Electronic Key Replacement Fee	Per Key		$22.50

FUTURE FEE INCREASE: Fees shall increase annually based on the average percentage increase in the San Francisco-Oakland-Hayward All Urban Workers Consumer Price Index.

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution to Adopt the Updated City Standard Specifications and Standard Details and Authorize the City Engineer to Execute Amendments

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The City Standard Specifications and Standard Details are requirements for developers, contractors, and the public that outline the acceptable methods of design and construction of public improvements. Routine updates are necessary to ensure that public improvements meet a minimum level of quality.

FISCAL IMPACT

There is no fiscal impact.

RECOMMENDATION

Staff recommends that the City Council adopt the resolution to adopt the updated City Standard Specifications and Standard Details and authorize the City Engineer to execute periodic amendments as necessary.

BACKGROUND

In January of 1983, the City Standard Specifications and Standard Details were adopted.

In March of 1987, both documents were updated.

In May of 2007, the Standard Details were updated with City Council Reso. 07-10785.

In February 2018, Staff began updating the City Standard Specifications and Standard. The Public Works/Engineering staff has reviewed the documents, and the Public Works Director/City Engineer has approved them.

SUBCOMMITTEE FINDINGS

This item was not reviewed by a subcommittee.

STAFF ANALYSIS

The City periodically updates the Standard Specifications and Standard Details to conform with changes in state and federal regulations and industry standards.

In February of 2018, staff began a revision with assistance from design consultants and industry professionals. Throughout the plan check process, Engineering staff has worked closely with all City of Pittsburg departments. The Director of Public Works/City Engineer has approved the final version.

References have been updated to the latest versions of the following standards:
- (AASHTO) American Association of State Highway and Transportation Officials
- (ASSE) American Society of Sanitary Engineering
- (ASTM) American Society for Testing and Materials
- (AWS) American Welding Society
- (AWWA) American Water Works Association
- (BASMAA) Bay Area Stormwater Management Agencies Association
- (BBC) Basic Building Code, Building Officials and Code Administrators International
- (BFL) Bay Friendly Landscaping
- (CALOSHA) California Occupational Safety and Health Administration
- (CA MUTCD) California Manual on Uniform Traffic Control Devices
- (CALTRANS) State of California Department of Transportation
- (CBC) California Building Code
- (CCR) California Code of Regulations
- (CLFMI) Chain Link Fence Manufacturer's Institute
- (CRSI) Concrete Reinforcing Steel Institute
- (DDW) Division of Drinking Water
- (EIA) Electronic Industries Association
- (ICBO) International Conference of Building Officials
- (IEEE) Institute of Electrical and Electronics Engineers
- (ISO) International Organization for Standardization
- (ITE) Institute of Traffic Engineers
- (MSS) Manufacturers Standardization Society
- (NACE) National Association of Corrosion Engineers
- (NBS) National Bureau of Standards
- (NEC) National Electrical Code
- (NEMA) National Electrical Manufacturer's Association
- (NFPA) National Fire Protection Association
- (OSHA) Occupational Safety and Health Administration (Federal)
- (PCA) Portland Cement Association
- (PUC) Public Utilities Commission
- (SSPC) Steel Structures Painting Council
- (STA) Seal of Testing Assurance Program
- (UL) Underwriters Laboratories, Inc
- (USCC) US Composting Council
- (IAPMO) International Association of Plumbing and Mechanical Officials

In the course of his duties, the City Engineer evaluates the impact of minor changes in state and federal regulations as well as improvements in construction methods and development of new materials or technology. The ability of the City Engineer to make routine minor changes as necessary will help keep the City Standard Specifications and Standard Details current.

Staff recommends the City Council adopt the resolution to adopt the updated City Standard Specifications and Standard Details and authorize the City Engineer execute amendments as necessary.

ATTACHMENTS: Resolution
City Standard Specifications
City Standard Details

Report Prepared By: Stephen Cardiel, Associate Engineer, CIP Manager
Andrew Peters, Assistant Engineer

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adoption of a City Council Resolution to Adopt the Updated City Standard Specifications and Standard Details and Authorize the City Engineer to Execute Amendments	)))))	RESOLUTION NO. 23-

WHEREAS, the City Standard Specifications and Standard Details are requirements for developers, contractors, and property owners that outline the acceptable methods of design and construction of public improvements; and

WHEREAS, updated Standard Specifications and Standard Details help ensure that public improvements built by contractors, developers, and property owners within the City's service area meet a minimum level of quality; and

WHEREAS, these requirements must be updated to reflect changes in construction methods and both state and federal regulations; and

WHEREAS, in January 1983, the City Standard Specifications and Standard Details were adopted. In March 1987, both documents were updated. In May 2007, the Standard Details were updated and adopted with City Council Reso. No. 07-10785; and

WHEREAS, staff completed a new revision with assistance from design consultants and industry professionals. Throughout the plan check process, Engineering staff worked closely with all City of Pittsburg departments, and the Director of Public Works/City Engineer has approved the final version.

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby adopts the updated City Standard Specifications and Standard Details and authorizes the City Engineer to execute amendments as necessary.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January 2023, by the following vote:

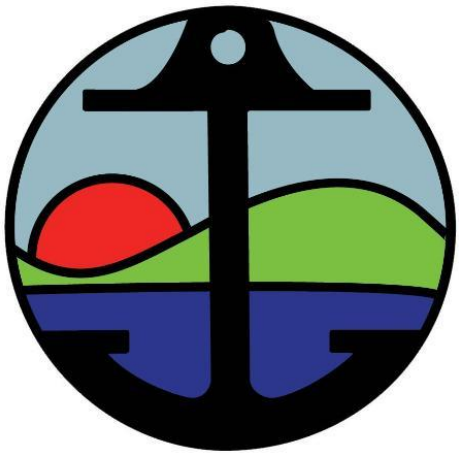
AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Mayor

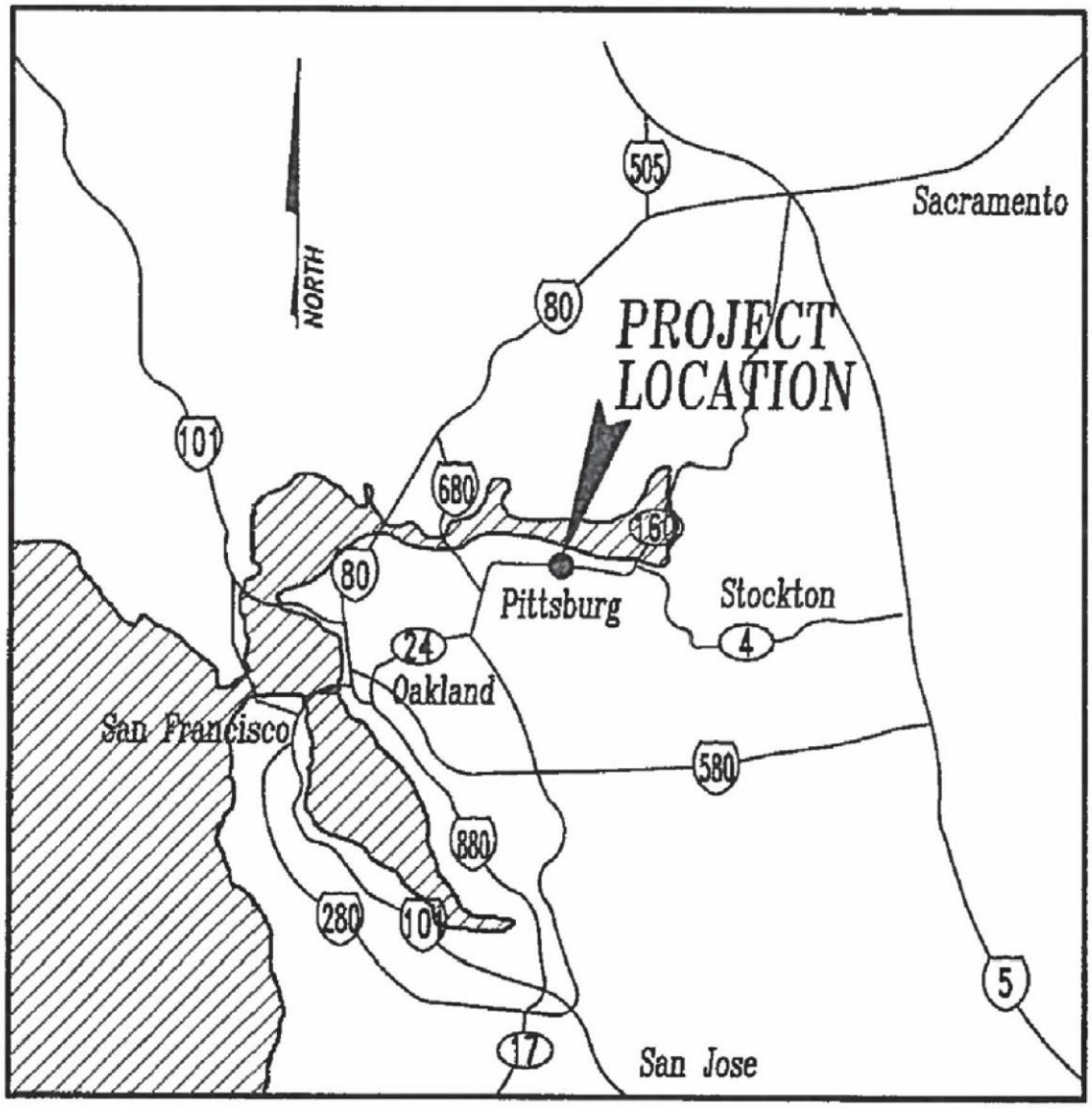
ATTEST BY:

_____
Alice E. Evenson, City Clerk

CIT□ STANDARD SPECIFICATIONS
DECEMBER 2022



CIT□ OF PITTSBURG, CALIFORNIA



VICINITY MAP

1" = 20 Miles

0 20 40 60

MEASURES 3–INCHES ON ORIGINAL

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AP	VICINITY MAP
				CHECKED BY: AP	
				DATE: 3/13/2019	
				SCALE: NOTED	

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Notice Inviting Bids

1. Bid Submission. [redacted] ("City") will accept sealed bids for its <_____> Project ("Project"), by or before [redacted], 20[redacted], at [redacted].m., at its [redacted] office, located at [redacted], California, at which time the bids will be publicly opened and read aloud.

2. Project Information.

2.1 Location and Description. The Project is located at [redacted], [redacted] Project location, and is described as follows: [redacted] Insert summary description of the Project. [redacted]

2.2 Time for Final Completion. The Project must be fully completed within [redacted] calendar days from the start date set forth in the Notice to Proceed. City anticipates that the Work will begin on or about [redacted], but the anticipated start date is provided solely for convenience and is neither certain nor binding.

3. License and Registration Requirements.

3.1 License. This Project requires a valid California contractor's license for the following classification(s): [redacted].

3.2 DIR Registration. City may not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder is registered with the California Department of Industrial Relations ("DIR") to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.

4. Contract Documents. The plans, specifications, bid forms and contract documents for the Project, and any addenda thereto ("Contract Documents") may be downloaded from City's website located at [redacted]. A printed copy of the Contract Documents are [redacted] not available [redacted] ***OR*** [redacted] may be obtained from [redacted] Name, [redacted] Title, at [redacted] U.S. Mail or Email Address, for a nonrefundable payment to City of $ [redacted].

5. Bid Security. The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Potential Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, and any other submittals required by the Contract Documents and as specified in the Notice of Potential Award.

6. Prevailing Wage Requirements.

6.1 General. Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform

the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

6.2 **Rates.** The prevailing rates are on file with the City and are available online at http://www.dir.ca.gov/DLSR. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

6.3 **Compliance.** The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.

7. **Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.

8. **Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.

9. **Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the base bid price) for each Subcontractor that will perform Work or service or fabricate or install Work for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.

10. **Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

By_____ Date_____

_____, City Clerk

Publication Date: _____

END OF NOTICE INVITING BIDS

Optional Provisions for Notice Inviting Bids:

The following optional provisions should be added to the Notice Inviting Bids only if applicable. Applicable provisions may be copied and pasted immediately following item 10 on the standard Notice Inviting Bids form, numbered accordingly, and completed if needed. ***Delete instructions and notes (in italics) and unused optional provisions.***

The following provision should be completed as indicated and added to the Notice Inviting Bids if a bidders' conference or site visit is scheduled. If used for a site visit, replace each use of the term "bidders' conference" with "site visit."

□□□ **Bidders' Conference**□ A bidders' conference will be held on □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□, 20□□□□□□ at □□□□□□□□□□□□□□□ □□□□.m., at the following location□□ to acquaint all prospective bidders with the Contract Documents and the Worksite. The bidders' conference is □□□□/ is not □□□□□ mandatory. A bidder who fails to attend a mandatory bidders' conference may be disqualified from bidding.

Note: Public Contract Code § 6610 prohibits any ***mandatory*** *pre-bid conference, site visit, or meeting from taking place sooner than five days after the Notice Inviting Bids is published for the first time*.

The following provision may be completed as indicated and added to the end of Section 2 of the Notice Inviting Bids if the City wishes to inform bidders of the estimated construction cost. Alternatively, this could be added to the end of Instructions to Bidders and re-numbered to fit.

2□3 Estimated Cost□ The estimated construction cost is $□□□□□□□□□□□□□□□□□□□

The following provision should be completed as indicated and added to the Notice Inviting Bids if, and only if, the City Council or its designee has made a finding that a particular material, product, thing, or service is designated by specific brand or trade for one of the purposes permitted under subdivision (c) of Public Contract Code § 3400. For each item specified, indicate the statutory basis for the finding under "Reference," e.g., § 3400(c)(1), (c)(2), (c)(3) or (c)(4), as applicable per note below.

□□□ **Specific Brands**□ Pursuant to referenced provision(s) of Public Contract Code □3400(c), City has found that the following specific brands are required for the following particular material(s), product(s), thing(s), or service(s), and no substitutions will be considered or accepted□

Item□	Required brand□	Reference□
□□□□□□□□□□□□□□□□□□□□□□□□□□□□	□□□□□□□□□□□□□□□□□□□□□□□□□□□□	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
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Note: Under Public Contract Code § 3400(c), a sole source specification is only permitted as follows:

(c)(1) required for field testing or experiment;
(c)(2) required to match products in use for the improvement;
(c)(3) a necessary item that is only available from one source; or
(c)(4) required to respond to a state-declared emergency.

The following provision should be completed as indicated and added to the Notice Inviting Bids for any Project that has been determined to be "substantially complex" in accordance with Public Contract Code § 7201, and is therefore subject to a retention rate in excess of the 5% cap. A finding of substantial complexity must be made during a public hearing by the City Council or its designee on a project by project basis, and the finding must include a description of the specific project and explain "why it is a unique project that is not regularly, customarily, or routinely performed by the agency or licensed contractors." In addition, the bid documents must include "details explaining the basis for the finding." At a minimum, the explanation made to support the finding should be included as indicated below to satisfy the requirement to provide "details explaining the basis for the finding" in the bid documents.

□□□ **Retention**□

__.**1** **Substantial Complexity**□ The City Council or its designee has approved a finding under Public Contract Code □7201 that this Project is substantially complex and therefore requires a retention amount higher than 5□ .

□□**2** **Basis for Finding**□ The basis for the finding that this is a unique project that is not regularly, customarily, or routinely performed by City or by licensed contractors is as follows□
□□□□□□□□□□□□□□□□□□□

The following optional provision may be used for projects administered under Caltrans' Local Assistance Procedures Manual ("LAPM") to (1) attach and incorporate bid provisions and forms for projects administered under the LAPM, as specified in Chapter 12 of the LAPM and exhibits thereto, and (2) incorporate the specific assurance required by the Standard Title VI/Non-Discrimination Assurances under Department of Transportation Order No. 1050.2A. ***DELETE ATTACHMENT A IF NOT APPLICABLE.*** *Be sure to use the most current version of the LAPM and applicable exhibits, which may be downloaded from: https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/local-assistance-procedures-manual-lapm.*

□□□ **Caltrans Administered Project**□ This Project is funded in whole or in part by federal funds administered under Caltrans' Local Assistance Procedures Manual ("LAPM").

□□**1** **Federal Bidding Requirements**□ LAPM bidding requirements and forms are provided in Attachment A - Federal Bidding Requirements. Each bidder must comply with the requirements set forth in Attachment A, including completion and submission of required federal forms with its Bid Proposal, as further specified in Attachment A.

□□**2** **Title VI Non-Discrimination Assurances**□ The City, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 □.S.C. □ 2000d et seq.) and applicable regulations, including 49 CFR Part 21, 28 CFR □ 50.3, and any other applicable statutory or regulatory authorities identified in the Standard Title VI/Non-Discrimination Assurances, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. Any contract entered into pursuant to this advertisement will be subject to Appendix E of the Title VI Assurances, a copy of which is included in Attachment B - Federal Contract Requirements.

Instructions to Bidders

Each Bid Proposal submitted to □□□□

"will negotiate," or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Subcontractor List and Non-Collusion Declaration using the forms included with the Contract Documents, and any other required enclosures, as applicable.

3 Authorization and Execution Each Bid Proposal must be signed by the bidder's authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal, under California Corporations Code 313.

4 Bid Security Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's check or certified check, made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California. The bid security must guarantee that, within ten days after issuance of the Notice of Potential Award, the bidder will execute and submit the enclosed Contract for the bid price submit payment and performance bonds for 100 of the maximum Contract Price and submit the insurance certificates and endorsements and any other submittals, if any, required by the Contract Documents or the Notice of Potential Award. A Bid Proposal may not be withdrawn for a period of 60 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code 5100 et seq.

5 Requests for Information uestions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to Name, Title, at Email Address. Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five Working Days before the scheduled bid opening. uestions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.

6 Pre-Bid Investigation

6 1 General Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.

6 2 Document Review Each bidder is responsible for review of the Contract Documents and any informational documents provided "For Reference Only," e.g., as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.

6.3 **Project Site** Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during Project construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.

6.4 **Utility Company Standards** The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.

7. **Bidders Interested in More Than One Bid** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.

8. **Addenda** Any addenda issued prior to the bid opening are part of the Contract Documents. Subject to the limitations of Public Contract Code 4104.5, City reserves the right to issue addenda prior to bid time. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid. Bidders should check City's website periodically for any addenda or updates on the Project at http//www.[redacted].

9. **Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after Notice of Potential Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code 3400(c).

10. **Bid Protest** Any bid protest against another bidder must be submitted in writing and received by City at [redacted]Address or sent via email at [redacted]Email Address before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:

10.1 **General** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to

submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. If required by City, the protesting bidder must submit a non-refundable fee in the amount specified by City, based upon City's reasonable costs to administer the bid protest. Any such fee must be submitted to City no later than the Bid Protest Deadline, unless otherwise specified. For purposes of this Section 10, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code 1771.1(b).

10.2 Protest Contents. The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.

10.3 Copy to Protested Bidder. Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.

10.4 Response to Protest. The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.

10.5 Copy to Protesting Bidder. Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.

10.6 Exclusive Remedy. The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of a bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

10.7 Right to Award. City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.

11 **Reservation of Rights** City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities to accept or reject any or all bids to cancel or reschedule the bid to postpone or abandon the Project entirely or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 60 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.

12 **Bonds** Within ten calendar days following City's issuance of the Notice of Potential Award to the apparent low bidder, the bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.

13 **License(s)** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business license within □□□□□ days following City's issuance of the Notice of Potential Award. Subcontractors must also obtain a City business license before performing any Work.

14 **Ineligible Subcontractor** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code □□ 1777.1 or 1777.7 is prohibited from performing work on the Project.

15 **Safety Orders** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code □ 6707.

END OF INSTR□CTIONS TO BIDDERS

Optional Provisions for Instructions to Bidders:

The following optional provisions should be added to the Instructions to Bidders only if applicable. Applicable provisions may be copied and pasted immediately following Section 15 on the standard Instructions to Bidders form, numbered accordingly, and completed if needed. ***Delete instructions (in italics) and unused optional provisions.***

The following provision should be used for the purpose of limiting the amount of Work that may be performed by subcontractors.

□□□ **Subcontractor Wor□ Limits**□ The prime contractor must perform at least □□□□□□ of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the □□□□□ self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).

The following provision should be used if additive or deductive alternates will be used in bidding. The language in this provision should not be altered because it follows the wording of Public Contract Code § 20103.8. It should be copied and pasted into the Instructions to Bidders, numbered, and marked to select the applicable method. The other three methods may be deleted.

□□□ **Additive and Deductive Alternates**□ As required by Public Contract Code □20103.8, if this bid solicitation includes additive or deductive items, the method checked below will be used to determine the lowest bid. If no method is checked, subparagraph (A) will be used to determine the lowest bid. City retains the right to add to or deduct from the Contract any of the additive or deductive alternates included in the Bid Proposal.

□□□□□ (A) The lowest bid will be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

□□□□□ (B) The lowest bid will be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Proposal as being used for the purpose of determining the lowest bid price.

□□□□□ (C) The lowest bid will be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by City before the first bid is opened.

□□□□□ (D) The lowest bid will be determined in a manner that prevents any information that would identify any of the bidders or the proposed subcontractors or suppliers from being revealed to City before the ranking of all bidders from lowest to highest has been determined.

The following provision should be completed as indicated and used if bidders are required to submit an itemized Bid Schedule with unit pricing with the Bid Proposal.

□□□ **Bid Schedule**□ Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.

□□□**1** **Incorrect Totals**□ In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code □5100 et seq.

□□□**2** **Estimated Quantities**□ Unless identified as a "Final Pay Quantity," the quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.

The following provision should be used if the City wishes to require bidders to submit a completed Bidder's Questionnaire. The optional Bidder's Questionnaire form should <u>not</u> be required for projects which already require prequalification if it would duplicate information required in the prequalification process.

□□□ **Bidder's Questionnaire**□ A completed, signed Bidder's Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder's □uestionnaire which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

Add the following provision to list all documents provided as "For Reference Only" pursuant to Section 3.4 of the General Conditions, including all documents made available by the City or appended to the project manual for <u>information only</u>, and not as Contract Documents, such as geotechnical reports, record drawings or as-builts, or other information about the project or project site.

□□□ **For Reference Only**□The following documents are provided "For Reference Only," as defined in Section 3.4 of the General Conditions□
□□□

Bid Proposal

□□□

as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

4. **Award of Contract**. By signing and submitting this Bid Proposal, Bidder agrees that if Bidder is awarded the Contract for the Project, within ten days following issuance of the Notice of Potential Award to Bidder, Bidder will do all of the following:

4.1 **Execute Contract**. Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents.

4.2 **Submit Required Bonds**. Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents; and

4.3 **Insurance Requirements**. Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents.

5. **Bid Security**. As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

☐ A cashier's check or certified check payable to City and issued by _____ (Bank name) in the amount of $_____.

☐ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on _____, 20__.

s/ _____	_____ Name and Title
s/ _____ *[See Section 3 of Instructions to Bidders]*	_____ Name and Title
_____ Company Name	_____ License #, Expiration Date, and Classification
_____ Address	_____ DIR Registration #
_____ City, State, Zip	_____ Phone
_____ Contact Name	_____ Contact Email

END OF BID PROPOSAL

Optional Provision for Bid Proposal form:

The following provision should be added to the Bid Proposal form only if bid alternates are being used. It should be completed as indicated to identify the applicable alternate(s), and to indicate whether the amount(s) to be quoted should be added to or deducted from the Base Bid. It should be inserted after Section 1, Base Bid, and the following Sections renumbered accordingly. If bid alternates are being used, be sure to use the optional provision in the Instructions to Bidders, indicating the method to be used to determine the low bid. ***Delete instructions and notes (in italics) and unused optional provisions.***

2. Bid Alternates. Bidder submits the following prices for the specified bid alternates.

Alternate #1 ..... title/description.
Add/Deduct $.....

Alternate #2 ..... title/description.
Add/Deduct $.....

Alternate #3 ..... title/description.
Add/Deduct $.....

Bid Schedule

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal form.

AL □ Allowance CF □ Cubic Feet CY □ Cubic Yard EA □ Each LB □ Pounds
LF □ Linear Foot LS □ Lump Sum SF □ Square Feet TON □ Ton (2000 lbs)

BID ITEM NO□	ITEM DESCRIPTION	EST□QT□□	UNIT	UNIT COST	E□TENDED TOTAL AMOUNT
1				$	$
2				$	$
3				$	$
4				$	$
5				$	$
6				$	$
7				$	$
8				$	$
9				$	$
10				$	$
11				$	$
12				$	$
13				$	$
14				$	$
15				$	$
16				$	$
17				$	$
18				$	$
19				$	$
20				$	$
21				$	$
22				$	$
23				$	$
24				$	$
25				$	$

BID ITEM NO□	ITEM DESCRIPTION	EST□QT□□	UNIT	UNIT COST	E□TENDED TOTAL AMOUNT
26				$	$
27				$	$
28				$	$
29				$	$
30				$	$
31				$	$
32				$	$
33				$	$
34				$	$
35				$	$
36				$	$
37				$	$
38				$	$
39				$	$
40				$	$
41				$	$
42				$	$
43				$	$
44				$	$
45				$	$
46				$	$
47				$	$
48				$	$
49				$	$
50				$	$

□Final Pay □uantity

TOTAL BASE BID□ Items 1 through □□□□□ inclusive□$□□□□

Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Base Bid,[1] the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the Base Bid price.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO□	LOCATION OF BUSINESS	DIR REG□NO□	PERCENT OF WORK

END OF S□BCONTRACTOR LIST

[1] For street or highway construction, this requirement applies to any subcontract of $10,000 or more.

Noncollusion Declaration

TO BE EXEC□TED BY BIDDER AND S□BMITTED WITH BID

The undersigned declares□

I am the □□□□□□□□□□□□□□□□□□□□□□□□□□□□ □title□of □□□□□□□□□□□□□□□□□□□□

Bid Bond

_____ ("Bidder") has submitted a bid, dated _____, 20_____ ("Bid"), to □□□□

This Bid Bond is entered into and effective on □□□□□□□□□□□□□□□□□□□□, 20□□□□□.

SURET□:

□□□□□□□□□□□□□□□□□□□

Bidder's Questionnaire

□□□

If yes, provide additional information on a separate sheet regarding the disqualification or disbarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or disbarred, and the month and year in which the disqualification or disbarment occurred.

4. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor□
□□□□□ Yes □□□□□ No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

5.1 Six most recently completed public works projects within the last three years□

5.2 Three largest completed projects within the last three years□and

5.3 Any project which is similar to this Project including scope and character of the work.

6. □se separate sheets to provide all of the following information for <u>each</u> project identified in response to the above three categories□

6.1 Project name, location, and description□
6.2 Owner (name, address, email, and phone number)□
6.3 Prime contractor, if applicable (name, address, email, and phone number)□
6.4 Architect or engineer (name, email, and phone number)□
6.5 Project and/or construction manager (name, email, and phone number)□
6.6 Scope of work performed (as general or as subcontractor)□
6.7 Initial contract price and final contract price (including change orders)□
6.8 Original scheduled completion date and actual date of completion□
6.9 Time extensions granted (number of days)□
6.10 Number and amount of stop notices or mechanic's liens filed;
6.11 Amount of any liquidated damages assessed against Bidder□and
6.12 Nature and resolution of any project-related claim, lawsuit, mediation, or arbitration involving Bidder.

Part C: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year□

2.1 Number of lost workday cases□ □□□□
2.2 Number of medical treatment cases□ □□□□
2.3 Number of deaths□ □□□□

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety□

□□□□□ Yes □□□□□ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

□□□□□

Contract

This public works contract ("Contract") is entered into by and between □□□□□□□□□□□□□□□□ ("City") and □□□□□□□□□□□□□□□□

6 **Liquidated Damages** As further specified in Section 5.4 of the General Conditions, if Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of $ per day for each day of unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

7 **Labor Code Compliance**

7.1 **General** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.

7.2 **Prevailing Wages** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at http://www.dir.ca.gov/DLSR.

7.3 **DIR Registration** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.

8 **Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."

9 **Conflicts of Interest** Contractor, its employees, Subcontractors and agents, may not have, maintain or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.

10 **Independent Contractor** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.

11 **Notice** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows

City:

Department or Title
Address
City/State/Zip

□Phone (optional)□
Attn□□Name/Title□
□Email address□

Copy to□□Name/Title□
□Email address□

Contractor:

Name□□□

The parties agree to this Contract as witnessed by the signatures below□

CIT□:

s/□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

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Name, Title

Date□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

Approved as to form□

s/□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

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Name, Title

Date□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

Attest□

s/□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

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Name, Title

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CONTRACTOR: □□□□□□□□□□□□□□□□□□□□

Payment Bond

□□□

7□ Effective Date□Execution□ This Bond is entered into and is effective on □□□□□□□□□□, 20□□.

SURET□:

□□□□□□□□□

Performance Bond

□□□

Address□ □□□□

General Conditions

Article 1 - Definitions

Definitions The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form) "day," "furnish," "including," "install," "work day" or "working day."

Allowance means a specific amount that must be included in the Bid Proposal for a specified purpose.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the municipality which has entered into the Contract with Contractor for performance of the Work, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s).

Claim means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids the Instructions to Bidders addenda, if any the Bid Proposal, and attachments thereto the Contract the Notice of Potential Award and Notice to Proceed the payment and performance bonds the General Conditions the Special Conditions the Project Plans and Specifications any Change Orders and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided "For Reference Only," or documents that are intended solely to provide information regarding existing conditions.

Contract Price means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies or equipment following submission of the Bid Proposal.

Contract Time means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

Contractor means the individual, partnership, corporation, or joint-venture that has signed the Contract with City to perform the Work.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or electrical engineering design services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

DIR means the California Department of Industrial Relations.

Drawings has the same meaning as Plans.

Engineer means the City Engineer for the City of □□□□□□□□□□□□□□□□□□ and his or her authorized delegees.

Excusable Delay is defined in Section 5.3(B), Excusable Delay.

Extra Wor□ means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted□Work that is substantially different from the Work as described in the Contract Documents at bid time□or Work that results from a substantially differing and unforeseeable condition.

Final Completion means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

Furnish means to purchase and deliver for the Project.

Government Code Claim means a claim submitted pursuant to California Government Code □ 900 et seq.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

Inspector means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Laws means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

Non-Excusable Delay is defined in Section 5.3(D), Non-Excusable Delay.

Plans means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

Project means the public works project referenced in the Contract.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Recoverable Costs is defined in Section 5.3(F), Recoverable Costs.

Request for Information or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

Section, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

Specialty Wor means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint-venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

Technical Specifications has the same meaning as Specifications.

Wor means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Wor Day or **Wor ing Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include holidays observed by the City.

Wor site means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

Article 2 - Roles and Responsibilities

2 1 City

(A) ***City Council.*** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) ***Engineer.*** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure

proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) ***Project Manager.*** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. □nless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.

(D) ***Design Professional.*** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.

2□2 Contractor□

(A) ***General.*** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) ***Responsibility for the Work and Risk of Loss.*** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested, but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism or theft.

(C) ***Project Administration.*** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) ***On-Site Superintendent.*** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act

and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) ***Standards.*** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents and Laws and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) ***Meetings.*** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend a pre-construction conference, if requested by City, as well as weekly Project progress meetings scheduled with City. If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) ***Construction Records.*** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site□primary Work activities□major deliveries□problems encountered, including injuries, if any□weather and site conditions□and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with Subcontractors, and records of meetings with Subcontractors. □pon request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) ***Responsible Party.*** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. □pon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) ***Correction of Defects.*** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts or equipment. Workmanship, materials, parts or equipment that do not conform to the requirements under the Plans, Specifications and every other Contract Document, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five

days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(□) ***Contractor's Records.*** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's records relating to the Project during Contractor's normal business hours. The record-keeping requirements set forth in this subsection 2.2(□) will survive expiration or termination of the Contract.

(□) ***Copies of Project Documents.*** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, Addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

2□3 Subcontractors□

(A) ***General.*** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business license before performing any Work.

(B) ***Contractual Obligations.*** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) ***Termination.*** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) ***Substitution of Subcontractor.*** If Contractor requests substitution of a listed Subcontractor under Public Contract Code □4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code □4107(a), City may request removal of the Subcontractor from the Project. □pon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code □4107, as applicable.

2□4 Coordination of Wor□□

(A) ***Concurrent Work.*** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any utility company or agency or another contractor or subcontractor.

(B) ***Coordination.*** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely

performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

2.5 Submittals Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.

(A) ***General.*** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) ***Time and Manner of Submission.*** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.

(C) ***Required Contents.*** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).

(D) ***Required Corrections.*** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal.

(E) ***Effect of Review and Acceptance.*** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

(F) ***Enforcement.*** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, or Inspector.

(G) ***Excessive RFIs.*** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

2.6 Shop Drawings When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components

requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections any deviations from the Contract Documents and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.

2 7 Access to Wor Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.

2 8 Personnel Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. pon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including Laws pertaining to health and safety. Any such discharged personnel may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

Article 3 - Contract Documents

3 1 Interpretation of Contract Documents

(A) ***Plans and Specifications.*** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) ***Duty to Notify and Seek Direction.*** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy, omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on Contractor. If Contractor proceeds with the related Work before obtaining City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or

defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Article 5 and 6.)

(C) ***Figures and Dimensions.*** Figures control over scaled dimensions.

(D) ***Technical or Trade Terms.*** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) ***Measurements.*** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) ***Compliance with Laws.*** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.

3 2 Order of Precedence Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. nless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version

(A) Change Orders
(B) Addenda
(C) Contract
(D) Notice to Proceed
(E) Attachment B – Federal Contract Requirements (only if used)
(F) Special Conditions
(G) General Conditions
(H) Payment and Performance Bonds
(I) Specifications
( ) Plans
( ) Notice of Potential Award
(L) Notice Inviting Bids
(M) Attachment A – Federal Bidding Requirements (only if used)
(N) Instructions to Bidders
(O) Contractor's Bid Proposal and attachments
(P) the City's standard specifications, as applicable and
( ) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications or Caltrans Special Provisions.

3 3 Caltrans Standard Specifications Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the most current edition of Caltrans' Standard Specifications, unless otherwise specified ("Caltrans Standard Specifications"), including the most current amendments as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications or Special Provisions

(A) ***Limitations.*** The "General Provisions" of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

(B) ***Conflicts or Inconsistencies.*** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) ***Meanings.*** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows□

(1) Any reference to the "Engineer" is deemed to mean the City Engineer.

(2) Any reference to the "Special Provisions" is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.

(3) Any reference to the "Department" or "State" is deemed to mean City.

3□4 For Reference Only□ Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as "For Reference Only." Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.

3□5 Current Versions□ □nless otherwise specified by City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code or regulation in effect at the time the Contract is signed.

3□6 Conformed Copies□ If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor's responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor's sole expense.

3□7 Ownership□ No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is deemed to have conveyed the copyright in any designs, drawings, specifications, Shop Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

Article 4 - Bonds, Indemnity, and Insurance

4□1 Payment and Performance Bonds□ Within ten days following issuance of the Notice of Potential Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100□ of the Contract Price, and each

executed by Contractor and its surety using the bond forms included with the Contract Documents.

(A) ***Surety*** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.

(B) ***Supplemental Bonds for Increase in Contract Price*** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100 of the increased Contract Price and using the bond forms included with the Contract Documents.

4 2 Indemnity To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.

4 3 Insurance No later than ten days following issuance of the Notice of Potential Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract, through the date of City's acceptance of the Project. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance will not be construed to limit Contractor's liability under this Contract or to fulfill Contractor's indemnification obligations under this Contract.

(A) ***Policies and Limits.*** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions

(1) *Commercial General Liability ("CGL") Insurance:* The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general

liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protected coverage, contractual liability, products and completed operations, and broad form property damage, with limits of at least $2,000,000 per occurrence and at least $4,000,000 general aggregate. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements.

(2) *Automobile Liability Insurance:* The automobile liability insurance policy must provide coverage of at least $2,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired and non-owned auto liability.

(3) *Workers' Compensation Insurance and Employer's Liability:* The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least $1,000,000 or as otherwise required by the statute. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance:* The pollution liability insurance policy must be issued on an occurrence basis, providing coverage of at least $2,000,000 for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work.

(5) *Builder's Risk Insurance:* The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City.

(B) ***Notice.*** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days written notice to City, unless due to non-payment of premiums, in which case ten days written notice must be made to City.

(C) ***Waiver of Subrogation.*** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) ***Required Endorsements.*** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements□

(1) The City, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 or an equivalent form approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) ***Contractor's Responsibilities.*** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage.

(F) ***Deductibles and Self-Insured Retentions***. Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of $100,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) ***Subcontractors.*** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

Article 5 - Contract Time

5.1 Time is of the Essence Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) ***General.*** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) ***Authorization.*** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) ***Rate of Progress.*** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

5 2 Schedule Requirements Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) ***Baseline (As-Planned) Schedule.*** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) *Specialized Materials Ordering*. Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase order date(s).

(B) ***City's Review of Schedules.*** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) ***Progress Schedules.*** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must show how the actual progress of the Work as constructed to date compares to the baseline schedule reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time and identify any actual or potential impacts

to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) *Float*. The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) *Failure to Submit Schedule*. Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section, or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to ten percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code 7102.

(D) ***Recovery Schedule.*** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) ***Effect of Acceptance.*** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed by City. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) ***Posting.*** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) ***Reservation of Rights.*** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) ***Authorized Working Days and Times.*** Contractor is limited to working Monday through Friday, excluding holidays, during City's normal business hours, except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

5 3 Delay and Extensions of Contract Time

(A) ***Notice of Delay.*** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) ***Excusable Delay.*** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, and diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) ***Weather Delays.*** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40□ of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

(1) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.

(2) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

(3) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) ***Non-Excusable Delay.*** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight and diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by□

(1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years□

(2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time□

(3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time□

(4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor□

(5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers□

(6) performance or non-performance by Contractor's Subcontractors or suppliers□

(7) the time required to respond to excessive RFIs (see Section 2.5(G))□

(8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals□

(9) time required for repair of, re-testing, or re-inspection of defective Work□

(10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work□or

(11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) ***Compensable Delay.*** Pursuant to Public Contract Code □7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to causes that are beyond the control of either City or Contractor, including Weather Delay Days, discovery of Historic or Archeological Items pursuant to Section 7.18, or the actions or inactions of third parties or other agencies, is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) ***Recoverable Costs.*** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50□ of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) ***Request for Extension of Contract Time or Recoverable Costs.*** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within ten calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-

efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) *Required Contents.* The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that the delay was an Excusable or Compensable Delay, as defined above Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts the delay will unavoidably result in delaying Final Completion and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor fails to achieve Final Completion within the Contract Time due to Contractor's Non-Excusable Delay, City will charge Contractor in the amount specified in the Contract for each calendar day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegee.

(A) ***Liquidated Damages.*** Liquidated damages will not be assessed for any Excusable or Compensable Delay, as set forth above.

(B) ***Milestones.*** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) ***Setoff.*** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) ***Occupancy or Use.*** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) ***Other Remedies.*** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

Article 6 - Contract Modification

6.1 Contract Modification. Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a "no-cost" Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor's warranty obligations pursuant to Article 11 or any obligations of Contractor's bond sureties.

(A) ***City-Directed Changes.*** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation for cost savings resulting from "value engineering" pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) ***Disputes.*** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute, City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor's sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) ***Extra Work.*** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must promptly notify the Engineer in writing, specifically identifying the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit no later than the following Working Day, a daily report of the Extra Work performed that day and the related costs, together with copies of certified payroll, invoices, and other documentation substantiating the costs ("Extra Work Report"). The Engineer will make any adjustments to Contractor's Extra Work Report(s) based on the Engineer's records of the Work. When an Extra Work Report(s) is agreed on and signed by both City and Contractor, the Extra Work Report(s) will become the basis for payment under a duly authorized and signed Change Order. Failure to submit the required documentation by close of business on the next Working Day is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) ***Minor Changes and RFIs.*** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) ***Remedy for Non-Compliance.*** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

6.2 Contractor Change Order Requests Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) ***Time for Submission.*** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within ten calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) ***Required Contents.*** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) ***Required Documentation.*** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. □pon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) ***Required Form.*** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) ***Certification.*** All Change Order requests must be signed by Contractor and must include the following certification□

> "The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived."

6□3 Adjustments to Contract Price□ The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work, and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented costs (including restocking fees), reasonably incurred before Contractor was notified of the City's intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) ***Unit Pricing.*** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) ***Lump Sum.*** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) ***Time and Materials.*** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor's performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work), will include allowed markup for overhead, profit, and other indirect costs, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15□ □

(1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15□ markup□

(2) All direct material costs provided by the Contractor, including sales tax, plus 15□ markup□

(3) All direct plant and equipment rental costs provided by the Contractor, plus 15□ markup□

(4) All direct additional subcontract costs plus 10□ markup for Work performed by Subcontractors□and

(5) Increased bond or insurance premium costs computed at 1.5□ of total of the previous four sums.

6□4 Unilateral Change Order□ If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6□5 Non-Compliance Deemed Waiver□ Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

Article 7 - General Construction Provisions

7□1 Permits, Fees, Business License, and Taxes□

(A) ***Permits, Fees, and City Business License.*** Contractor must obtain and pay for all permits, fees, or licenses required to perform the Work, including a City business license. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses required for the Work.

(B) ***Taxes.*** Contractor must pay for all taxes on labor, material and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7□2 Temporary Facilities□ Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be

approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities may be included in the Specifications or Special Conditions.

(A) ***Utilities.*** Contractor must install and maintain the power, water, sewer and all other utilities required for the Project site, including the piping, wiring, internet and wifi connections, and any related equipment necessary to maintain the temporary facilities.

(B) ***Removal and Repair.*** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

7 3 Noninterference and Site Management Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours.

(A) ***Offsite Acquisition.*** nless otherwise provided by City, Contractor must acquire, use and dispose of, at its sole expense, any Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) ***Offsite Staging Area and Field Office*** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) ***Traffic Management.*** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise required to ensure public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, or pedestrian traffic.

7 4 Signs No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

7 5 Project Site and Nearby Property Protections

(A) ***General.*** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor

must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work□any Worksite, including the Project site□City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(B) ***Securing Project Site.*** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) ***Unforeseen Conditions.*** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) ***Support; Adjacent Properties.*** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) ***Notification of Property Damage.*** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project. Contractor must immediately provide a written report to City of any such property damage in excess of $500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include (1) the location and nature of the damage, and the owner of the property, if known (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

7.6 Materials and Equipment

(A) ***General.*** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) ***City-Provided.*** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) ***Intellectual Property Rights.*** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices or processes that are incorporated into the Work. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights in violation of this provision.

7.7 Substitutions

(A) ***"Or Equal."*** Any Specification designating a material, product, or thing (collectively, "item") or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item or service that is used solely for the purpose of describing the type of item or service desired, will be deemed to be followed by the words "or equal." A substitution will only be approved if it is a true "equal" item or service in every aspect of design, function, and quality, as

determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) ***Request for Substitution.*** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval in advance, within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(C) ***Substantiation.*** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor's failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) ***Burden of Proving Equality.*** Contractor has the burden of proving the equality of the proposed substitution at Contractor's sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City's determination is final.

(E) ***Approval or Rejection.*** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) ***Contractor's Obligations.*** City's approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7 8 Testing and Inspection

(A) ***General.*** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and locations during construction and/or fabrication and at any Worksite, including at shops and yards as well as at the Project site. All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for testing or inspection. Neither City's inspection or testing of Work, nor its failure to do so, operate to waive or limit Contractor's duty to complete the Work in accordance with the Contract Documents.

(B) ***Scheduling and Notification.*** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor's expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must notify the Engineer no later than noon of the Working Day before any inspection or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor.

(C) ***Responsibility for Costs.*** City will bear the initial cost of inspection and testing to be performed by independent testing consultants retained by City, subject to the following exceptions□

(1) Contractor will be responsible for the costs of any subsequent tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.

(2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready or Contractor fails to appear for a scheduled inspection.

(3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.

(4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.

(5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) ***Contractor's Obligations.*** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Any Work done without the required inspection(s) will also be subject to rejection by City.

(E) ***Distant Locations.*** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) ***Final Inspection.*** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

7□9 Project Site Conditions and Maintenance□ Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided, and properly maintained and serviced for all workers on the Project site, located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) ***Air Emissions Control***□ Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws.

(B) ***Dust and Debris***□ Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use

the minimum necessary. Contractor must take all necessary steps to keep waste water out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) ***Clean up.*** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) ***Disposal.*** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) ***Completion.*** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, signs, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) ***Non-Compliance.*** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and deduct the cost from any amounts due or to become due to Contractor.

7.10 Instructions and Manuals Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) ***Submittal Requirements.*** All manufacturers' application or installation instructions must be provided to City at least ten days prior to the first such application. The instructions and manuals, along with any required guarantees, must be delivered to City for review.

(B) ***Training.*** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

7 11 As-built Drawings Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) ***Duty to Update.*** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) ***Final Completion.*** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

7 12 Existing Utilities

(A) ***General.*** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) ***Unidentified Utilities.*** Pursuant to Government Code 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be

assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

7□13 Notice of Excavation□ Contractor must comply with all applicable requirements in Government Code □□ 4216 through 4216.5, which are incorporated by reference herein. Government Code □ 4216.2 requires that, except in an emergency, Contractor must contact the appropriate regional notification center, or □nderground Services Alert, at least two working days, but not more than 14 calendar days, before starting any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations. Contractor may not begin excavation until it has obtained and submitted to Engineer an inquiry identification number from □nderground Services Alert.

7□14 Trenching and Excavations of Four Feet or More□ As required by Public Contract Code □ 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) ***Duty to Notify.*** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions□

(1) Material that Contractor believes may be a hazardous waste, as defined in □ 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing Laws□

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids□or

(3) □nknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) ***City Investigation.*** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) ***Disputes.*** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

7□15 Trenching of Five Feet or More□ As required by Labor Code □ 6705, if the Contract Price exceeds $25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it must be prepared by a California registered civil or structural engineer. □se of a shoring,

sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

7.16 New Utility Connections. Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

7.17 Lines and Grades. Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project. All stakes or marks must be set by a California licensed surveyor or a California registered civil engineer. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.

7.18 Historic or Archeological Items.

(A) ***Contractor's Obligations.*** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) ***Discovery; Cessation of Work.*** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.

7.19 Environmental Control. Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater, and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.

(A) ***Stormwater Permit.*** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) ***Contractor's Obligations.*** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws

governing discharge of stormwater, including applicable municipal stormwater management programs.

7 20 Noise Control Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

7 21 Mined Materials Pursuant to the Surface Mining and Reclamation Act of 1975, Public Resources Code 2710 et seq., any purchase of mined materials, such as construction aggregate, sand, gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation included on the AB 3098 List, which is available online at ftp//ftp.consrv.ca.gov/pub/omr/AB3098 20List/AB3908List.pdf.

Article 8 - Payment

8 1 Schedule of Values Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) ***Measurements for Unit Price Work.*** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) ***Deleted or Reduced Work.*** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

8 2 Progress Payments Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) ***Application for Payment.*** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) ***Payment of Undisputed Amounts.*** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may withhold additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), oint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125 of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner and within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner and within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated cost to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

( ) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

8.4 Early Occupancy. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

8.5 Retention. City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment of Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work.

Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's acceptance of the Project.

(A) ***Substitution of Securities.*** As provided by Public Contract Code □22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code □22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (f) of Public Contract Code □22300 ("Escrow Agreement"), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City's rights pursuant to these Contract Documents to withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or backcharges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) ***Release of Undisputed Retention.*** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code □7107(c).

8□6 Payment to Subcontractors and Suppliers□Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) ***Withholding for Stop Notice.*** Pursuant to Civil Code □9358, City will withhold 125□ of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.

(B) ***Joint Checks.*** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney's Office. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

8.7 Final Payment. Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.

8.8 Release of Claims. City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.

8.9 Warranty of Title. Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 - Labor Provisions

9.1 Discrimination Prohibited. Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.

9.2 Labor Code Requirements.

(A) ***Eight Hour Day.*** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.

(B) ***Penalty.*** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of $25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.

(C) ***Apprentices.*** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.

(D) ***Notices.*** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.

9.3 Prevailing Wages. Each worker performing Work under this Contract that is covered under Labor Code §§ 1720 or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at http://www.dir.ca.gov/dlsr. Contractor must post a copy of the applicable prevailing rates at the Project site.

(A) ***Penalties.*** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to $200.00 for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) ***Federal Requirements.*** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code §§ 1771.4, 1776, and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for monthly electronic submission of payroll records to the DIR.

(A) ***Contractor and Subcontractor Obligations***. Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct; and

(2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) ***Certified Record.*** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) ***Enforcement.*** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor or Subcontractor will forfeit a penalty of $100.00 per day, or portion thereof, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

9.5 Labor Compliance. Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

Article 10 - Safety Provisions

10.1 Safety Precautions and Programs. Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.

(A) ***Reporting Requirements.*** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must include (1) the name and address of the injured or deceased person (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) ***Legal Compliance.*** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.

(C) ***Contractor's Obligations.*** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) ***Remedies.*** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

10.2 Hazardous Materials. Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

10.3 Material Safety. Contractor is solely responsible for complying with 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) ***Contractor Obligations.*** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) ***Labeling.*** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

10.4 Hazardous Condition. Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

10.5 Emergencies. In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

Article 11 - Completion and Warranty Provisions

11.1 Final Completion.

(A) ***Final Inspection and Punch List.*** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) ***Requirements for Final Completion.*** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) ***Acceptance.*** The Project will be considered accepted upon City Council action during a public meeting to accept the Project, unless the Engineer is authorized to accept

the Project, in which case the Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) ***Final Payment and Release of Retention.*** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150 of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

11 2 Warranty

(A) ***General.*** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) ***Warranty Period.*** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) ***Warranty Documents.*** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) ***Subcontractors.*** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) ***Contractor's Obligations.*** pon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) ***City's Remedies.*** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) ***Emergency Repairs.*** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) ***Reimbursement.*** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein, in addition to any and all costs City incurs to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion.

(A) ***Non-Waiver.*** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) ***City's Responsibility.*** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

11.4 Substantial Completion. For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

Article 12 - Dispute Resolution

12.1 Claims. This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) ***Definition.*** "Claim" means a separate demand by Contractor, submitted in writing by registered or certified mail with return receipt requested, for a change in the Contract Time, including a time extension or relief from liquidated damages, or a change in the Contract Price, when the demand has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been

rejected or disputed by City, in whole or in part. A Claim may also include that portion of a unilateral Change Order that is disputed by the Contractor.

(B) ***Limitations.*** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(C) ***Scope of Article.*** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code □9204 and □20104 et seq., which are incorporated by reference herein.

(D) ***No Work Delay.*** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(E) ***Informal Resolution.*** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

12□2 Claims Submission□ The following requirements apply to any Claim subject to this Article□

(A) ***Substantiation.*** The Claim must be submitted to City in writing, clearly identified as a "Claim" submitted pursuant to this Article 12 and must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) ***Claim Format and Content.*** A Claim must be submitted in the following format□

(1) Provide a cover letter, specifically identifying the submission as a "Claim" submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).

(2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.

(3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for <u>each</u> separate issue or Claim□

a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position.

b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above).

c. A chronology of relevant events and

d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.

(4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known, Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative.

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived."

(C) ***Submission Deadlines.***

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 15 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 15 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 15 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. ***Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.***

12.3 City's Response. City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) ***Additional Information.*** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) ***Non-Waiver.*** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Meet and Confer. If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to notify City of the dispute and demand an informal conference to meet and confer in writing within the specified time, Contractor's Claim will be deemed waived.

(A) ***Schedule Meet and Confer.*** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) ***Location for Meet and Confer.*** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) ***Written Statement After Meet and Confer.*** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) ***Submission to Mediation.*** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

12.5 Mediation and Government Code Claims.

(A) ***Mediation.*** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately

responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) ***Government Code Claims***

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

12.6 Tort Claims. This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.

12.7 Arbitration. It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.

12.8 Burden of Proof and Limitations. Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite, lost profits, loss of productivity, lost opportunity to work on other projects, diminished bonding capacity, increased cost of financing for the Project, extended capital costs, non-availability of labor, material or equipment due to delays, or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.

12.9 Legal Proceedings. In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.

12.10 Other Disputes. The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13 - Suspension and Termination

13.1 Suspension for Cause. In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.

(A) ***Notice of Suspension.*** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension, comply with directions for cleaning and securing the Worksite, and protect the completed and in-progress Work and materials. Contractor is solely responsible for any damages or loss resulting from its failure to adequately secure and protect the Project.

(B) ***Resumption of Work.*** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified, and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.

(C) ***Failure to Comply.*** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(D) ***No Duty to Suspend.*** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

13.2 Suspension for Convenience. City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

13.3 Termination for Default. City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) ***Default.*** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time, Contractor's refusal or failure to make prompt

payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) ***Notice of Default and Opportunity to Cure.*** pon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) ***Termination.*** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) ***Waiver.*** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contactor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) ***Compensation*** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) ***Wrongful Termination.*** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including special or consequential damages, lost

opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

13.4 Termination for Convenience. City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) ***Compensation to Contractor.*** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation.

(1) *Completed Work.* The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work.

(2) *Demobilization.* Demobilization costs specified in the schedule of values, or if demobilization costs were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs.and

(3) *Termination Markup.* Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) ***Disputes.*** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

13.5 Actions Upon Termination for Default or Convenience. The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) ***General.*** .pon termination, City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) ***Submittals.*** .nless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) ***Close Out Requirements.*** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following.

(1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksite(s).

(2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.

(3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.

(4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.

(5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) ***Payment Upon Termination.*** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance with the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) ***Continuing Obligations.*** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

Article 14 - Miscellaneous Provisions

14 1 Assignment of Unfair Business Practice Claims nder Public Contract Code 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 .S.C. 15) or under the Cartwright Act (Chapter 2 (commencing with 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.

14 2 Provisions Deemed Inserted Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.

14 3 Waiver City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.

14.4 Titles, Headings, and Groupings The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.

14.5 Statutory and Regulatory References With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that bids were due.

14.6 Survival The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6, of Section 12, General Provisions and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7, Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

Special Conditions

[Insert Project Special Conditions here, and, if applicable, add any of the optional special conditions provided below.]

Optional Special Conditions

Instructions for Use of Optional Special Conditions:

The following provisions are a limited menu of generic optional provisions for the Special Conditions, each of which may or may not be used, as applicable, *in addition* to any other Project-specific or City-specific provisions that should be included in the Special Conditions.

A brief explanation of each provision is included in *italics* before the provision itself. The explanation is strictly for internal use and should not be reproduced in the Special Conditions included with the Contract Documents. Only the provision itself should be copied and pasted into the Special Conditions. **Delete the explanations and notes (*in italics*) and any unused provisions**.

Since the ultimate numbering of these provisions will depend on which provisions are selected for use in the Special Conditions, blanks are provided as placeholders for the section numbers in the final document.

The following provision should be completed as indicated, and used to specify the days and times during which the Contractor is permitted to perform the Work. Cross-reference: General Conditions Section 5.2.

□□□ **Authorized Wor□ Days and Hours□**

□□□**1** **Authorized Wor□ Days□** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City□
□□□

The following provision may be used to require a pre-construction conference, and should be adapted for the particular project.

□□□ ***Pre-Construction Conference.*** City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed, and Contractor must present City with the following information or documents at the meeting for City's review and acceptance before the Work commences□

□□**1** Name, 24-hour contact information, and qualifications of the proposed on-site superintendent□

□□**2** List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours□

□□**3** Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity□

□□**4** If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer□

□□**5** Draft baseline schedule for the Work as required under Section 5.2, to be finalized within ten days after City issues the Notice to Proceed□

□□**6** Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor□

□□**7** Schedule with list of Project submittals that require City review, and list of the proposed material suppliers□

□□**8** Plan for coordination with affected utility owner(s) and compliance with any related permit requirements□

□□**9** Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits□

□□**10** If requested by City, Contractor's cash flow projections; and

□□**11** Any other documents specified in the Special Conditions or Notice of Potential Award.

This optional provision is intended for modifying the default insurance requirements under Section 4.3 of the General Conditions by modifying the CGL limits, waiving the pollution liability insurance, and/or waiving the builder's risk, as indicated in the separate sub-provisions.

□□□ **Insurance Requirements**□ The insurance requirements under Section 4.3 of the General Conditions are modified for this Contract, as set forth below. Except as expressly stated below, all other provisions in Section 4.3 are unchanged and remain in full force and effect.

The following optional sub-provision may be used to adjust the default insurance limits for CGL coverage in Section 4.3 of the General Conditions, subject to prior consultation with and direction from the City's Risk Manager.

□□□□□ **Commercial General Liability ("CGL") Insurance.** The CGL insurance policy limits set forth in subsection 4.3(A)(1) of the General Conditions are modified for this Contract to require at least $□□□□□□□□□□□□□□□□□ per occurrence and at least $□□□□□□□□□□□□□□□□□□ general aggregate.

The following optional sub-provision may be used if pollution liability insurance is not necessary for the project. Consult with the City's Risk Manager to confirm whether pollution liability insurance is needed for a project.

□□□□□ **Pollution Liability Insurance Waived**□ The pollution liability insurance policy requirement set forth in subsection 4.3(A)(4) of the General Conditions is hereby waived and does not apply to this Contract.

The following optional sub-provision should only be used if builder's risk insurance is <u>not</u> applicable, such as for horizontal projects. Consult with the City's Risk Manager to confirm whether builder's risk insurance is required for a project.

□□□□□ **Builders Ris□ Insurance Waived**□ The builder's risk insurance policy requirement set forth in subsection 4.3(A)(5) of the General Conditions is hereby waived and does not apply to this Contract.

The following provision may be most useful for longer projects which may extend into the rainy season. As stated, it is intended to supplement Sections 5.2 and 5.3 of the General Conditions. Using reliable data for the Project location, based on normal rainfall patterns over an extended period, e.g., 5-10 years, complete as indicated.

□□□ **Normal Weather Delay Days**□ This provision is intended to supplement the requirements of General Conditions Section 5.2 on Schedule Requirements and Section 5.3 on Delays and Extensions of Contract Time. Based on historic records for the Project location, Contractor's schedule should assume the following number of normal Weather Delay Days for each month□

Month	**# Normal Weather Delay Days**
□anuary	□□

February	□□
March	□□
April	□□
May	□□
□une	□□
□uly	□□
August	□□
September	□□
October	□□
November	□□
December	□□

Weather Delay Days which do not occur during a given month based on the number of days allocated for that month (above) do not carry over to another month.

The following provision may be used when the Project is to be coordinated by a Construction Manager. The language should be tailored to align with the contract between the City and the Construction Manager, and also to reflect Project-specific procedures and requirements.

□□□ **Construction Manager Role and Authority**□ □□□□□□□□□□□□□□□□□□□□□□ is the Construction Manager for this Project. The Construction Manager will assist City in the management of the construction of the Project. The Construction Manager may perform services in the areas of supervision and coordination of the work of Contractor and/or other contractors, scheduling the Work, monitoring the progress of the Work, providing City with evaluations and recommendations concerning the quality of the Work, recommending the approval of progress payments to Contractor, or other services for the Project in accordance with the Construction Manager's contract with City.

□□**1** **Communications**□ Contractor must submit all notices and communications relating to the Work directly to the Construction Manager in writing, as follows□

<insert contact information>

With a copy to the Engineer□

□*insert contact information>*

□□**2** **On-Site Management and Communication Procedures**□ The Construction Manager will provide and maintain a management team on the Project site to provide contract administration as an agent of City, and will establish and implement coordination and communication procedures among City, the Design Professional, Contractor, and others.

□□**3** **Contract Administration Procedures**□ The Construction Manager will establish and implement procedures for reviewing and processing requests for clarifications and interpretations of the Contract Documents, Shop Drawings, samples, other submittals, schedule adjustments, Change Order proposals, written proposals for substitutions, payment applications, and maintenance of logs.

□□**4** **Pre-Construction Conference**□ Contractor will attend the pre-construction conference, during which the Construction Manager will review the Contract administration procedures and Project requirements.

□□**5** **Contractor's Construction Schedule.** The Construction Manager will review Contractor's construction schedules and will verify that each schedule is prepared in accordance with the requirements of the Contract Documents.

The following should be used for federally funded projects, as applicable. It contains those provisions required under Appendix II to Part 200 of Title 2 of the Code of Federal Regulations (as of 11/10/20) which are not already addressed elsewhere in the Contract Documents. Specific federal funding requirements may vary between federal agencies and may be revised from time to time. ***These provisions should be used as needed to comply with applicable federal funding requirements.*** *Delete provisions that are not applicable. Consult the funding agency representative for further information and direction.*

□□□ **Federally Funded Projects**□ This Project is funded in whole or in part by federal funds and subject to the following federal requirements under the terms of the funding agreement(s) between City and the federal agency or agencies providing federal funds, which are fully incorporated by this reference and made part of the Contract Documents. Copies of any funding agreement between City and a funding agency will be made available upon request.

□□□□□ **Equal Opportunity**□ During the performance of this Contract, the Contractor agrees as follows□

(A) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action will include, but not be limited to the following□Employment, upgrading, demotion, or transfer□recruitment or recruitment advertising□layoff or termination□rates of pay or other forms of compensation□and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(B) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(C) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision will not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in

furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(D) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the labor union or workers' representatives of the Contractor's commitments under this section, and will post copies of the notice in conspicuous places available to employees and applicants for employment.

(E) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the nited States Secretary of Labor.

(F) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the nited States Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the nited States Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(G) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further federal government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the nited States Secretary of Labor, or as otherwise provided by law.

(H) The Contractor will include the portion of the sentence immediately preceding paragraph (A) and the provisions of paragraphs (A) through (H) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the nited States Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the City or funding agency may direct as a means of enforcing such provisions, including sanctions for noncompliance *Provided,* however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the City or funding agency, the Contractor may request the nited States to enter into such litigation to protect the interests of the nited States.

Davis-Bacon Act Contractor will pay wages to laborers and mechanics, not less than once a week, and at a rate not less than the current federal prevailing wages specified in the Davis-Bacon Act Wage Determination attached hereto and incorporated herein. By entering into this Contract, Contractor accepts the attached Wage Determination. The current Davis-Bacon Act Wage Determination, which may be accessed at https //www.wdol.gov/dba.aspx must be printed and included with the Contract Documents.

□□□□□ **Copeland "Anti-Kickback" Act.** Contractor will comply with 18 □.S.C. □874, 40 □.S.C. □3145, and the requirements of 29 CFR Part 3 as may be applicable, which are incorporated by reference into this Contract. Contractor and Subcontractors must insert this requirement into subcontracts of any tier. Contractor is responsible for compliance with these requirements by each Subcontractor of any tier.

□□□□□ **Contract Wor□ Hours and Safety Standards Act**□ In addition to the California state law requirements in Article 9 of the General Conditions, Contractor and each Subcontractor must comply with the requirements of the federal Contract Work Hours and Safety Standards Act, as set forth in 40 □.S.C. 3701-3708, as supplemented by the regulations set forth in 29 CFR Part 5, as may be amended from time to time, which are fully incorporated herein, including□

(A) No Contractor or Subcontractor will require or permit any laborer or mechanic performing Work for the Project to work in excess of 40 hours in a work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours during that work week.

(B) If Contractor or a Subcontractor violates this requirement, the Contractor and any responsible Subcontractor will be liable for the unpaid wages. In addition, the Contractor and Subcontractor will be liable to the □nited States for liquidated damages. The liquidated damages will be computed with respect to each individual worker as specified under federal law.

(C) Contractor and Subcontractors must insert this requirement into subcontracts of any tier. Contractor is responsible for compliance with these requirements by each Subcontractor of any tier.

□□□□□ **Rights to Inventions**□ If the federal funding for this Contract meets the definition of "funding agreement" under 37 CFR □401.2(a) and constitutes an agreement between the City and a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms □nder Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency, will apply to this Contract and are fully incorporated into the Contract Documents by this reference.

□□□□□ **Clean Air Act**□ If the Contract is for an amount in excess of $150,000, Contractor and each Subcontractor must comply with the requirements of the Clean Air Act, as amended, (42 □.S.C. □□7401-7671q), which are fully incorporated into the Contract Documents by this reference, including requirements for reporting violations to the awarding agency and the applicable Regional Office for the Environmental Protection Agency. Contractor and Subcontractors must insert this requirement into subcontracts of any tier in excess of $150,000.

□□□□□ **Federal Water Pollution Control Act**□ If the Contract is for an amount in excess of $150,000, the requirements of the Federal Water Pollution Control Act (33 □.S.C. □□1251-1387) apply to this Contract and are fully incorporated into the Contract Documents by this reference, including requirements for reporting violations to the awarding agency and the applicable Regional Office for the

Environmental Protection Agency requirements for reporting violations. Contractor and Subcontractors must insert this requirement into subcontracts of any tier in excess of $150,000.

□□□□□ **Suspension and Debarment**□ Contractor is required to verify that neither it, nor its principals, as defined at 2 CFR □ 180.995, or its affiliates, as defined at 2 CFR □ 180.905, are excluded or disqualified, as defined at 2 CFR □□ 180.935 and 180.940. Contractor must comply with 2 CFR Part 180, subpart C and 2 CFR Part 3000, subpart C, and must include a provision requiring compliance with these regulations in any subcontract of any tier. If it is later determined that the Contractor did not comply with the applicable subparts, the Federal Government may pursue available remedies, including, but not limited to, suspension and/or debarment. By submitting a bid and entering into this Contract, Contractor agrees to comply with these requirements.

□□□□□ **Byrd Anti-Lobbying Amendment**□ If the Contract is for an amount in excess of $100,000, Contractor must comply with the Byrd Anti-Lobbying Amendment (31 □.S.C. □ 1352) and file the certification provided at 44 CFR Part 18, Appendix A, and any disclosures, with the applicable federal agency. Each tier certifies to the tier above that it will not and has not used federal-appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 □.S.C. □ 1352. Each tier will also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures will be forwarded from tier to tier up to the recipient.

□□□□□ **Procurement of Recovered Materials**. The requirements of □ 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act at 42 □.S.C. □ 6962, apply to this Contract and are fully incorporated into the Contract Documents by this reference. For individual purchases of $10,000 or more, Contractor will make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired (A) competitively within the Contract schedule, (B) in conformance with Contract performance requirements, or (C) at a reasonable price. Information on this requirement, including a list of EPA-designated items, is available at the EPA's Comprehensive Procurement Guidelines website□ https□//www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

□□□□□ **Prohibition on Covered Telecommunications**□ Federal loan or grant funds must not be obligated or expended to procure or obtain, extend or renew a contract to procure or obtain, or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, as further specified in 2 CFR □ 200.216, which is fully incorporated into the Contract Documents by this reference. Covered telecommunications equipment or services includes equipment produced by, services provided by, or services using equipment produced by□Huawei Technologies Company or □TE Corporation (or any subsidiary or affiliate of such entities)□Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities)□or an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation,

reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

□□□□□ **Domestic Preferences for Procurements**□As appropriate and to the extent consistent with Laws, the City should, to the greatest extent practicable under a federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the □nited States, as further specified in 2 CFR □200.322, which is fully incorporated into the Contract Documents by this reference, including, but not limited to, iron, aluminum, steel, cement, and other manufactured products, as specified therein. The requirements of 2 CFR □ 200.322 must be included in all subcontracts and purchase orders for work or products under the federal award.

The following optional provision may be used to attach and incorporate federal contract requirements for projects administered under Caltrans' Local Assistance Procedures Manual ("LAPM"), as specified in Chapter 12 of the LAPM and exhibits thereto, including "Appendix E" to the Standard Title VI/Non-Discrimination Assurances (DOT Order No. 1050.2A), effective September 17, 2020, which may be downloaded from https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/title-vi/appendix-e-of-the-title-v-i-assurances.pdf. Federal law and LAPM requirements are frequently amended. ***DELETE ATTACHMENT B IF NOT APPLICABLE.*** *Be sure to use the most current version of the LAPM, which may be downloaded from: https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/local-assistance-procedures-manual-lapm.*

□□□ **Federal Contract Requirements**□This Project is funded in whole or in part by federal funds administered under Caltrans' Local Assistance Procedures Manual ("LAPM"). LAPM contract requirements are provided in Attachment B - Federal Contract Requirements. Contractor must comply with the requirements set forth in Attachment B.

The following provision may be used to provide more detail on the Contractor's post-construction restoration requirements. This provision may be adapted by adding Project-Specific requirements or deleting requirements that are not applicable. Cross-reference: General Conditions Section 7.9(E).

□□□ **Close Out Requirements**□Contractor's close out requirements include the following, if applicable□

□□**1** Contractor must replace, with thermoplastic, any existing striping within and adjacent to the Project site that is damaged during the Work. Partially damaged striping must be replaced in its entirety.

□□**2** Contractor must replace any survey monuments that are damaged or removed during the Work, with a Record of Survey filed by a licensed land surveyor as required by California law.

□□**3** Before removing any traffic control or street signs on the Project site, Contractor must take photographs showing their original locations. □pon completion of each phase of construction, Contractor must temporarily reset the signs at those

locations. Contractor must then replace the signs permanently upon completion of the Work and the cost of their removal and replacement must be included in the Bid Proposal.

□□**4** Contractor must maintain any rural mail boxes on the Project site and relocate them to their permanent locations as soon as possible in the course of the Work, to the satisfaction of the affected property owners and the postal service.

The following provision may be used to expressly limit circumstances under which a contractor may be entitled to share in the cost savings from value engineering proposed by the Contractor. Reference Public Contract Code § 7107.

□□□ **Value Engineering**□ The Contractor may be entitled to additional compensation for cost reduction changes made pursuant to a value engineering proposal submitted by the Contractor, subject to the limitations of Public Contract Code □7107, and in strict compliance with this Section □□. Contractor will not be entitled to any such additional compensation unless all of the following requirements have been met□

□□**1** The Contractor must submit a written proposal for changes to the Plans or Specifications for the Project, in which it□

(A) Identifies the written proposal as a proposal for cost reduction changes with reference to this section□

(B) Clearly and specifically identifies the proposed cost reduction changes by describing in detail each of the changes proposed with specific references to each of the Specifications and Plans involved in the proposed changes, and providing proposed revised Specifications and Plans as applicable□and

(C) Estimates the net amount of the cost reduction and provides the basis for that estimate.

□□**2** The proposed changes have been identified and developed solely by the Contractor, and not, in whole or in part, by the City.

□□**3** The City accepts the proposed changes in whole or in part in a writing signed by the Engineer. The Contractor will only be entitled to additional compensation for those changes specifically accepted by the City. The Engineer will determine the net savings in construction costs from any such changes that are both accepted and implemented by the City. Contractor will not be entitled to more than 50□ of the net savings as determined by the Engineer, acting in his or her sole discretion.

END OF SPECIAL CONDITIONS

Attachment A – Federal Bidding Requirements

□insert applicable LAPM requirements or delete Attachment A if not applicable□

END ATTACHMENT A – FEDERAL BIDDING RE□□IREMENTS

Attachment B – Federal Contract Requirements

□insert applicable LAPM requirements or delete Attachment B if not applicable□

END ATTACHMENT B – FEDERAL CONTRACT RE□□IREMENTS

[Insert Technical Specifications]

[Copy onto City letterhead]

Sent via □□□□□□□□□□□□□□□□ □insert delivery method, e.g., certified mail or FedEx□

□Date□

□Contractor representative name and title□
□Contractor business name□
□Contractor address□
□Contractor email□

Re□ **NOTICE OF POTENTIAL AWARD**
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ Project

Dear □Contractor representative name□□

I am pleased to inform you of the intent to recommend that the City Council or its authorized designee award the Contract for the above-referenced Project ("Project") to □□□□□□□□□□□□□□□□□□ ("Contractor") for the Contract Price of $□□□□□□□□□□□□□□□□, based on Contractor's Bid Proposal submitted on □□□□□□□□□□□□□□, 20□□□.

A copy of the Contract accompanies this Notice. Contractor must execute □□□□□ copies of the enclosed Contract and return the wet-inked copies to my attention, accompanied by the required Payment Bond and Performance Bond, and insurance certificates and endorsements, no later than ten days from the date of this Notice of Potential Award, above.

Failure to execute and return the enclosed Contract and required bonds and insurance documentation within the specified time could result in forfeiture of Contractor's bid security. This Notice of Potential Award does not bind the City to award the Contract. The City, acting through its City Council or authorized designee, reserves the right to reject any or all bids, and the right to decline to award the Contract, notwithstanding any staff recommendation.

□nless expressly authorized or required to engage in any pre-construction activities, such as preparing submittals, Contractor must not commence Work until directed by the Notice to Proceed and will not be entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed.

Please acknowledge receipt of this Notice of Potential Award by signing the attached Acknowledgement of Notice of Potential Award, as indicated, and transmitting the Acknowledgement to my office via email at□□□□□□□□□□□□□□□□□□□□ □Email Address>. Do not hesitate to contact me if you have any questions in this regard.

Sincerely,

□□□□□□□□□□□□□□□□□□□□Name□
□□□□□□□□□□□□□□□□□□□□Title□

Enclosure

Ac□nowledgement of Notice of Potential Award

On behalf of □□□□

[Copy onto City letterhead]

Sent via □□□□□□□□□□□□□□□□ □insert delivery method, e.g., certified mail or FedEx□

□Date□

□Contractor representative name and title□
□Contractor business name□
□Contractor address□
□Contractor email□

Re□ **NOTICE TO PROCEED**
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ Project

Dear □Contractor representative name□□

By this letter □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ ("Contractor") is notified to proceed with its Work for the above-referenced Project ("Project"), as required by the Contract Documents. Contractor should start the Work on or before □□□□□□□□□□□□□□□, 20□□□ ("Start Date"), and must achieve Final Completion within □□□□□□□□□ calendar days from the Start Date.

□Optional□Contractor and its first-tier Subcontractors must attend a mandatory pre-construction conference on □date□ at □time□ at □address/location□. The following document(s) must be submitted to the Project Manager at □□□□□□□□□□□□ □email address□, no later than □□□□□□□□□, 20□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □list required documents, e.g., baseline schedule, subcontracts, submittal schedule, schedule of values, etc.□□

A copy of the fully executed Contract is enclosed for your files.

Please acknowledge receipt of this Notice to Proceed by signing the attached Acknowledgement of Notice to Proceed, as indicated, and transmitting the Acknowledgement to my office via email at□□□□□□□□□□□□□□□□□□□□ □Email Address□. Do not hesitate to contact me if you have any questions in this regard.

Sincerely,

□□□□□□□□□□□□□□□□□□□□Name□
□□□□□□□□□□□□□□□□□□□□Title□

Enclosure

Ac□nowledgement of Notice to Proceed

On behalf of □□□□

Recording Requested By□
The City of □□□□□□□□□□□□

When Recorded Mail To□
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EXEMPT FROM RECORDING FEES PER
GOVERNMENT CODE □27383

SPACE ABOVE THIS LINE IS FOR RECORDER'S USE

NOTICE OF COMPLETION
Civil Code □□8182, 8184, 9204, and 9208

NOTICE IS HEREBY GIVEN THAT□

1. The undersigned is the agent of the owner of the Project described below.

2. Owner's full name is □□□□□□□□□□□□□□□□□□□□

SECTION 01 10 00 – SUMMAR□

PART 1 - GENERAL

1.1 S□MMARY

A. This section describes the contract and other work, plus project requirements.

B. Related Sections□
   1. Division 00 – General Conditions.

1.2 CONTRACT DESCRIPTION

A. Contract□ Perform Work of Contract under stipulated sum contract with City per Contract Documents.

B. Responsible Parties□ Construction of the Project is governed by the agreement between the City and the Contractor. Statements in the specifications are directed to this contractor, who has overall responsibility for the subcontractors.

C. Project Manager□The City will provide a Project Manager who will administer the project during the contract.

1.3 WOR□ □NDER OTHER CONTRACTS

A. Separate Contracts□ The City may award separate contracts for performance of certain construction operations at the site. Those operations will be conducted simultaneously with the work under the Contract. The Contracts are described in Division 00 Article 2 Section 2.4 – Coordination of Work.

1.4 SCHED□LE OF VAL□ES

A. Schedule of Values□The Schedule of Values and Bid Schedule are described in Division 00 Article 8 – Payment. Any bid item may be deleted in total or in part prior to or after award of Contract without compensation in any form or adjustment of other bid items or prices, therefore.

1.5 MISCELLANEO□S WOR□

A. Miscellaneous Work Requirements□ Coordinating, handling, transporting, and installing items such as field testing of systems□leveling□furnishing, coordinating, and installing sleeves, anchors, and other embedded items□posting of signs□ performing traffic routing work□providing operating and maintenance data and instruction of the City Project Manager□performing warranty work as required□ and doing incidental and related work to place all systems and structures in operating condition as designed and as required by Federal, State and Local

codes and regulations. Refer to Division 00 – General Conditions for a summary of work requirements.

1.6 OWNER-F□RNISHED PROD□CTS

A. Owner's Responsibilities□
1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples to Contractor.
2. □pon delivery, inspect products jointly with Contractor.
3. Submit claims for transportation damage and replace damaged, defective, or deficient items.
4. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities□
1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload products at Site□inspect for completeness or damage jointly with Owner.
3. Arrange and pay for delivery to Site. Retrieve items from City Corporation Yard or other designated location, as required, and transport to site. Transport salvaged items to City Corporation Yard.
4. Handle, store, install, and finish products.
5. Repair or replace items damaged after receipt.

1.7 WOR□ SE□□ENCE

A. Stages□Construct Work in stages and at times to accommodate City operation requirements during the construction period□coordinate construction schedule and operations with Project Manager.

1.8 COOPERATION OF CONTRACTOR AND COORDINATION WITH OTHER WOR□

A. Coordination□Coordinate with City and any City forces, or other contractors and forces, as required by Division 00 Article 2 Section 2.4 – Coordination of Work.

1.9 CONTRACTOR □SE OF PREMISES

A. General□ During the construction period the Contractor shall have full use of the premises within the “limits of work” for construction operations, including use of the site. The Contractor's use of the premises is limited only by the City's right to perform work or to retain other contractors on portions of the Project.

B. □se of the Site□
1. Driveways and Entrances□ □eep driveways and entrances serving the premises clear and available for emergency vehicles at all times.
2. Traffic and Barrier Plan□When the Contractor needs to access portions of roadways and driveways, on and adjacent to the work, Contractor is

required to submit a traffic and barrier plan to the City for their review and approval prior to setting up any traffic control devices.

3. Stored Materials□The Contractor assumes all responsibility for protection and safekeeping of material stored on the premises. Moving stored materials which interfere with the operations of the City or other contractors is the responsibility of the Contractor.
4. Condition of Site□Maintain work areas in a safe condition at all times, remove all graffiti and accumulated rubbish and surplus materials at the end of each work day, and clean and restore the work site at completion of the work to the condition that existed prior to the start of work.

C. Security of the Contractor's Work Area□The security of the Contractor's work areas and its property, equipment, construction materials, and all other items contained in the Contractor's staging areas or elsewhere on the construction site shall be solely the Contractor's responsibility at all times.

1.10 MAINTENANCE

A. Contractor's Responsibility: Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices bid and no direct or additional payment will be made therefore.

1.11 OCC□PANCY RE□□IREMENTS

A. Early Occupancy□Whenever, in the opinion of Project Manager, Work or any part thereof is in a condition suitable for use, and the best interest of City requires such use, City may take beneficial occupancy of and connect to, open for public use, or use the Work or such part thereof. In such case, City will inspect the Work or part thereof, and issue a Certificate of Substantial Completion for that part of Work.

B. Repairs□Prior to date of Final Acceptance of the Work by City, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Division 00 Article 11 – Completion and Warranty Provisions.

C. Acceptance□□se by City of Work or part thereof as contemplated by this section shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by City of any of the conditions thereof.

D. Partial Completion□City may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on milestone dates prior to substantial completion of all of the Work. Contractor shall notify Project Manager in writing when Contractor considers any such part of the Work ready for its intended use

and substantially complete and request Project Manager to issue a Certificate of Substantial Completion for that part of the Work.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 10 00

SECTION 01 22 00 –UNIT PRICES

PART 1 - GENERAL

1.1 S□MMARY

A. This Section specifies procedures and requirements for measurement and payment for unit price items listed on the Bid Form for each unit of work described herein.

B. Refer to the Instruction to Bidders and Division 00 General Conditions and Division 00 Article 8 – Payment for related requirements pertaining to change orders, payments and unit prices.

C. Prices□
1. In addition to Base Bid, Bidder shall quote unit prices, in appropriate spaces on Bid Form for each unit of work as described herein. Change Orders will be based on unit prices quoted on Bid Form for applicable work.
2. In event any unit price quoted appears to compare unfavorably with currently established prices for type of work, City reserves the right to require quoted price to be substantiated or adjusted prior to execution of contract.
3. □nit prices listed on the Bid Form for the following items shall constitute full and complete compensation for each unit, and shall include cost of temporary and administrative work, permits, bonds, insurance, sales taxes, overhead, profit and every other expense, direct or indirect, incident to accomplishment of work under each item.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 MEAS□REMENT

A. Measurement of quantities for payment will be made or determined by City's Inspector.
1. Volume of any material shall be based on information included with Drawings and additional measurements obtained by Inspector, or by combination of such information, or in a manner which, in the opinion of the Inspector, is best suited to obtain necessary accuracy.

2. In case of unit prices based upon weight measurement, certified weight tickets shall be supplied at time of delivery of materials.
3. Excess materials delivered to the site, but not incorporated in the work, will not be paid for.

3.2 □NIT PRICE ITEMS

□□ To be edited for specific project and connected with bid items in Special Conditions □□

Example□

A. Aggregate Base Course□

1. Basis of Measurement□By the cubic yard or tons as specified in the bid form. If measurement is by the ton, water content in excess of optimum moisture content shall be deducted from the total weight of aggregate. If measurement is by the cubic yard, quantities of aggregates will be calculated on the basis of dimensions shown on the plans. No allowance will be made for aggregate rejected or placed outside said dimensions unless otherwise order by the City's Project Manager. Aggregate Base used under concrete work such as curb and gutter, valley gutter, sidewalk, driveways, curb ramps, median curbs, median nose surfacing, bus turnouts, retaining curbs, and in utility trenches shall not be measured.

2. Basis of Payment□Includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, in aggregate base supplying fill material, stockpiling, scarifying subgrade surface, placing where required, watering, dust palliative, leveling, compacting and certifying the top of aggregate base design grades.

3. Aggregate Base used under concrete work such as curb and gutter, valley gutter, sidewalk, retaining curbs, etc. shall considered incidental to the item most closely related to and no separate compensation will be allowed therefor. Aggregate base used in utility trenches shall be considered incidental to the cost per linear foot paid for the utility pipes as shown on the bid form and no separate compensation will be allowed therefor.

3.3 PAYMENT

A. Payment will be made for actual quantity of work performed at contract unit price, as directed and accepted, in accordance with requirements of the General Conditions.

END OF SECTION 01 22 00

SECTION 01 23 00 – ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements governing Alternates. Each Alternate is identified by number and describes the basic changes to be made in the Work.

B. Definition: An alternate is an amount proposed by bidders and stated on the Bid Form for work defined in the Bidding Requirements that the City may elect to add to or deduct from the Base Bid amount, if the City decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems, or installation methods described in the Contract Documents. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate the Alternate into the Work. No other adjustments are made to the Contract Sum.

C. Related Requirements:
1. Instruction to Bidders
2. Materials and Methods Required by Alternates: Pertinent Specification Sections.

1.2 ALTERNATE BIDS

A. Alternates will be accepted at option of the City: the Base Bid, including additive or deductive Alternates accepted by the City, will be an element considered in the award of the Contract.

1.3 SCHEDULE OF ALTERNATES

Examples Add Alternate No. x - Name of Alternate: Add item described here:

B. Deduct Alternate No. x - Name of Alternate: Delete item specified in Section(s) _____, shown on Drawing(s) _____.

C. Replace Alternate No. x - Name of Alternate: Delete item specified in Section(s) _____, shown on Drawing(s) _____ replace with item specified in Section(s) _____, shown on Drawing(s) _____.

PART 2 - E□ECUTION

2.1 MODIFICATIONS TO WOR□

A. Execute accepted alternates under the same conditions as other Work of this Contract.

B. Immediately following the award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate whether alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Modify or adjust affected adjacent Work as required to completely and fully integrate that Work into the Project.

END OF SECTION 01 23 00

SECTION 01 25 00 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

B. Related Sections
1. Notice Inviting Bidders
2. Instructions to Bidders
3. Division 00 – General Conditions Article 7.

1.2 DEFINITIONS

A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.

B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions.
1. Substitutions will not be considered during the Bid process.
2. The following are not considered to be requests for substitution:
   a. Revisions to the Contract Documents requested by the Owner or Architect/Engineer.
   b. Specified options of products and construction methods included in the Contract Documents.
3. The following are considered to be requests for substitution:
   a. Any manufacturer, product, process, or method identified in the Special Conditions, specifications or on the Drawings as either “or equal” or “equal products of another manufacturer when approved in advance by the Architect/Engineer per this Section 01 25 00 – Substitution Procedures”.

1.3 SUBMITTALS

A. Request for Substitution (RFS) Submittal:
1. Receipt:
   a. The Architect/Engineer will consider requests for substitution (RFS) if received within thirty-five (35) calendar days after the Notice to Proceed.
   b. Requests received after thirty-five (35) calendar days after the Notice to Proceed may be considered or rejected at the discretion of the Project Manager and/or Architect/Engineer.

1. Submit three (3) copies of each request for substitution for consideration. Submit requests in the form and according to the procedures required in Division 00 – General Conditions.
2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Special Conditions, Specification Section and Drawing numbers.
3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate□
   a. Coordination information, including a list of change or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors that will be necessary to accommodate the proposed substitution.
   b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, operations, maintenance, and visual effect.
   c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.
   d. Samples, where applicable or requested.
   e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without the approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
   f. Cost information, including a proposal of net change, if any, in the Contract Sum.
   g. The Contractor's certification that the proposed substitution conforms to the requirements in the Contract Documents, in every respect and is appropriate for the applications indicated.
   h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
4. Architect/Engineer Action□ If necessary, the Architect/Engineer will request additional information or documentation for evaluation within fourteen (14) calendar days of receipt of a request for substitution. The Project Manager will route to the Contractor, the Architect/Engineer's acceptance or rejection of the substitution within fourteen (14) days of the receipt of the request, or receipt of addition information or documentation.

PART 2 - PRODUCTS

2.1 S□BSTIT□TIONS

A. Conditions: The Architect/Engineer will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Architect/Engineer. If the following conditions are not

satisfied, the Architect/Engineer will return the requests without action except to record non-compliance with these requirements□

1. Extensive revisions to the Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of the Contract Documents.
3. The request is timely, fully documented, and properly submitted.
4. The request is directly related to an “or-equal” clause or similar language in the Contract Documents.
5. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, maintainability, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner’s additional responsibilities may include compensation to the Architect/Engineer for redesign and evaluation services, compensation to the Project Manager for additional management and coordination, increased cost of other construction by the Owner, and similar considerations.
6. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
7. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
8. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.

B. The Contractor’s submittal and the Architect/Engineer acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 25 00

SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 S□MMARY

A. This section describes general procedural requirements for alterations, modifications and extras.

B. Related Sections□
1. Division 00 General Conditions, Articles 5, 6, and 8
2. Section 01 29 00 – Payment Procedures

1.2 GENERAL

A. Any change in scope of work or deviation from Drawings, Special Conditions, or Specifications shall be accomplished only when authorized in writing by Project Manager.

B. Changes in scope of Work or deviation from Drawings, Special Conditions, or Specifications may be initiated only by Contractor or Project Manager.
1. Contractor may initiate changes by submitting Requests for Interpretation (RFI), Requests for Substitution (RFS), Notice of Concealed or □nknown Conditions, or Notice of Hazardous Waste Conditions.
   a. RFIs shall be submitted to seek clarification of Contract Documents in accordance with Section 01 26 13 – Requests for Interpretation.
   b. RFSs shall be submitted in accordance with Section 01 25 00 – Substitution Procedures to request substitution of materials or methods of execution.
   c. Notices of Concealed or □nknown Conditions shall be submitted in accordance with Division 00 - General Conditions.
   d. Notices of Hazardous Waste Conditions shall be submitted in accordance with Division 00 - General Conditions.
2. Contractor shall be responsible for its costs to implement and administer RFIs and RFSs throughout the Contract duration. Regardless of the number of RFIs submitted, Contractor will not be entitled to additional compensation. Contractor shall be responsible for both City's and Architect/Engineer's administrative costs for answering its RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by City□such costs will be deducted from progress payments.
3. The City may initiate changes by issuing a Supplemental Instruction.
4. Project Manager may initiate changes in the Work or Contract Time by issuing Requests for Proposal (RFP) to Contractor. Such RFPs will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.

1.3 PROCED□RE

A. Contractor shall submit RFI to Project Manager in accordance with Section 01 26 13 – Requests for Interpretation. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI.
   1. If Contractor is satisfied with the Clarification and does not request change in Contract Sum or Contract Time, then the Clarification shall be considered executed without a change.
   2. If Contractor believes that the Clarification results in change in Contract Sum or Contract Time, Contractor shall notify Project Manager who may then deny request for change or issue RFP.

B. Contractor shall submit RFS to Project Manager who may then approve or deny request. If denied, Project Manager shall set forth in writing reasons for the denial. Contractor may revise and resubmit submittal with a rebuttal based on Section 3400 Public Contract Code CA. The RFS should set forth□
   1. Reason for substitution
   2. Any deviations from Special Conditions or specifications
   3. Cost increase or decrease
   4. Any necessary revisions to drawings/related work
   5. Schedule impacts.

C. Contractor shall submit Notices of Concealed or □nknown Conditions to resolve unanticipated conditions incurred in the execution of the Work. Procedures in Division 00 - General Conditions shall be followed. If Project Manager determines that a change in Contract Sum or Contract Time is justified, Project Manager shall issue RFP.

D. Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work. Procedures in Division 00 - General Conditions shall be followed. If Project Manager determines that a change in Contract Sum or Contract Time is justified, Project Manager shall issue RFP.

E. Project Manager may issue Supplemental Instruction from the Architect/Engineer to Contractor. Contractor shall not proceed with Supplemental Instruction until Project Manager approves it in writing.
   1. If Contractor is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Time, then Supplemental Instruction shall be executed without a Change Order.
   2. If Contractor believes that Supplemental Instruction results in change in Contract Sum or Contract Time, Contractor shall notify Project Manager. Project Manager may then deny request for change, cancel Supplemental Instruction or issue RFP.

F. If Project Manager issues to Contractor an RFP, then Contractor shall respond to the RFP within fifteen (15) working days by furnishing a complete breakdown of

costs of credits, deducts, extra costs or cost savings, resulting from the change in the Work. Contractor shall itemize materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated.

G. □pon approval of RFP, Project Manager will issue a Change Order directing Contractor to proceed with extra work. If the parties do not agree on the price for an RFP, the Project Manager may decide the issue per Division 00 - General Conditions.

H. Payment shall be made as follows□
1. Change Orders which increase or decrease the Contract Sum or Contract Time shall be included by Contract Modification Form, signed by Project Manager, accepted by Contractor.
2. Payment shall be made for Change Order work along with other work in progress payment following completion of Change Order work. Partial completion of Change Order work shall be paid for that part completed during the period covered by the monthly payment request.

1.4 COST DETERMINATION

A. Total cost of extra work or of work omitted shall be the sum of labor cost (hourly rate plus employer paid benefits, taxes, insurance, etc.), material costs, equipment rental costs and specialist costs as defined herein plus overhead and profit as allowed herein. This limit applies in all cases of claims for extra work, whether calculating Change Orders, RFPs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. No other costs arising out of or connected with the performance of extra work, of any nature, may be recovered by Contractor. No special, incidental or consequential damages may be claimed or recovered against City, their officers, agents, employees, and consultants (including, but not limited to Architect/Engineer or Construction Manager), whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.

B. Overhead and Profit□
1. “Overhead and Profit” may also be referred to as “Markup”.
2. Overhead shall be defined in Paragraph 1.8 below.
3. Overhead and profit on labor for extra work shall be thirty-five percent (35□).
4. Overhead and profit on materials shall be fifteen percent (15□).
5. Overhead and profit on equipment rental for extra work shall be fifteen percent (15□).
6. When extra work is performed by a first tier subcontractor, Contractor shall receive a ten percent (10□) markup on subcontractors' total costs of extra work.

C. Taxes□
1. Contra Costa County Sales Tax shall be included.

2. Federal and Excise Tax shall not be included.

D. Owner Operated Equipment
1. When owner-operated equipment is used to perform extra work, Contractor will be paid for equipment and operator as follows
a. Payment for equipment will be made in accordance with Paragraph 1.5.C below.
b. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and location of work, whether or not owner-operator is actually covered by such an agreement.

1.5 COST BREAKDOWN

A. Labor Contractor will be paid cost of labor for workers (including forepersons when authorized by Project Manager) used in actual and direct performance of extra work. Labor rate, whether employer is Contractor, subcontractor or other forces, will be sum of following
1. Actual Wages Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation and similar purposes.
2. Labor Surcharge Payments imposed by City, County, State and Federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined in subparagraph 1 above, such as taxes and insurances. Labor surcharge shall be as set forth in California Department of Transportation official labor surcharges schedule which is in effect on date upon which extra work is accomplished and which schedule is incorporated herein by reference, as though fully set forth herein.

B. Material Only materials furnished by Contractor and necessarily used in performance of extra work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Contractor, subcontractor or other forces) from supplier thereof, except as the following are applicable
1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to City notwithstanding the fact that such discount may not have been taken.
2. For materials salvaged upon completion of extra work, salvage value of materials shall be deducted from cost, less discount, of materials.
3. If cost of a material is, in opinion of Project Manager, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in subparagraph 1 above.

C. Equipment Rental
1. For Contractor- or subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which

extra work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. □nless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of five hundred dollars ($500) or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.

2. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra work being performed or on standby as approved by Project Manager. The following shall be used in computing rental time of equipment□
   a. When hourly rates are listed, less than thirty (30) minutes of operation shall be considered to be one-half (1/2) hour of operation.
   b. When daily rates are listed, less than four (4) hours of operation shall be considered to be one-half (1/2) day of operation.
3. For equipment which must be brought to Site to be used exclusively on extra work, cost of transporting equipment to Site and its return to its original location shall be determined as follows□
   a. City will pay for costs of loading and unloading equipment.
   b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
   c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public □tilities Commission.
   d. Payment for transporting, and loading and unloading equipment as above provided will not be made if equipment is used on Work in any other way than upon extra work.
4. Rental period shall begin at time equipment is unloaded at Site of extra work and terminate at end of day on which City's Project Manager directs Contractor to discontinue use of equipment. Excluding Saturdays, Sundays, and legal holidays, unless equipment is used to perform extra work on such days, rental time to be paid shall be four (4) hours for zero (0) hours of operation, six (6) hours for four (4) hours of operation and eight (8) hours for eight (8) hours of operation, time being prorated between these parameters. Hours to be paid for equipment which is operated less than eight (8) hours due to breakdowns, shall not exceed eight (8) less number of hours equipment is inoperative due to breakdowns.

D. Work Performed by Special Forces or Other Special Services□

1. When the City's Project Manager and Contractor, by agreement, determine that special service or item of extra work cannot be performed by forces of Contractor or those of any subcontractors, service or extra work item may be performed by specialist. Invoices for service or item of extra work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances, wherein Contractor is required to perform extra work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra work performed in such facility may, by agreement, be accepted as a specialist billing. The City's Project Manager must be notified in advance of all off-site work. To specialist invoice price, less credit to City for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added 15 percent (15□) in lieu of overhead and profit provided in Paragraph 1.4.B.

1.6 FORCE-ACCO□NT

A. City may, at any time, require Contractor to perform Work on a Force Account (time and materials, cost not to exceed) basis. When Contractor performs Force Account Work, the labor, materials and equipment used in performing such Force Account Work shall be subject to City's approval.

B. Whenever any Force-Account work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to the City's Project Manager each day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account work on preceding work day as required herein. No claim for compensation for Force-Account work will be allowed unless report shall have been made. City may authorize Force Account Work with specific limits on price, which Contractor shall perform up to such limit.

C. Force Account work shall be paid as extra work under this Section 01 26 00 – Contract Modification Procedures. Above described methods of determining payment for work and materials shall not apply to performance of work or furnishings of material which, in judgment of the City's Project Manager, may properly be classified under items for which prices are established in Contract.

1.7 CITY F□RNISHED MATERIALS

A. City reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

1.8 OVERHEAD DEFINED

A. The following constitutes charges that are deemed included in overhead for all contract modifications, including Force-Account work for the entire Contract Time□

1. Drawings Field drawings, shop drawings, etc. including submissions of drawings
2. Routine field inspection of work proposed
3. General superintendence
4. General administration and preparation of change orders
5. Computer services
6. Reproduction services
7. Salaries of project engineer, project manager, superintendent, timekeeper, storekeeper and secretaries
8. anitorial services
9. Temporary on-site facilities
10. Offices
11. Telephones
12. Plumbing
13. Electrical Power, lighting
14. Platforms
15. Fencing, etc.
16. Home office expenses.
17. Insurance and Bond premiums.
18. Procurement and use of vehicles and fuel used coincidentally in base bid work.
19. Surveying
20. Estimating
21. Protection of work
22. Final cleanup
23. Other incidental work
24. Labor liability insurance

1.9 RECORDS AND CERTIFICATION

A. Force-Account (cost reimbursement) charges shall be recorded daily upon Cost Breakdown for Contract Modification Form obtained from Inspector. Contractor or authorized representative shall complete and sign form. Inspector shall sign form for approval. Contract Modification Form shall provide names and classifications of workers and hours worked by each, itemize materials used, and also list size type and identification number of equipment, and hours operated, and shall indicate work done by specialists.

B. No payment for Force-Account work shall be made until Contractor submits original invoices substantiating materials and specialist charges.

C. City shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including Force-Account work, as set forth in Division 00 - General Conditions.

D. Further, City shall have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of

Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, Contract. If Contractor is a joint venture, right of City shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 26 00

DAILY EXTRA WOR□ REPORT

COST BREA□DOWN FORM FOR CONTRACT MODIFICATION
SHEET 1 OF 3

One separate form shall be used by Contractor, each first tier subcontractor and each lower tier subcontractor. One form for each shall be used for each change order. One form for each, for each day shall be used for Force-Account work.

CHANGE ORDER N□MBER□□□□□□□□□□□□□□□□□□□□ DATE□□□□□□□□□□□□□□□□□□□□□□□□

CHANGE ORDER DESCRIPTION□□□

□□□□□□□□□□□□□□□□□□□

COST BREA□DOWN FORM FOR CONTRACT MODIFICATION
SHEET 2 OF 3

MATERIALS	
DESCRIPTION	COST
TOTAL MATERIAL COSTS (Enter here and on Line 4 of Sheet 3)	

E□□IPMENT RENTAL				
SI□E AND TYPE	I.D. #	HO□RS	RATE	TOTAL
TOTAL E□□IPMENT RENTAL COSTS (Enter here and on Line 8)				

SPECIALIST	
DESCRIPTION	COST
TOTAL SPECIALIST COSTS (Enter here and on Line 11)	

COST BREA□DOWN FORM FOR CONTRACT MODIFICATION
SHEET 3 OF 3

TOTAL COSTS			
1. TOTAL LABOR COSTS			
2. 10 □ of Line 1			
3. ADD Lines 1 and 2			
4. TOTAL MATERIAL COSTS			
5. 10 □ of Line 4			
6. 8.25 □ of line 4			
7. ADD Lines 4, 5 and 6			
8. TOTAL E□□IPMENT RENTAL COSTS			
9. 10 □ of Line 8			
10. ADD Lines 8 and 9			
11. TOTAL SPECIALIST COSTS			
12. 10 □ of Line 11			
13. ADD Lines 11 and 12			
14. TOTAL COST OF EXTRA WOR□ (ADD Lines 3, 7, 10 and 13)			

CONTRACTOR OR A□THORI□ED REPRESENTATIVE□□□

SECTION 01 26 13 – REQUESTS FOR INTERPRETATION

PART 1 - GENERAL

1.1 S□MMARY

A. This section describes procedural requirements for requests for interpretation, information, and/or clarification.

B. Related Sections□
1. Division 00 – General Conditions
2. Section 01 26 00 – Contract Modification Procedures

1.2 GENERAL

A. Description□Submit RFI to the Project Manager promptly upon identification of need, and in reasonable time so as not to affect the progress of the Work.

B. Submission Procedures□
1. Pre-submission Review□Before submitting request to the Project Manager, conduct a review to determine that the information requested, including items submitted by subcontractors or suppliers, is not shown in the Contract Documents.
2. Category of Request□Submit requests for interpretation when one or more of the following conditions occur.
   a. Need for Clarification□When information shown or indicated in the Contract Documents is unclear in its intent.
   b. □nforeseen Condition□ Discovery of unforeseen condition or circumstance that is not shown or indicated in the Contract Documents.
   c. Conflict Within Documents□Discovery of an apparent inconsistency, conflict, or discrepancy between different portions of the Contract Documents, where the intent cannot be reasonably inferred from information shown or indicated.
   d. Omission□ Discovery of what appears to be an omission in the Contract Documents, where the intent cannot be reasonably inferred from information shown or indicated.
   e. Coordination Problem□ Discovery of unforeseen condition in coordinating placement of work that is specifically related to the Contract Documents.
3. □nacceptable Requests□
   a. General□Do not submit RFIs for confirmation of any action already taken by the Contractor. Requests will not be accepted that imply confirmation of any unauthorized change to the Work.

b. □ntimely Submission□ An RFI that is submitted in a belated manner without proper coordination and scheduling of the Work of related subcontractors will not be reviewed and will be returned to the Contractor.
c. Submittal□An RFI that is included as part of a submittal will not be processed□see Section 01 33 00 – Submittal Procedures.
d. Substitution□An RFI that is a request for substitution will not be processed□see Section 01 25 00 – Substitution Procedures.
e. Exclusionary Submission□A request that implies that specific portions of the work are assumed to be excluded or considering a separate portion of the Contract Documents in part rather than as a whole will not be processed.

C. Log□Prepare and maintain the official log of RFIs. Review status of log at each job progress meeting.

PART 2 - PRODUCTS

A. S□BMISSION RE□□IREMENTS□
1. Request for Interpretation (RFI) Form□
a. General□Provide a completed and legible PDF of an RFI form that includes the following required information.
b. RFI Number□Identify RFIs sequentially starting from number one (1)□ number re-submissions with same number as original and add letter designation A, B, C, etc., in order submitted, until resolution is achieved.
c. PDF Name□ Include RFI number and reference to name of project in file name□if space allows include brief description of subject in RFI file name.
d. Contractor□ Provide company name and mailing address with signature of contact person responsible for work on the subject project, certifying to review of RFI.
e. Subcontractor and/or Supplier Provide company name, mailing address, telephone number and name and email of contact person responsible for work on the subject project.
f. RFI Description□
1) General□Describe subject of RFI completely.
2) Drawing References□Identify specific drawing number and/or detail number or note under consideration.
3) Specifications References□Identify specification section number and paragraph number under consideration.
4) Attachments□Identify as required, to support description.
5) Contractor's Proposed Resolution:
a) General□ Describe suggested resolution□ support with attachments as required.

b) Cost Impact□Indicate impact on costs□explain Contractor's original basis for bid and, based on the current request, reason that additional costs should be considered.
c) Time Impact□ Indicate effect on schedule□ explain Contractor's original basis for bid and, based on the current request, why a time extension should be considered.

PART 3 - E□ECUTION

A. PRO□ECT MANAGER'S RESPONSE□
1. General□ Project Manager will respond on the RFI Form and include attachments, as referenced. Verbal responses to such requests are to be considered informational□official written response will only be given on annotated PDF of original RFI Form.
2. Project Manager's Review□
a. General□Allow ten (10) working days after receipt. If more than ten (10) requests are received within one (1) calendar week, the Project Manager will specifically schedule and extend response time as required to accomplish the reviews.
b. Prioritization□If more than five (5) requests have been received by the Project Manager, the Contractor shall identify the order of requests most critical to the schedule of the Project.

B. DISTRIB□TION□
1. General□ Submit PDF of original, signed copy. PDF with the official response will be returned to the Contractor.
2. Consultants□The Project Manager will distribute copies of requests for information to project consultants, as required for their participation. Direct communication and response between project consultants and Contractor will be considered informational only.
3. Response□The Contractor will make and distribute copies of the official response to subcontractors and suppliers, as required.

END OF SECTION 01 26 13

SECTION 01 29 00 – PA□MENT PROCEDURES

PART 1 - GENERAL

1.1 S□MMARY

A. This section describes the procedures for preparation and submittal of Progress Payment Requests.

B. Related Sections□
1. Division 00 – General Conditions
2. Section 01 32 16 - Construction Progress Schedule

1.2 REFERENCES

A. California Public Contract Code

1.3 SCOPE OF WOR□

A. Payment for the various items of the Schedule of Bid Prices, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured products, and for all labor, operations, overhead and profit, applicable taxes, and incidentals appurtenant to the items of Work being described, as necessary to complete the various items of work as specified and as shown on the Drawings. No separate payment will be made for any item that is not specifically set forth in the Schedule of Bid Prices, and all costs therefore shall be included in the prices named in the Schedule of Bid Prices for the various appurtenant items of Work.

B. Contract Prices shall be deemed to include all bonds and insurance, all appurtenances necessary to complete the required Work, including all costs for compliance with the regulations of the public agencies having jurisdiction, including Health and Safety Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the □.S. Department of Labor (OSHA), and including all costs for loss or damage arising from the Work, or from action of the elements, for any unforeseen difficulties which may be encountered, and for all risks of every description connected with the prosecution of the Work until Project Completion, also for all expenses incurred in consequence of the suspension or discontinuance of the Work as provided in the Contract. □nless the Contract Documents expressly provide otherwise, the Contract Sum shall be deemed to include□

1. Any and all costs arising from any unforeseen difficulties which may be encountered during, and all risks of any description connected with, prosecution of Work until acceptance by City□

2. All expenses incurred due to suspension, or discontinuance of Work as provided in Contract□
3. Escalation to allow for cost increases between time of Contract Award and completion of Work.

C. Whenever it is specified herein that Contractor is to do work or furnish materials of any class for which no price is fixed in the Contract, it shall be understood that Contractor is to do such work or furnish such materials without extra charge or allowance or direct payment of any sort, and that cost of doing work or furnishing materials is to be included in price bid, unless it is expressly specified herein, in particular cases, that work or material is to be paid for as extra work.

D. Neither the payment of any estimate nor of any retained percentages shall relieve Contractor of its obligation to make good all defective work or material.

1.4 DETERMINATION OF □□ANTITIES

A. □uantity of work to be paid for under any item for which a unit price is fixed in Contract shall be number, as determined by Project Manager, of units of work satisfactorily completed in accordance with Drawings, Technical Specifications, and Specifications and as directed pursuant to Drawings, Technical Specifications, and Specifications. □nless otherwise provided, determination of number of units of work so completed will be based, so far as practicable, on actual measurement or count within prescribed or ordered limits, and no payment will be made for work done outside of limits. Measurements and computations will be made by methods as City's Project Manager may consider appropriate for class of work measured.

1.5 BASIS OF PAYMENT

A. □nit Pay □uantities□When estimated quantity for specific portions of Work is listed in Bid Form, quantity of work to be paid for shall be actual number of units satisfactorily completed in accordance with Drawings, Technical Specifications, and Specifications.

B. Lump Sum□ When estimated quantity for specific portion of Work is not indicated and unit is designated as Lump Sum, payment will be on a Lump Sum basis for Work satisfactorily completed in accordance with Drawings, Technical Specifications, and Specifications.

C. City does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to leave out entire Bid Item or Items, or to add work not included in Bid, when in its judgment such change is in best interest of City. No change in Work shall be considered waiver of any other condition of Contract. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in Contract Documents,

because of any differences between amount of work actually done and estimated amount as set forth herein, or for elimination of extra Bid Items.

D. Monthly payment requests shall be based upon information developed at monthly Application for Payment meetings and shall be prepared by Contractor. The approved Schedule of Values will be the basis for Contractor's payment requests.

1. No partial progress payment shall be made to Contractor until all cost information requested by the City is submitted and reviewed.
2. The following information shall also be submitted with and as part of the Contractor's progress payment application; all information, noted below, will cover the same period of the progress payment application.
   a. Progress Schedule□Submittal of one (1) copy of the progress schedule updated to include the progress achieved as of the date of the Application for Payment in accordance with this Section.
      1) Contractor shall, at the time any payment request is submitted, certify in writing the accuracy of the payment request and that Contractor has fulfilled all scheduling requirements of Division 00 – General Conditions and Section 01 32 16 - Construction Progress Schedule, including updates and revisions. The certification shall be executed by a responsible officer of the Contractor.
   b. Project Record Drawings□Submit project record drawings with each progress payment application for the City's Project Manager's review. The drawings shall be returned to the Contractor within fourteen (14) calendar days of submittal.
   c. Certified Payroll□Certified payroll for all Contractor and subcontractor staffing pursuant to Section 1776 of the California Labor Code and including all subcontractors, suppliers, or creditors for all labor and materials incorporated into the work.
   d. Lien Releases□ Conditional or □nconditional lien release for the requested payment. □nconditional lien release for the previous payment.
3. No progress payment will be processed prior to Project Manager receiving all requested information.

E. The City will not be liable for costs arising from the delay in making progress payments.

1.6 PROGRESS PAYMENT PROCED□RES

A. If requested by Contractor, progress payments will be made monthly.

B. Schedule of Values

1. Within ten (10) calendar days from issuance of Notice of Award and prior to the Contractor's application for the first progress payment, the Contractor shall submit a detailed breakdown of its bid by scheduled Work items and/or activities. This breakdown shall be referred to as the Schedule of Values.
2. If City's Project Manager requires substantiating data, Contractor shall submit information requested by Project Manager, with cover letter identifying Project, payment request number and date, and detailed list of enclosures. Contractor shall submit one copy of substantiating data and cover letter for each Payment request submitted.

C. Payment Requests

1. On or about the 25th of each month, the Contractor may submit to the City's Project Manager one (1) copy of an itemized Application of Payment on a standard form acceptable to the City's Project Manager covering the Work completed as of the date of the Application for payment. The following information and/or documentation will be provided as part of the Application for Payment
   a. Payment requests may include, but not necessarily limited to the following
      1) Materials, equipment, and labor incorporated into the Work, less any previous payments for the same
      2) A maximum of ninety percent (90) of the cost of major equipment, if purchased and delivered to the site or stored offsite, as under control of the City, but not installed by the Contractor.
      3) Contractor's application for payment shall be accompanied by a bill of sale, invoice, or other documentation warranting that the City has received the materials and equipment free and clear of all liens and evidence that the materials and equipment area covered by appropriate property insurance and other arrangements to protect the City's interest therein.
   b. Such requests for progress payments shall be based upon Schedule of Values prices of all labor and materials incorporated in the Work during the preceding one-month period, less the aggregate of previous payments.
   c. Each payment request shall list each Change Order executed prior to the date of submission, including the Change Order Number, a description of the work activities, consistent with the descriptions of original work activities.
      1) Contractor shall submit a monthly Change Order status log to the City's Project Manager as part of that Progress Payment Request.
2. Monthly progress payments shall be made, based on total value of activities completed or partially completed, as determined by City with participation of Contractor, and based upon approved activity costs. Accumulated retainage will be shown as separate item in payment summary. If Contractor fails or

refuses to participate in construction progress evaluation with City, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information for City.

D. Progress Payments□

1. □pon receiving Contractor's payment request, Project Manager will review the payment request and make necessary adjustments to percent of completion of each activity. One copy will be returned to Contractor with description of adjustments made. All parties will update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
2. The payment request may be reviewed by Project Manager for the purpose of determining that the payment request is a proper payment request, and shall be rejected, revised or approved by Project Manager pursuant to the cost breakdown prepared in accordance with this Section.
3. If it is determined that the payment request is not a proper payment request suitable for payment, Project Manager shall return it to the Contractor as soon as practicable, but no later than seven (7) working days after receipt, together with a document setting forth in writing the reasons why the payment request is not proper. If Project Manager determines that portions of the payment request are not proper or not due under the Contract Documents, then Project Manager may approve the other portions of the payment request and, in the case of disputed items or defective work not remedied, may withhold up to 150□ of the disputed amount from the progress payment.
4. Pursuant to Public Contract Code, Section 20104.50, if City fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted payment request from a contractor, City shall pay interest to the Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. The thirty (30) day period shall be reduced by the number of days by which City exceeds the seven (7) day return requirement set forth herein.
5. As soon as practicable after approval of each request for progress payment, City will pay to Contractor in manner provided by law, the amounts provided for below□
    a. City shall pay an amount equal to ninety percent (90□) of Project Manager's estimate, which amount shall remain in effect until such time, if any, that the retention is reduced by Project Manager pursuant to the other provisions of this paragraph.
    b. At any time after fifty percent (50□) in value of the Work as set forth in the Schedule of Values has been completed and the retained funds are equal to five percent (5□) of the Contract Sum (including Change Orders, if applicable), and if the progress of the Work under the Progress Schedule is satisfactory, Project Manager may, at its sole discretion, but shall not be obligated to, authorize any remaining

progress payment to be made in the amount of ninety-five percent (95□) of the amount approved for payment.

c. When Project Manager determines that at least ninety-five percent (95□) in value of the Work as set forth in the Schedule of Values is completed, Project Manager may, at its sole discretion, but shall not be obligated to, reduce the amount of the retained funds to one hundred twenty-five percent (125□) of the value of the Work yet to be completed, as determined by Project Manager.

d. After all Work is completed in accordance with Contract, the remaining retention amount shall be paid to the Contractor in accordance with Paragraph 1.9, below.

e. If a lesser payment amount is provided in the Contract Documents, such lesser amount shall apply instead of the amounts set forth above in this paragraph.

f. Progress payments may at any time be withheld if, in judgment of Project Manager, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected.

6. Retention will not be reduced if Contractor, in the opinion of the Project Manager, is behind schedule. If retention is reduced at any point during Contract and Contractor subsequently falls behind schedule, retention may be raised back to original percentage.
7. Before any progress payment or final payment is made, the Contractor may be required to submit satisfactory evidence that Contractor is not delinquent in payments to employees, subcontractors, suppliers, or creditors for labor and materials incorporated into Work.
8. City reserves and shall have the right to withhold payment for any equipment and/or specifically fabricated materials that, in the sole judgment of Project Manager, is not adequately and properly protected against weather and/or damage, prior to or following incorporation into the Work.
9. Approval of progress payment and payment by City, or receipt thereof by Contractor, shall not be understood as constituting in any sense acceptance of Work or of any portion thereof, and shall in no way lessen liability of Contractor to replace unsatisfactory work or material, though unsatisfactory character of work or material may have been apparent or detected at time payment was made.
10. When City shall charge sum of money against Contractor under any provision of Contract, amount of charge shall be deducted and retained by City from amount of next succeeding progress payment or from any other monies due or that may become due Contractor under Contract. If, on completion or termination of Contract, such monies due Contractor are found insufficient to cover City's charges against Contractor, City shall have right to recover balance from Contractor or Sureties.

1.7 SUBSTITUTION OF SECURITIES IN LIEU OF RETENTION

A. Pursuant to provisions of Public Contract Code, Section 22300, substitution of securities for any monies withheld under Contract to insure performance is permitted under the following conditions:

1. At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and City which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such monies to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.
2. Alternatively, Contractor may request and City shall make payment of retentions earned directly to the escrow agent at the expense of the Contractor. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the Contractor. Upon satisfactory completion of the Contract, the Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from City, pursuant to the terms of this section. The Contractor shall pay to each subcontractor, not later than twenty (20) days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to insure the performance of the Contractor.
3. Contractor shall be beneficial owner of securities substituted for monies withheld and shall receive any interest thereon.
4. Contractor shall enter into escrow agreement with Controller according to Document 00 53 00 - Escrow Agreement for Security Deposits in Lieu of Retention, as authorized under Public Contract Code, Section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract.

1.8 APPLICATION FOR PAYMENT OF SUBSTANTIAL COMPLETION

A. Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.

1. This application shall reflect Certificates of Partial Substantial Completion issued previously for City occupancy of designated portions of the Work.
2. Administrative actions and submittals that shall precede or coincide with this application include:
   a. Occupancy permits and similar approvals.

b. Warranties, guarantees, and maintenance agreements.
c. Test/adjust/balance records.
d. Operations and Maintenance instructions.
e. Meter readings.
f. Startup performance reports.
g. Changeover information related to City's occupancy, use, operation, and maintenance.
h. Final cleaning.
i. Application for reduction of retainage and consent of surety.
j. Final progress photographs.
k. List of incomplete Work, recognized as exceptions to Architect/Engineer 's Certificate of Substantial Completion.

1.9 FINAL PAYMENT

A. As soon as practicable after all required Work is completed in accordance with Contract, including Contractor maintenance after Final Acceptance, City will pay to Contractor, in manner provided by law, unpaid balance of contract price of Work, or whole contract price of Work if no progress payment has been made, determined in accordance with terms of Contract, less sums as may be lawfully retained under any provisions of Contract or by law.

B. Prior progress payments shall be subject to correction in the final payment. Project Manager's determination of amount due as final payment shall be final and conclusive evidence of amount of Work performed by Contractor under Contract, and shall be full measure of compensation to be received by Contractor.

C. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment and as a condition precedent to final payment, Agreement Form, and Release of Any and All Claims, discharging City of Pittsburg, their officers, agents, employees, and consultants (including, but not limited to Architect/Engineer and Construction Manager) of and from liabilities, obligations, and claims arising under Contract.

D. Final Payment Application Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following
1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Ensure that unsettled claims will be settled.
4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
5. Transmittal of required Project construction records to the City.
6. Certified property survey.
7. Proof that taxes, fees, and similar obligations were paid.
8. Removal of temporary facilities and services.
9. Removal of surplus materials, rubbish, and similar elements.

10. Change of door locks to City's access.
11. All as-built drawings.
12. Lien releases from Contractor and subcontractors.

1.10 EFFECT OF PAYMENT

A. Payment will be made by City, based on Project Manager's observations at the site and the data comprising the Application for Payment. Payment will not be a representation that Project Manager has□
   1. made exhaustive or continuous on-site inspections to check the quality or quantity of Work□
   2. reviewed construction means, methods, techniques, sequences or procedures□
   3. reviewed copies of requisitions received from subcontractors and material suppliers and other data requested by City to substantiate Contractor's right to payment□or
   4. made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 29 00

SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes requirements for coordination and meetings.

B. Related Sections
1. Division 00 – General Conditions, Article 2
2. Section 01 32 16 - Construction Progress Schedule

1.2 COORDINATION

A. The Contractor shall be responsible for all Project coordination.

B. Duties of Contractor
1. Coordinate Work of all subcontractors.
2. Establish on-site lines of authority and communication. Schedule and conduct progress meetings with City and subcontractors.
3. Construction schedules
   a. Prepare detailed schedule of operations of all subcontractors on Project in accordance with Section 01 32 16 – Construction Progress Schedule.
   b. Monitor and update schedules as Work progresses.
   c. Observe Work to monitor compliance with schedule.
4. Temporary facilities
   a. Prepare temporary facilities site plan for City's approval.
   b. Allocate space for temporary structures furnished by subcontractors.
   c. Monitor use of temporary utilities.
   d. Verify that adequate services are provided to comply with requirements for Work and climatic conditions.
   e. Coordinate traffic control.
   f. Administer traffic and parking controls.
5. Changes
   a. Recommend necessary or desirable changes to Architect/Engineer.
   b. Review subcontractor's request for changes and for substitutions.
   c. Submit recommendations to Architect/Engineer, through the Project Manager.
   d. Process Change Orders.
6. Permits and fees Verify that subcontractors have obtained permits for inspections.
7. Review all Shop Drawings, Product Data, and Samples for compliance with Contract Documents prior to submittal to Project Manager.

8. Interpretation of Contract Documents
   a. Consult with Project Manager and Architect/Engineer to obtain interpretations.
   b. Assist in resolution of questions which may arise.
   c. Transmit written interpretations to concerned parties.
9. Maintain reports and records at Project Site
   a. Daily log progress of Work make available to Project Manager and Architect/Engineer.
   b. Records.
   c. Contracts.
   d. Purchases.
   e. Materials and equipment.
   f. Applicable handbooks, codes and standards.
   g. Obtain information from subcontractors and maintain record documents. Assemble documentation for handling of claims and disputes.
10. Verify that specified cleaning is done during progress of Work and at completion of each contract.
11. For project requiring building permit, coordinate with the Building Division, City of Pittsburg, for inspections.
12. Start-up
    a. Direct the checkout of utilities, operational systems and equipment.
    b. Assist in initial start-up testing.
    c. Record dates of start of operation of systems and equipment.
    d. Submit to City written notice of beginning of Warranty period for equipment put in service.

1.3 COORDINATION RE IREMENTS

A. Coordination Contractor shall coordinate the Work as stated in the Division 00 – General Conditions. Contractor shall also coordinate Work under the Contract with work under separate contracts by City. Contractor shall cooperate with City and others as directed by City in scheduling and sequencing the incorporation into the Work of City Furnished/Contractor installed products identified in the Contract Drawings, Special Conditions, and Specifications.

B. Relationship of Contract Documents Drawings, Special Conditions, Specifications, and other Contract Documents in the Project Manual are intended to be complementary. What is required by one shall be as if required by all. What is shown or required, or may be reasonably inferred to be required, or that is usually and customarily provided for similar work, shall be included in the Work.

C. Discrepancies in Contract Documents In the event of error, omission, ambiguity or conflict in Drawings, Special Conditions, or Specifications, Contractor shall bring the matter to the Architect/Engineer's attention, through the Project Manager, in a timely manner, for the Architect/Engineer's determination and direction in accordance with provisions of Division 00 – General Conditions.

D. Construction Interfacing and Coordination□Layout, scheduling and sequencing of Work shall be solely Contractor's responsibility. Contractor shall bring together the various parts, components, systems, and assemblies as required for the correct interfacing and integration of all elements of Work.

E. Contractor shall coordinate Work to correctly and accurately connect abutting adjoining, overlapping and related elements, including work under separate contracts by City, utility agencies and companies.

1.4 COORDINATION OF S□BCONTRACTS AND SEPARATE CONTRACTS

A. Superintendence of Work□ Contractor shall appoint a field superintendent who shall directly supervise and coordinate Work shown on the Drawings, Special Conditions, and in the Specifications at all times. In order to maintain an uninterrupted construction schedule, the field superintendent shall not be replaced by the Contractor, for other than extenuating circumstances, without prior approval by the Architect/Engineer and/or City.

B. Subcontractors, Trades and Materials Suppliers□ Contractor shall require all subcontractors, trades, crafts and suppliers to coordinate their portions of Work with the Superintendent, Engineer and Construction Project Manager to prevent scheduling, sequencing, dimensional and other conflicts and omissions.

C. Coordination with Work under Separate Contracts□ Contractor shall coordinate and schedule Work under the Contract with work being performed for Project under separate contracts by City, serving utilities and public agencies. Contractor shall make direct contacts with parties responsible for work of the Project under separate contracts, in order to provide timely notifications and to facilitate information exchanges.

1.5 PRECONSTR□CTION CONFERENCE

A. Project Manager will call for and administer Preconstruction Conference at time and place to be announced. Conference will occur as soon after award as can be reasonably scheduled.

B. Contractor, all subcontractors, and major suppliers shall attend Preconstruction Conference.

C. Agenda will include, but not be limited to, the following items□
1. Lines of Communication
2. Schedules
3. Employment Goals
4. Personnel
5. □se of premises
6. Location of Contractor's on-site facilities
7. Project access

8. Employee parking
9. Security
10. NPDES Storm Water Pollution Prevention BMPs
11. Contractor’s Questions
12. Housekeeping
13. Submittals
14. Inspection and testing procedures, on-site and off-site
15. □tility shutdown procedures
16. Control and reference point survey procedures
17. Injury and Illness Prevention Program
18. Contractor's Initial CPM Schedule
19. Preparation of Record Documents.

D. Project Manager will distribute copies of minutes to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the Preconstruction Conference.

1.6 SCHED□LING MEETINGS

A. Meet with Project Manager no later than Start Date of Contract and conduct initial review of Contractor's Initial Progress Schedule submittal, draft Shop Drawing and Sample Submittal Schedule, and draft Schedule of Values ("Schedule Review Meeting").

B. Authorized representative in Contractor's organization, designated in writing, who will be responsible for working and coordinating with Project Manager's representative(s) relative to preparation and maintenance of Progress Schedule, shall attend initial Schedule Review Meeting.

C. Contractor shall, within thirty (30) calendar days from the Notice to Proceed date, meet with City to review Contractor's Original CPM Schedule submittal, and final Shop Drawing and Sample Submittal Schedule, and final Schedule of Values.
   1. Contractor shall have its manager, superintendent, scheduler, and key subcontractor representatives, as required by City, in attendance. The meeting will take place over a continuous one-day period.
   2. City's review of Schedule Submittals will be limited to conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include□
      a. Clarifications of Contract Requirements
      b. Directions to include activities and information missing from submittal
      c. Requests to Contractor to clarify its schedule
   3. Within five (5) working days of the initial Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by City at the meeting.

D. Project Manager will administer scheduling meetings and shall distribute minutes of scheduling meetings to attendees. Attendees shall have five (5) working days

to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the scheduling meetings.

1.7 PROGRESS MEETINGS

A. A progress meeting will be held weekly to review the schedule update submittal and progress payment application. At this meeting, at a minimum, the following items will be reviewed:
   1. Previous meeting notes.
   2. Percent complete of each activity
   3. Time impact evaluations for Change Orders and Time Extension Request
   4. Actual and anticipated activity sequence changes
   5. Actual and anticipated duration change
   6. Actual and anticipated contractor delays
   7. Interface requirement
   8. Status on submittals
   9. Documentation of information for payment request.

B. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.

C. Project Manager will record and distribute minutes to Contractor, Building and/or Special Inspector, Architect/Engineer, and all other participants, and those affected by decisions made at the meeting, within five (5) working days after the meeting. Attendees shall have five (5) working days to submit comments or additions to the minutes. The Minutes will constitute final memorialization of the results of the progress meeting.

1.8 SPECIAL MEETINGS

A. Special meetings may be called by any party by notifying all desired participants, Project Manager, and Building and/or Special Inspector five (5) working days in advance, giving reason for meeting. Special Meetings may be held without advance notice in emergency situations.

B. At any time during the progress of the Work, any party shall have the right to require attendance at conference, and notice of such conference shall be duly observed and complied with by Contractor.

C. Contractors shall schedule and conduct coordination meetings as necessary to discharge coordination responsibilities in Division 00 – General Conditions. Project Manager shall be given five (5) working days written notice of coordination meetings. Contractors shall maintain minutes of coordination meetings. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the meetings.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 31 00

SECTION 01 32 00 – CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Preconstruction photographs and videos.
   2. Periodic construction photographs and videos.

B. Submittals:
   1. Key Plan: Submit key plan of project site and construction with notation of vantage points marked for location and direction of each photograph and video.
   2. Construction Photographs: Submit digital copy of photographs in PDF and JPEG form in a CD or a USB flash drive with a folder containing pictures of each street in subfolders.
   3. Identification: Identify the project by Contract Number. Identify each photograph by naming it according to the station number on the drawings. Example: Sta 10+00 looking northeast; Sta 12+30 looking west.
   4. Digital Images:
      a. General: Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.
      b. Usage Rights: Submit statement of transfer copyright usage rights to City allowing unlimited reproduction of photographic documentation.
   5. Video:
      a. General: Submit videos on acceptable electronic transfer medium to the Project Manager, accompanied by a detailed log, including descriptions and corresponding counter numbers to facilitate the quick location of information. Videos will be maintained by the Project Manager during construction and may be viewed at any time by Contractor upon request. Upon final acceptance, the videos will become the permanent property of the City.
      b. Submit video documentations to the Project Manager prior to start of construction work and as otherwise required.
      c. Usage Rights: Submit statement of transfer copyright usage rights to City allowing unlimited reproduction of videographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images capable of a digital capture resolution of not less than 2240x1680 - 4 Megapixels.

B. Videos□Provide videos in high resolution digital format with audio capability.

PART 3 - E□ECUTION

3.1 CONSTR□CTION PHOTOGRAPHS

A. General□Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.

B. □ey Plan□Maintain with each set of construction photographs that identifies each photographic location.

C. Digital Images□
   1. General□ Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
   2. Date and Time□Include date and time in filename for each image.
   3. Field Office Images□Maintain one set of images on acceptable electronic transfer medium.in the field office at Project Site, available at all times for reference. Identify images same as for those submitted to Project Manager.

D. Preconstruction Photographs□
   1. General□Before starting construction, take color photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Project Manager.
   2. Construction Limits□ Flag before taking construction photographs.
   3. Adjacent Conditions□
      a. General□ Take three (3) color photographs, from different views, to show existing conditions adjacent to property before starting the Work.
      b. Existing Buildings□ Take three (3) color photographs, different views, of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.

3.2 CONSTR□CTION VIDEOS

A. Preconstruction Videos□Document existing conditions of adjacent areas (curbs, gutters, sidewalks, driveways, private improvements immediately adjacent to the project site, roadway pavement, access roads, landscaping, etc.) that might be affected by construction operations. Take care to record all existing conditions which exhibit deterioration, imperfections, structural failures, or situations that would be considered substandard.

B. All Videos□Provide temporary lighting as necessary to properly videotape areas where natural lighting is insufficient (shadows, etc.). Include an audio soundtrack to provide the following information□

1. Detailed description of location being viewed.
2. Direction (N, E, S, W, looking up, looking down, etc.) of camera view.
3. Date, time, temperature, environmental conditions at time of videotaping.
4. Describe in detail areas not readily visible by video. □nless otherwise approved by the Project Manager, do not perform videotaping during inclement weather or when the ground is covered partially or totally with leaves or debris.

END OF SECTION 01 32 00

SECTION 01 32 16 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
   1. Development of schedule, cost and resource loading of the schedule, monthly payment requests and project status reporting requirements of the Contract shall employ scheduling as required in this Document.
   2. The Schedule shall be cost loaded based on Schedule of Values as approved by City.
   3. Submit schedules and reports as specified in Division 00 – General Conditions.

B. Upon Award of Contract, Contractor shall immediately commence development of Initial Schedule to ensure compliance with schedule submittal requirements.

C. Related Sections
   1. Contract
   2. Division 00 – General Conditions, Article 5
   3. Section 01 10 00 – Summary
   4. Section 01 29 00 – Payment Procedures
   5. Section 01 31 00 – Project Management and Coordination
   6. Section 01 33 00 – Submittal Procedures

1.2 GENERAL

A. Progress Schedule shall be based on and incorporate milestone and completion dates specified in Contract Documents.

B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in the Contract, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by City. Any such agreement shall be formalized by a Change Order.
   1. City is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion dates for the Contract Times.
   2. Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in earlier (advanced) schedule but within the Contract Times.
   3. A schedule showing the work completed in less than the Contract Times, which has been accepted by City, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work

and Contract Substantial Completion. Project Float is a resource available to both City and Contractor.

C. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.

D. Failure of Progress Schedule to include any element of the Work or any inaccuracy in Progress Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. City's acceptance of Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon City, or act to relieve Contractor of its responsibility for means and methods of construction.

E. Transmit each item per Section 01 33 00 – Submittal Procedures under form approved by City.
   1. Identify Project with the City Contract number, and name of Contractor.
   2. Provide space for Contractor's approval stamp and City's review stamps.
   3. Submittals received from sources other than Contractor will be returned to Contractor without City's review.

1.3 INITIAL AND ORIGINAL SCHED□LE

A. Initial Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to thirty (30) calendar days after the Notice to Proceed.

B. Indicate detailed plan for the Work to be completed in first thirty (30) calendar days of the Contract□details of planned mobilization of plant and equipment□sequence of early operations□and procurement of materials and equipment. Show Work beyond thirty (30) calendar days in summary form.

C. Original (or “Baseline”) Schedule shall be submitted for review no later than Contractor’s first progress payment application submittal.

D. All schedules shall be time-scaled.

E. All schedules shall be cost and resource loaded. Accepted cost and resource loaded schedule will be used as basis for monthly progress payments. □se of Initial Schedule for progress payments shall not exceed thirty (30) calendar days.

F. City and Contractor shall meet to review and discuss the Schedule within seven (7) calendar days after it has been submitted to City.
   1. City's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).

2. Contractor shall make corrections to Schedule necessary to comply with Contract requirements and shall adjust Schedule to incorporate any missing information requested by City. Contractor shall resubmit Initial Schedule if requested by City.

1.4 CONSTR□CTION SCHED□LE FORMAT AND LEVEL OF DETAIL

A. The Construction Schedule is to indicate all separate fabrication and field construction activities required for completion of the work, including but not limited to the following□
   1. All Contractor, Subcontractor and assigned Contractor work shall be shown in a logical work sequence that demonstrates a coordinated plan of work for all contractors. The intent is to provide a common basis of acceptance, understanding and communication, as well as interface with other contractors.
   2. Activities related to the delivery of City-furnished equipment to be contractor-installed per Contract shall be shown.
   3. All activities shall be identified through codes or other identification to indicate the building (i.e. buildings, site work) and Contractor/subcontractor responsibility to which they pertain.
   4. Contractor shall break up the work schedule into activities of durations of approximately fifteen (15) calendar days or less each, except for non-field construction activities or as otherwise deemed acceptable by the Project Manager.

B. Seasonal weather conditions (which do not constitute a delay as defined herein) shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures or presence of high moisture for the completion of the work within the allotted contract time.

C. In conformance with the Contract Documents Contractor shall furnish a breakdown of the bid by assigning dollar values (cost estimated) to each applicable network activity, which cumulatively equals the bid. □pon acceptance by City, the values will be used as the basis for determining progress payments. Contractor's overhead, profit, and cost of bonds and insurance, shall be prorated through all activities.

D. Failure by Contractor to include any element of work required for performance of the work on the detailed construction schedule shall not excuse Contractor from completing all work required within the Contract time.

E. A two-week "look ahead" detailed, daily bar chart schedule shall be updated and issued weekly, no later than the time of the scheduled weekly meeting.

F. Contractor shall utilize computer scheduling software, such as PRIMAVERA or approved equivalent software for all scheduling including schedule updates.

Contractor shall supply computer data files for all schedules including the original schedule and monthly schedule updates.

1.5 MONTHLY SCHED□LE □PDATE S□BMITTALS

A. Following acceptance of Contractor's Initial Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities.
   1. Each schedule update submitted shall be complete, including all information requested for the Initial Schedule submittal.
   2. Each update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.

B. A meeting will be held after the first Project Meeting of each month to review the schedule update submittal and progress payment application.
   1. At this meeting, at a minimum, the following items will be reviewed□percent complete of each activity□time impact evaluations for change orders and time extension requests□actual and anticipated activity sequence changes□ actual and anticipated duration changes□ and actual and anticipated contractor delays.
   2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
   3. Contractor shall plan on the meeting taking no less than two (2) hours.

C. Within five (5) working days after monthly schedule update meeting, Contractor shall submit the updated Schedule update.

D. Within five (5) working days of receipt of above noted revised submittals, City will either accept or reject monthly schedule update submittal.
   1. If accepted, percent complete shown in monthly update will be basis for Application for Payment by Contractor. The schedule update shall be submitted as part of Contractor’s Application for Payment.
   2. If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.

E. Neither updating, changing or revising of any report, curve, schedule or narrative submitted to City by Contractor under this Contract, nor City's review or acceptance of any such report, curve, schedule or narrative, shall have the effect of amending or modifying, in any way, the Contract Substantial Completion date or milestone dates or of modifying or limiting, in any way, Contractor's obligations under this Contract.

1.6 SCHED□LE REVISIONS

A. □pdating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.

B. To reflect revisions to the schedule, Contractor shall provide City with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. Contractor shall provide the written narrative and schedule diagram for revisions two (2) calendar days in advance of the monthly schedule update meeting.

C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by City. City may request further information and justification for schedule revisions and Contractor shall, within three (3) calendar days, provide City with a complete written narrative response to City's request.

D. If Contractor's revision is still not accepted by City, and Contractor disagrees with City's position, Contractor has seven (7) calendar days from receipt of City's letter rejecting the revision, to provide a written narrative providing full justification and explanation for the revision. Contractor's failure to respond in writing within seven (7) calendar days of City's written rejection of a schedule revision shall be contractually interpreted as acceptance of City's position, and Contractor waives its rights to subsequently dispute or file a claim regarding City's position.

E. At City's discretion, Contractor can be required to provide subcontractor certifications of performance regarding proposed schedule revisions affecting said subcontractors.

1.7 RECOVERY SCHED□LE

A. If the Schedule □pdate shows a substantial completion date twenty-one (21) calendar days beyond the Contract Substantial Completion date, or individual milestone completion dates, Contractor shall submit to City the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.

B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by City.

C. If Contractor's revisions are not accepted by City, City and Contractor shall follow the procedures in paragraph 1.6.C, 1.6.D and 1.6.E above.

D. At City's discretion, Contractor can be required to provide subcontractor certifications for revisions affecting said subcontractors.

1.8 TIME EXTENSIONS

A. Contractor is responsible for requesting time extensions for time impacts that, in the opinion of Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with Division 00 – General Conditions, Article 5.

B. Where an event for which City is responsible impacts the projected Substantial Completion date, Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how the impact can be mitigated (e.g., increase crew size, overtime, etc.). Contractor shall also include a detailed cost breakdown of the labor, equipment and material Contractor would expend to mitigate City caused time impact. Contractor shall submit its mitigation plan to City within ten (10) working days from the date of discovery of said impact. Contractor is responsible for the cost to prepare the mitigation plan.

C. Failure to request time or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.

D. No time will be granted under this Contract for cumulative effect of changes.

E. City will not be obligated to consider any time extension request unless requirements of Contract Documents are satisfied.

F. Failure of Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.

1.9 PRO□ECT STAT□S REPORTING

A. In addition to submittal requirements for scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each Schedule as specified herein. Status reporting shall be in form specified below.

B. Contractor shall prepare monthly written narrative reports of status of Project for submission to City. Written status reports shall include□

1. Status of major Project components (percent complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
2. Progress made on critical activities indicated on Schedule, inspections and visits by the Building and/or Special Inspection Inspector.
3. Explanations for any lack of work on critical path activities planned to be performed during last month.
4. Explanations for any schedule changes, including changes to logic or to activity durations.

5. List of critical activities scheduled to be performed next month.
6. Status of major material and equipment procurement.
7. Any delays encountered during reporting period.
8. Contractor shall provide a printed report indicating actual versus planned resource loading for each trade and each activity. This report shall be provided on weekly and monthly basis.
   a. Actual resource shall be accumulated in field by Contractor, and shall be as noted on Contractor's daily reports. These reports will be basis for information provided in monthly and weekly printed reports.
   b. Contractor shall explain all variances and mitigation measures.
9. Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by City at no additional cost.
10. Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 32 16

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes general requirements for submittals for the Work.
   1. Procedures
   2. Schedule of Shop Drawing and Sample Submittals
   3. Safety Plan
   4. Progress Schedule
   5. Product Data
   6. Shop drawings
   7. Samples
   8. Quality Control Submittals
      a. Design Data
      b. Test Reports
      c. Certificates
      d. Manufacturers' Instructions
   9. Machine Inventory Sheets
   10. Operations and Maintenance Manuals
   11. Keys
   12. Project Record Documents

B. Related Sections.
   1. Division 00 – General Conditions, Article 2
   2. Section 01 10 00 - Summary
   3. Section 01 25 00 – Substitution Procedures
   4. Section 01 26 00 – Contract Modification Procedures
   5. Section 01 29 00 – Payment Procedures
   6. Section 01 32 16 – Construction Progress Schedule
   7. Section 01 78 00 – Closeout Submittals

1.2 PROCEDURES

A. Upon issuance of the “Notice to Proceed”, the Contractor shall have thirty-five (35) calendar days to submit, at Contractor/Vendor expense, sets of the following: Schedule of Shop Drawing and Sample Submittals, Safety Plans, Progress Schedule, Product Data, Shop Drawings, Samples, Quality Control Data, Machine Inventory Sheets, Operations and Maintenance Manuals, and Project Record Documents required by the Contract Documents. Submit these submittals to Project Manager for review and approval in accordance with accepted schedule of Shop Drawings and Samples submittals.

B. Transmit each item with a standard letter of transmittal. Identify project, Contractor, subcontractor, major supplier, pertinent drawing sheet and detail number, technical specifications, and specification section number as appropriate. Provide space for Contractor, Project Manager and Architect/Engineer review stamps. Where manufacturer's standard drawings or data sheets are used, they shall be marked clearly to show those portions of the data which are applicable to this project. The transmittal sheet will include the following□

1. Date
2. Project and Contract Name and Number
3. Subcontractor or supplier as appropriate
4. Trade
5. Contractor Review Stamp

C. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show Project Manager and Architect/Engineer the materials and equipment Contractor proposes to provide and to enable Project Manager and Architect/Engineer to review the information for the limited purposes specified below. Samples shall be identified clearly as to material, supplier□pertinent data such as catalog numbers and the use for which it is intended and otherwise as Project Manager and Architect/Engineer may require enabling Project Manager and Architect/Engineer to review the submittal.

D. At the time of each submission, Contractor shall give City specific written notice of all variations, if any□that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be a separate document from the submittal. In addition, Contractor shall cause a specific notation to be made on each Shop Drawing and Sample submitted to City for review and approval of each such variation. If City accepts deviation, City shall issue appropriate Contract Modification.

E. Submittal coordination and verification of contract compliance is responsibility of Contractor□ this responsibility shall not be delegated in whole or in part to subcontractors or suppliers. Before submitting each Shop Drawing or Sample, Contractor shall have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents, and shall have determined and verified□

1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto□
2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work□ and
3. All information relative to Contractor's sole responsibilities and of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

F. Contractor's submission to City of a Shop Drawing or Sample submittal will constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above, with respect to Contractor's review and approval of that submittal.

G. After review by Project Manager and Architect/Engineer of each of Contractor's submittals, one set of materials will be returned to Contractor with actions defined as follows□

1. NO EXCEPTIONS TA□EN - Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown on the submittal.
2. MA□E CORRECTIONS NOTED (NO RES□BMISSIONS RE□□IRED) - Same as 1. above, except that minor corrections as noted shall be made by Contractor.
3. AMEND AND RES□BMIT - Rejected because of major inconsistencies or errors which shall be resolved or corrected by Contractor prior to subsequent review by Project Manager and Architect/Engineer.
4. RE□ECTED - RES□BMIT - Submitted material does not conform to Plans and Specifications in major respect, i.e.□wrong size, model, capacity, or material.

H. It is considered reasonable that Contractor shall make a complete and acceptable submittal at least by second submission. City reserves the right to deduct monies from payments due Contractor to cover additional costs of Project Manager's and Architect/Engineer's review beyond the second submission. Illegible submittals will be rejected and returned to Contractor for resubmission.

I. Favorable review will not constitute acceptance by City of any responsibility for the accuracy, coordination and completeness of the submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back check comments, corrections, and modifications resulting from City's review which shall be incorporated in design before fabrication. Submittals may be prepared by Contractor, subcontractors, or suppliers, but Contractor shall ascertain that submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. Project Manager and Architect/Engineer's review will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as indicated by the Contract Documents. Favorable review of submittal, method of work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by Architect/Engineer or City, or any officer or employee thereof, and Contractor shall have no claim under Contract on account of failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Favorable review shall be considered to mean merely that Architect/Engineer or City has no objection to

Contractor using, upon his own full responsibility, plan or method of work proposed, or furnishing materials and equipment proposed.

□. City's review shall not be construed as approval of means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

□. Submit complete initial submittal for those items where required by individual technical specifications, or specification sections. Complete submittal shall contain sufficient data to demonstrate that items comply with Specifications, shall meet minimum requirements for submissions cited in technical specifications, shall include motor data and seismic anchorage certifications, where required, and shall include necessary revisions required for equipment other than first named. If Contractor submits incomplete initial submittal, when complete submittal is required, submittal may be returned to Contractor without review.

L. It shall be Contractor's responsibility to copy, conform and distribute reviewed submittals in sufficient numbers for Contractor's files, subcontractors and vendors.

M. After Project Manager's and Architect/Engineer's review of submittal, revise and resubmit as required. Identify changes made since previous submittal.
   1. Begin no fabrication or work which require submittals until return of submittals not requiring re-submittal.
   2. Normally, submittals will be processed and returned to Contractor within fifteen (15) calendar days of receipt.

N. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

1.3 SCHED□LE OF SHOP DRAWING AND SAMPLE S□BMITTALS

A. Submit preliminary Schedule of Shop Drawing and Sample Submittals as required by Division 00 - General Conditions or as elsewhere specified in the Contract Documents. Submit three (3) copies and PDF of final and accepted schedule of submittals of shop drawings and samples as required by Division 00 - General Conditions, and in no event later than thirty-five (35) calendar days following Notice to Proceed.

B. Schedule of Shop Drawing and Sample Submittals will be used by Project Manager and Architect/Engineer to schedule their activities relating to review of submittals. Schedule of submittals shall indicate a spreading out of submittals and early submittals of long-lead-time items and of items which require extensive review.

C. Schedule of Shop Drawing and Sample Submittals shall be reviewed by Project Manager and shall be revised and resubmitted until accepted by Project Manager.

1.4 SAFETY PLAN

A. Submit three (3) copies of Safety Plan specific to this Contract to Project Manager within fifteen (15) calendar days of issuance of the Notice to Proceed.

B. One (1) copy of accepted Safety Plan will be returned to Contractor.

C. No on-site work shall be started until Safety Plan has been reviewed and accepted by City. Acceptance of Safety Plan shall not affect Contractor's responsibility for maintaining a safe working place and instituting safety programs in connection with project.

1.5 PROGRESS SCHED□LE

A. See Section 01 32 16 – Construction Progress Schedule for schedule and report requirements.

B. Submit three (3) copies and PDF of schedule at each of the following times□
1. Initial CPM Schedule at the Preconstruction Conference (covering in detail first thirty (30) calendar days of contract performance, and at a summary level for remainder of contract).
2. Original CPM Schedule within thirty (30) calendar days of the Notice to Proceed date (covering in detail entire Work of Contract to completion).
3. Adjustments to the CPM Schedule as required.
4. CPM Schedule updates weekly, two (2) calendar days prior to weekly progress meeting.

C. Submit three (3) copies and PDF of the reports listed in Section 01 32 16 – Construction Progress Schedule with□
1. Initial CPM Schedule
2. Original CPM Schedule
3. Each weekly Schedule update

D. Progress Schedules and Reports shall be submitted electronically and stored in a □SB flash drive in addition to hard copies specified above.

1.6 PROD□CT DATA

A. Within ten (10) calendar days after Start Date of the Contract Times, submit copies of complete list of major products and equipment proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

C. Tabulate products by Special Conditions and Specification Section Number.

D. Supplemental Data□Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to Project.

E. Provide copies for Project Record Documents described in Section 01 78 00 – Closeout Submittals.

1.7 SHOP DRAWINGS

A. Submit three (3) copies and PDF of shop drawings.

B. Minimum Sheet Size□8-1/2 inches by 11 inches. All others□Multiples of 8-1/2 inches by 11 inches, 22 inches by 34 inches (ANSI D) maximum.

C. Original sheet or reproducible transparency will be marked with Project Manager's and/or Architect/Engineer's review comments and returned to Contractor.

D. Mark each copy to identify applicable Products, models, options, and other data□ supplement manufacturers' standard data to provide information unique to Work.

E. Include manufacturers' installation instructions when required by technical specifications or specification section.

1.8 SAMPLES

A. Submit full range of manufacturers' standard colors, textures, and patterns for Project Manager's selection where not indicated in documents or for substitutions or "equals".

B. Submit samples to illustrate functional and aesthetic characteristics of Product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.

C. Include identification on each sample, giving full information.

D. Submit three (3) samples unless otherwise specified.

E. Sizes□ □nless otherwise specified, provide the following□
1. Paint Chips□Manufacturers' standard.
2. Flat or Sheet Products□ Minimum 6 inches square, maximum 12 inches square.
3. Linear Products□Minimum 6 inches, maximum 12 inches long.
4. Bulk Products□Minimum 1 pint, maximum 1 gallon.

F. Full size samples may be used in Work upon approval.

G. Mock-ups□

1. Erect field samples and mock-ups at Project site in accordance with requirements of Special Conditions or Specification sections.
2. Modify or make additional field samples and mock-ups as required to provide appearance and finishes approved by Project Manager.
3. Approved field samples and mock-ups may be used in Work upon approval.

1.9 □□ALITY CONTROL S□BMITTALS

A. Design Data□ Three (3) copies and PDF.

B. Test Reports□ Three (3) copies and PDF.
1. Indicate that material or product conforms to or exceeds specified requirements.
2. Reports may be from recent or previous tests on material or product, but must be acceptable to Project Manager. Comply with requirements of each individual technical specifications or specification Section.

C. Certificates□ Three (3) copies and PDF.
1. Indicate that material or product conforms to or exceeds specified requirements.
2. Submit supporting reference data, affidavits, and certifications as appropriate.
3. Certificates may be recent or from previous test results on material or product, but must be acceptable to Project Manager.

D. Manufacturers' Instructions□Three (3) copies and PDF.
1. Include manufacturer's printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
2. Identify conflicts between manufacturer's instructions and Contract Documents.

1.10 MACHINE INVENTORY SHEETS

A. Submit three (3) copies of machine inventory sheets including inventory list for spare parts and materials. If necessary, copies will be marked with Project Manager's and/or Architect/Engineer's review comments and returned to Contractor for correction until satisfactory information is provided. City will retain satisfactorily corrected sheets for its own use.

1.11 OPERATIONS AND MAINTENANCE MAN□ALS

A. Submit three (3) copies and PDF of manufacturers' operations and maintenance manuals. If necessary, copies will be marked with City's review comments and returned to Contractor for correction until satisfactory information is provided. City will retain satisfactorily corrected manuals for its own use.

B. Operations and maintenance manuals shall include the following as appropriate□
1. Operating instructions.
2. Preventive maintenance instructions.

3. Cleaning instructions.
4. Safety precautions.
5. Trouble shooting procedures.
6. Theory of operation to discrete component level.
7. Schematic diagrams, flow diagrams, wiring diagrams, logic diagrams, etc. to discrete component level.
8. Parts lists showing all discrete components with part number, current prices and availability.
9. List of replaceable supplies□paper, ink, ribbon, etc. with part numbers, current prices and availability.
10. Recommended levels of spare parts and supplies to keep on hand.
11. Manufacturers' service and maintenance technical manuals.
12. Names, addresses and telephone numbers of service and repair firms for the equipment.

C. Manuals shall be the same as are used by manufacturers' authorized technicians to completely service and repair the equipment.

1.12 □EYS

A. Submit two (2) complete sets of keys for the Project and all related facilities.

B. Submit an inventory list of keys.

1.13 PRO□ECT RECORD DOC□MENTS

A. Submit copies of each of the Project Record Documents as listed in Section 01 78 00 – Closeout Submittals.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 33 00

SECTION 01 41 00 – REGULATOR REQUIREMENTS

PART 1 - GENERAL

1.1 SMMARY

A. This section includes some of the key regulatory requirements applicable to Contract, provided for the Contractor's convenience only, and not intended as a complete list of all currently applicable regulatory requirements.

1.2 REFERENCES TO REGLATORY REIREMENTS

A. Codes, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these specifications.

B. Conform to referenced codes, laws, ordinances, rules and regulations which are in effect on date of receipt of bids.

1.3 CODES

A. Codes which apply to Contract include, but are not limited to, the following
   1. California Building Code (CBC) – Latest Edition
      a. California Administrative Code Title 24, Part 1.
      b. California Building Code Title 24, Part 2 (Includes the California Historical Building Code, Part 8 and California Existing Building Code, Part 10).
      c. California Residential Code Title 24, Part 2.5
      d. California Electrical Code Title 24, Part 3.
      e. California Mechanical Code Title 24, Part 4.
      f. California Plumbing Code Title 24, Part 5.
      g. California Energy Code Title 24, Part 6.
      h. California Fire Code Title 24, Part 9.
      i. California Green Building Standards Code (CALGreen) Title 24, Part 11.
      j. California Referenced Standards Code Title 24, Part 12.

1.4 LAWS, ORDINANCES, RLES AND REGLATIONS

A. During prosecution of Work to be done under Contract, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following
   1. Federal/National
      a. Americans with Disabilities Act (ADA) Latest edition Civil Rights Division, Office on the Americans with Disabilities Act, .S. Department of ustice

b. National Fire Protection Association (NFPA) Life Safety Code - NFPA 101.
c. . S. Environmental Protection Agency (EPA) Laws and regulations.
d. 29 CFR, Section 1910.1001, Asbestos
e. 40 CFR, Subpart M, National Emission Standards for Asbestos
f. Executive Order 11246

2. State of California
   a. California Code of Regulations, Titles 5, 8, 19, 21, 24
   b. California Education Code
   c. California Public Contract Code
   d. California Health and Safety Code
   e. California Government Code
   f. California Labor Code
   g. California Civil Code
   h. California Code of Civil Procedure
   i. CP C General Order 95, Rules for Overhead Electric Line Construction
   j. CP C General Order 128, Rules for Construction of nderground Electric Supply and Communications Systems
3. State of California Agencies
   a. State and Consumer Services Agency
   b. Department of Industrial Relations – Public Works
   c. Office of the State Fire Marshal
   d. California Environmental Protection Agency (CalEPA) State regulations and standards.
   e. California Integrated Waste Management Board
      1) General Sustainable Building Guidelines.
      2) Construction Waste Management Construction and Demolition Debris Recycling.
   f. California State Water Resources Control Board (SWRCB) SWPPP Standards.
   g. California Department of Toxic Substances Control (DTSC) Hazardous Waste Management standards.
4. City Codes
   a. Pittsburg Municipal Code
5. Local Agencies
   a. Bay Area Air uality Management
   b. County of Contra Costa
   c. City of Pittsburg

1.5 RESERVED

PART 2 - PRODUCTS

NOT SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 41 00

SECTION 01 42 00 – REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. This section includes reference standards, symbols and definitions used in Contract Documents.
   2. Material and workmanship specified by reference to number, symbol, or title of specific standard such as state standard, commercial standard, federal specifications, technical society, or trade association standard, or other similar standard shall comply with requirements of standards except when more rigid requirements are specified or required by applicable codes.
   3. Standards referred to, except as modified herein, shall have full force and effect as though printed in the Contract Documents. Standards are not furnished to Contractor, since manufacturers and trades involved are assumed to be familiar with their requirements.

1.2 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES:

A. Latest in Effect: Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.

B. Discrepancies: If during the performance of the Work, Contractor discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any supplier, Contractor shall report it in writing at once to Inspector, with copies to Project Manager and Architect/Engineer, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by Project Manager.

C. Precedence: Except as otherwise specifically stated in the Contract Documents, including Division 00 – General Conditions, Article 3, or as may be provided by Change Order, or supplemental instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and:

1. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents) or
2. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
3. No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of City, Contractor, Project Manager, or Architect/Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to City, Architect/Engineer, Project Manager, or any of their consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

1.3 STANDARDS

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
APWA	American Public Works Association
AREMA	The American Railway Engineering and Maintenance-of-Way Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers

ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BASMAA	Bay Area Stormwater Management Agencies Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BFL	Bay Friendly Landscaping
CALOSHA	California Occupational Safety and Health Administration
CA M□TCD	California Manual on □niform Traffic Control Devices
CALTRANS	State of California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CLFMI	Chain Link Fence Manufacturer's Institute
CRSI	Concrete Reinforcing Steel Institute
DDW	Division of Drinking Water
EIA	Electronic Industries Association
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
MSS	Manufacturers Standardization Society
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NEC	National Electrical Code

NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration (Federal)
PCA	Portland Cement Association
P□C	Public □tilities Commission
SSPC	Steel Structures Painting Council
STA	Seal of Testing Assurance Program
□L	□nderwriters Laboratories, Inc
□SCC	□ S Composting Council

1.4 SYMBOLS

A. Symbols, used only on Drawings, are shown thereon.

1.5 DEFINITIONS

A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the City Standard Specifications, it shall have the meaning here set forth□
   1. ADDEND□M/ADDENDA□Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding requirements or the Contract Documents.
   2. ADDITIVE BID□The sum to be added to the Base Bid if the change in scope of work as described in Additive Bid is accepted by City.
   3. AGREEMENT The Contract executed by the parties as further defined in Division 00 – General Conditions, Article 1.
   4. ALTERNATE□Work added to or deducted from the Base Bid, if accepted by City.
   5. APPROVED E□□AL□ Approved in writing by City as being of equivalent quality, utility and appearance.
   6. ARCHITECT/ENGINEER□
      a. Design Architect□ The person holding a valid California State Architect's or Landscape Architect’s license, whose firm has been designated within the Contract Documents to provide architectural or landscape architectural services on the project, and who may have engaged engineering subconsultants to provide services on Project.
      b. Design Engineer□ The person holding a valid California State Engineering license, whose firm has been designated within the Contract Documents to provide civil, structural, traffic or other

engineering services on the project, and who may have engaged engineering subconsultants to provide services on Project.

c. When the Architect/Engineer is referred to within the Contract Documents and no Architect or Engineer has in fact been designated, then the matter shall be referred to City. The term Architect/Engineer shall be construed to include all his or her consultants retained for the Project, as well as employees of the Architect/Engineer. When the designated Architect/Engineer is an employee of City, his or her authorized representatives on the Project within the district will be included under the term Architect/Engineer.

7. AS-B□ILTS□ Project Record Documents as required by the General Conditions and Section 01 78 00 – Closeout Submittals.
8. BID□ The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
9. BIDDER□ One who submits a Bid.
10. BY CITY□ Work that will be performed by City or its agents at the City's expense.
11. BY OTHERS□ Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by City, other contractors, or other means.
12. CITY□ City of Pittsburg, acting through its City Council or any of its authorized agents.
13. CITY CORPORATION YARD□ Located at 357 East 12th Street, Pittsburg, CA 94565-2628.
14. CITY ENGINEER□ City employee in charge of Engineering.
15. CITY-F□RNISHED, CONTRACTOR-INSTALLED□ Items furnished by City at its cost for installation by Contractor at its cost under this Contract.
16. CITY'S PROJECT MANAGER(S): The person or persons assigned by City to be City's agent(s) or representative(s) at the site. City's authorized agent representing City on all matters of the Contract. Project Manager may authorize agents and representatives to act in carrying out Project Manager's duties, including a "Construction Manager", to act under the authority of the Project Manager. As City's agent, the Project Manager is the beneficiary of all contract obligations of Contractor to City, including without limitation, all releases and indemnities.
17. CHANGE ORDER□ A written instrument prepared by City and signed by City and Contractor, stating their agreement upon all of the following□
    a. a change in the Work,
    b. the amount of the adjustment in the Contract Sum, if any, and
    c. the amount of the adjustment in the Contract Time, if any.
18. CONCEALED□ Work not exposed to view in the finished Work, including within or behind various construction elements.
19. CONTRACT CONDITIONS□Conditions of the Contract define basic rights, responsibilities and relationships of Contractor and City and consists of two parts□ General Conditions and Supplementary Conditions.

a. General Conditions are general clauses which are common to the City Contracts.
b. Supplementary conditions modify or supplement General Conditions to meet specific requirements for this Contract.

20. CONTRACT DOC□MENTS□ Contract Documents shall consist of the documents identified as the Contract Documents in Division 00 - General Conditions, Article 1, plus all changes, addenda and modifications thereto.
21. CONTRACT MODIFICATION□ Either□
    a. a written amendment to Contract signed by Contractor and City□or
    b. a Change Order□or
    c. a written directive for a minor change in the Work issued by City.
22. CONTRACT S□M□ The sum stated in the Agreement and, including authorized adjustments, the total amount payable by City to Contractor for performance of the Work and the Contract Documents. The Contract Sum is also referred to as the Contract Price or the Contract Amount.
23. CONTRACT TIMES or CONTRACT TIME□The number or numbers of days or the dates stated in the Agreement (i) to achieve substantial completion of the Work or designated milestones and/or (ii) to complete the Work so that it is ready for final payment and is accepted.
24. CONSTR□CTION MANAGER□A representative of City with authority to act on behalf of City, as specified by City or Project Manager.
25. CONTRACTOR□ The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neuter in gender. The term "Contractor" means the Contractor or its authorized representative.
26. CONTRACTOR'S EMPLOYEES□ Persons engaged in execution of Work under Contract as direct employees of Contractor, as subcontractors, or as employees of subcontractors.
27. DATE OF S□BSTANTIAL COMPLETION□ Date of Substantial Completion of Work or designated portion thereof is date certified by Project Manager when construction is sufficiently complete in accordance with Contract Documents for City to occupy Work or designated portion thereof and have beneficial use of it for the purposes intended.
28. DAY□ One calendar day, unless the word "day" is specifically modified to the contrary.
29. DEFECTIVE□ An adjective which, when modifying the word "Work", refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by City). Project Manager is the judge of whether Work is defective.
30. DRAWINGS□ The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and

dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

31. E□□AL□ Equal in opinion of Project Manager. Burden of proof of equality is responsibility of Contractor.
32. EXPOSED□ Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.
33. FINAL ACCEPTANCE or FINAL COMPLETION□ City's acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to□
    a. All Systems having been tested and accepted as having met requirements of Contract Documents.
    b. All required instructions and training sessions having been given by Contractor.
    c. All as-built drawings, operations and maintenance manuals, and other closeout submittals having been submitted by Contractor, and reviewed and accepted by City.
    d. All punch list work, as directed by City, having been completed by Contractor.
    e. All Work, except Contractor maintenance after Final Acceptance, having been completed to satisfaction of City.
    f. See Section 01 29 00 – Payment Procedures,1.9.D regarding Final Payment.
    g. See Section 01 77 00 – Closeout Requirements.
34. FORCE ACCO□NT□ Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.
35. F□RNISH□ Supply and deliver to the jobsite.
36. INDICATED□ Shown or noted on the Drawings.
37. INSPECTOR□ The person engaged by City to inspect the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.
38. INSTALL□ Anchor, fasten, or connect in place and adjust for use□place or apply in proper position and location□establish in place for use or service.
39. LATENT□ Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under the General Conditions.
40. MATERIAL OR MATERIALS□ These words shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.
41. MILESTONE□A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.

42. MODIFICATION Same as Contract Modification.
43. NOT IN CONTRACT Work that is outside the scope of work to be performed by Contractor under this Contract.
44. NOTICE OF AWARD A written notice given by City to lowest responsive, responsible bidder advising that Bidder's bid and other qualifying information is acceptable to City, requiring Bidder to fulfill the requirements of Article 4 of Division 00 - General Conditions.
45. NOTICE TO PROCEED A written notice given by City to Contractor fixing the date on which the Contract Time will commence to run and on which contractor shall start to perform Contractor's obligations under the Contract Documents.
46. OFF SITE Outside geographical location of the Project.
47. OWNER City of Pittsburg, acting through its officers, employees, or its authorized agent.
48. PROGRESS REPORT A periodic report submitted by Contractor to City with progress payment invoices accompanying actual work accomplished to the Program Schedule. See Section 01 32 16 - Construction Progress Schedule and Reports required in Division 00 - General Conditions.
49. PRO ECT Total construction of which Work performed under this Contract may be whole or part.
50. PRO ECT MAN AL Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, Technical Specifications, and Specifications.
51. PROVIDE Furnish and install.
52. RE ESTS FOR INTERPRETATION ("RFI") A document prepared by Contractor requesting interpretation, information, and/or clarification regarding the Project or Contract Documents.
53. SAMPLES Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
54. SHOP DRAWINGS All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the work.
55. SITE/ OBSITE The particular geographical location of Work performed pursuant to Contract.
56. TECHNICAL SPECIFICATIONS Divisions 01 through 34 – Technical Specifications, which states project-specific requirements.
57. SPECIFICATIONS The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services and are contained in Divisions 01 through 48.
58. SPECIFIED As written in Technical Specifications and Specifications.
59. S BCONTRACTOR A person or entity who has a direct contract with Contractor to perform a portion of the Work at the site. The term "subcontractor" is referred to throughout the Contract Documents as if

singular in number and neuter in gender and means a subcontractor or an authorized representative of the subcontractor. The term "subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

60. S□BMITTALS□ Shop drawings, samples and other items specified in Section 01 33 00 - Submittal Procedures.
61. S□BSTANTIAL COMPLETION□ The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Project Manager and Architect/Engineer and as evidenced by a Certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended□or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by written recommendation of Project Manager and/or Architect/Engineer for final payment. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof. See Section 01 29 00 – Payment Procedures,1.8.A.2 regarding application for payment of Substantial Completion and Section 01 77 00 – Closeout Requirements.
62. S□PPLEMENTAL INSTR□CTION□ A written work change directive to Contractor from Project Manager or Architect/Engineer, approved by Project Manager, ordering alterations or modifications which do not result in change in Contract Sum or Contract Times, and do not substantially change Drawings, Technical Specifications, or Specifications.
63. □NDERGRO□ND FACILITIES□ All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials□ Electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.
64. WOR□□ The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including the Drawings, Technical Specifications, and Specifications. Wherever the word "work" is used, rather than the word "Work", it shall be understood to have its ordinary and customary meaning.
65. WOR□ING DAY. A working day is defined as any day, except as follows□
    a. Saturdays, Sundays, and legal holidays
    b. Days on which the Contractor is prevented from performing work by inclement weather or conditions resulting therefrom.

B. Wherever words "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that direction, requirements, or permission of City

or Project Manager is intended. Words "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in judgment of City or Project Manager. Words "approved", "acceptable", "satisfactory", or words of like import, shall mean approved by, or acceptable to, or satisfactory to, City or Project Manager.

C. Wherever the word "may" is used, the action to which it refers is discretionary. Wherever the word "shall" is used, the action to which it refers is mandatory. Where a colon (:) is used within sentences or phrases, the words "shall" or "shall be" are included by inference. Such imperative statements in the specifications are directed to the Contractor, who has overall responsibility for the subcontractors.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 42 00

SECTION 01 42 13 - ABBREVIATIONS

PART 1 - GENERAL

1.1 GENERAL

A. Wherever in these Specifications references are made to the Standards, Specifications or other published data of the various national, regional, or local organizations, such organization may be referred to by their acronym or abbreviation only. As a guide to the use of these Specifications, the following acronyms or abbreviations which may appear in these Specifications shall have the meaning indicated herein.

1.2 ABBREVIATIONS AND ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
APWA	American Public Works Association
AREMA	The American Railway Engineering and Maintenance-of-Way Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects

ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BASMAA	Bay Area Stormwater Management Agencies Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BFL	Bay Friendly Landscaping
CALOSHA	California Occupational Safety and Health Administration
CA M□TCD	California Manual on □niform Traffic Control Devices
CALTRANS	State of California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CFC	California Fire Code
CLFMI	Chain Link Fence Manufacturer's Institute
CPC	California Plumbing Code
CRSI	Concrete Reinforcing Steel Institute
CVC	California Vehicle Code
DBE	Disadvantaged Business Enterprise
DDW	Division of Drinking Water
EIA	Electronic Industries Association
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers

MSS	Manufacturers Standardization Society
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration (Federal)
PCA	Portland Cement Association
P□C	Public □tilities Commission
SSPC	Steel Structures Painting Council
STA	Seal of Testing Assurance Program
□L	□nderwriters Laboratories, Inc
□SCC	□ S Composting Council

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 42 13

SECTION 01 43 00 – QUALIT ASSURANCE

PART 1 - GENERAL

1.1 S MMARY

A. This section includes administrative and procedural requirements for quality assurance.
   1. Workmanship uality of work.
   2. Tolerances Finished surfaces.

B. References
   1. General Refer to Division 00 - General Conditions and Section 01 42 00 - References. Products or workmanship specified in the Project Manual by association, trade, or other consensus standards shall conform to the requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
   2. Contractual Relationship The contractual duties and responsibilities of the parties of the Contract and those of the Project Manager shall not be altered from the requirements of the Contract Documents by any statement or inference in any reference document.

C. Testing Refer to Section 01 45 00 – uality Control.

PART 2 - PRODUCTS

2.1 Refer to Section 01 60 00 – Product Requirements assure a consistent quality of products furnished by suppliers and manufacturers as indicated throughout the Project Manual.

PART 3 - E ECUTION

3.1 PERFORMANCE

A. Refer to Section 01 70 00 – Execution.

B. Workmanship Perform shop and field work with mechanics, craftspersons, artisans, and workers skilled and experienced in the fabrication and installation of work specified. Install and erect work plumb, level, square, and true, or true to indicated angle, and in proper alignment and relationship to other work. Finished work shall be free from defects and damage. uality of work shall conform to the highest established standards and practices of the various trades required. The Project Manager reserves the right to reject materials and work quality which

does not meet accepted standards. Repair or replace substandard material or work as directed, at no additional cost to the City.

3.2 INSTALLATION

A. General Conduct quality control in concert with suppliers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Manufacturer's Instructions
   1. General Follow manufacturer's instructions, including each step in progression of installation. If manufacturer's instructions conflict with Contract Documents, request clarification from Project Manager before commencing Work.
   2. Installer Manufacturer approved, as required in the technical sections of the Project Manual.
   3. Field Services Coordinate with manufacturer of a product, system, or assembly which requires special knowledge and skill for proper application/installation of the product, system, or assembly to obtain field service, consultation and inspection as required for the application/installation work at no additional cost to the City.

C. Reference Standards Conform to specified standards as minimum quality for the Work except where more stringent codes or specified requirements indicate higher standards or more precise workmanship.

D. Anchorage Secure products in place with positive anchorage devices designed and sized to withstand stress, vibration, physical distortion, or disfigurement.

E. Tolerances Adjust products to appropriate dimensions position before securing in place. Monitor and control tolerances of installed products to produce acceptable Work.

END OF SECTION 01 43 00

SECTION 01 45 00 – QUALIT CONTROL

PART 1 - GENERAL

1.1 SMMARY

A. This Section includes administrative and procedural requirements for quality-control services.

B. uality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Owner.

C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.

D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.

E. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products. Refer to the following

1. Section 03 30 00 – tility Cast-in-place Concrete - 3.9 Field uality Control
2. Section 03 60 00 – Grouting - 3.4 Field uality Control
3. Section 31 05 13 – Clearing & Grubbing, Excavation, and Earthwork – 2.5 – Source uality Control.
4. Section 31 23 16 – tility Trenching - 3.17 Field uality Control
5. Section 32 11 23 – Aggregate Base Courses – 3.5 Field uality Control
6. Section 32 12 16 – Asphalt Paving – 1.5 uality Control Plan & 3.13 – Field uality Control
7. Section 32 12 17 – Asphalt Paving Rehabilitation – 1.5 uality Control Plan & 3.17 – Field uality Control
8. Section 32 13 13 – Concrete Surface Improvements – 3.5 Field uality Control
9. Section 32 17 26 – Detectable Warning Surfacing – 3.4 Field uality Control
10. Section 33 01 30 – Testing for Sanitary Sewer, Storm Drainage – Piping and Manholes – 3.3 Field uality Control
11. Section 33 05 13 – Manholes and Structures – 3.4 Field uality Control
12. Section 33 05 17 – Precast Concrete Valve Vaults and Meter Boxes – 3.4 Field uality Control
13. Section 33 11 13 – Water Distribution Piping – 3.6 Field uality Control
14. Section 33 12 00 – Water Distribution Equipment – 3.4 Field uality Control
15. Section 33 12 13 – Water Service Connections – 3.4 Field uality Control

16. Section 33 12 16 – Water Distribution Valves – 3.4 Field □uality Control
17. Section 33 12 19 – Water Distribution Fire Hydrants – 3.4 Field □uality Control
18. Section 33 13 00 –Disinfecting of Water Distribution – 3.3 Field □uality Control
19. Section 33 31 13 – Sanitary Sewer Piping – 3.4 Field □uality Control
20. Section 33 41 13 – Storm Drainage Piping – 3.5 Field □uality Control

F. Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.

G. Requirements for Contractor to provide quality-control services required by Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 RESPONSIBILITIES

A. Owner's Responsibilities□ □nless otherwise indicated as the responsibility of another identified entity, the Owner shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction.

B. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.'

C. Where the Owner has engaged a testing agency for testing and inspecting part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless agreed to in writing by the Owner.

D. Retesting□ The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility. Refer to Division 00 - General Conditions, Section 7.8.
   1. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility and will be at no cost to the Owner where required tests performed on original construction indicated noncompliance with Contract Document requirements.

E. Associated Services□Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following□

1. Provide access to the Work.
2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
4. Provide facilities for storage and curing of test samples.
5. Deliver samples to testing laboratories.
6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
7. Provide security and protection of samples and test equipment at the Project Site.

F. Duties of the Owner□Owner will retain a qualified independent agency to perform inspections, sampling, and testing of materials and construction specified in individual Sections.
1. □pon receipt of notice from the testing agency, Owner will notify the Contractor promptly of irregularities or deficiencies identified in the testing Work performance.
2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
3. The agency shall not perform any duties of the Contractor.

1.3 S□BMITTALS

A. □nless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Owner. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
2. Report Data□ Written reports of each inspection, test, or similar service include, but are not limited to, the following□
   a. Date of issue.
   b. Project title and number.
   c. Name, address, and telephone number of testing agency.
   d. Dates and locations of samples and tests or inspections.
   e. Names of individuals making the inspection or test.
   f. Designation of the Work and test method.
   g. Identification of product and Special Conditions/Specification Section.
   h. Complete inspection or test data.
   i. Test results and an interpretation of test results.
   j. Ambient conditions at the time of sample taking and testing.
   k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.

l. Name and signature of laboratory inspector.
m. Recommendations on retesting.

1.4 □□ALITY ASS□RANCE

A. □ualifications for Service Agencies□ Owner will engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory □ualification" and that specialize in the types of inspections and tests to be performed.
1. Each independent inspection and testing agency engaged on the Project shall be authorized by (authorities having jurisdiction) to operate in the state where the Project is located.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 REPAIR AND PROTECTION

A. General□ □pon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Section 01 70 00 - Execution.

B. Protect construction exposed by or for quality-control service activities, and protect repaired construction.

END OF SECTION 01 45 00

SECTION 01 50 00 – TEMPORAR FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SMMARY

A. This Section includes requirements for installation and removal of temporary facilities and controls, including temporary utilities, support facilities, and security and protection. See also, Division 00 – General Conditions, Article 7, including Sections 7.2, 7.4, and 7.9.

B. Temporary utilities include, but are not limited to, the following
   1. Water service and distribution.
   2. Temporary electric power and light.
   3. Temporary heat.
   4. Ventilation.
   5. Sanitary facilities, including drinking water.
   6. Fire protection water service.

C. Support facilities include, but are not limited to, the following
   1. Temporary enclosures.
   2. Temporary project identification signs and bulletin boards.
   3. Waste disposal services.
   4. Rodent and pest control.
   5. Signs.

D. Security and protection facilities include, but are not limited to, the following
   1. Barricades, warning signs, and lights.
   2. Sidewalk bridge or enclosure fence for the site.
   3. Environmental protection.

1.2 SBMITTALS

A. Temporary tilities Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.

B. Implementation and Termination Schedule Within ten (10) working days of the date established for commencement of the Work, submit a schedule indicating implementation and termination of each temporary utility.

C. Temporary Facilities Plan Within ten (10) working days prior to scheduled installation of any temporary facility, submit a plan to the Project Manager for review and approval.

1.3 TEMPORARY FACILITIES

A. Temporary Structures Obtain permits for, install and maintain in safe condition, whatever scaffolds, hoisting equipment, barricades, walkways, or other temporary structures which may be required to accomplish the work on the Project. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable State and local codes and regulations.

B. Temporary Heat Provide and maintain temporary heat from an approved source whenever in the course of the Work it may become necessary for curing and drying of materials, or to warm spaces as may be required for the installation of materials or finishes.

C. Dewatering Provide and maintain facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, have on hand whatever spare parts or equipment that may be required to prevent interruption of dewatering. If required, obtain Dewatering Permit from Delta Diablo (Sewer District) for waste discharge.

D. Temporary tilities Provide and maintain all utility services necessary to perform the work under this Contract. These may include, but are not limited to, temporary electricity, water, gas, sewer and telephone, including charges and installation fees. Furnish and maintain all means of distribution of utility services required within the site to properly complete the Project.

E. Storage Store materials, tools, accessories, etc., only where directed by City. eep storage area neat and clean. Security of stored items is Contractor's responsibility.

F. Flammable Materials When flammable materials are stored on site, take extra precautions, including clear identification.

G. Sanitary Facilities Provide and maintain temporary toilets and wash facilities in quantities and locations as required by CAL/OSHA and other local codes and regulations. eep them maintained and supplied in a usable and sanitary condition at all times.

H. Drinking Water Provide and maintain adequate potable water stations at site until final completion of the Project.

I. Field Office If required by the Special Conditions, maintain an office at the Project site which will be the Contractor’s headquarters for the Project. Any communications delivered to this office shall be considered as delivered to Contractor. Location and size of office shall be such that it will adequately serve

the needs of Contractor's superintendent and assistants in the performance of their duties.

□. Removal of Temporary Facilities□ Promptly remove temporary facilities when they are no longer needed for the work or for completion of the Project, mutually agreed upon by Contractor and City.

□. Fire Hydrant□ Provide site access and operational fire hydrant prior to any combustible construction on site. Fire hydrants to be relocated shall remain operational until the replacement fire hydrant is operational.

1.4 □□ALITY ASS□RANCE

A. Regulations□Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following□
   1. Building code requirements.
   2. Health and safety regulations.
   3. □tility company regulations.
   4. Police, fire department, and rescue squad rules.
   5. Environmental protection regulations.

B. Standards□ Comply with the following□
   1. NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations,"
   2. ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and
   3. NECA Electrical Design Library "Temporary Electrical Facilities."

C. Electrical Service□
   1. Comply with NEMA, NECA, and □L standards and regulations for temporary electric service.
   2. Install service in compliance with NFPA 70 "National Electric Code" and PG&E Green Book, latest edition.

D. Inspections□ Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.5 SIGNS

A. No signs may be displayed on or about City's property (except those required by law) without City's specific approval□the size, content, and location to be as specified by City.

1.6 PRO□ECT CONDITIONS

A. Temporary □tilities□ Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.

B. Conditions of □se□ □eep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

C. □se of Roadways and Walkways□ Do not block or interfere with use of any existing roadway, walkway or other facility for vehicular or pedestrian traffic, from any party entitled to use it. Wherever and whenever such interference becomes necessary for the proper and convenient performance of the Work, and no satisfactory detour route exists, before beginning the interference, notify City and post signs at least 72 hours in advance of such interference, and provide a satisfactory detour, including temporary bridge if necessary, or other proper facility for traffic to pass around or over the interference. Maintain the detour in a safe and satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Special Conditions. Refer to Section 01 55 26 – Temporary Traffic Control.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. If acceptable to the Owner's Representative, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.

B. Lumber and Plywood□
1. For job-built temporary offices, shops, and sheds within the construction area, provide □L-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses indicated.
3. For fences and vision barriers, provide minimum 3/8-inch-thick exterior plywood.
4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch-thick exterior plywood.

C. Gypsum Wallboard Provide gypsum wallboard on interior walls of temporary offices.

D. Roofing Materials Provide L Class A standard-weight asphalt shingles or L Class C mineral-surfaced roll roofing on roofs of job-built temporary offices, shops, and sheds.

E. Paint Comply with requirements of Section 09 90 00 – Painting and Coating. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.

F. Tarpaulins Provide waterproof, fire-resistant, L-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.

G. Water Provide potable water approved by local health authorities.

H. Open-Mesh Fencing Provide 0.120-inch-thick, galvanized 2-inch chain link fabric fencing 6 feet high with galvanized steel pipe posts 1-1/2 inches I.D. for line posts and 2-1/2 inches I.D. for corner posts.

2.2 E IPMENT

A. General Provide new equipment. The Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.

B. Water Hoses For non-potable use (construction water) provide 3/4-inch, heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge and backflow devices as required per City standards.

C. Electrical Outlets Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

D. Electrical Power Cords Provide grounded extension cords. se hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

E. Lamps and Light Fixtures Provide general service lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.

F. Heating □nits□Provide temporary heating units that have been tested and labeled by □L, FM, or another recognized trade association related to the type of fuel being consumed.

G. Temporary Offices□ If required by the Special Conditions, provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

H. Temporary Toilet □nits□Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

I. Fire Extinguishers□ Provide hand-carried, portable, □L-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, □L-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.

□. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - E□ECUTION

3.1 INSTALLATION

A. □se qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY □TILITY INSTALLATION

A. General□Engage the appropriate local utility company to install temporary service or connect to existing service. Where company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
   1. Arrange with company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
   2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
   3. Obtain easements to bring temporary utilities to the site where the Owner's

easements cannot be used for that purpose.

B. Water Service Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use. Sterilize temporary water piping prior to use in compliance with City Standards. Refer to Section 33 13 00 - Disinfecting of Water Distribution.

C. Temporary Electric Power Service Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switchgear. Install wiring overhead and rise vertically where least exposed to damage.

D. Temporary Lighting When overhead floor or roof deck has been installed, provide temporary lighting with local switching. Install and operate temporary lighting that will fulfill security and protection requirements without operating the entire system. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.

E. Temporary Heat Provide temporary heat required by construction activities for curing or drying of completed installations or for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

F. Heating Facilities Except where the Owner authorizes use of the permanent system, provide vented, self-contained, LP-gas or fuel oil heaters with individual space thermostatic control.

G. Sanitary Facilities Provide lockable temporary toilets and wash facilities. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs. Locate away from storm drainage inlets and other water bodies. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers for used material.

3.3 S□PPORT FACILITIES INSTALLATION

A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access. Location will be subject to City's approval.

B. Provide incombustible construction for offices, shops, and sheds located within the construction area or within 30 feet of building lines. Comply with requirements of NFPA 241.

C. Field Offices□ Provide insulated, weather tight temporary offices of sufficient size to accommodate required office personnel at the Project Site. □eep the office clean and orderly for use for small progress meetings.

D. Storage and Fabrication Sheds□ Install storage and fabrication sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on-site.

E. Temporary Enclosures□ Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
   1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
   2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.
   3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.

F. Temporary Exterior Lighting□ Install exterior yard and sign lights so signs are visible when Work is being performed.

G. Collection and Disposal of Waste□ Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

H. Rodent and Pest Control□ Before deep foundation work has been completed, retain an Integrated Pest Management (IPM) Certified exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ this service to perform extermination and

control procedures at regular intervals so the Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using EPA recommended environmentally safe materials.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
   1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
   2. Store combustible materials in containers in fire-safe locations.
   3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
   4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

B. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

D. Enclosure Fence: Before construction begins, install an enclosure fence with lockable entrance gates. Provide open-mesh, chain link fencing with posts. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.

E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

F. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental

regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site. Contractor is responsible for locking, and any vandalism, theft, unauthorized access and violation are Contractor's responsibility.

3.5 SIGNS

A. Project Construction Sign Provide minimum 32-square foot Project identification sign of wood frame and exterior grade plywood construction painted, with exhibit lettering by professional sign painter.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

B. Maintenance Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
   2. Protection Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Termination and Removal Remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that constitute temporary facilities are the Contractor's property.
   2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
   3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following
      a. Replace air filters and clean inside of ductwork and housings.
      b. Replace significantly worn parts and parts subject to unusual operating conditions.

c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01 50 00

SECTION 01 55 26 – TEMPORAR TRAFFIC CONTROL

PART 1 - GENERAL

1.1 SMMARY

A. Section Includes temporary traffic control system including preparing and submitting temporary traffic control, pedestrian and bicycle access plans, temporary traffic signal, traffic control for utility trenching and backfill, utility coordination, vehicular traffic control, traffic control for adjacent property owners, traffic control for on-street parking, traffic control for bus stops and coordination with Tri Delta transit, maintaining traffic, temporary railing (type), temporary crash cushion module, construction area signs, and temporary signing and striping.

B. All temporary traffic control plans including temporary pedestrian and bicycle access plans submitted by the Contractor shall conform to California Manual of niform Traffic Control Devices (CA MTCD) – Latest Edition.

1.2 REFERENCES

A. California Manual of niform Traffic Control Devices (CA MTCD) – Latest Edition.

B. Cal/OSHA – California Division of Occupation Safety and Health

C. Caltrans Standard Specifications
   1. Section 7 – Legal Relations and Responsibility to the Public
   2. Section 12 – Temporary Traffic Control

1.3 SBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Measurement and Payment

1. When temporary traffic control is included as a bid item, measurement will be made as a percentage of the costs incurred according to the list submitted except that not more than 75 of the bid price shall be paid prior to the final estimate for payment being due, said remaining 25 paid upon completion of cleanup and removal with final payment.

2. When the contract does not include a contract pay item for temporary traffic control, full compensation for any necessary traffic control required shall be

considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

3. The adjustment provisions in the State Standard Specifications, Section 4-1.05, “Changes and Extra Work”, shall not apply to the item of temporary traffic control system. Any adjustment in compensation for temporary traffic control due to an increase or decrease in the amount of traffic control system required by changes ordered by the Project Manager will be made on the basis of the cost of the increased or decreased temporary traffic control necessary. Such adjustment will be made on a force-account basis as provided in Section 9-1.04, “Force Account”, of the State Standard Specifications for increased work.

PART 2 - (NOT USED)

PART 3 - E□ECUTION

3.1 TEMPORARY TRAFFIC CONTROL SYSTEM

A. A temporary traffic control system shall consist of closing traffic lanes in conformance with the CA M□TCD, details shown on the Drawings, the provisions in Section 12, “Temporary Traffic Control”, of the State Standard Specifications, the provisions under “Maintaining Traffic”, and “Construction Area Signs” of the State Standard Specifications and the General Conditions, Special Conditions, and Technical Specifications.

B. The provisions in this section will not relieve the Contractor of responsibility for providing additional devices or taking measures as may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the State Standard Specifications and CA M□TCD.

C. During traffic striping and pavement marker placement activities using bituminous adhesive, traffic shall be controlled, at the option of the Contractor, with either stationary or moving lane closures. During other operations, traffic shall be controlled with stationary lane closures. Attention is directed to the provisions in Section 12-6.03, "Construction," of the State Standard Specifications.

D. If components in the traffic control system are displaced or cease to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the components to the original condition or replace the components and shall restore the components to the original location.

E. A traffic control system shall consist of closing traffic lanes in accordance with the details shown on T-9 through T-17 of the latest edition of the Caltrans Standard Plans, California Manual of □niform Traffic Control Devices (CA M□TCD), the

contract plans, the provisions of Section 12, " Temporary Traffic Control" of the State Standard Specifications and the General Conditions, Special Conditions, and Technical Specifications.

F. Each vehicle used to place, maintain, and remove components of a traffic control system on multilane roadways shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining, or removing said components. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion.

G. The location of temporary traffic control devices shall be checked by the Contractor especially at the beginning of the work period and periodically throughout the work day, to ensure that the devices are properly placed and maintained.

H. If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately notify the Project Manager and repair the said component to its original condition or replace said component and shall restore the component to its original location. The cost of providing temporary traffic control as required by the Project Manager shall be considered as included in the cost of traffic control. No additional compensation will be allowed therefor.

I. The Contractor shall furnish competent Flaggers whose sole duties shall consist of directing the movement of traffic through or around the work. Flaggers shall not be used during the hours of darkness unless authorized by the City.

. The Contractor shall conduct all operations with the least possible obstruction and inconvenience to the public. The Contractor shall have under construction no greater length or amount of work than can be completed within a workday with due regards to the rights of the public.

. The Contractor shall provide and maintain all traffic control and safety items. The Contractor assumes sole and complete responsibility for the job and site conditions during the course of construction, including safety of all persons and property. This requirement shall apply continuously twenty-four (24) hours/day and shall not be limited to normal work hours.

L. Personal and work vehicles of the Contractor, subcontractor or the Contractor's employees shall not be parked on the paved shoulders, sidewalk or the traveled way, including any section closed to public traffic. No vehicles of the Contractor shall be parked or driven on the sidewalk.

M. All personnel occupying the roadway shall be required to wear approved safety vests with protective coloration.

N. The Contractor shall notify local authorities of his intent to begin work at least five (5) working days before work is begun. The Contractor shall cooperate with local

authorities relative to handling traffic through the area and shall make his own arrangements relative to keeping the working area clear of parked vehicles.

O. □pon completion of all work requiring use of lane closures, the Contractor shall remove all temporary signs, barricades, and markers and shall return the roadway and roadside areas to a condition equal to that which existed prior to construction.

P. All asphalt concrete and temporary pavement delineations including pavement markers at the end of each stage shall be considered as a part of Traffic Control work.

□. No full road closures are allowed unless approved by the City Manager.

R. No lane closures will be allowed on weekdays from 6□00 AM to 8□30 AM, or from 3□00 PM to 6□00 PM, except for emergencies or unless otherwise approved by the City Traffic Engineer.

S. The full width of the traveled way shall be open for use by public traffic on Fridays after 3□00pm, Saturdays, Sundays and designated legal holidays, and when construction operations are not actively in progress.

T. Two or more lane closures and lane closures with reversible control will not be allowed on weekdays before 9□00 AM, or after 3□00 PM.

□. The lane closure(s) must be limited in duration and area as practicable and the times and dates of closure must be stated on the approved temporary traffic control plan.

V. Lane closures and lane reduction shall conform to the provisions in "Maintaining Traffic" of the State Standard Specifications and the CA M□TCD.

W. When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except temporary portable delineators, □-rails and crash cushions placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and shoulder.

X. To minimize the disruption to traffic, the Contractor shall□
   1. Permit local traffic to pass through the work with the least possible inconvenience or delay.
   2. Maintain existing driveways, commercial and residential, within the vicinity of the work area, keeping them open and in good, safe condition at all times.
   3. Remove or repair any condition resulting from the work that might impede traffic or create a hazard.
   4. □eep existing traffic signal and roadway lighting systems in operation throughout the construction work.
   5. Maintain continuous ADA accessible pedestrian and bicycle routes.

3.2 TEMPORARY TRAFFIC CONTROL, PEDESTRIAN AND BICYCLE ACCESS PLANS

A. The Contractor shall provide a Temporary Traffic Control, Pedestrian and Bicycle Access Plans for each stage of construction and for each location.

B. Temporary Traffic Control, Pedestrian and Bicycle Access Plans will be hand drawn and legible with an approximate graphic scale.

C. Temporary Traffic Control, Pedestrian and Bicycle Access Plans will show all temporary striping, cones, barricades, channelizers, signs, flaggers, temporary k-rail, crash cushion modules temporary turn pockets, dimensions of all stripe segments and lane widths, street names, temporary signal modifications, temporary traffic loops, portable changeable message signs, detour signs, construction area signs on all side streets, construction schedule, work hours and all times the temporary traffic control plan will be in effect.

D. Temporary Traffic Control, Pedestrian and Bicycle Access Plans will also show continuous pedestrian and bicycle path of travel arrows, pedestrian and bicycle signage, pedestrian ADA ramps, bike ramps, temporary pedestrian crosswalks, temporary bike crossings, temporary pedestrian push buttons for signals, pedestrian and bicycle signage on all side streets, pedestrian and bicycle crossing signs, and areas for temporary ADA upgrades along the pedestrian path of travel.

E. Temporary Traffic Control, Pedestrian and Bicycle Access Plans will be submitted to the City Traffic Engineer two (2) weeks prior to commencement of each stage of construction. The Temporary Traffic Control, Pedestrian and Bicycle Access Plans shall be reviewed by the City Traffic Engineer. Contractor to incorporate all comments from the City Traffic Engineer and resubmit the plans for approval prior to implementation. Assume two (2) rounds of review and resubmittal for each stage of construction.

F. Once any segment of sidewalk or trail or corner is commenced with sawcut and/or any segment of sidewalk/trail is closed to pedestrians and bicyclists, Contractor will backfill and complete the improvements unless an approved detour plan is provided and approved by the City Traffic Engineer.

3.3 TRAFFIC SIGNAL

A. If traffic signal inductive vehicle loop detectors and lead-in wiring not designated to be replaced on the Plans are damaged during the course of the construction period, they shall be replaced within one (1) week or as directed by the Project Manager. The cost of replacing damaged loop detectors including detector handholes or any other necessary repairs to the components of the traffic signal system shall be included in the cost of traffic control. No additional compensation will be allowed therefore.

3.4 UTILITY COORDINATION

A. Contractor shall notify the utility companies as a first order of work about the project and submit a detailed project schedule to all utility companies.

B. Each stage of construction shall allow for utility companies to complete their work. If Utility company's utilities are to be constructed, adjusted or relocated. the Contractor shall provide four (4) week window during each stage of construction for utility companies to have unobstructed access to the site. This four (4) week period will likely occur after demolition and setting of curb forms by the Contractor. The related utility work shall be coordinated with the utility companies prior to the two (2) week window. The Contractor shall also allow utility companies to work on site during the remaining time of each construction stage.

C. The construction schedule shall identify the related utility work during each stage and shall be submitted for approval. Changes during construction that will impact the related utility work shall be identified on the Progress Schedule.

D. The Contractor shall notify to the utility companies and the Project Manager immediately of any changes to the schedule.

3.5 TEMPORARY TRAFFIC CONTROL FOR UTILITY TRENCHING & BACKFILL

A. All excavations shall be backfilled or covered at the end of each workday. Trench covers will be constructed to withstand pedestrian, bicyclist and vehicle loads. Trench covers in the vehicle areas will be steel plated to withstand vehicle loads. All trench covers shall be non-skid. In sidewalk areas, AC cutback shall be used as temporary ramps. Contractor shall maintain temporary AC surface to provide safe and comfortable passage over or along same, for pedestrian, bicyclist and vehicular traffic to the satisfaction of the Inspector in the field. Items which will require trench plates include, but are not limited to storm drain, sewer, water main trenches, and irrigation crossings. Contractor to submit shop drawings to demonstrate method of trench plating, anchoring and asphalt tapers.

B. The Contractor shall comply with the provisions in Section 7-1.02(6), "Occupational Safety and Health Standards" of the State Standard Specifications.

C. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor. The Contractor shall leave the project site in a neat, clean, and presentable state at the close of every workday.

D. If material from the trench excavation spills onto the roadway, the roadway area shall be swept and washed with water to provide a safe and dust free surface before the lane is re-opened.

E. The Contractor shall conform to the order of work requirements described on the plans and specifications. If the work items are not completed by the time specified, including any extension of time for excusable delays, the Contractor shall be liable to the City for any additional cost incurred by the City in its completion of the work, and the Contractor shall also be liable to the City for liquidated damages for any delay in the completion of the work.

3.6 TRAFFIC CONTROL FOR AD□ACENT PROPERTY OWNERS

A. A.The Contractor shall notify residents/businesses within a closed section by door hanger of sidewalk closures stating the date(s) of closure, limits of sidewalk closure, hours of construction, and detours. The door hangers shall be delivered no later than two (2) working days prior to sidewalk closure. Prior to dissemination, the Contractor shall present a copy to the Project Manager and get approval from the Project Manager for the door hanger.

B. Work shall be accomplished in such a manner as to provide access to all intersecting streets and adjacent properties whenever possible. If during the course of the work, it is necessary to restrict access to certain driveways for an extended period of time, the Contractor shall
   1. Notify the affected residents, in writing, at least two (2) working days in advance.
   2. Provide signage and provide continuous Flaggers to direct traffic in and out of the parking.
   3. Maintain 11’ minimum width.
   4. Reopen driveway by the end of the work day.
   5. Include the signage and Flaggers on the Traffic Control and Pedestrian Access Plans.

C. To protect the rights of abutting property owners, the Contractor shall
   1. Conduct the construction so that the least inconvenience as possible is caused to abutting property owners.
   2. Maintain ready access to houses or businesses along the line of work, including ramps over work area.
   3. Notify all parties at least five (5) days, and again two (2) working days, in advance of work which would affect their property. The Contractor shall coordinate with City to obtain Right of Entry for any work within private property.
   4. The Contractor shall maintain access to adjacent private property at all times, and shall address driveway access on approved Traffic Control Plans.
   5. For □tility company and Developer projects, permitee shall obtain right of entry for any work in private properties.
   6. The Contractor shall maintain safe pedestrian and bicycle access at all times, including crosswalks, when it is required to close sidewalks.

7. Contractor shall provide Temporary Pedestrian and Bicycle Access Plan for any change in pedestrian and bicycle movements. All openings shall be covered or steel plated at the end of each workday, when working in an intersection and traffic lane. Covers in pedestrian areas shall be non-skid and ADA compliant. Contractor shall maintain temporary AC surface to provide safe and comfortable passage over or along same, for pedestrian, bicyclist and vehicular traffic to the satisfaction of the Inspector in the field.
8. The Contractor shall provide temporary pedestrian bridges and walkways as shown on Contractor's approved Temporary Traffic Control Plans. Temporary pedestrian bridges shall be provided to each affected doorway.

3.7 TRAFFIC CONTROL FOR ON-STREET PAR□ING□

A. To maintain On-Street parking, the Contractor shall provide temporary signs for any existing On-Street parking closure and coordinate with adjacent businesses. Contractor shall restripe the existing On-Street Parking impacted by construction in-kind as required by the Project Manager within the project limits.

B. The Contractor shall post City approved parking restrictions a minimum two (2) working days before work begins. All legal parking areas must be maintained and access to legally parked vehicles doors and storage areas must be maintained.

C. Parking restrictions must be limited in time as practicable.

3.8 TRAFFIC CONTROL FOR B□S STOPS AND COORDINATION WITH TRANSIT AGENCY (TRI DELTA TRANSIT)

A. If construction shall obstruct a bus stop, the Contractor shall notify the Transit Agency two (2) working days in advance. The Contractor shall be responsible for providing temporary bus stop with temporary bench, bus stop signs posts and no parking signs at locations specified by Transit Agency within a distance of maximum of 400' from existing bus stop.

B. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, and any other needed actions to protect life, health, and safety of the public, and to protect property in connection with the performance of the work covered by the contract. The Contractor shall perform any measures or actions the Project Manager may deem necessary to protect the public and property. Contractor shall install □-rail at all new bus stop pad construction areas.

3.9 MAINTAINING TRAFFIC

A. Maintaining traffic shall conform to CA M□TCD, the provisions in Sections 7-1.03, "Public Convenience," Section 7-1.04, "Public Safety," and Section 12,

"Temporary Traffic Control," of the State Standard Specifications, and the City Standard Specifications.

B. Closure is defined as the closure of a traffic lane or lanes, including shoulder, ramp or connector lanes, within a single traffic control system.

C. The full width of the traveled way shall be open for use by public traffic as specified in Part 3.1 above, when construction operations are not actively in progress.

D. Personal and work vehicles of the Contractor, subcontractor or the Contractor's employees shall not be parked on the traveled way or shoulders including sections closed to public traffic.

E. The Contractor shall immediately restore to the original position and location a temporary traffic cone or delineator that is displaced or overturned, during the progress of work.

F. If minor deviations from the Contractor's approved lane closure requirements are required, a written request shall be submitted to the City Traffic Engineer at least 15 days before the proposed date of the closure. The City Traffic Engineer may approve the deviations if there is no increase in the cost to the City and if the work can be expedited and better serve the public traffic.

G. Designated legal holidays are□

Holidays

Holiday	Date observed
New Year's Day	□anuary 1st
Martin Luther □ing □r. Day	3rd Monday in □anuary
Lincoln's Birthday	February 12th
Washington's Birthday	3rd Monday in February
Cesar Chavez Day	March 31st
Memorial Day	Last Monday in May
Independence Day	□uly 4th
Labor Day	1st Monday in September
Columbus Day	2nd Monday in October
Veterans Day	November 11th
Thanksgiving Holidays	4th Thursday and Friday in November
Christmas Day	December 25th

If a designated holiday falls on a Sunday, the following Monday is a designated holiday. If November 11th falls on a Saturday, the preceding Friday is a designated holiday.

H. Pedestrian and Bicycle access facilities shall be provided through construction areas within the public right of way as shown on the Contractor's approved Temporary Traffic control, Pedestrian and Bicycle Access plans and as specified herein. Pedestrian walkway shall be surfaced with asphalt concrete, Portland cement concrete or timber. The surface shall be skid resistant and free of irregularities. Hand railings shall be provided on each side of pedestrian walkways as necessary to protect pedestrian traffic from hazards due to construction operations or adjacent vehicular traffic. Protective overhead covering shall be provided as necessary to insure protection from falling objects and drip from overhead structures. If the Contractor's operations require the closure of one walkway, then another walkway shall be provided nearby, off the traveled roadway.

3.10 CONTINGENCY PLAN A detailed contingency plan shall be prepared for reopening closures to public traffic. The contingency plan shall be submitted to the Project Manager within one (1) business day of the Project Manager's request.

3.11 LATE REOPENING OF CLOS RES

A. If a closure is not reopened to traffic by the specified time, work shall be suspended in conformance with the provisions in Section 8-1.06, "Suspensions" of the State Standard Specifications. No further closures are to be made until the City Traffic Engineer has accepted a work plan, submitted by the Contractor that will insure that future closures will be reopened to traffic at the specified time. The City Traffic Engineer will have two (2) business days to accept or reject the Contractor's proposed work plan. The Contractor will not be entitled to compensation for the suspension of work resulting from the late reopening of closures.

B. For each 10-minute interval, or fraction thereof past the time specified to reopen the closure, City will deduct payments per interval from moneys due or that may become due the Contractor under the contract. See deductible schedule below
   1. Residential Streets - $50 per 10 minutes
   2. Collector Streets - $100 per 10 minutes
   3. Arterial Streets - $400 per 10 minutes.

3.12 TEMPORARY RAILING (TYPE)

A. Temporary railing (Type K) shall be placed as shown on the Contractor's approved Temporary Traffic Control, Pedestrian and Bicycle Access plans, as specified in the Drawings or where ordered by the Project Manager and shall conform to CA MUTCD, the provisions in Section 12, "Temporary Traffic Control" of the State Standard Specifications and the City Standard Specifications.

B. Temporary railing (Type □) shall consist of interconnected new or undamaged used precast concrete barrier units as shown on the Contractor's approved Temporary Traffic Control, Pedestrian and Bicycle Access plans. Exposed surfaces of new and used units shall be freshly coated with a white color paint prior to their first use on the project. The paint shall conform to the provisions in Section 91-4.02B, "Acrylic Emulsion Paint for Exterior Masonry" of the State Standard Specification.

C. Concrete shall conform to the provisions in Section 90-2, "Minor Concrete" of the State Standard Specifications. Load tickets and a Certificate of Compliance will not be required.

D. Reinforcing steel shall conform to the provisions in Section 52, "Reinforcement" of the State Standard Specifications.

E. Steel bars to receive bolts at ends of concrete panels shall conform to the requirements in ASTM Designation□ A 36. The bolts shall conform to the requirements in ASTM Designation□A 307.

F. The final surface finish of temporary railings (Type □) shall conform to the provisions in Section 51-1.03F(2), "Ordinary Surface Finish" of the State Standard Specifications. Exposed surfaces of concrete elements shall be cured by the water method, the forms in place method, or the pigmented curing compound method. The pigmented curing compound shall be curing compound (1) as specified in Section 90-1.03B(3), "Curing Compound Method" of the State Standard Specifications. The Contractor shall furnish a Certificate of Compliance to the Project Manager in conformance with the provisions in Section 6-2.03C "Certificates of Compliance" of the State Standard Specification, for all new or used temporary railing (Type □) that is not cast on the project.

G. Temporary railing (Type □) shall be set on firm, stable foundation. The foundation shall be graded to provide a uniform bearing throughout the entire length of the railing. Any excavation and backfill shall conform to the provisions in Section 19-3, "Structure Excavation and Backfill" of the State Standard Specification except that compaction of earth fill placed behind the temporary railing (Type □) in a curved layout will not be required.

H. Abutting ends of precast concrete units shall be placed and maintained in alignment without substantial offset to each other. The precast concrete units shall be positioned straight on tangent alignment and on a true arc on curved alignment.

I. At the locations required on the plans, threaded rods or dowels shall be bonded in holes drilled in the existing concrete. Drilling of holes and bonding of threaded rods or dowels shall conform to the provisions for bonding dowels in Section 83-3.01A, "Summary" of the State Standard Specifications. After removal of the temporary railing (Type □), all threaded rods or dowels shall be removed to a

depth of at least one inch below the surface of the concrete. The resulting holes shall be filled with mortar in conformance with the provisions in Section 51-1.02F, "Mortar" of the State Standard Specification, except that the mortar shall be cured by either the water method or by the curing compound method. If the curing compound method is used, the curing shall conform to the provisions for curing concrete barrier in Section 83-3.03A(8), "Curing" of the State Standard Specifications.

□. Each rail unit shall have a reflector installed on top of the rail. Reflectors shall be as specified in the technical specifications, and adhesive shall conform to the reflector manufacturer's recommendations. A Type P marker panel shall also be installed at each end of railing installed adjacent to a two lane, two-way highway and at the end facing traffic of railing installed adjacent to a one-way roadbed. If the railing is placed on a skew, the marker shall be installed at the end of the skew nearest the traveled way. Type P marker panels shall conform to the provisions in Section 82, "Signs and Markers" of the State Standard Specifications, except that the Contractor shall furnish the marker panels.

□. When temporary railings (Type □) are removed, any area where temporary excavation or embankment was used to accommodate the temporary railing shall be restored to its previous condition or constructed to its planned condition.

L. Prior to each stage of construction Contractor will provide a layout of the proposed temporary railing, crash cushion locations, and temporary striping/signing for the railing.

M. Water filled barriers will be considered in lieu of temporary railings (Type □), upon a written request from the contractor along with proposed details, layout plan, temporary signing & striping and installation.

3.13 TEMPORARY CRASH C□SHION MOD□LE

A. This work shall consist of furnishing, installing, and maintaining sand filled temporary crash cushion modules in groupings or arrays at each location shown on the Contractor's approved traffic control plans, as specified in the technical specifications or where designated by the Project Manager. The grouping or array of sand filled modules shall form a complete sand filled temporary crash cushion in conformance with the details shown on the plans and the technical specifications.

B. Temporary crash cushions shall be secured in place prior to commencing work for which the temporary crash cushions are required.

C. Whenever the work or the Contractor's operations establishes a fixed obstacle, the exposed fixed obstacle shall be protected with a sand filled temporary crash cushion. The sand filled temporary crash cushion shall be in place prior to opening the lanes adjacent to the fixed obstacle to public traffic.

D. Sand filled temporary crash cushions shall be maintained in place at each location, including times when work is not actively in progress. When no longer required, as determined by the Project Manager, sand filled temporary crash cushions shall be removed from the site of the work.

E. Modules contained in each temporary crash cushion shall be of the same type at each location. The color of the modules shall be the standard yellow color, as furnished by the vendor, with black lids. The modules shall exhibit good workmanship free from structural flaws and objectionable surface defects. The modules need not be new. Good used undamaged modules conforming to color and quality of the types specified herein may be utilized.

F. Modules shall be filled with sand in conformance with the manufacturer's directions, and to the sand capacity in pounds for each module shown on the plans. Sand for filling the modules shall be clean washed concrete sand of commercial quality. At the time of placing in the modules, the sand shall contain no more than 7 percent water as determined by California Test 226.

G. Modules damaged due to the Contractor's operations shall be repaired immediately by the Contractor at the Contractor's expense. Modules damaged beyond repair, as determined by the Project Manager, due to the Contractor's operations shall be removed and replaced by the Contractor at the Contractor's expense.

H. A Type R or P marker panel shall be attached to the front of the crash cushion. The marker panel, when required, shall be firmly fastened to the crash cushion with commercial quality hardware or by other methods determined by the Project Manager.

I. At the completion of the project, temporary crash cushion modules, sand filling, pallets or frames, and marker panels shall become the property of the Contractor and shall be removed from the site of the work. Temporary crash cushion modules shall not be installed in the permanent work.

. Repairing modules damaged by public traffic and modules damaged beyond repair by public traffic, when ordered by the Project Manager, shall be removed and replaced immediately by the Contractor. Modules replaced due to damage by public traffic will be not be measured and paid for and shall be considered as included in the lump sum price paid for Temporary Traffic Control.

. Include allowance for Project Manager to order a lateral move of the sand filled temporary crash cushions where the repositioning is not shown on the Contractor’s approved traffic control plans. Moving the sand filled temporary crash cushion will be considered as included in the lump sum price paid for Temporary Traffic Control and no additional compensation will be allowed therefore and these temporary crash cushion modules will not be counted for payment in the new position.

3.14 CONSTR□CTION AREA SIGNS

A. Construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with CA M□TCD, the provisions in Section 12-3.11, "Construction Area Signs," of the State Standard Specifications, the contract drawings, and the General Conditions, Special Conditions, and Technical Specifications. The base material of construction area signs shall not be plywood. This includes but not limited to furnishing and installation of Pedestrian and Bicycle Signs.

END OF SECTION 01 55 26

SECTION 01 56 10 – PROTECTION OF PROPERT

PART 1 - GENERAL

1.1 S MMARY

A. Section Includes
1. Existing tilities and Improvements
2. Safeguarding of Existing Facilities
3. Restoration of Pavement
4. Emergency Work
5. Preconstruction Site Documentation

B. Related Sections
1. Section 01 50 00 – Temporary Facilities and Controls
2. Section 01 32 00 – Construction Progress Documentation

1.2 EXISTING TILITIES AND IMPROVEMENTS

A. nderground Facilities Notify nderground Service Alert (.S.A.) prior to excavating at the site so that utility companies and other City departments having underground facilities in the area may be advised of the work and may field mark or otherwise protect and warn Contractor of their existing utility lines.
1. Provide reasonable access and do not hinder or otherwise interfere with any company or agency having underground facilities in removing, relocating, or protecting such facilities.

B. Excavations Verify the actual locations and depths of all utilities indicated or field marked. Make a sufficient number of exploratory excavations of all utilities that may interfere with the Work sufficiently in advance of construction to avoid possible delays to Contractor's work.
1. Notify the City when such exploratory excavations show the utility location as shown or as marked to be in error.
2. When utility lines are encountered within the area of Contractor's operations, notify the Project Manager and the Owner(s) of the utility lines sufficiently in advance for the necessary protection measures to be taken to prevent interruption of service or delay to Contractor's operations.

1.3 SAFEG ARDING OF EXISTING FACILITIES

A. Damage Perform all work, including dewatering operations, in such a manner as to avoid damage to existing sewer and water systems, fire hydrants, power poles, lighting standards, and all other existing utilities, facilities, trees and vegetation, and structures. The Contractor will be held responsible for any damage due to its failure to exercise due care, and at no cost to the City.

B. Removal and Disposal Broken concrete, debris, and the like, shall be immediately removed from the property site as the Contractor's property and disposed of in a legal manner.

C. Existing Facilities Exercise due care to avoid damage to existing pipe and coating, wrapping, sewers, conduit, or other existing facilities and structures. Should the Contractor damage or displace any of the above, repair same to the satisfaction of the Project Manager all expenses in connection therewith shall be borne solely by the Contractor.

D. Sewer System Do not allow debris to enter the sewer system.

1.4 RESTORATION OF PAVEMENT

A. General All paved areas cut or damaged during construction shall be replaced with materials of equal thickness to match the existing undisturbed areas, except where specific resurfacing requirements are called for in the Contract Documents or in the permit requirements of the agency issuing the permit. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.

B. Temporary Resurfacing Place temporary surfacing promptly after backfilling and maintain such surfacing in a satisfactory condition for the period of time before proceeding with the final restoration.

C. Permanent Resurfacing Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in neat straight lines. All pavement restoration shall be constructed to finished grades compatible with undisturbed adjacent pavement.

D. Restoration of Sidewalks or Driveways Wherever sidewalks, curbs and gutters, or driveways have been removed for construction purposes, place suitable temporary sidewalks, curbs and gutters, or driveways promptly after backfilling and maintain them in satisfactory condition for the period of time before the final restoration has been made.

1.5 EMERGENCY WOR

A. General At all times have adequate personnel, materials, and equipment available at short notice to protect adjoining property, maintain, or make emergency repairs. If during the progress of the Contract, the Contractor's construction crews should be absent from the location of the work at a time when any failure or faulty condition of the Contractor's work requires emergency action in the public interest, the City shall have the right to make repairs and corrections as required with its own forces at the Contractor's expense.

B. Contact Information Furnish the Project Manager with names and telephone numbers of at least three (3) persons to contact in case of emergencies these

persons shall be authorized to perform such work as deemed necessary by the Project Manager.

1.6 PRECONSTR□CTION SITE DOC□MENTATION

A. Prevention of Damage□□se such methods and take adequate precautions to prevent damage to existing buildings, structures, and other improvements during the prosecution of the work.

B. □oint Examination□After the Contract is awarded and before the commencement of work, the Project Manager will arrange for a joint examination of the work, as applicable, which might be damaged by the Contractor's operations

C. Scope of Examination□ The examination will include the exterior of existing buildings, structures, and other improvements located within twenty-five (25) feet of the construction excavation. Examination will be made jointly by authorized representatives of the Contractor, the City, and property owners under the supervision of the Project Manager. The scope of each examination will include, but is not limited to, written and photographic recording of cracks in structures, settlement, leakage, and the like.

D. Photos and Videos□Take photos and videos during the joint examination review. Provide digital photos and videos to the Project Manager within thirty (30) consecutive days of the date taken.

E. □se of Records and Photographs□Any and all records and photographs are intended for use as indisputable evidence in ascertaining the extent of any damage which may occur as a result of the Contractor's operations. They are for the protection of the adjacent property owners, the Contractor, and the City and will be a means of determining whether and to what extent damage, resulting from the Contractor operations, occurred during the Contract Work.

F. Requirements for Photographs and Videos□ Refer to Section 01 32 00 – Construction Progress Documentation.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 56 10

SECTION 01 57 23 – STORM WATER POLLUTION PREVENTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes requirements for temporary utilities, support facilities, storm water pollution prevention, erosion control, traffic control, support, and security and protection facilities.

B. Projects that have a soil disturbance of one acre or greater are subject to the State Water Resources Control Board's (SWRCBs) Construction General Permit. The appropriate Legally Responsible Person (LRP), or approved representative must obtain coverage by filing the Permit Registration Documents (PRDs) prior to commencement of any construction activity. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared by a ualified SWPPP Developer (SD) and submitted to the City prior to issuance of a grading permit. Contractor shall comply with all requirements of SWRCBs Construction General Permit Order No. 2009-0009-DW , and amended Orders 2010-0014-DW , and 2012-0006-DW .

C. Projects that are less than one acre and are Caltrans related (State Highway Projects) are required to have a Water Pollution Control Plan (WPCP) prepared in accordance with Caltrans' standard WPCP template.

D. Projects that are less than one acre and are not Caltrans related are required to have an Erosion and Sedimentation Control Plan prepared and submitted to the City for approval prior to issuance of a grading permit.

1.2 PRICE AND PAYMENT PROCEDURES

A. Section 01 29 00 - Payment Procedures

B. Notice of Intent (NOI) and Annual Permit Fees for Capital Improvement Projects shall be paid by the City.

C. The Developers shall pay all associated Construction General Permit (CGP) fees for all new development/redevelopment projects requiring a permit from the City.

1.3 REFERENCES□

A. California Stormwater □uality Association (CAS□A) has developed a standard SWPPP template for traditional Risk 1,2, and 3 projects that is prevalent in California and can be downloaded from www.CAS□A.org. (Note□An annual subscription is required to access to access the CAS□A construction portal.)

B. SWPPP□The Stormwater Pollution Prevention Plan (SWPPP) shall be designed to comply with California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit) Order No. 2009-0009-DW□ as amended by Order No. 2010-0014-DW□ (NPDES No. CAS000002) and 2012-0006-DW□, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity (herein after referred to as General Permit) issued by the State Water Resources Control Board (State Water Board). In accordance with the General Permit, Section XIV, designed to address the following□

1. Pollutants and their sources, including sources of sediment associated with construction, construction site erosion and other activities associated with construction activity are controlled.
2. Where not otherwise required to be under a Regional Water □uality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated.
3. Site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard.
4. Calculations and design details as well as BMP controls are complete and correct.
5. Stabilization BMPs will be installed to reduce or eliminate pollutants after construction is completed.

1.4 S□BMITTALS

A. Notice of Intent (NOI)□The Legally Responsible Person shall file the Notice of Intent (NOI) and submit all PRDs to the SWRCB prior issuance of a grading permit. For City Capital Improvement Projects, the Contractor shall file the NOI and submit all PRDs to the SW□RB on behalf of the City. Contractor to obtain the Waste Discharge Identification Number (WDID #) on behalf of the City, or as otherwise directed by the City Engineer.

B. SWPPP□

1. Contractor shall submit SWPPP for Project Manager's review within ten (10) calendar days after award of project.
2. The Contractor shall submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) prepared by a □ualified SWPPP Developer (□SD) the Contractor shall amend the SWPPP when required, prepare a Construction

Site Monitoring Plan (CSMP), and perform water pollution control work under the oversight of a □ualified SWPPP Practitioner (□SP), as specified in the General Permit. The Contractor shall identify an individual to be a Data Submitter (DS) for this contract. All reports and data that must be submitted to the State Water Resources Control Board will be uploaded by the Contractor's DS to the Stormwater Multi-Application and Report Tracking System (SMARTS) website for certification to the state by the City Legally Responsible Person (LRP) or their Approved Signatory (A/S).

3. The □SD, □SP, and DS designated by the Contractor may be different individuals.
4. Storm Water Pollution Prevention Plan (SWPPP)□
   The Contractor shall prepare and submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) to the City Engineer for approval. The SWPPP shall be prepared and certified by a □ualified SWPPP Developer (□SD) holding one of the certifications or registrations listed in Section VII of the Construction General Permit. Within seven (7) working days after contract award, the Contractor shall submit two (2) printed copies of the SWPPP and Site Map and one electronic copy in electronic file (.pdf) format to the Project Manager for review. The Contractor shall allow five (5) working days for the Project Manager's review. If revisions are required, the Project Manager will provide comments, and the Contractor shall revise and resubmit the SWPPP and Site Map in printed and electronic form within five (5) working days of receipt of the Project Manager's comments. Within three (3) working days of receipt of the City Engineer's approved SWPPP, the Contractor shall submit three (3) paper copies of the approved SWPPP to the City Engineer. Once the City Engineer has approved the SWPPP for the project, the Contractor may proceed with construction activities requiring coverage under the General Permit.

5. WDID Number□The Contractor shall not perform work that may cause water pollution until the state has issued a WDID number for the project. The City Engineer's review and approval of the SWPPP shall not waive any contract requirements and shall not relieve the Contractor from complying with Federal, State and local laws, regulations, and requirements. Working days shall not be counted if the controlling item of work cannot be performed during the initial preparation and review of the SWPPP and Site Map and between the date that the approved SWPPP has been received by the City Engineer, and the date the City Engineer has notified the Contractor that a WDID number has been assigned to the project.

6. Approved SWPPP□The Contractor shall keep a copy of the approved SWPPP at the job site t all times during construction. The SWPPP shall be made available when requested by a representative of the Regional Water □uality Control Board, State Water Resources Control Board, □nited States Environmental Protection Agency, or the local storm water management agency. Requests from the public shall be directed to the Project Manager.

C. WPCP

1. General Contractor shall submit WPCP for City review within ten (10) calendar days after award of project.
2. Water Pollution Control Plan
   The Contractor shall prepare and submit a site-specific Water Pollution Control Plan (WPCP) to the Project Manager and Construction for approval. Within seven (7) working days after contract award, the Contractor shall submit two (2) printed copies of the WPCP and Site Map and one electronic copy in electronic file (.pdf) format to the Project Manager for review. The Contractor shall allow five (5) working days for the Project Manager's review. If revisions are required, the Project Manager will provide comments, and the Contractor shall revise and resubmit the WPCP and Site Map in printed and electronic form within five (5) working days of receipt of the Project Manager's comments. Within three (3) working days of receipt of the Project Manager's approved WPCP, the Contractor shall submit three (3) paper copies of the approved WPCP to the Project Manager. Once the Project Manager has approved the WPCP for the project, the Contractor may proceed with construction activities.

   The Contractor shall keep a copy of the approved WPCP at the job site. The WPCP shall be made available when requested by a representative of the Regional Water uality Control Board, State Water Resources Control Board, nited States Environmental Protection Agency, or the local storm water management agency. Requests from the public shall be directed to the Project Manager.

1.5 WATER POLL TION CONTROL DRAWING/EROSION CONTROL PLAN

A. General Contractor shall include a Water Pollution Control Drawing (WPCD) / Erosion and Sediment Control Plan (ESCP) as a part of the SWPPP/WPCP. Revisions and Amendments to the WPCDs shall be prepared and uploaded to SMARTS by Contractor's QSP and/or QSD.

B. For any State Highway projects, Contractor shall provide a Water Pollution Control Drawing as required by Caltrans. Contractor to provide an Erosion and Sedimentation Control Plan to the Engineering Division for review and approval prior to issuance of a grading permit.

C. Deficiencies The Contractor shall construct, inspect, maintain, remove, and dispose of the water pollution control measures. If the Contractor, the Contractor's QSP, or the City Engineer and/or his representative identifies a deficiency in the implementation of the approved SWPPP/WPCP, the deficiency shall be corrected immediately, and at a minimum of 72 Hours. The deficiency shall be corrected before the onset of precipitation. If the Contractor fails to

correct the deficiency by the 72-hour timeframe or before the onset of precipitation, the Project Manager may correct the deficiency and deduct the cost of correcting deficiencies from payments. If the Contractor fails to conform to the provisions of this section, the Project Manager may order the suspension of work until the project complies with the requirements of the Construction General Permit and this section.

D. Weather Forecasts The Contractor shall monitor the National Oceanic and Atmospheric Administration (NOAA) weather forecast on a daily basis during the contract. The Contractor shall perform SWPPP/WPCP Inspections according to the Risk Level. The Contractor will provide soil stabilization and sediment control practices whenever there is a 50 probability of rain within 48 hours as predicted by the NOAA. The Contractor shall maintain soil stabilization and sediment control materials on site to protect disturbed soil areas throughout the life of construction project.

1.6 IMPLEMENTATION RE IREMENTS

A. SP The Contractor shall designate in writing a ualified SWPPP Practitioner (SP) who shall be responsible for non-storm water and storm water visual observations and inspections, and for ensuring that all BMP required by the SWPPP/WPCP and General Construction Permit are properly implemented and maintained. The SP shall meet the training and certification requirements in the Construction General Permit.

B. SWPPP Requirements All measures required by the SWPPP/WPCP shall be implemented concurrent with the commencement of construction. No construction may start without all BMPs in place. Pollution practices and devices shall be followed or installed as early in the construction schedule as possible with frequent upgrading of devices as needed as construction progresses to protect water quality at all times.

C. Inspection and Maintenance The Contractor's ualified SWPPP Developer (SD) shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of the General Permit and the Technical Specifications, and Contractor's QSP shall monitor the water pollution control practices identified in the General Permit and SWPPP as follows
   1. Visual Inspections, uarterly Non-storm water discharge
   2. Minimum of Weekly Visual Inspections of all Best Management Practices (BMP) that need maintenance to operate effectively, that have failed or that could fail to operate as intended.
   3. BMP Inspections, Baseline Pre-storm event
   4. Rain Event Action Plan (REAP)
   5. BMP Inspections, 24-Hours during extended rain events
   6. BMP Inspections, Post-storm event.

D. The □SP shall oversee the maintenance of the water pollution control practices. The □SP shall document all visual inspection activities with written reports according to the requirements of the Construction General Permit. The format of the reports shall be approved by the Project Manager.

E. A copy of all written reports documenting implementation of the CSMP shall be submitted to the Project Manager within 48 hours of finishing the inspection and shall remain on site during construction.

F. Reporting Requirements□If the Contractor identifies discharges into surface waters or drainage systems causing or potentially causing pollution, or if the project receives a written notice or order from a regulatory agency, the Contractor shall immediately inform the Project Manager. The Contractor shall submit a written report to the Project Manager within 24 hours of the discharge, notice or order. The report shall include the following information□
   1. The date, time, location, nature of the operation, type of discharge□and the cause of the notice or order.
   2. The water pollution control practices used before the discharge, or before receiving the notice or order.
   3. The date of placement and type of additional or altered water pollution control practices placed after the discharge, or after receiving the notice or order.
   4. A maintenance schedule for affected water pollution control practices.

G. Annual Report□The Contractor shall complete and submit to the City Engineer an Annual Report, as required by the current State Water Board Industrial General Permit. The Contractor shall submit the Annual Report prior to acceptance of the project. Contractor shall submit the annual report to the SWRCB directly on SMARTS.

1.7 COMPLETION OF WOR□

A. Maintenance□ Clean-up shall be performed as each portion of the work progresses. All refuse, excess material, and possible pollutants shall be disposed of in a legal manner off-site and all temporary and permanent BMP devices shall be in place and maintained in good condition.

B. Records□At completion of work, inspect installed BMP devices, and present the currently implemented SWPPP/WPCP with all backup records to the Project Manager.

C. BMPs□Contractor must remove all construction materials, temporary facilities, temporary BMPs, equipment and construction related materials from the site.

D. NOTICE OF TERMINATION (NOT)□A Notice of Termination (NOT) must be submitted by the Contractor to the City Engineer for electronic submittal by the LRP via SMARTS to terminate coverage under the General Permit. The NOT

must include a final Site Map and representative photographs of the project site that demonstrate final stabilization has been achieved. The NOT shall be submitted to the City Engineer within 10 days of completion of construction. The NOT will be reviewed and submitted to SMARTS by the City Engineer within 90 days of completion of construction. The Regional Water Board will consider a construction site complete when the conditions of the General Permit, Section II.D have been met. Notice of Termination should be filed by the Contractor via the SMARTS system. The City will allow the Contractor to enter data in SMARTS on the City's behalf.

1.8 □□ALITY ASS□RANCE

A. Performance□Perform work in accordance with SWPPP/WPCP. Maintain one copy of document on jobsite.

B. □uality Control and Assurance□Train all employees and subcontractors in these subjects□
   1. Material pollution prevention and control
   2. Waste management
   3. Non-storm water management
   4. Identifying and handling hazardous substances
   5. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances

C. Training Requirements□Training must take place before starting work on this job. New employees must receive the complete training before starting work on this job. Conduct weekly meetings to discuss and reinforce spill prevention and control□material delivery, storage, use, and disposal□waste management□and non-storm water management procedures.

1.9 PRE-INSTALLATION CONFERENCE

A. Timing□Convene a conference one week prior to commencing work at the site

B. Attendance□Require attendance of parties directly affecting the work of this Section.

C. Agenda□Review requirements of the SWPPP/WPCP.

1.10 PERFORMANCE RE□□IREMENTS

A. General□ The SWPPP/WPCP is a minimum requirement. Revisions and modifications to the SWPPP/WPCP are acceptable only if they maintain levels of protection equal to or greater than originally specified.

B. Requirements Read and be thoroughly familiar with all of the requirements of the SWPPP/WPCP.

C. Compliance Inspect and monitor all work and storage areas for compliance with the SWPPP/WPCP prior to any anticipated rain.

D. Corrective Measures Complete any and all corrective measures as may be directed by the regulatory agency.

E. Penalties Contractor to pay any fees and be liable for any other penalties that may be imposed by the regulatory agency for non-compliance with SWPPP during the course of work.

F. Costs Contractor to pay all costs associated with the implementation of the requirements of the SWPPP/WPCP in order to maintain compliance with the Permit. This includes installation of all Housekeeping BMPs, General Site and Material Management BMPs, Inspection requirements, maintenance requirements, sampling, monitoring, reporting and all other requirements specified in the SWPPP/WPCP and as required by the General Permit, local, state and federal regulations.

1.11 MATERIALS

A. General All temporary and permanent storm water pollution prevention facilities, equipment, and materials as required by or as necessary to comply with the SWPPP/WPCP as described in the current California Stormwater uality Association (CAS A) BMP Handbook.

1.12 STORM WATER POLL TION PREVENTION PLAN

A. Plan Preparation and Compliance
   1. The Contractor shall conform to Section 13, Water Pollution Control, of the State Standard Specifications and the General Conditions, Special Conditions, and Technical Specifications.
   2. The Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and the necessary Project Registration Documents to be digitally filed with the California State Water Resources Control Board (SWRCB) through the Stormwater Multi-Application and Report Tracking System (SMARTS database). The Contractor will be responsible to provide the Permit Registration Documents (PRDs) to the City the SD will submit the PRDs for the WDID number through SMARTS. The SWPPP shall be prepared based upon the most current California Stormwater uality Association (CAS A) standard SWPPP Template. The Contractor shall perform the role of “Qualified SWPPP Developer” (QSD) and shall be responsible for all formal amendments to the SWPPP. The Contractor shall also perform the role of “Qualified SWPPP Practitioner” (QSP) and shall be

responsible for all field SWPPP implementation, monitoring, sampling, and reporting. The completed SWPPP shall be created by the Contractor as necessary to reflect the necessary sequence and staging of field operations.

3. The SWPPP shall conform to SWRCB Order 2009-0009-DWQ (“The Construction General Permit” or “CGP”), San Francisco Bay Regional Water □uality Control Board Order R2-2009-0074 (“Municipal Regional Stormwater NPDES Permit” or “MRP”), Provisions in Section 13, Water Pollution Control, of the State Standard Specifications, the details, operating procedures, and maintenance guidelines of the California Regional Water □uality Control Board San Francisco Bay Region’s Guidelines for Construction Projects (Guidelines), the California Regional Water Control Board San Francisco Bay Region’s Erosion and Sediment Control Field Manual (Manual), the project plans and the General Conditions, Special Conditions, and Technical Specifications. The SWPPP shall be deemed to fulfill the requirements set forth in Section 13 of the State Standard Specifications for development and submittal of a Water Pollution Control Program.
4. Prior to the Notice to Proceed (with field activities), the State Project Registration Documents (PRDs) will have been filed digitally through SMARTS, and confirmation from the SWRCB will have been received authorizing coverage of this project under the CGP. Construction cannot commence until a WDID has been received.

B. Risk Based Contractor Requirements and City Responsibilities (Applicable for all project risk levels/types) – The following minimum items shall be included within the SWPPP, as prepared by the Contractor

1. Risk Level Determination (to be performed by Contractor)
2. WDID Number (to be obtained by Contractor through coordination with City)
3. Certification by City “Legally Responsible Party” (LRP) (to be provided by City)
4. Placeholder for Contractor SWPPP training throughout construction
5. Name and contact information of Contractor □SD (to be provided by Contractor)
6. Name and contact information of Contractor □SP (to be provided by Contractor)
7. Schedule of Construction and Deployment of BMPs for each phase of work (to be provided by Contractor)
8. Description of minimum year round sediment control measures per Order 2009-009- DW□
9. Dates and description of all formal SWPPP amendments (to be prepared by Contractor)
10. Description of Construction Site Monitoring Plan (CSMP) per Order 2009-009-DW□ (to be done by Contractor) including, but not limited to the following□
    a. Sampling preparation,
    b. Collection,
    c. □uality assurance and quality control,

d. Sample labeling,
e. Collection documentation,
f. Sample shipping,
g. Chain of custody,
h. Sample numbering,
i. Precautions from the construction site health and safety plan, and
j. Providing and maintaining a function rain gauge at all times.

11. Minimum required monitoring activities
    a. Post storm event (0.5" or greater) visual discharge inspection (within 48 hours).
    b. Sampling for non-visible pollutants
        - Take one or more sample during any breach, spill, malfunction, or leakage that could discharge non visible pollutants into storm-water.
        - Samples taken must be large enough to accurately categorize site conditions.
        - Samples taken must be within the first 2 hours of rain events that occur during scheduled business hours that produce runoff.
        - Samples shall be analyzed for pollutants in accordance with
        - warrant as necessary for protection of surface waters.
        - An uncontaminated (control) sample must be taken as a basis of comparison.
        - Samples must be received by the laboratory within 48 hours of physical sampling. The Contractor must use containers provided by the laboratory.
    c. uarterly inspections for non-stormwater discharges.

12. Minimum scheduled BMP inspections with appropriate documentation
    a. Weekly, on a year round basis, throughout the duration of construction.
    b. Daily (once every 24 hours) BMP inspection during extended storm events.
    c. Inspect drainage areas and BMPs within 48 hours of predicted rainfall event (0.5" or greater).

13. Intent of compliance with the following analytical methods and sampling protocol
    a. Standard Methods for the Examination of Water and Wastewater (American Public Health Association).
    b. 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants."
    c. Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan.

14. Potential sources of non-visible pollutants
15. Description of all minimum source control measures, "good housekeeping", and non stormwater management per Order 2009-009-DW
16. Other measures as necessary for Order 2009-009-DW

C. Risk Based Contractor Requirements and City Responsibilities (Applicable to Risk Level 2/L□P Type 2 or higher)

1. All requirements for Risk Level 1/Type 1 above
2. Description of applicable Numeric Action Levels for pH and turbidity (to be included in SWPPP by Contractor)
   a. pH –levels must be maintained within a range of 6.5-8.5.
   b. Turbidity – 250 NT□ maximum.

3. Description of additional provisions within the CSMP for stormwater effluent monitoring and reporting and non-stormwater discharges (to be included within SWPPP by Contractor)□
   a. Numeric Action Level (NAL) sampling□
      - Water quality grab samples shall be taken at a minimum 3 times a day during each rain event of □ an inch or more, where runoff occurs. The grab samples shall be representative of the flow and characteristic of the discharges. The contractor shall forward grab sampling results to the City within 24 hours of when they are taken.
      - All discharge points must be sampled, including the one considered to be the "worst case." Discharge from a silt fence or sheet flow area shall be considered one discharge point.
      - All points of run on. A sheet flow area shall be considered one point of run on.
      - Sampling to comply with analytical methods and protocol described in EPA Test Method 180.1.or Standard Method 2130 for turbidity sampling, ASTM D1293- 99(2005) for pH sampling, and Standard Methods for the Examination of Water and Wastewater (American Public Health Association).
   c. Sampling for non-stormwater discharges.
4. Description of requirement to create and implement of "Rain Event Action Plans" for each of the following phases of construction (REAPs to be prepared by Contractor's QSP):
   a. Grading and Land Development,
   b. Streets and □tilities,
   c. Vertical Construction,
   d. Final Landscaping and Stabilization,
   e. Inactive Construction Status.
   f. The Contractor shall create and implement Rainfall Event Action Plans for inclusion within approved SWPPP at least 48 hours prior to any likely (forecast by National Weather Service as 50□ or greater chance) precipitation event.
5. Description of year round effective erosion control measures to supplement minimum sediment control measures within active, inactive, and completed areas. Erosion control measures shall be provided to the extent necessary for compliance with Order 2009-009- DW□.

6. Description of additional Annual Reporting Requirements (Annual reporting information to be prepared by Contractor for review and approval of City prior to submittal)□
   a. Creation and submittal of NAL exceedance reports, if applicable,
   b. Creation and submittal of sampling logs for pH and turbidity.

D. Risk Based Contractor Requirements and City Responsibilities (Applicable to Risk Level 3/L□P Type 3 only)

1. All requirements for Risk Level 2 projects described above.
2. Description of Required Compliance with State Board criteria for technology-based numeric effluent limitations for discharge of pH and turbidity (Description of requirements and physical achievement provided by Contractor)□
   a. For Projects that employ Advanced Treatment Systems (ATS) - Maximum 10 NT□ Daily Weighted Average & Maximum 20 NT□ for any single sample, applicable for events up to 24 hour events of □ inches1. The ATS system must be able to treat this volume within a maximum 72-hour period.
   b. For Projects that do not employ ATS - Maximum 500 NT□ for any single sample, applicable for events up to 24 hour events up to □ inches2.
   c. Project discharges must maintain pH within a range of 6.0 to 9.0.

3. Description of additional provisions within the CSMP (description of monitoring provided by Contractor, additional monitoring performed by Contractor)□
   a. Receiving water monitoring, if applicable, based upon the standards of Order 2009- 009-DW□.
   b. Bioassessment, if applicable, based upon the standards of Order 2009-009-DW□.
   c. Sampling for Suspended Sediment Concentration, if applicable, based upon the standards of Order 2009-009-DW□. Sampling to comply with analytical methods and protocol described within ASTM Designation□D 3977 for suspended sediment concentration (SSC).
   d. Inspection of ATS facilities, if applicable. Sampling of ATS discharge points.

4. Placeholder for Creation of ATS Plan, if applicable, consisting of the following (to be provided by Contractor)□
   a. ATS Operation and Maintenance Manual for All Equipment.
   b. ATS Monitoring, Sampling & Reporting Plan, including □uality Assurance/□uality Control (□A/□C).
   c. ATS Health and Safety Plan.
   d. ATS Spill Prevention Plan.

5. Description of Additional annual reporting requirements (Description provided by Contractor, Annual Reporting information to be prepared by Contractor for review and approval of City)
   a. Creation and submittal of NEL violation reports, if applicable within 6 hours of occurrence. Reports and related corrective action measures to be reviewed and approved by City prior to submittal to Regional Board
   b. Completed ATS records, if applicable.

PART 2 - PRODUCTS

2.1 BEST MANAGEMENT PRACTICE (BMP) PROD□CTS

A. Shall be as specified in the most current CAS□A BMP Handbook.

B. SWPPP as prepared by □ualified SWPPP Developer (□SD)

C. Risk Level Determination

D. Notice of Intent/Notice of Substantial Completion

E. Shall include but is not limited to sampling, reports and other miscellaneous items as determined by the State of California and all pertaining regional and local permits.

PART 3 - E□ECUTION

3.1 EROSION AND SEDIMENTATION CONTROL

A. Temporary erosion and sediment control work shall consist of applying erosion control materials to embankment slopes, excavation slopes and other areas designated on the plans, installing silt fence, inlet protection, gravel bags, headwall protection and stabilized construction entrance ways, or other measures as specified in the project SWPPP/WPCP or necessary for compliance with the CGP.

B. All temporary erosion and sediment control for the project shall conform to the provisions in Section 13, Water Pollution Control, of the State Standard Specifications and the General Conditions, Special Conditions, and Technical Specifications. All permanent erosion and sediment control for the project shall conform to the provision in Section 21, Erosion Control, of the State Standard Specifications and the General Conditions, Special Conditions, and Technical Specifications.

3.2 INSTALLATION

A. Construction Requirements

1. The Contractor shall design, implement and maintain the SWPPP/WPCP for the project in full compliance with the SWRCB Order 2009-009-DW to control the discharge of storm water pollutants. The Contractor shall perform the monitoring and reporting required to comply with all the state regulations regarding the SWPPP/WPCP for the project. All monitoring, sampling, and reporting information collected by the Contractor shall be subject to the review of the City prior to uploading through the SMARTS database.

B. Storm Water Pollution Prevention Plan and Water Pollution Control Plan

1. The SWPPP/WPCP shall identify construction activities that may adversely affect the quality of storm water discharges associated with the project and shall identify water pollution control measures, hereinafter referred to as control measures, to be constructed, implemented, and maintained in order to reduce, to the maximum extent feasible, storm water discharges from the construction site both during and after construction is completed under this contract.
2. The Contractor's "QSD" shall amend the SWPPP/WPCP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, whenever there is a change in disturbed area, and/or or when deemed necessary by the City. The SWPPP/WPCP shall be amended if, at any time, the implementation of the SWPPP/WPCP is not effectively achieving the objective of compliance with the CGP. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initial SWPPP/WPCP, which are required on the project to control water pollution effectively. Amendments to the SWPPP/WPCP shall be closely coordinated with the Contractor's Qualified SWPPP Practitioner (SP) within five (5) working days. In emergency situations that require immediate changes at the project site, the Contractor's QSP shall implement the necessary measures and notify the Project Manager and Contractor's QSD of the changes.
3. The Contractor shall give immediate notice to the Project Manager of any planned changes in construction activity that may result in non-compliance with the General Conditions, Special Conditions, and Technical Specifications or the CGP.
4. By the last day of each month, the Contractor shall submit an affidavit to the Project Manager certifying conformance with the SWPPP/WPCP. The monthly partial payment may be withheld if the affidavit is not received and accepted by the Project Manager. If at any time the project is in non-compliance with the SWPPP/WPCP or the CGP, the Contractor shall submit a written report to the Project Manager immediately upon identifying the

non-compliance. The report shall specify the time and nature of the non-compliance and include a course of action to correct the deficiency.

5. The Contractor shall keep a copy of the State of California Construction Activity General Permit (SWRCB Order No. 2009-009-DW□), the SWPPP/WPCP, and any approved amendments at the project site. The SWPPP/WPCP shall be made available upon request of any representative of the Regional Water □uality Control Board, State Water Resources Control Board, □nited States Environmental Protection Agency, or any City representative. Public requests for copies of the SWPPP/WPCP shall be directed to the Project Manager.

C. Erosion and Sediment Control

1. The facilities shown on the SWPPP/WPCP are designed to effectively control erosion and sediment on a year-round basis.
   a. Construction operations shall be carried out in such a manner that erosion and water pollution will be minimized. Contractor shall comply with state and local laws concerning pollution abatement.
   b. Contractor shall be responsible for monitoring erosion and sediment control measures prior, during, and after storm events. Monitoring and sampling (as applicable) shall follow the protocol described in the CGP and Project SWPPP//WPCP.
   a. Extreme care shall be taken when hauling any earth, sand, gravel, stone, debris, paper, or any other substance over any public street, alley or other public place. Occurrences of material blown, spilled, or tracked over and upon said public or adjacent private property are prohibited and shall be immediately remedied. Discharge of debris is prohibited. Non-stormwater discharge is prohibited, except as specified in SWRCB Order 2009-009-DW□. Discharge of hazardous substances is prohibited.
   b. Inlet protection shall be installed at open inlets to prevent sediment from entering the storm drain system. Inlets not used in conjunction with erosion control are to be blocked to prevent entry of sediment.
   c. All paved areas shall be kept clear of earth material and debris. The site shall be maintained so as to prevent sediment-laden runoff to any storm drainage system, including existing drainage swales and watercourse, to the extent necessary for compliance with applicable numeric action or effluent levels specified in the CGP and Project SWPPP/WPCP.
   d. Contractor shall install and maintain construction entrances prior to commencement of grading. All construction vehicle traffic entering onto the paved roads must cross stabilized construction entrance ways. Entrance ways may be constructed of two inch to six-inch drain rock, metal grating, or metal cattle-guard, or equivalent material, or may include vehicle wash stations as needed, in sufficient quantity and size to prevent tracking of mud and debris from the construction site. Tracking of mud or debris onto public streets, or onto adjacent public

or private property, is prohibited and shall be removed immediately as required by the City.

e. Grading operations which leave denuded slopes shall be protected with erosion control measures within 14 days of completion or suspension of activity. If hydroseeding is not used or is not effective within this 14-day period, then other immediate methods shall be implemented, such as erosion control blankets, blown straw, or a three step application of 1) seed, mulch, fertilizer, 2) blown straw, and 3) tackifier and mulch.
f. Sanitary facilities shall be maintained on the site in a manner to prevent inadvertent discharge or leakage of sanitary wastes into the storm drain system either by placing sanitary facilities in locations that do not drain to the storm drain system or by providing secondary containment systems to capture leaked wastes.
g. Contractor shall provide dust control as required by the appropriate federal, state and City requirements and the City Standard Specifications.
h. The erosion and sediment control plan may not cover all the situations that may arise during construction due to unanticipated field conditions. Variations and additions may be made to the plan in the field. That Contractor's QSP shall notify the Contractor's QSD of any field changes.

D. Maintenance The SWPPP/WPCP shall include a plan for maintenance that shall include at a minimum.
1. Immediate repair of damage caused by soil erosion or construction.
2. Inspection of sediment traps, berms, rills, gullies, and swales before, during, and after each storm event or predicted rainfall in accordance with the CGP and project SWPPP/WPCP. This also includes repair or cleaning as needed.
3. Removal of sediment from sediment traps and restoration to original dimensions when sediment has accumulated to a depth of one foot. Sediment removed from trap shall be deposited in a suitable area and in such a manner that it will not erode.
4. Regular cleaning of gravel bag inlet protection so that sediment depth never exceeds a maximum of three inches.

E. Risk Based Contractor Requirements and City Responsibilities (Applicable for all project risk levels/types) – The following minimum items shall be performed by the Contractor during field implementation of the Project SWPPP/WPCP throughout the duration of construction until final Notice of Termination
1. Coordinate and conduct periodic SWPPP/WPCP and Erosion and Sediment Control training throughout construction
2. pdate schedule of construction and deployment of BMPs for each phase of work on an as-needed basis
3. Physically install and maintain minimum year-round sediment control measures per Order 2009-009-DW

4. Perform and file all formal SWPPP/WPCP amendments. All SWPPP/WPCP amendments to be reviewed and approved by the City and the Contractor's □SD prior to submittal.
5. Physically perform and implement all measures found within the SWPPP/WPCP Construction Site Monitoring Plan (CSMP) per Order 2009-009-DW□ including, but not limited to the following□
   a. Sampling preparation,
   b. Collection,
   c. □uality assurance and quality control,
   d. Sample labeling,
   e. Collection documentation,
   f. Sample shipping,
   g. Chain of custody,
   h. Sample numbering,
   i. Precautions from the construction site health and safety plan, and
   j. Providing and maintaining a function rain gauge at all times.

6. Minimum required monitoring activities□
   a. Post storm event (0.5" or greater) visual discharge inspection (within 48 hours).

7. Sampling for non-visible pollutants□
   a. Take one or more sample during any breach, spill, malfunction, or leakage that could discharge nonvisible pollutants into stormwater.
      - Samples taken must be large enough to accurately categorize site conditions.
      - Samples taken must be within the first 2 hours of rain events that occur during scheduled business hours that produce runoff.
      - Samples shall be analyzed for pollutants in accordance with an appropriate pollutant source assessment, or as conditions warrant as necessary for protection of surface waters.
      - An uncontaminated (control) sample must be taken as a basis of comparison.
      - Samples must be received by the laboratory within 48 hours of physical sampling. The Contractor must use containers provided by the laboratory.
   b. □uarterly inspections for non-stormwater discharges.

8. Minimum scheduled BMP inspections with appropriate documentation□
   a. Weekly, on a year-round basis, throughout the duration of construction.
   b. Daily (once every 24 hours) BMP inspection during extended storm events.
   c. Inspect drainage areas and BMPs within 48 hours of predicted rainfall event (0.5" or greater).

9. Compliance with the following analytical methods and sampling protocol□
   a. Standard Methods for the Examination of Water and Wastewater

(American Public Health Association).
b. 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants."
c. Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan.

10. Identify and eliminate potential sources of non-visible pollutants
11. Implementation of all minimum source control measures, "good housekeeping", and non-stormwater management per Order 2009-009-DW□
12. Other measures as necessary for Order 2009-009-DW□

F. Risk Based Contractor Requirements and City Responsibilities (Applicable to Risk Level 2/L□P Type 2 or higher)
1. All requirements for Risk Level 1/Type 1 above
2. Maintain tolerance of site discharge within applicable Numeric Action Levels for pH and turbidity
   a. pH –levels must be maintained within a range of 6.5-8.5.
   b. Turbidity – 250 NT□ maximum.

3. Numeric Action Level (NAL) sampling□
   a. Water quality grab samples shall be taken at a minimum 3 times a day during each rain event of □ an inch or more, where runoff occurs. The grab samples shall be representative of the flow and characteristic of the discharges. The contractor shall forward grab sampling results to the City within 24 hours of when they are taken.
   b. All discharge points must be sampled, including the one considered to be the "worst case." Discharge from a silt fence or sheet flow area shall be considered one discharge point.
   c. All points of run on. A sheet flow area shall be considered one point of run on.
   d. Sampling to comply with analytical methods and protocol described in EPA Test Method 180.1 or Standard Method 2130 for turbidity sampling, ASTM D1293- 99(2005) for pH sampling, and Standard Methods for the Examination of Water and Wastewater (American Public Health Association).

4. Sampling for non-stormwater discharges
5. Create and physically implement of "Rain Event Action Plans" for each of the following phases of construction□
   a. Grading and Land Development,
   b. Streets and □tilities,
   c. Vertical Construction,
   d. Final Landscaping and Stabilization,
   e. Inactive Construction Status.

6. The Contractor shall create and implement Rainfall Event Action Plans for inclusion within approved SWPPP/WPCP at least 48 hours prior to any likely (forecast by National Weather Service as 50□ or greater chance) precipitation event.
7. Physically implement and maintain year-round effective erosion control measures to supplement minimum sediment control measures within active, inactive, and completed areas. Erosion control measures shall be provided to the extent necessary for compliance with Order 2009-009-DW□.
8. Maintain and compile documents to meet Annual Reporting Requirements (Annual reporting information to be prepared by Contractor for review and approval of City prior to submittal)□
   a. Creation and submittal of NAL exceedance reports within 48 hours, if applicable, based upon review and approval of City.
   b. Creation and submittal of sampling logs for pH and turbidity.

G. Risk Based Contractor Requirements and City Responsibilities (Applicable to Risk Level 3/L□P Type 3 only)
1. All requirements for Risk Level 2 projects described above.
2. Maintain physical compliance with State Board criteria for technology-based numeric effluent limitations for discharge of pH and turbidity
3. For Projects that employ Advanced Treatment Systems (ATS) - Maximum 10 NT□ Daily Weighted Average & Maximum 20 NT□ for any single sample, applicable for events up to 24-hour events of □ inches3. The ATS system must be able to treat this volume within a maximum 72-hour period.
4. For Projects that do not employ ATS - Maximum 500 NT□ for any single sample, applicable for events up to 24-hour events up to □ inches4.
5. Project discharges must maintain pH within a range of 6.0 to 9.0.
6. Perform additional provisions within the CSMP□
   a. Receiving water monitoring, if applicable, based upon the standards of Order 2009- 009-DW□.
   b. Bioassessment, if applicable, based upon the standards of Order 2009-009-DW□.
   c. Sampling for Suspended Sediment Concentration, if applicable, based upon the standards of Order 2009-009-DW□. Sampling to comply with analytical methods and protocol described within ASTM Designation□D 3977 for suspended sediment concentration
   d. Inspection of ATS facilities, if applicable. Sampling of ATS discharge points.

7. Creation and implementation of ATS Plan, if applicable, consisting of the following□
   a. ATS Operation and Maintenance Manual for All Equipment.
   b. ATS Monitoring, Sampling & Reporting Plan, including □uality Assurance/□uality Control (□A/□C).
   c. ATS Health and Safety Plan.

d. ATS Spill Prevention Plan.

8. Maintain and compile additional annual reporting requirements (Annual Reporting information to be prepared by Contractor for review and approval of City prior to submittal)
   a. Creation and submittal of NEL violation reports, if applicable within 6 hours of occurrence. Reports and related corrective action measures to be reviewed and approved by City prior to submittal to Regional Board
   b. Completed ATS records, if applicable.

3.3 STREET SWEEPING

A. Street sweeping Street sweeping will be implemented everywhere where sediment is tracked from the project site onto public roads. Sweeping will be done during all construction activities to control tracking of sediments as required as per the guidelines provided in the SWPPP document and as directed in this section.

3.4 D ST CONTROL

A. Contractor's Responsibility: Use equipment that will generate the least amount of dust. Provide dust control at all times including Saturdays, Sundays, and holidays as ordered by the Project Manager. Whenever the Contractor, in the opinion of the Project Manager, is negligent in controlling dust, the Project Manager may direct attention to the existence of a dust hazard and instruct the Contractor to immediately alleviate the dust hazard. The Contractor shall be responsible for any damage cause by dust generated as a result of its operations.

B. Street Vacuum/Sweeper Have a commercial standard street vacuum/sweeper operational and in operation during each working day. The street vacuum/sweeper shall be able to pick up sand, gravel, dust, and debris, and other things, shall minimize dust generation, and shall also be available during the day and shall sweep as outlined below and as directed by the Project Manager.

C. Sweeping If the Contractor is performing work that generates dust and debris then during the day (including weekends and holidays) the sweeper shall sweep the project area (full length, width, and all lanes) twice a day sometime between 9 00a.m. and 11 00a.m. and also between 2 00p.m. and 4 00p.m. Hardscape surfaces (including pavers, sidewalks, and areas inaccessible by a mechanical sweeper) shall have dirt, dust, and debris removed by hand sweeping. If the Contractor fails to fulfill the responsibilities of this Section the City will perform or contract with others to perform the work and all costs incurred to the City shall be withheld from future payments to the Contractor.

D. Additional Sweeping□Clean the sidewalk and gutter as many times as needed to make sure the sidewalk and gutter are out of dirt, debris and small rocks at all times. Be prepared to sweep surfaces immediately at the request of the Project Manager should it be deemed necessary for public safety and to avoid damage to properties. If streets are not satisfactorily cleaned within 12 hours from verbal or written notice by City personnel, the City will hire an independent sweeping company and deduct the cost for such work from payments due to the Contractor.

E. Payment for Dust Control and Clean □p□ Shall be included in the prices paid for Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WCPC) as shown in the Bid Schedule or considered incidental to the items most closely related to when there is no bid item. This Item shall be considered as full compensation for all labor, materials, tools, equipment and incidentals and for doing the work of Dust Control and Clean □p and no additional compensation shall be made therefor.

3.5 EMERGENCY EROSION AND SEDIMENT CONTROL

A. Shall consist of any measures not addressed in the SWPPP/WPCP that the Project Manager or □SD deems necessary for compliance with the CGP including, but not limited to all erosion control measures necessary to prevent degradation to water quality.

B. Sediment Control including unforeseen measures not addressed in the Storm Water Pollution Plan pay item in accordance with the National Pollution Discharge Elimination System (NPDES), the City of Pittsburg and the Plans and Specifications and to the satisfaction of the Project Manager. Work under this item shall be considered as extra work paid for on a force account basis.

END OF SECTION 01 57 23

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

1.2 DEFINITIONS

A. Products
   1. General Items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   2. Named Products Items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
   3. Materials Components shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
   4. Equipment Product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.3 QUALITY ASSURANCE

A. Source Limitations To the fullest extent possible, provide products of the same kind from a single source.

B. Compatibility of Options When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. General Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
   1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
7. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 PROD□CT OPTIONS

A. Products Specified by Reference Standards or by Description Only□Products complying with specified reference standards or description.

B. Products Specified by Naming One or More Manufacturers□Products of one of manufacturers named and complying with Specifications□ no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions□Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 - Substitution Procedures.

PART 3 - E□ECUTION

3.1 INSTALLATION OF PROD□CTS□

A. General□ Refer to Section 01 70 00 – Execution.

B. Product Handling□Assure that Work is manufactured and/or fabricated in ample time to not delay construction progress. Transport, handle, store and protect products in accordance with manufacturer’s instructions.

END OF SECTION 01 60 00

SECTION 01 70 00 – E□ECUTION

PART 1 - GENERAL

1.1 S□MMARY

A. This section includes requirements for field engineering, examination, preparation, execution, cleaning, and protecting installed construction.

B. Field Engineering□Provide such field engineering services as are required for proper completion of the Work including, but not limited to□
   1. Establishing and maintaining lines and levels.
   2. Structural design of shores, forms, and similar items provided by the Contractor as part of the means and methods of construction.

1.2 □□ALITY ASS□RANCE

A. Workers□□se adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specific requirements and the methods needed for proper performance of the work of this Section.

1.3 S□BMITTALS

A. Comply with Section 01 33 00 - Submittal Procedures.

B. □pon request of the Project Manager, submit the following□
   1. Engineering qualifications of persons proposed to be engaged for field engineering services.
   2. Documentation verifying accuracy of field engineering work.
   3. Certification, signed by the Contractor's retained field engineer, certifying that elevations and locations of improvements are in conformance with requirements of the Contract Documents. Documentation shall require surveyor's certification stamp.

1.4 REFERENCE POINTS

A. In addition to the procedures directed by the Contractor for proper performance of the Contractor's responsibilities:
   1. Locate and protect control points before starting work on the site.
   2. Preserve permanent reference points during progress of the Work.
   3. Do not change or relocate reference points or items of the Work without specific approval from the Project Manager.

4. Notify and advise the Project Manager within twenty-four (24) hours when a reference point is lost or destroyed, or requires relocation because of other changes in the Work□
   a. □pon direction of the Project Manager, require the field engineer to replace reference stakes and/or markers.
   b. Locate such replacements according to the original survey control.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual Specification Sections.

D. Verify that utility services are available with correct characteristics and in correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer-required or manufacturer-recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 EXEC□TION

A. Comply with manufacturer's installation instructions, performing each step-in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Project Manager before proceeding.

C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
   1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
   2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
   3. Exposed □oints□Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Project Manager for final decision.

E. Allow for expansion of materials and/or movement.

F. Climatic Conditions and Project Status□Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
   1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
   2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.

G. Mounting Heights□Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.
   1. Refer questionable mounting heights choices to Project Manager for final decision.
   2. Elements Identified as Accessible to Handicapped□Comply with applicable codes and regulations.

H. Adjust operating products and equipment to ensure smooth and unhindered operation.

I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.4 CLEANING

A. Maintain Project Site, surrounding areas and public properties free from accumulations of waste, debris, and rubbish, caused by operations.

B. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces□leave Project Site clean and ready for occupancy.

C. Hazards Control□
   1. Conduct cleaning and disposal operation in accord with legal requirements.

2. Do not burn or bury rubbish and waste materials on Project Site.
3. Do not dispose of volatile wastes in storm or sanitary drains.
4. Store volatile wastes in covered metal containers, and remove from premises daily.
5. Prevent accumulation of wastes which create hazardous conditions.
6. Provide adequate ventilation during use of volatile or noxious substances. Ventilation shall be other than ventilation system.

D. Materials
1. se only cleaning materials recommended by manufacturer of surface to be cleaned.
2. se cleaning materials only on surfaces recommended by cleaning material manufacturer.

E. During Construction
1. Execute cleaning daily to ensure Project Site, Owner's premises, adjacent and public properties are maintained free from accumulations of waste materials and rubbish.
2. Wet down dry materials and rubbish to control dust.
3. At reasonable intervals during progress of Work, clean Project Site and public properties, and dispose of waste materials, debris and rubbish.
4. Provide on Project Site dump containers for collection of waste materials, debris and rubbish. Waste containers shall not be used for construction waste.
5. Remove waste materials, debris and rubbish from Owner's premises and legally dispose of off Owner's property.
6. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials.

3.5 PROTECTING INSTALLED CONSTR CTION

A. Protect installed Work and provide special protection where specified in individual Specification Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

C. Prohibit traffic from landscaped areas.

END OF SECTION 01 70 00

SECTION 01 71 13 – MOBILI□ATION

PART 1 - GENERAL

1.1 S□MMARY

A. Section includes but not limited to□
   1. mobilization and demobilization□
   2. preparatory work and activities those necessary for the movement of personnel, equipment, supplies, and incidentals to the job site□
   3. for the establishment of all offices, building, trailers, and other facilities necessary for work on the project□
   4. submittals, bonding and insurance requirements□
   5. public notifications in English and Spanish□
   6. contacting and notifying the utility companies□
   7. fabricating and installing project identification signs□
   8. private property owner agreement for storage facilities□
   9. and for all other work and activities which must be performed or costs incurred prior to beginning work on the various contract items on the project site.

1.2 REFERENCES

A. Cal/OSHA – California Division of Occupation Safety and Health

B. □nderground Services Alert (□SA)

1.3 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Measurement and Payment□

   1. When mobilization is included as a bid item, measurement will be made as a percentage of the costs incurred according to the list submitted except that not more than 75□ of the bid price shall be paid prior to the final estimate for payment being due, said remaining 25□ paid upon completion of cleanup and removal and demobilization with final payment.

   2. When the contract does not include a contract pay item for mobilization, full compensation for any necessary mobilization required shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

3. The contract price paid for mobilization shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in mobilization and demobilization including the items listed in Part 1.1 of this Section as specified herein, and no additional compensation shall be made therefor.

4. Mobilization shall be considered as a non-adjustable contract item. Any contract change orders shall be considered as including full compensation for mobilization.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 MOBILI□ATION

A. Mobilization shall consist of preparatory work and activities listed in Part 1.1 above.

B. The Contractor shall insure that adequate existing sanitation facilities are available or the Contractor shall provide and maintain adequate sanitation facilities. All wastes and refuse from sanitary facilities provided by the Contractor's operations shall be disposed of away from the site in accordance with all laws and regulations pertaining thereto.

C. Mobilization shall also include demobilization upon completion of work and cleanup of the site.

D. The contractor shall provide all labor, materials, equipment and incidentals to prepare the site for the timely start and efficient completion of all work. This includes obtaining all necessary licenses and permits, providing required submittals including but not limited to a detailed project schedule.

E. Mobilization shall also include notifications to all existing utility companies as shown on the Drawings as first order of work.

END OF SECTION 01 71 13

SECTION 01 71 23 – CONSTRUCTION SURVE□ING

PART 1 - GENERAL

1.1 S□MMARY

A. Section includes but not limited to□
   1. Control Line Survey
   2. Pothole Survey
   3. Survey Monument Referencing
   4. Construction Staking
   5. □uality Control Survey
   6. As-built GPS Survey

B. All surveying work shall be performed under the responsible charge of a land surveyor licensed in the State of California.

1.2 REFERENCES

A. Cal/OSHA – California Division of Occupation Safety and Health

B. □nderground Services Alert (□SA)

1.3 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures □Requirements for submittals.

B. Section 02 21 13 - Survey Monuments.

1.4 MEAS□REMENT AND PAYMENT

A. The contract price paid for Construction Surveying shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in control line survey, survey monument referencing, pothole survey, construction staking, quality control survey and as-built GPS Surveys specified herein, and no additional compensation shall be made therefor.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 GENERAL

A. All work shall be done in accordance with Chapter 12 of the Caltrans Surveys Manual, Division 00 – General Conditions, Section 7.17, the Special Conditions, the Contract Plans, and as directed by the Engineer.

B. Contractor shall provide all the project construction surveying and all costs related to establishing a control line, pothole surveying, construction staking, documenting all changes to plans, providing quality control surveying, performing an as-built survey and submitting AutoCAD files of the as-built information. All construction surveying shall be performed under the direction of a Professional Land Surveyor licensed in the State of California. The Contractor shall be responsible for all land surveying and shall be responsible for replacing control points or survey monuments lost or damaged during the course of construction

3.2 CONTROL LINE S□RVEY

A. Prior to any construction surveying contractor will allow for field surveying and office surveying to check the field control shown on the Drawings, and to set construction control points. This survey will be a stand-alone move-in specifically to verify control points. Work includes□collect CAD files from City, submit signed CAD release forms, go to field and tie-in control points, compare the x,y,z of the field data with the x,y,z on the CAD files, establish additional new field control points for construction, and submit CAD file of the existing and new control analysis to engineer for review. All project construction surveying shall be based on this established control line.

3.3 POTHOLE S□RVEY

A. For Projects requiring pothole survey by a Licensed Land Surveyor, during the potholing excavation and exposure of the existing utility, the Contractor's licensed Land Surveyor shall perform a topographic survey of the existing grade, top of pipe of the existing utilities, location of the utility on the project coordinate system. Contractor shall document the outside diameter of the pipe and the pipe material. Contractor shall submit the pothole survey with the above specified information in an AutoCAD Drawing file to the City engineer. CAD point descriptions to include the type of exposed pipe and diameter (example: "12" water")

3.4 S□RVEY MON□MENT REFERENCING

A. For Survey Monument Referencing, refer to Section 02 21 13 - Survey Monuments.

3.5 CONSTR□CTION STA□ING

A. The Contractor shall submit a AutoCAD files to the engineer three (3) working days prior to any staking operation. AutoCAD files will show the calculated survey points with CAD elevations and CAD descriptions as part of the calculated topographic

shots. Cut sheets in-lieu of this requirement will not be accepted. CAD points must include the elevations in CAD.

B. Construction staking shall be defined as: “Markings set in the field by a CA Licensed Land Surveyor, prior to construction, with horizontal coordinates and vertical dimensions to the items identified below. All field markings shall be completed under the direction of Land Surveyor licensed by the State of California.” The Contractor shall be responsible for replacing established survey points lost or damaged during the course of construction.

C. The list below includes some but not limited to items to be surveyed/staked.
   1. Curb/Curb & Gutter - Top of curb, flow line and lip of gutter at begin of curve, end of curve, every 25' and at all changes in direction.
   2. Flushed concrete curb at begin of curve, end of curve, every 25' and at all changes in direction.
   3. Concrete pavers borders
   4. Concrete paving parking
   5. Concrete paving intersection
   6. Curb ramps (beginning, end, mid-point, back corners)
   7. Truncated dome pavers
   8. Concrete Expansion □oints
   9. Trees
   10. Irrigation Meter and Boxes
   11. Traffic Signal Poles and Boxes
   12. Storm Drainage Inlets and other drainage structures
   13. Trench drains
   14. Curb drains
   15. Storm Drainage Piping Inverts every 25' and at all changes in direction
   16. Storm Drainage Manhole Inverts
   17. Sanitary Sewer Piping Inverts every 25' and at all changes in direction
   18. Sanitary Sewer Manhole Inverts
   19. Sanitary Sewer Cleanout
   20. Sanitary Sewer Laterals
   21. Water Main Piping Inverts every 25' and at all changes in direction
   22. Water Main offsets
   23. Water Valves
   24. Air Release Valves
   25. Blow off
   26. Water Meters
   27. Fire Hydrants
   28. □oint Trench every 25' and at all changes in direction
   29. □tility Vaults
   30. Street light pull boxes
   31. Pedestrian Lighting
   32. Street Lighting
   33. Edges of bands a planter curbs

34. Concrete band
35. Corners of Concrete at AC paving limits
36. Bottom and top of concrete speed table slopes
37. Parking strip ticks (one stake each)
38. Parking meter (one stake each)
39. Handicap parking (8 Stakes)
40. Bench
41. News rack & corral (3 stakes each)
42. Midblock arbor, park road arbor (12 stakes each)
43. Bike rack
44. Trash receptacle
45. Fixed bollard, retractable bollard
46. Downspout storm lateral connection. Staking calculations to be adjusted based on field verified building drain locations exposed during demolition.
47. Other staking requirements as described in the Technical Specifications.

3.6 □□ALITY CONTROL S□RVEY

A. These survey verifications shall occur one (1) working days prior to pouring concrete. Submit AutoCAD file of the quality control survey to the Engineer one (1) working days prior to pouring concrete curbs and foundations. AutoCAD survey files will show the topographic survey points with elevations and descriptions. Descriptions and elevations will be on the CAD points and not on a separate cut sheet. Contractor will replace any curbs, street lights and pole foundations not checked prior to pouring concrete.

B. No concrete shall be poured until each quality control survey item described below has been approved by the Engineer, based on survey CAD file provided by contractor's surveyor. Prior to pouring concrete or proceeding beyond subgrade.

C. Listed below are the project elements which require quality control survey and CAD submittal reviews prior to concrete pouring.

1. Curbs and Curb & Gutter: After the curb forms are set, the contractor's licensed land surveyor shall survey the top of curb form every 25' and at key conforms.
2. Subgrade for Street Paving□Field survey and certify the top of aggregate base design grades every 50 feet along the centerline of each lane or on corners of a 12'x50' grid in a parking lot for projects greater than or equal to 5,000 square feet of asphalt concrete. Submit certification signed by a Licensed Land Surveyor.

3.7 AS-B□ILT S□RVEY

A. After the trench excavation and pipe installation, the Contractor's licensed land surveyor shall perform a topographic survey of the top of pipes for the utility lines and invert of pipe for all gravity pipes every 25', and at all changes in direction both horizontal and vertical, water valves, tees, water services, fire hydrants and at all manhole. This survey verification shall occur 3 days prior to backfilling trench. AutoCAD files will show the calculated survey points with elevations and descriptions.

B. Contractor shall be responsible for documenting all changes to the plans. The Contractor/Developer shall provide the as-built survey in .dwg file (tied to NAD83 California State Planes, □one III) format in AutoCAD 2017 or later version electronically and stored in a □SB flash drive. The Contractor/Developer shall deliver one full set (22x34) of hard copy certified by the License Land Surveyor.

C. A CAD drawing and coordinates data sheet shall be submitted to the Project Manager for approval. This task must be performed by a registered professional land surveyor licensed in the state of California. Data shall be tied to NAD83 California State Planes, □one III, □S Foot. The elevations shall be based on NAVD88 datum. This survey shall be delivered to the City's Engineer of Record. This survey shall be used for final as-built record drawings and calculations of the final quantity.

D. The topographic survey for the as-built information shall be performed by a Professional Land Surveyor licensed in the State of California. After the trench excavation, pipe installation and approval from the inspector, the Contractor's licensed Land Surveyor shall perform a topographic/As-Built survey of all items described above in Submittals. Surveying will be of the actual pipe, conduit and/or finished facility. As-Built survey shall indicate the actual pipe material installed.

3.8 AS-B□ILT GPS S□RVEY

A. Contractor shall be responsible for the GPS "As-Built" Survey, following the completion of construction, for the location and depth of installed underground utility lines, coordinates of manholes, manhole rim elevations, manhole invert elevations, manhole depths, utility boxes, manhole covers and similar appurtenances. A CAD drawing and coordinates data sheet shall be submitted to the project manager for approval. This task must be performed by a registered professional land surveyor licensed in the state of California. Data shall be tied to California State Plan Coordinate System.

END OF SECTION 01 71 23

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 S□MMARY

A. General□This section includes requirements for cutting and patching.

1.2 □□ALITY ASS□RANCE

A. Installers□ Employ skilled and experienced installers to perform cutting and patching.

1.3 S□BMITTALS

A. Written Request□ Submit written request in advance of cutting or altering elements affecting□
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight-exposed elements.
   5. Work of Owner or separate contractor.

B. Request Requirements□ Project name and location□description of all affected work□explanation of necessity for cutting, alteration or excavation□impact on the work of the Owner or any separate contractor, or on the structural or weatherproof integrity of the building□description of proposed work, including scope of cutting, patching, alteration, or excavation, products proposed to be used, trades who will complete the work, and extent of refinishing to be done□alternatives to cutting and patching□ cost proposal, when applicable□ written permission from any separate contractor whose work will be affected.

C. Product Substitutions□ Should conditions of Work or schedule indicate change of products from original installation, submit request for substitution as specified in Section 01 25 00 - Substitution Procedures.

D. Field Observation□ Submit written notice to Project Manager designating date and time work will be uncovered.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 EXAMINATION

A. General□Inspect existing conditions□include elements subject to damage or movement during cutting and patching.

B. After □ncovering Work□ Inspect conditions affecting the installation of products, or performance of Work.

C. □nsatisfactory Conditions□ Report unsatisfactory or questionable conditions to the Project Manager in writing□do not proceed with work until Project Manager has provided further instructions.

3.2 PREPARATION

A. Temporary Support□ Provide as necessary to assure structural value or integrity of affected portion of Work.

B. Protection□
1. Provide devices and methods to protect other portions of the Project from damage.
2. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching, and maintain excavations free from water.

3.3 PERFORMANCE

A. Cutting and Patching□Execute cutting, fitting, and patching, including excavation and fill if required, to complete Work and to□
1. Fit the several parts together, to integrate with other Work.
2. □ncover Work to install or correct ill-timed Work.
3. Remove and replace defective and nonconforming Work.
4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

B. Methods□Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing. Cut masonry and concrete materials using masonry saw or core drill.

C. Restoration□ Restore Work with new products according to requirements of Contract Documents. In the case of failure to protect existing or new work, Contractor shall be responsible for costs to repair damage and for restoring the work.

D. Penetrations Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces. Maintain integrity of wall, ceiling, or floor construction completely seal voids.

E. Refinishing Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection for assembly, refinish entire unit.

F. Hazardous Conditions Identify hazardous substances or conditions exposed during the Work to Project Manager for decision or remedy.

END OF SECTION 01 73 29

SECTION 01 74 19 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 S□MMARY

A. Description□ Provide Construction Waste Management including salvaging, recycling, and disposing of nonhazardous construction waste, as shown and specified per Contract Documents.

PART 2 - PRODUCTS

2.1 WASTE MANAGEMENT PLAN

A. General□ Develop plan, consisting of waste identification and construction methods employed to reduce the amount of waste generated, including separate sections for demolition and construction waste, to re-use and recycle minimum 75□ of construction waste materials generated by the Work. Indicate quantities by weight or volume□use same units of measure throughout waste management plan.

B. □uality Requirements□Refer to Section 01 42 00 - References for reference standards, applicable codes and definitions, and to the following□
   1. American National Standards Institute (ANSI)□ANSI 10.2 - Safety Code for Building Construction.
   2. American Society for Testing and Materials (ASTM)□ Materials and testing standards as identified throughout this Section or within referenced manufacturers' standard specifications.
   3. California Building Code (CBC)□California Green Building Standards Code (CALGreen), latest edition□ Title 24, Part 11.
   4. California Department of Resources Recycling and Recovery (CalRecycle)□
      a. General□ Sustainable Building Guidelines.
      b. Recycling and Recovery□ Construction and Demolition Debris Recycling guidelines.
   5. California Occupational Safety and Health Administration (CalOSHA)□ Construction Safety Orders□ 29 CFR, PART 1926 Safety and Health Regulations for Construction.
   6. Construction & Demolition Recycling Association (CDRA)□Standards and guidelines.
   7. Regulatory Requirements□Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 3 - E□ECUTION

3.1 PREPARATION

A. General□ Review Waste Management Plan procedures and identify locations established for salvage, recycling, and disposal. Designate and label specific areas on the site for separating materials to be salvaged, recycled, reused, donated, and sold.

3.2 IMPLEMENTATION

A. City of Pittsburg Construction & Demolition (C&D) Recycling and Waste Management requires at least 65□ job-site waste materials diverted from the landfill.

B. For newly constructed buildings, demolition projects and all locally permitted additions and alterations to non-residential buildings or structures, Contractor shall submit the C&D Debris Waste Management Plan (WMP) showing diverting from landfills at least 65□ of the construction materials generated by the project.

C. Contractor may deliver all approved recycling materials such as wood, metal, plastics, concrete, roofing, cardboard, dirt, sheetrock, tires, appliances, mattresses, box springs, propane tanks, and electronic waste to Contra Costa Waste Service also known as Recycling Center & Transfer Station (RCTS), located at 1300 Loveridge Road, Pittsburg, California. All materials shall be weighed at the RCTS. For any material code of “CD” (Construction & Demolition Material Processing), 100□ diversion rate will be applied to receipts indicating the material code “CW” (Clean Wood), “CG” (Clean Green), or “CR” (Clean Roofing).

D. Recycled Materials□ Separate recyclable waste from other waste materials, trash, and debris. Provide properly marked containers or bins for controlling recyclable waste until they are removed from Project site. Store materials away from construction area, off the ground and protect from the weather□do not store within drip line of remaining trees. Transport recyclable waste off Owner's property to recycling receiver or processor.

E. Disposal□ Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas. Burning and burying of materials is not allowed.

F. Contractor shall submit the following WMP and Water Assessment table forms.

CITY OF PITTSBURG
65 Civic Avenue
Pittsburg, CA 94565

For City Use Only
Project No. _____
Date _____ Fee $ _____
Deposit Amount $ _____
☐ Approved WMP
☐ Approved Infeasibility Exemption
☐ Denied _____
☐ Further information required
_____
Staff Initials _____

CONSTRUCTION AND DEMOLITION DEBRIS WASTE MANAGEMENT PLAN (WMP)

The City of Pittsburg C&D Recycling and Waste Management requirement states that at least 75% diversion of job-site waste materials from the landfill. In order to process the application request, the following form must be completed, signed and submitted with an application fee.

☐ WMP Application Approval Request ☐ WMP Infeasibility Exemption Request

Property Owner Name/Ph.# _____
Job-site Address: _____
Contractor/Project Manager: _____
Address: _____
Phone Number: _____
Cellular Phone Number: _____
Fax Number: _____

_____
Property Owner's Signature / Date

_____
Contractor/Project Manager's Signature / Date

1. Briefly state how materials will be sorted for recycling and/or salvage on the job site. *See Waste Assessment Table on back page.* Attach additional pages if necessary. *If no materials are targeted for recycling or salvage, please state why.

2. Will this project require the use of sub-contractors? ☐ Yes ☐ No If yes, briefly state how you plan to inform and ensure participation by the sub-contractors of your job-site recycling and waste management responsibility.

Complete Other Side →

WASTE ASSESSMENT TABLE

I. BEFORE START OF PROJECT: Identify the type of materials to be recycled, salvaged or disposed from the job-site in **Section I** of the Waste Assessment table. Identify the handling procedure, hauler and/or destination of each material type.

II. UPON COMPLETION OF PROJECT: **Section II** is to be filled out with supporting documentation upon completion of project. Indicate the material **types and quantities** recycled, salvaged or disposed from this job-site. Official weight tags must be submitted with this completed report identifying 1) job site address, 2) weight of load(s), 3) material type(s) and 4) if materials were recycled, salvaged or disposed.

Material Type ↓	Section I Identify materials (✓)			Handling procedure, hauler or final destination of materials* (See #1)	Section II Quantity of each material (lbs)			City Use Only Acceptable weight tag(s) (staff initials)
	Recycle	Salvage	Landfill		Recycled	Salvaged	Landfilled	
Asphalt & Concrete								
Brick, Tile								
Building materials-doors, windows, fixtures, cabinets								
Cardboard								
Dirt/Clean Fill								
Drywall								
Carpet padding/ Foam								
Plate/window Glass								
Scrap Metals (steel, aluminum, brass, copper, etc.)								
Unpainted Wood & Pallets								
Yard Trimmings (brush, trees, stumps, etc.)								
Other:								
Garbage								
TOTALS								% Recycled

FOR CITY USE ONLY – PROJECT COMPLETION ***(version 11-08)***

☐ Full Compliance ☐ Good Faith Effort to Comply ☐ Non-Compliance

Return of Deposit ☐ Yes ☐ No Amount $_____

_____

Staff Signature / Date

END OF SECTION 01 74 19

SECTION 01 77 00 – CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes contract closeout procedures including:
   1. Removal of temporary construction facilities
   2. Substantial completion
   3. Final completion
   4. Final cleaning
   5. Miscellaneous Project Record Submittals
   6. Release of claims

1.2 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.

B. Clean and repair damage caused by installation or use of temporary facilities.

C. Restore permanent facilities used during construction to specified condition.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
   1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
   2. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
   3. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

B. Advise the Project Manager of pending insurance changeover requirements.

C. Submit warranty bonds, final certifications, and similar documents.

D. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

E. Submit record drawings in PDF or hard copies in addition to CAD files, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.

F. Deliver tools, spare parts, extra stock, and similar items.

G. Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.

H. Complete startup testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.

I. Complete final cleanup requirements, including touchup painting.

. Touch up and otherwise repair and restore marred, exposed finishes.

. Inspection Procedures On receipt of a request for inspection, the Project Manager will either proceed with inspection or advise the Contractor of unfilled requirements. The Project Manager will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

L. The Project Manager will repeat inspection when requested and assured that the Work is substantially complete.

M. Results of the completed inspection will form the basis of requirements for final acceptance.

1.4 FINAL COMPLETION

A. Preliminary Procedures Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

B. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.

C. Submit an updated final statement, accounting for final additional changes to the Contract Sum.

D. Submit a certified copy of the Project Manager’s final inspection list of items to be completed or corrected, endorsed and dated by the Project Manager. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Project Manager.

E. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.

F. Submit consent of surety to final payment.

G. Submit a final liquidated damages settlement statement.

H. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

I. Re-inspection Procedure The Project Manager will re-inspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Project Manager.
   1. pon completion of re-inspection, the Project Manager will prepare a certificate of final acceptance. If the Work is incomplete, the Project Manager will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
   2. If necessary, re-inspection will be repeated.

. Maintenance Manuals Organize operation and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual, heavy-duty, 2-inch 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Provide two (2) paper copies and a PDF. Mark appropriate identification on front and spine of each binder. Include the following types of information
   1. Emergency instructions.
   2. Spare parts list.
   3. Copies of warranties.
   4. Wiring diagrams.
   5. Recommended "turn-around" cycles.
   6. Inspection procedures.
   7. Shop Drawings and Product Data.
   8. Fixture lamping schedule.

1.5 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Clean interior and exterior surfaces exposed to view remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.

D. Employ skilled workers for final cleaning.

E. Clean Site□mechanically sweep paved areas.

F. Remove waste and surplus materials, rubbish, and construction facilities from Site.

1.6 MISCELLANEO□S PRO□ECT RECORD S□BMITTALS

A. Refer to Technical Specifications or other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Project Manager for City's records.

1.7 RELEASE OF CLAIMS

A. Contract will not be closed out and final payment will not be made, subject to provisions of Section 7100 Public Contract Code until all pertinent aspects of Division 00 - General Conditions regarding undisputed/settled amounts are completed per requirements elsewhere in the Technical Specifications and/or Specifications and executed by Contractor and City.

B. Contractor shall submit the following Agreement and Release of Any and All Claims Form.

CITY OF PITTSBURG
65 Civic Avenue
Pittsburg, CA 94565

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

This Agreement and Release of Claims ("Agreement and Release"), made and entered into this _____ day of _____, 20_____, by and between the City of Pittsburg ("City"), and _____ ("Contractor"), whose place of business is at _____.

RECITALS

1. City and Contractor entered into Contract No. _____ in the City of Pittsburg, County of Contra Costa, State of California.

2. The Work under Contract No. _____ has been completed.

Now, therefore, it is mutually agreed between City and Contractor as follows:

AGREEMENT

3. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	$ _____
Modified Contract Sum	$ _____
Payment to Date	$ _____
Liquidated Damages	$ _____
Payment Due Contractor	$ _____

4. Subject to the provisions of this Agreement and Release, City shall forthwith pay to Contractor the sum of $_____ Dollars and _____ Cents under Contract No. _____, less any amounts withheld under the Contract or represented by any "Stop Notice" on file with City as of the date of such payment.

5. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against City arising from the performance of work under Contract No. _____. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against , City of Pittsburg, and all their respective directors, agents, officers, volunteers, consultants (including, but not limited to, Project Construction Manager and Architect/Engineer), employees, inspectors, assignees and transferees except for the Disputed Claims set forth in Paragraph 6, and continuing obligations described in Paragraph 8, below.

CITY OF PITTSBURG
65 Civic Avenue
Pittsburg, CA 94565

6. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

Claim No.	Date Submitted	Description of Claim	Amount of Claim

7. Consistent with California Public Contract Code, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 4, above, Contractor hereby releases and forever discharges City, all its respective directors, agents, officers, volunteers, employees, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the work under the Contract.

8. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.

9. Contractor shall immediately defend, indemnify and hold harmless City of Pittsburg, and all its respective directors, agents, officers, volunteers, consultants, employees, inspectors, assignees and transferees from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of Contract No._____, except for the Disputed Claims set forth in Paragraph 6, above.

10. Contractor hereby waives the provisions of California Civil Code, Section 1542, which provides as follows:

> A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him, must have materially affected his settlement with the debtor.

11. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, city, municipal or other law, ruling or regulations, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

12. All rights of City shall survive completion of the Work or termination of Contract, and execution of this Release.

CITY OF PITTSBURG
65 Civic Avenue
Pittsburg, CA 94565

* * * CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING * * *

CITY OF PITTSBURG CONTRACTOR

BY:_____ BY:_____

Date:_____ Date:_____

END OF SECTION 01 77 00

SECTION 01 78 00 – CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes contract closeout submittals including:
   1. Project record documents
   2. Project guarantee
   3. Warranties

1.2 PROJECT RECORD DOCUMENTS

A. Project Record Documents required include:
   1. Marked-up copies of Contract Drawings
   2. Marked-up copies of Shop Drawings
   3. Project Record Drawings
   4. Marked-up copies of Technical Specifications, Specifications, Addenda and Change Orders
   5. Marked-up Project Data submittals
   6. Record Samples
   7. Field records for variable and concealed conditions
   8. Record information on Work that is recorded only schematically
   9. GPS As-built Survey
   10. Warranty Bonds

B. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 48 (when provided).

C. General Project closeout requirements are included in Section 01 77 00 - Closeout Requirements.

D. Maintenance of Documents and Samples:
   1. Store Project Record Documents and samples in the field office apart from Contract Documents used for construction.
   2. Do not permit Project Record Documents to be used for construction purposes.
   3. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.
   4. Make documents and samples available at all times for inspection by Architect and Project Manager.

E. City will provide one set of reproducibles and one set of the construction drawing prints and one project manual for the Contractor's use and copying during construction.

F. Mark-up Procedure During the construction period, maintain a set of Contract Drawings and Shop Drawings for Project Record Document purposes.
   1. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements which would be difficult to identify or measure and record later. Items required to be marked include but are not limited to
      a. Dimensional changes to the Drawings
      b. Revisions to details shown on the Drawings
      c. Depths of foundations below the first floor
      d. Locations and depths of underground utilities
      e. Revisions to routing of piping and conduits
      f. Revisions to electrical circuitry
      g. Actual equipment locations
      h. Duct size and routing
      i. Locations of concealed internal utilities
      j. Changes made by Change Order
      k. Details not on original Contract Drawings
   2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
   3. Mark Project Record Drawing sets with red ink use other colors to distinguish between changes for different categories of the Work at the same location.
   4. Mark important additional information which was either shown schematically or omitted from original Drawings.
   5. Note construction change directive numbers alternate numbers Change Order numbers and similar identification.
   6. Responsibility for Mark-up Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
      a. Accurately record information in an understandable and legible drawing technique.
      b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.

G. Preparation of Transparencies Prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with the Project Manager. When authorized, prepare a full set of correct reproductables of Contract Drawings and Shop Drawings.

1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing□ include the printed designation "PRO□ECT RECORD DRAWINGS" in a prominent location on each Drawing.
2. Refer instances of uncertainty to the Project Manager for resolution.
3. Review of Reproducible□ Before copying and distributing, submit corrected reproducibles and the original marked-up prints to the Project Manager for review. When acceptable, the Project Manager will initial and date each transparency, indicating acceptance of general scope of changes and additional information recorded, and of the quality of drafting.
    a. Reproducibles and the original marked-up prints will be returned to the Contractor for organizing into sets, printing, binding, and final submittal.
4. Copies and Distribution□ After completing the preparation of reproducible Project Record Drawings, print one hard copy and a PDF of each Drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets. Bind each set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.
    a. Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.
    b. Organize Project Record Drawings reproducibles into sets matching the print sets. Place these sets in durable tube-type drawing containers with end caps.

H. Distribution of Marked-□p Drawings and Transparencies□Submit the marked-up Project Record Drawings sets, reproducibles, and one copy to the Project Manager for City's records.

I. Project Record Technical Specifications and Specifications□
1. During the construction period, maintain one copy of the Project Manual, including addenda and modifications issued, for Project Record Document purposes.
2. Mark the Project Record Manual to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installation that would be difficult to identify or measure and record later.
    a. In each Technical Specifications and Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
    b. Record the name of the manufacturer, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.

c. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.

3. □pon completion of mark-up, submit Project Record Manual to the Project Manager for City's records.

□. Project Record Product Data□

1. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.
   a. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
   b. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   c. Note related Change Orders and mark-ups of Project Record Drawings, where applicable.
   d. □pon completion of mark-up, submit a complete set of Project Record Product Data to the Project Manager for City's records.
   e. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.

□. Material, Equipment and Finish Data□

1. Provide data for primary materials, equipment and finishes as required under each Technical Specifications/Specification section.
2. Submit one set prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers and a PDF□provide typewritten table of contents for each volume.
3. Arrange by Technical Specifications/Specification division and give names, addresses, and telephone numbers of subcontractors and suppliers. List□
   a. Trade names.
   b. Model or type numbers.
   c. Assembly diagrams.
   d. Operating instructions.
   e. Cleaning instructions.
   f. Maintenance instructions.
   g. Recommended spare parts.
   h. Product data.

L. Miscellaneous Project Record Submittals□

1. Refer to other Technical Specifications/Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial

Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Project Manager for City's records. Field records documenting elevations and locations of completed improvements shall require Contractor-retained State of California Licensed surveyor's certification stamp. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:

a. Field records on excavations and foundations
b. Field records on underground construction and similar work
c. Survey showing locations and elevations of underground lines
d. Invert elevations of drainage piping
e. Surveys establishing building lines and levels
f. Authorized measurements utilizing unit prices or allowances
g. Records of plant treatment
h. Ambient and substrate condition tests
i. Certifications received in lieu of labels on bulk products
j. Batch mixing and bulk delivery records
k. Testing and qualification of tradespersons
l. Documented qualification of installation firms
m. Load and performance testing
n. Inspections and certifications by governing authorities
o. Leakage and water-penetration tests
p. Fire resistance and flame spread test results
q. Final inspection and correction procedures

M. GPS As-built Survey: Refer to Section 01 71 23 - Construction Surveying for As-Built GPS Survey.

N. Periodic Review:
1. Make additions to the Project Record Documents as they occur.
2. Make the Project Record Documents available to the Project Manager for periodic review. The Project Manager's review of the current status of Project Record Documents is a requisite to approval of requests for progress payment.
3. Prior to submitting each request for progress payment, secure the Project manager's approval of the current status of the Project Record Documents.
4. Prior to submitting request for final Payment, submit the final Project Record Documents to the Project Manager for approval.

O. Submittal: At the completion of Project, deliver record documents to Project Manager.

1.3 PROJECT GUARANTEE

A. Requirements for Contractor's guarantee of completed Work are included in Division 00 - General Conditions. Contractor shall guarantee Work done under Contract against failures, leaks or breaks or other unsatisfactory conditions due to

defective equipment, materials or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of one year, unless otherwise subject to any special warranty periods of longer duration, from date of Final Acceptance.

B. Neither recordation of final acceptance nor final certificate for payment nor provision of the Contract nor partial or entire use or occupancy of premises by City shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.

C. City may make repairs to defective Work as set forth in paragraph 10.C.3 of Division 00 - General Conditions, if, within five (5) working days after mailing of written notice of defective work to Contractor or authorized agent, Contractor shall neglect to make or undertake repair with due diligence provided, however, that in case of leak or emergency where, in opinion of City, delay would cause hazard to health or serious loss or damage, repairs may be made without notice being sent to Contractor, and Contractor shall pay cost thereof.

D. If, after installation, operation or use of materials or equipment to be furnished under Contract proves to be unsatisfactory to Project Manager, City shall have right to operate and use materials or equipment until it can, without damage to City, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.

E. Nothing in this Section shall be construed to limit, relieve or release Contractor's, subcontractors' and equipment suppliers' liability to City for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees or subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by City of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this State pertaining to acts of negligence.

1.4 WARRANTIES

A. Execute Contractor's submittals and assemble warranty documents executed or supplied by subcontractors, suppliers, and manufacturers.
   1. Provide table of contents and assemble in 8-1/2 inches by 11 inches three-ring binder with durable plastic cover.
   2. Assemble in Technical Specifications/Specification Section order.
   3. Submit material prior to final application for payment.
   4. For equipment put into use with City's permission during construction, submit within ten (10) working days after first operation.

5. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) working days after acceptance, listing date of acceptance as start of warranty period.
6. Warranties are intended to protect City against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.
7. Limitations Warranties are not intended to cover failures which result from the following
   a. nusual or abnormal phenomena of the elements
   b. Vandalism after substantial completion
   c. Insurrection or acts of aggression including war.

B. Related Damages and Losses Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.

C. Warranty Reinstatement After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than ninety (90) days after corrected Work was done, whichever is later.

D. Replacement Cost Replace or restore failing warranted items without regard to anticipated useful service lives.

E. Warranty Forms Submit drafts to Project Manager for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.

F. Warranty shall be countersigned by manufacturers.

G. Where specified, warranty shall be countersigned by subcontractors and installers.

H. Rejection of Warranties City reserves right to reject unsolicited and coincidental product warranties which detract from or confuse requirements or interpretations of Contract Documents.

I. Term of Warranties For materials, equipment, systems and workmanship warranty period shall be one-year minimum from date of final completion of entire Work except where
   1. Detailed specifications for certain materials, equipment or systems require longer warranty periods.
   2. Materials, equipment or systems are put into beneficial use of City prior to Final Completion as agreed to in writing by Project Manager.

. Warranty of Title No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees

upon completion of all work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to City free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this Paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of City.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

NOT □SED

END OF SECTION 01 78 00

SECTION 02 21 13 – SURVE MONUMENTS

PART 1 - GENERAL

1.1 SMMARY

A. Section Includes furnish and install Cast-in-place Portland Cement Survey Monuments and all appurtenant work.

B. Related Requirements

1. Section 03 30 00 – tility Cast-in-place Concrete
2. Section 31 23 16 – tility Trenching

1.2 NIT PRICE - MEASREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures Contract Sum/Price modification procedures.

B. Survey Monuments
1. Basis of Measurement Measured on a per unit basis.
2. Basis of Payment Includes concrete, placement accessories, consolidating, leveling, troweling, and curing.

1.3 REFERENCE STANDARDS

A. ASTM International

1. ASTM A48 – Specifications for Gray Iron Castings

B. Caltrans Standard Specifications
1. Section 55 – Steel Structures
2. Section 78-2 – Survey Monuments

1.4 COORDINATION

A. Coordinate placement of concrete formwork and placement of form accessories.

1.5 SBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data□Submit data on bronze survey markers, frame and covers.

1.6 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

PART 2 - PRODUCTS

2.1 FRAME AND COVER

A. Monument frame and cover shall be gray iron castings conforming to ASTM A48, Class 30B, designed for a 15,000 lb. wheel load. Monument cover shall be marked “Monument”. Cover shall be non-rocking and will fit in its frame.

B. Monument Frame and Cover shall be Chrisp Company Casting Part No.9279 or 9277M, Phoenix Iron Works 2501or approved equal.

2.2 BRON□E S□RVEY MAR□ER

A. Bronze survey marker shall be 2-1/2 inch domes disk with stem and appropriate survey information as specified on the Drawings.

B. Brass Survey markers are not acceptable unless they are lead-free.

2.3 FORMING T□BE

A. Tubes for forming Portland cement concrete collar and monument shall be non-metallic type of the size and dimensions shown on the Drawings.

2.4 PORTLAND CEMENT CONCRETE

A. Portland Cement Concrete for collars and footings shall conform with Section 03 30 00 – □tility Cast-in Place Concrete.

2.5 HOT MIX ASPHALT

A. Hot Mix Asphalt concrete around monuments shall be in conformance with Section 32 12 16 – Asphalt Paving.

PART 3 - E□ECUTION

3.1 GENERAL

A. Section 01 70 00 - Execution□Requirements for installation examination.

B. Monuments shall not be installed until the asphalt paving has been completed.

C. Concrete, form tube, bronze survey marker, frame and cover, and asphalt paving shall be installed as shown on the Drawings.

D. Cast the monuments in place in neat holes using forming tubes.

E. Thoroughly consolidate the concrete and cure it by the water method per Section 90-1.03B (2) Water Method of State Standard Specifications.

F. Locate the monument such that the point being referenced falls within 1/2-inch from the center of the disk when the disk is placed in the center of the monument.

G. Place the survey marker disk before the concrete reaches its initial set. Firmly embed the disk in the concrete.

H. If base and surfacing are not shown around a monument, fill any space around it with earth. Water and tamp the earth into place.

I. Surplus excavated material shall become the property of the Contractor and the Contractor shall be responsible for disposal of excess excavated material.

□. The Concrete collar shall be circular – 8 inches in diameter around the frame and cover and shall be covered with a minimum of two (2) inches of asphalt concrete paving to level with the adjacent surfacing.

3.2 EXISTING MON□MENT PROTECTION

A. All existing survey monuments and benchmarks shall be protected, unless otherwise shown on the Drawings. □pon discovery of a survey monument not identified and located by the City, immediately□
   1. Stop work near the monument
   2. Notify the Project Manager

B. Do not resume work near the monument until authorized by the Project Manager.

C. Monuments placed by Surveyors must be preserved, in accordance with State Business & Professions Code section 8771.

D. The Contractor shall exercise caution when working around monuments so as not to disturb them. During milling, grinding, excavation or other operations, the

Contractor shall work around survey monuments unless specifically otherwise indicated on the Plans. If a monument is disturbed or damaged during adjusting, milling or other operations, the Contractor shall be responsible for all costs associated with the reestablishment of the monument including but not limited to surveying performed by a Licensed Surveyor and filing documents with County and constructing the new monument.

E. The existing monument consisting of a concrete core and brass tack, nail or other marking device located inside of a survey monument cover with frame, shall not be disturbed until the contractor's Licensed Land Surveyor has established of reference points to preserve the location of the monument, in accordance with State Business & Professions Code section 8771.

F. Any survey monument disturbed shall be replaced in accordance with the State Business & Professions Code section 8771 and Contra Costa County Standard Drawings CA40. The Contractor shall be responsible for all costs associated with the reestablishment of the monument including but not limited to surveying performed by a Licensed Surveyor and filing documents with County and constructing the new monument.

G. Contractor shall prepare corner record, submit corner record to the County Surveyors and submit acceptance of monument to the Project Manager.

3.3 CONCRETE PROTECTION

A. The Contractor shall protect all concrete against injury until final acceptance by the City.

END OF SECTION 02 21 13

SECTION 02 32 19 – E□PLORATOR□ E□CAVATIONS

PART 1 - GENERAL

1.1 S□MMARY

A. Section Includes□ Exploratory excavation by potholing at all utility conflicts including the locations identified on the plans to determine the location, depth, width, pipe diameter or concrete ductbank thickness, type and condition of existing underground utilities.

1.2 REFERENCES

A. Cal/OSHA – California Division of Occupation Safety and Health

B. Caltrans Standard Specifications
   1. Section 15 – Existing Facilities
   2. Section 19 - Earthwork

C. □nderground Services Alert (□SA)

1.3 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Submittal Data□

   1. Contractor shall contact □SA to verify the actual location of the pothole prior to beginning pothole. Submit letters or correspondences of advance notifications to the utility companies as listed below in Part 3.

   2. Contractor shall apply and pay for all permits connected with the Work.

   3. Contractor shall submit temporary traffic control plan for City's approval prior to beginning any exploratory excavation.

   4. Contractor shall submit potholing methodology.

   5. Contractor shall submit photographs in jpeg or PDF format of the pothole locations with the pothole number identified on the photograph as designated below.

   6. Pothole data shall also include the thickness of asphalt concrete/Portland cement concrete pavement and aggregate base.

7. At a minimum, pothole data shall be submitted in a tabular format. See sample potholing submittal format below□

#	Utility	Pipe diameter (inch)	Concrete ductban□ Width x Depth	Depth to top of pipe or concrete ductban□	Material	AC/AB Depth (inch)	Northing or Distance from fixed object A	Easting or Distance from fixed object B
PH#1	Water	12	-	3'-6"	PVC	4/8	15 ft from FH	12 ft from SSMH
PH#2	Telecom Duct	-	2 ft x 3 ft	4'-2"	Concrete Ductbank	6/10	22 ft from SDMH	40 ft from WV

1.4 MEAS□REMENT & PAYMENT

A. Measurement□ For measurement of Exploratory excavations (potholing) performed by the Contractor, an exploratory excavation (potholing) will be counted as complete when the intended pipe is exposed, measured, the data has been submitted in the tabular format as specified above, reviewed and approved by the Project Manager, the pothole is backfilled and the surface restoration including any striping is restored. Empty potholes will not be counted as complete.

B. Payment□The Contract unit price paid for Exploratory Excavations (potholing) shall include full compensation for furnishing all labor, tools, equipment's, incidentals for exploratory excavations by potholing to verify the location, depth, diameter, material and thickness of the existing underground utility, including contacting □SA, utility companies, permits, traffic control, compliance with Cal/OSHA, saw cut, excavation, exposing the existing underground utility, measuring depths, diameter and distances as required, backfill, surface restoration, striping restoration, submitting the pothole data in a tabular format for review and approval by the Project Manager, as shown on the Drawings, as specified in the City Standard Specifications and as directed by the Project Manager.

C. Full compensation pay clause for furnishing all labor, tools, equipment's, incidentals for exploratory excavations by potholing for any utility conflicts not identified on the Drawings including exploratory excavations by potholing to verify the location, depth, diameter, material and thickness of the existing underground utility, including contacting □SA, utility companies, permits, traffic control, compliance with Cal/OSHA, saw cut, excavation, exposing the existing underground utility, measuring depths, diameter and distances as required, backfill, surface restoration, striping restoration, shall be considered as incidental

to the item most closely related to and no separate compensation will be allowed therefor.

PART 2 - PRODUCTS

NOT □SED

PART 3 - E□ECUTION

3.1 POTHOLING

A. Contractor shall be responsible for notifying the utility companies for any inspections prior to potholing.

B. Contractor shall be responsible for locating utilities and providing utility markings of the underground utilities prior to potholing.

C. Where gas distribution or gas transmission lines are present, Contractor shall have a PG&E representative present on site during potholing.

D. Contractor shall be responsible for contacting and notifying the utility companies three (3) working days prior to beginning any potholing. Contractor shall be responsible for coordinating any inspections with the respective utility company.

E. Two (2) weeks prior to any construction, potholing shall be performed at all utility conflicts and at all pothole locations shown on the Drawings in order to determine the location, depth, width, pipe diameter, thickness type and condition of existing underground utilities and shall conform to the Technical Specifications.

F. Potholing will be a separate move-in from the underground utility trenching and will be separate from the trenching operations□Exploratory excavations shall be performed with potholing equipment. Potholing as part of the trenching operations is not an acceptable method. Potholing will be shown as a separate line item in the project construction schedule.

G. The methods such as vacuum potholing and other excavation methods used by the Contractor for potholing shall be approved by the Project Manager in advance of commencing any work, along with the required traffic controls.

H. After the completion of the □SA markings, but before the actual potholing, Contractor will host a field meeting with the City to review the locations of the potholes which will be painted in the field. During the meeting, the Project Manager may relocate the potholes based on the field conditions. The Contractor's price bid will include allowance for moving the locations of the

potholes during the pre-pothole site meeting. No guarantee is made as to the exact locations of the existing utilities.

I. The Contractor shall provide the Project Manager in a tabular format the location, type, depth, diameter and condition of each utility found prior to commencing construction. The potholing table shall include a neatly redlined plan. No trenching work shall be performed until the Project Manager reviews the potholing information submitted by the Contractor.

. Contractor shall provide the potholing information to the Project Manager and allow one (1) week for any necessary revisions to the design plan and profiles prior to sawcutting and trenching of the proposed pipe alignment or as shown on the Drawings.

. The Contractor shall take care not to damage any existing facilities during potholing. Existing facilities damaged by the Contractor's operations shall be repaired or replaced to the satisfaction of the City Engineer and tility companies, all at the Contractor's expense.

L. Backfill with Controlled Low Strength Materials (CLSM) and complete surface restoration to match existing conditions in kind.

M. When pothole locations are located in concrete pavement, Contractor shall remove and replace concrete pavement and base from the nearest joint to joint to match the existing concrete pavement thickness.

END OF SECTION 02 32 19

SECTION 02 41 00 - DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes but not limited to:
   1. Demolition & Permits
   2. Removal and Disposal
   3. Recycling & Salvaging

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Demolition:

   1. Basis of Measurement: Not a measured item, unless specified otherwise on the Drawings.
   2. Basis of Payment: The Contract lump sum price paid for “Demolition” shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all work involved in Demolition, including obtaining demolition permits, permit fees, sawcut, remove asphalt and concrete paving and base to design subgrade, remove foundation and base, terminating and removing utilities to be demolished and other items of work as specified in the plans, Standard Specification and the Technical Specifications, and as directed by the Project Manager.

1.3 REFERENCES & RELATED WORK SPECIFIED ELSWHERE

A. Bay Area Air Quality Management District (BAAQMD) – http://www.baaqmd.gov/
   1. Regulation 11 (Hazardous Pollutants) and Rule 2 (Asbestos Demolition, Renovation, and Manufacturing).

B. CALGreen Construction Waste Management Requirements
   1. https://www.calrecycle.ca.gov/lgcentral/library/canddmodel/instruction/newstructures

C. California Occupational Safety and Health (Cal/OSHA)
   1. General Requirements

D. Commercial
   1. USA Underground Service Alert

E. Division 1
   1. General Requirements

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. The Contractor shall submit to the City a haul route for approval, prior to commencing any work. Truck traffic movement is limited between the hours of 9am to 3pm, unless approved by the Project Manager.

C. Before disposing of any demolished material prior to any work
   1. Submit a written agreement from the property owner
      a. For the use of the property
      b. absolving the City from responsibility in connection with the property.
   2. Obtain authorization to start

D. Before Contract acceptance, submit a document signed by the owner of the material disposal site stating that the Contractor has complied with the Contractor-Owner agreement.

E. Demolition Schedule: The Contractor shall submit a complete coordination schedule for demolition work including shut-off and continuation of utility services prior to start of the work. The schedule shall indicate proposed methods and operations of facility demolition, and provide a detailed sequence of demolition and removal work to ensure uninterrupted operation of occupied areas.

F. All affected private properties will receive door hanger notices two (2) weeks prior to any utility shutoffs or frontage demolition and improvements.

1.5 JOB SITE CONDITIONS

A. The Contractor shall visit the site and inspect the existing facilities. The City assumes no responsibility for actual condition of facilities to be demolished.

B. Contractor shall use all means necessary to prevent the spread of dust during performance of the work. Thoroughly moisten all surfaces as required to prevent the generation of dust. No washing of streets is permitted.

C. All liquid, and slurry generated during pavement sawcutting shall be collected and removed from the site. These liquids shall not be washed into the area storm drainage system.

D. Contractor shall remove hazardous materials as described per the Project Asbestos and Lead Inspection Report.

E. The Contractor prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable Asbestos Containing Materials (ACM).

F. The Contractor must also provide the Environmental Protection Agency (EPA) with a 10 working day advance notice for any disturbance of Regulated Asbestos-Containing Material (RACM) greater than 160 square feet or 260 lineal feet, and as specified in Code of Federal Regulations (CFR) Title 40, Chapter I, Subchapter C, Part 61, Subpart M, Section 61.145.

1.6 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements Requirements for transporting, handling, storing, and protecting products.

PART 2 - PRODUCTS

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PART 3 - EECUTION

3.1 INSTALLATION

A. Notify anyone to be affected by demolition and construction activities including but not limited to all schools, residences, businesses, garbage collection (Pittsburg Disposal Service-a Garaventa company), utility companies (PG&E-Gas Distribution, PG&E Gas Transmission, PG&E-Electric, AT&T, Comcast, Verizon, Chevron Pipeline Co, Shell Pipeline Co, inder Morgan, Calpine etc.), Delta Diablo (Sewer District), BART, County Connection (bus transit agency), the Owner, etc. at least ten (10) working days prior to commencing the work of this section.

B. Site Inspection
   1. Prior to all work of this section, carefully inspect the site and all objects designated to be removed and to be preserved.
   2. Locate all existing active utility lines traversing the site and determine the requirements for their removal and/or protection.

C. Clarification
   1. The Drawings do not purport to show all objects existing on the site.
   2. Before commencing the work of this section, verify with the Owner all objects to be removed and all objects to be preserved

D. Scheduling
   1. Schedule all work in a careful manner with all necessary consideration for neighbors, operation of the existing facilities, and the public.
   2. Avoid interference with the use of, and passage to and from, residences and adjacent facilities.

E. Protection of □tilities□Preserve in operating condition all active utilities traversing the site and designated to remain.

3.2 WATER POLL□TION CONTROL

A. Water sprinkling, temporary enclosures, chutes and other suitable methods shall be used to limit dust and dirt rising and scattering in the air. The Contractor shall comply with all government regulations pertaining to environmental protection.

B. The Contractor shall use equipment that will generate the least amount of dust. The Contractor shall provide dust control at all times including Saturdays, Sundays, and holidays unless directed otherwise by the Project Manager.

C. Whenever the Contractor, in the opinion of the Project Manager, is negligent in controlling dust, the Project Manager may direct attention to the existence of a dust hazard and instruct the Contractor to immediately alleviate the dust hazard. The Contractor shall be responsible for any damage cause by dust generated as a result of the Contractor's operations.

D. The Contractor shall have a commercial standard street vacuum/sweeper operational and in operation during each working day. The street vacuum/sweeper shall be able to pick up sand, gravel, dust, and debris, and other things, shall minimize dust generation, and shall also be available during the day and shall sweep as outlined below and as directed by the Project Manager.

E. If the Contractor is performing work that generates dust and debris then during the day (including weekends and holidays) the sweeper shall sweep the project area (full length, width, and all lanes) twice a day sometime between 9□00a.m. and 11□00a.m. and also between 2□00p.m. and 4□00p.m. Hardscape surfaces (including pavers, sidewalks, and areas inaccessible by a mechanical sweeper) shall have dirt, dust, and debris removed by hand sweeping. If the Contractor fails to fulfill the responsibilities of this section, the City will perform or contract with others to perform the work and all costs incurred to the City shall be withheld from future payments to the Contractor.

F. The Contractor shall clean the sidewalk and gutter as many times as needed to make sure the sidewalk and gutter are out of dirt, debris and small rocks at all times. The Contractor shall be prepared to sweep surfaces immediately at the request of the Project Manager, should the Project Manager deem it necessary for public safety and to avoid damage to properties. If streets are not satisfactorily cleaned within 12 hours from verbal or written notice by City personnel, the City will hire an independent sweeping company and deduct the cost for such work from payments due to the Contractor.

G. Water shall not be used in a manner that creates hazardous or objectionable conditions such as ice, flooding, or pollution.

H. The site shall be kept neat and orderly during the demolition to the maximum extent practical.

I. Public right-of-way and private property shall be kept free of debris at all times.

. Stockpiles of demolished items or materials shall be removed from the site on a daily basis or stored in waste containers which shall be emptied on a weekly basis or as conditions require in order to manage the accumulation of waste.

. Accumulations of flammable materials shall not be permitted.

3.3 PROTECTION

A. Safe passage of persons around area of demolition shall be provided in accordance with all safety and regulatory requirements. Operations shall be conducted to prevent damage to adjacent buildings, structures, other facilities, people and property. Safe passage provided by Contractor will be ADA complaint.

B. Interior and exterior shoring, bracing, or supports shall be provided to prevent movement, settlement or collapse of structures to be demolished and to adjacent facilities to remain.

C. Existing landscaping materials, structures, and appurtenances which are not to be demolished shall be protected and maintained as necessary.

D. The Contractor shall protect and maintain conduits, drains, sewers, pipes and wires that are not to be demolished.

E. se all means necessary to protect existing objects designated to remain or to be preserved must remain operational during installation of the replacement pipeline. In the event of damage, immediately notify the Owner and make all repairs and replacements necessary for approval by the Owner at no additional cost to the Owner.

3.4 S RFACE DEMOLITION

A. All asphalt concrete and all Portland cement concrete curbs, gutters, sidewalks, access ramps and driveways shall be saw-cut at the nearest scoreline or deep joint and removed entirely to the saw-cut limits.

B. Where adjacent pavement or concrete is broken or damaged sufficiently to prohibit a sound replacement the entire damaged section shall be removed to the limits determined by the Project Manager.

C. Asphalt concrete, sidewalk, concrete curb, and gutter materials to be demolished shall be broken up and removed from the site by the Contractor at no additional cost to the City.

D. Where shown on the Drawings, the Contractor shall remove required pavement section including base material. Subsoil removal is also included where required to achieve design subgrade.

3.5 DEMOLITION BELOW THE S□RFACE

A. Existing structures, pavement slabs and structural sections to be abandoned shall be demolished to an elevation three feet below finished grade. Their bottoms (if any remain) shall be broken thoroughly to prevent entrapment of water and all voids backfilled with suitable backfill

B. Demolition areas and voids resulting from demolition of structures below the surface shall be completely filled.

C. All fill, compaction, and holes created by demolition work shall be backfilled with imported clean fill. Lay fill down in layers not exceeding 6” thickness and compact per the earthwork specifications. Grade the site to drain to the nearest storm drainage system without any low points.

D. All fill and compaction surfaces shall be graded to meet adjacent contours and to provide flow to surface drainage structures, or as shown on the Drawings.

E. Pipes to be demolished that require no future connection shall be removed to the extent required, sealed and capped. Pipe sections shall be removed either by sawcutting, removing a complete pipe section to an existing joint, or other adequate means which results in a clean joint.

F. The Contractor shall demolish or dismantle and remove all items that are noted for demolition and removal in the Contract Documents and that will interfere with the planned construction, or as otherwise directed by the Project Manager.

G. The Contractor shall demolish or dismantle and remove all abandoned conduits or structures that are encountered during the prosecution of the work and which interfere with the construction of the work upon the approval of the Project Manager.

3.6 REMOVAL OF EXISTING WATER AND SEWER-SERVICES

A. The Contractor shall submit to the City for approval a detailed sequence and method of work for staking, abandonment of existing sewer services, water services, water meters, boxes, and cleanouts. The submittal shall include an

overview and general sequence of work□time and dates for each removal□and method and procedure for each removal.

B. ABANDONMENT OF SEWERS□
1. Contractor shall request an encroachment permit with Delta Diablo (District) for abandoning any existing sanitary sewer lateral pipes.

C. ABANDONMENT OF WATER LINES□
1. For service lines less than 4" diameter□
   (a) Contractor shall pothole, cut out at the main, remove the corporation stop and saddle, and install a minimum 12" full circle 316 stainless steel repair clamp with 316 accessories around the pipe.
   (b) Abandon unused existing water service lines in place, if at least 18" below grade to the Project Manager's satisfaction.
2. Contact City Water Department in writing 48 hours in advance of abandonment, to check the condition of the existing services prior to abandonment.

D. GENERAL ABANDONMENT□
1. When salvage materials are shown on the Drawings□salvage and arrange the existing facilities (i.e., meters, manhole covers, manhole frames, etc.) to be dropped off at the City's Corporation Yard by prior arrangement.
2. Properly remove or abandon in place unused existing City utility service lines discovered that were left in place by others.
3. Contact utility companies for removal, abandonment, adjustment or relocation of their facilities.
4. Contractor is responsible for verifying the location of any existing utilities.
5. Abandonment of pipes will include filling pipe with slurry as specified in Section 19-3.02G – Controlled Low-Strength Material of the State Standard Specification and capping the pipes at the ends.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. See Section 01 74 19 – Construction Waste Management and Disposal for disposal, salvaging and recycling of demolished materials.

B. Demolition and removal of debris shall be conducted to ensure minimum interference with roads, streets, walks and other adjacent occupied or used facilities which shall not be closed or obstructed without permission from the City. Alternate routes shall be provided to circumvent closed or obstructed traffic ways.

C. The Contractor shall comply with all pertinent regulations of Cal/OSHA and local codes and practices.

D. All existing materials that are designated to be salvaged shall be removed, cleaned and hauled to the City Corporation Yard, unloaded and stockpiled unless otherwise directed by the Project Manager.

E. Site debris, rubbish and other materials resulting from demolition operations shall become the property of the Contractor and shall be removed by the Contractor at the Contractor's expense. The proper and legal disposal of demolished materials shall be the responsibility of the Contractor. All disposal sites and recycling facilities shall be approved by the City prior to initiation of the Work.
   1. Concrete debris shall be transported to a recycler of such materials.
   2. Hazardous materials shall be handled and disposed of in accordance with all applicable laws, codes, and regulations.

3.8 PATCHING AND REPAIRING

A. The Contractor shall provide patching, replacing, repairing and refinishing of damaged areas or damaged adjacent facilities involved in the demolition.

B. New concrete shall match the existing adjacent surfaces, in kind, or of better quality, to the satisfaction of the Project Manager, at no cost to the City or to the owners of the facilities.

3.9 CLEAN □P

A. During and upon completion of work the Contractor shall promptly remove unused tools and equipment, surplus materials, rubbish, debris and dust and shall leave areas affected by work in a clean, approved condition.

B. The Contractor shall clean adjacent structures and facilities of dust, dirt and debris caused by demolition, as directed by the Project Manager, and return adjacent areas to condition existing prior to start of work.

C. The Contractor shall clean and sweep daily all street and roads affected by its operation.

END OF SECTION 02 41 00

SECTION 03 30 00 – UTILIT CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SMMARY

A. Section Includes tility Cast-in-Place Concrete for Following Items
   1. Concrete pads around tility facilities
   2. Miscellaneous concrete footings for signs, street lighting, retaining walls, fence posts.
   3. Thrust blocks.
   4. Manhole Base.
   5. Concrete aprons around water valves and manholes
   6. Concrete Cap for shallow cover
   7. Retaining Walls
   8. Survey Monuments
   9. Electrical or Communications Duct Banks
   10. Drainage Inlets
   11. Concrete Headwalls

B. Related Requirements
   1. Section 31 23 16 – tility Trenching
   2. Section 33 05 13 - Manholes and Structures
   3. Section 33 12 13 - Water Service Connections
   4. Section 33 11 13 – Water Distribution Piping
   5. Section 33 12 16 - Water Distribution Valves
   6. Section 33 12 19 - Water Distribution Fire Hydrants
   7. Section 33 31 13 - Sanitary Sewer Piping
   8. Section 33 41 13 - Storm Drainage Piping

1.2 NIT PRICE - MEASREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures Contract Sum/Price modification procedures.

B. Concrete - Miscellaneous Locations
   1. Basis of Measurement
      a. Concrete Pads around tility Facilities Not a measured item and incidental to item most closely related to the utility facility. For example, concrete pad around backflow prevention assembly is incidental to the backflow prevention assembly.

b. Miscellaneous Concrete Footings□Not a measured item and incidental to item most closely related to the facility. For example, footings for signs is incidental to the Sign and footings for Street Light pole is incidental to the bid item for Street lights or Electrical work as listed on the bid form.
c. Thrust Block□Not a measured item and incidental to item most closely related to the water facility – bends or pipes as listed on the bid form
d. Manhole Base□Not a measure item and incidental to the unit price paid for manhole.
e. Concrete aprons around water valves and manholes□Not a measured item and incidental to the unit price paid for water valve or water main pipe and manhole respectively as shown on the bid form.
f. Concrete Cap for shallow pipe cover□By cubic foot.
g. Retaining Walls□By linear foot measured along the top of wall, height and depth as shown on plans, including foundation, reinforcing steel, drain rock, drain pipe, and geotextile if applicable.
h. Survey Monuments□By unit price.
i. Electrical or Communications Duct Banks□Not a measured item and incidental to the duct bank installation.
j. Drainage Inlets□By unit price.
k. Concrete Headwalls□By unit price.

2. Basis of Payment□ Includes concrete, placement accessories, consolidating, leveling, troweling, and curing.

1.3 REFERENCE STANDARDS

A. American Concrete Institute□

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 305R - Guide to Hot Weather Concreting.
3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
4. ACI 308.1 - Specification for Curing Concrete.
5. ACI 318 - Building Code Requirements for Structural Concrete.

B. ASTM International□

1. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
2. ASTM C33 - Standard Specification for Concrete Aggregates.
3. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
5. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
6. ASTM C143 - Standard Test Method for Slump of Hydraulic-Cement Concrete.

7. ASTM C150 - Standard Specification for Portland Cement.
8. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
9. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
10. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
11. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
12. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
13. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
14. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
15. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for □se in Concrete.
16. ASTM C685 - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
17. ASTM C845 - Standard Specification for Expansive Hydraulic Cement.
18. ASTM C989 - Standard Specification for Slag Cement for □se in Concrete and Mortars.
19. ASTM C1017 - Standard Specification for Chemical Admixtures for □se in Producing Flowing Concrete.
20. ASTM C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
21. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
22. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete.
23. ASTM C1157 - Standard Performance Specification for Hydraulic Cement.
24. ASTM C1218 - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
25. ASTM C1240 - Standard Specification for Silica Fume □sed in Cementitious Mixtures.
26. ASTM D994 - Standard Specification for Preformed Expansion □oint Filler for Concrete (Bituminous Type).
27. ASTM D1751 - Standard Specification for Preformed Expansion □oint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
28. ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion □oint Fillers for Concrete Paving and Structural Construction.
29. ASTM D6690 - Standard Specification for □oint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
30. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
31. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

32. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders □sed in Contact with Earth or Granular Fill □nder Concrete Slabs.
33. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders □sed in Contact with Soil or Granular Fill under Concrete Slabs.

C. California Department of Public Health□

1. Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources □sing Environmental Chambers, Version 1.1 (2010)

D. Caltrans Standard Specifications
1. Section 51 – Concrete Structures
2. Section 90 – Concrete

E. Bay Area Air □uality Management District□

1. BAA□MD Rule 8-51 - Adhesive and Sealant Applications.

1.4 COORDINATION

A. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

1.5 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□Submit data on mix design, joint devices, attachment accessories, and admixtures.

C. Design Data□

1. Submit concrete mix design for each concrete strength.
2. Submit separate mix designs if admixtures are required for following□

a. Hot and cold weather concrete Work.
b. Air entrained concrete Work.

3. Identify mix ingredients and proportions, including admixtures.
4. Identify chloride content of admixtures and whether or not chlorides were added during manufacture.

D. Delivery Tickets□Provide delivery tickets at the time of delivery of each load of concrete. Each delivery ticket shall be accompanied by batch tickets

automatically produced by the batching equipment, indicating quantities of each ingredient. Each delivery ticket shall, in addition, state the mix number, total yield in cubic yards, date and the time of day, to the nearest minute, corresponding to when the batch was loaded, when it was dispatched, when it arrived at the job, and the time that unloading began.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 78 00 – Closeout Submittals: Requirements for submittals.

1.7 QUALITY ASSURANCE

A. Comply with ACI 305R when pouring concrete during hot weather in Section 32 13 13 - Concrete Surface Improvements of the City Standard Specifications.

B. Comply with ACI 306.1 when pouring concrete during cold weather and as specified in Section 32 13 13 - Concrete Surface Improvements of the City Standard Specifications.

C. Acquire cement and aggregate from one source for Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Concrete:

1. Cement:

a. Comply with ASTM C150, Type II - Moderate Sulfate Resistant.
b. Type: Portland.

2. Fine and Coarse Aggregates:
a. Conform to the requirements of Section 90-1.02C, “Aggregates”, of the State Standard Specifications.

3. Water:

a. Conform to Section 90-1.02D, “Water” of the State Standard Specifications.
b. Potable

B. Admixtures:

1. Air Entrainment Conform to the requirements of Section 90-1.02E(3), “Air-Entraining Admixtures” of the State Standard Specifications.
2. Chemical Conform to the requirements of Section 90-1.02E(2), “Chemical Admixtures” of the State Standard Specifications.
3. Supplementary Cementitious Materials – Fly Ash Conform to the requirements of Section 90-1.02B(3), “Supplementary Cementitious Materials” of the State Standard Specifications.
4. Supplementary Cementitious Materials – Slag Conform to the requirements of Section 90-1.02B(3), “Supplementary Cementitious Materials” of the State Standard Specifications

2.2 CONCRETE MIX

A. Concrete shall conform to Section 90, “Concrete” of the State Standard Specifications.

B. Minimum 28-day compressive strength is **4,000 psi**

C. Concrete shall contain not less than 564 pounds of cementitious material per cubic yard, except for Cast-in-place Pipe.

D. Ready-Mixed Concrete Mix and deliver concrete according to ASTM C94.

2.7 CONSISTENCY

A. The consistency of the concrete in successive batches shall be determined by slump tests in accordance with ASTM C 143. nless otherwise specified the slump for all concrete shall be in 4 inches maximum.

B. Retempering of concrete will not be permitted

2.8 MIXING AND TRANSPORTING

A. All concrete shall be mixed in mechanically operated mixers.

B. Ready-mix concrete shall meet the requirements as to materials, batching, mixing, transporting and placing as specified herein and in accordance with ASTM C94.

C. Ready-mixed concrete shall be delivered to the site of the work, and discharge shall be completed within one and one-half hours after the addition of the cement to the aggregates or before the drum has been revolved 250 revolutions, whichever is first. If the completion of delivery and discharge exceeds the above requirements, concrete shall be rejected and shall not be used for the project.

D. Truck mixers shall be equipped with electrically-actuated counters by which the number of revolutions of the drum or blades may be readily verified. The counter shall be of the resettable, recording type, and shall be mounted in the driver's cab. The counters shall be actuated at the time of starting mixers at mixing speeds.

E. Each batch of concrete shall be mixed in a truck mixer for not less than 70 revolutions of the drum or blades at the rate of rotation designated by the manufacturer of equipment. Additional mixing, if any, shall be at the speed designated by the manufacturer of the equipment as agitating speed. All materials including mixing water shall be in the mixer drum before actuating the revolution counter for determining the number of revolution of mixing.

F. Each batch of ready-mixed concrete delivered at the job site shall be accompanied by a delivery ticket furnished to the Project Manager.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify requirements for concrete cover over reinforcement.

B. Verify that anchors, bolts, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Previously Placed Concrete□

1. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
2. Remove laitance, coatings, and unsound materials.

C. In locations where new concrete is doweled to existing work, scan for existing rebar locations, drill the holes 1/4-inch larger than the nominal dowel diameter in existing concrete to avoid existing rebar, clean and prepare the holes in accordance with the anchoring system manufacturer's instructions and thoroughly saturate with water, have all free water removed, and be dried to a saturated surface dry condition, coat the surface of the dowel, place epoxy inside the holes and insert steel dowels as specified per Section 51-1.03E(4) of the State Standard Specification. Cure epoxy at least three (3) days or until the

dowels are completely encased in epoxy. Replace dowels that fail to bond or are damaged.

D. Remove debris and ice from formwork, reinforcement, and concrete substrates.

E. Remove water from areas receiving concrete before concrete is placed.

F. Thoroughly moisten forms, subgrade and earth surfaces with water immediately before placing concrete. An approved form release agent may be used in lieu of water for the forms. These surfaces shall be kept moist by frequent sprinkling up to the time of placing concrete thereon. The surface shall be free from standing water, mud and debris at the time of placing concrete.

G. Hardened concrete surfaces upon or against which concrete is to be placed, are defined as construction joints. The surfaces of horizontal joints shall be given a compacted, roughened surface to a minimum 1/4-inch amplitude for good bond. Before new concrete is placed, the joint surfaces shall be cleaned of all laitance, loose or defective concrete and foreign material. Any water shall be removed from the surface of construction joints before the new concrete is placed.

H. Interruptions in placing concrete will not be allowed without the written approval of the City. The Contractor shall submit its proposed method of joint construction to the City for review and approval. When interruption of concrete placement operations has been approved the working face shall be given a shape by the use of forms or other means, that will secure proper union with subsequent work.

I. All reinforcement, anchor bolts, sleeves, inserts and similar items shall be set and secured in the forms where shown on the Drawings or by shop drawings and shall be acceptable to the City before any concrete is placed. Accuracy of placement is the responsibility of the Contractor.

. No concrete shall be placed in any structure until all water entering the space to be filled with concrete has been properly cut off or has been diverted by pipes, or other means, and carried out of the forms, clear of the work. No concrete shall be deposited underwater nor shall the Contractor allow still water to rise on any concrete until the concrete has attained its initial set. Water shall not be permitted to flow over the surface of any concrete in such manner and at such velocity as will injure the surface finish of the concrete. Pumping or other necessary dewatering operations for removing ground water, shall be the responsibility of Contractor.

. Anchor bolts shall be accurately set and shall be maintained in position by templates while being embedded in concrete.

3.3 PLACING

A. Placing of concrete shall conform to the requirements of Section 51-1.03D, “Placing Concrete”, of the State Standard Specification and the requirements of this Section. All concrete which does not to conform to the requirements of this Section shall be removed from the work.

B. Concrete shall not be dropped through reinforcement steel into any form deeper than three (3) feet. In such cases, hoppers and, if necessary, vertical ducts of canvas, rubber or metal shall be used for placing concrete. In no case shall the free fall of concrete exceed three (3) feet below the ends of ducts, chutes or buggies.

C. Concrete in forms shall be deposited in uniform horizontal layers not deeper than 2 feet and care shall be taken to avoid inclined layers. Each layer shall be placed while the previous layer is still soft. The surface of the concrete shall be level whenever a run of concrete is stopped. The temperature of concrete when it is being placed shall be in conformance with Section 32 13 13 - Concrete Surface Improvements of the City Standard Specifications.

3.4 P□MPING OF CONCRETE

A. If the pumped concrete does not produce satisfactory end results as determined by the Project Manager, the Contractor shall discontinue the pumping operation and proceed with the placing of concrete using conventional methods.

3.5 CONSOLIDATION

A. As concrete is placed in the forms or in excavations, it shall be thoroughly settled and compacted in general conformance with Section 51-1.03D, “Placing Concrete,” of the Caltrans Standard Specifications.

3.6 FINISHING CONCRETE S□RFACES

A. Exposed surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, or roughness of any kind, and shall present a finished, smooth, continuous hard surface.

B. No treatment is required after form removal except for curing, repair of defective concrete and treatment of surface defects.

C. After proper and adequate vibration and tamping, all exposed un-formed surfaces of pads and slabs, shall be brought to a uniform surface with suitable tools. The finish for all unformed concrete surfaces shall be a soft broom finish.

3.7 C□RING

A. All exposed concrete top surfaces of pads, shall be cured in conformance with Section 32 13 13 - Concrete Surface Improvements of the City Standard Specifications.

3.8 PROTECTION

A. The Contractor shall protect all concrete against injury until final acceptance by the City. Holes left by form-tying and other minor imperfections as defined herein shall be repaired in an approved manner with cement grout in conformance with Section 03 60 00 - Grouting.

3.9 FIELD □□ALITY CONTROL

A. Section 01 45 00 - □uality Control□Requirements for inspecting and testing.

B. Patching□

1. Allow Project Manager to inspect concrete surfaces immediately upon removal of forms.
2. Honeycombing or Embedded Debris in Concrete□
    a. Not acceptable.
    b. Notify the Project Manger upon discovery.
3. Patch imperfections according to ACI 301 when directed by the Project Manager.

C. Defective Concrete□

1. Description□Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
2. Repair or replacement of defective concrete will be determined by the Project Manager.
3. Do not patch, fill, touch up, repair, or replace exposed concrete except upon express direction of the Project Manager for each individual area.

END OF SECTION 03 30 00

SECTION 03 60 00 - GROUTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Portland cement grout.
2. Rapid-curing epoxy grout.
3. Non-shrink cementitious grout.

B. Related Requirements:

1. Section 03 30 00 – Utility Cast-in-Place Concrete: Cast-in-place or in-situ concrete for concrete structures and other concrete components.
2. Section 32 13 13 – Concrete Surface Improvements: Form materials, accessories as required to form cast in place concrete and maintain structural integrity until stripping.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Grout:

1. Basis of Measurement: Not measured.
2. Basis of Payment: Incidental to item most closely related to and includes preparation of substrate and grout, forming, mixing, placement, consolidation, troweling, curing, repairing and finishing grout.

1.3 REFERENCE STANDARDS

A. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete for Buildings.
2. ACI 318 - Building Code Requirements for Structural Concrete.

B. ASTM International:

1. ASTM C33 - Standard Specification for Concrete Aggregates.
2. ASTM C40 - Standard Test Method for Organic Impurities in Fine Aggregates for Concrete.

3. ASTM C150 - Standard Specification for Portland Cement.
4. ASTM C191 - Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle.
5. ASTM C307 - Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacings.
6. ASTM C531 - Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.
7. ASTM C579 - Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.
8. ASTM C827 - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures.
9. ASTM C1107 – Standard Specification for Packaged Dry Hydraulic-Cement Grout (Nonshrink).

C. □. S. Army Corps of Engineers Concrete Research Division (CRD)□

1. CRD-C621 - Non-Shrink Grout.

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□Submit manufacturer information regarding grout.

C. Manufacturer's Certificate□ Certify that products meet or exceed specified requirements.

D. Manufacturer Instructions□ Submit instructions for mixing, handling, surface preparation, and placing epoxy-type and non-shrink grouts.

E. Field □uality-Control Submittals□Indicate results of Contractor-furnished tests and inspections.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products. Total storage time from date of manufacture to date of installation shall be limited to 12 months or the manufacturer’s recommended storage time, whichever is less.

B. Inspection□Accept materials on Site in manufacturer's original packaging and inspect for damage. Materials which becomes damp or otherwise unacceptable shall be immediately removed from the site and replaced with acceptable material.

C. Store materials according to manufacturer instructions.

D. Protection□

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 PORTLAND CEMENT GRO□T

A. Portland Cement□Comply with ASTM C150, Type II and per Section 90-1.02B(2) of the State Standard Specifications.

B. Water□

1. Potable and shall be per section 90-1.02D of the State Standard Specification.
2. No impurities, suspended particles, algae, or dissolved natural salts in quantities capable of causing□

a. Corrosion of steel.
b. Volume change increasing shrinkage cracking.
c. Efflorescence.
d. Excess air entraining.

C. Fine Aggregate□

1. Washed natural sand.
2. Gradation□

a. Comply with Section 90, “Concrete” of the State Standard Specifications.
b. Represented by smooth granulometric curve within required limits.

3. Free from injurious amounts of organic impurities according to ASTM C40.

D. Mix□

1. Portland cement, sand, and water.
2. Do not use ferrous aggregate or staining ingredients in grout mixes.

2.2 RAPID-C□RING EPOXY GRO□T

A. Manufacturers□

1. Sika Corporation
2. W.R. Meadows, Inc.
3. Euclid Chemical
4. Or approved equal.

B. Description

1. High-strength, three-component epoxy grout formulated with thermosetting resins and inert fillers.
2. Rapid-curing, high adhesion, and resistant to ordinary chemicals, acids, and alkalis.
3. Resins containing butyl glycidyl ether (BGE) or other highly volatile and hazardous reactive diluents are not acceptable.

C. Performance and Design Criteria

1. Minimum Compressive Strength

a. 11,000 psi at seven days.
b. Comply with ASTM C579.

2. Minimum Tensile Strength

a. 2,000 psi.
b. Comply with ASTM C307.

3. Coefficient of Expansion

a. $30x10^{-6}$ inch per degree F.
b. Comply with ASTM C531.

4. Shrinkage

a. None.
b. Comply with ASTM C827.

5. Application Epoxy grout shall be used to embed all anchor bolts and reinforcing steel required to be set in grout, and for all other specified applications.

2.3 NON-SHRIN CEMENTITIOS GROT

A. Manufacturers

1. Sika Corporation
2. W.R. Meadows
3. Euclid Chemical

4. Or approved equal.

B. Description

1. Pre-mixed and ready-for-use formulation requiring only addition of water.
2. Noshrink grouts shall meet or exceed the requirements of ASTM C1107 Grades B or C and CRD-C621.
3. Non-shrink, non-corrosive, non-metallic, non-gas forming, and no chlorides.
4. Manufacturer's instructions shall be printed on each bag or other container in which the materials are packaged.

C. Performance and Design Criteria

1. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.

2. Certified to maintain initial placement volume or expand after set, and to meet following minimum properties when tested according to CRD-C621 for Type D non-shrink grout

a. Setting Time

1) Initial Approximately two hours.
2) Final Approximately three hours.
3) Comply with ASTM C191.

b. Maximum Expansion 0.10 to 0.40 percent.
c. Minimum Compressive Strength

1) One-Day 4,000 psi.
2) Seven-Day 6,000 psi.
3) 28-Day 7,500 psi.
4) Comply with CRD-C621.

2.4 FORMWOR

A. As specified in Section 32 13 13 – Concrete Surface Improvements.

2.5 CONSISTENCY

A. The consistency of grouts shall be that necessary to completely fill the space to be grouted for the particular application. Dry pack consistency is such that the grout is plastic and moldable but will not flow. Where "dry pack" is specified, it shall mean a grout of that consistency the type of grout to be used shall be as specified herein for the particular application.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify areas to receive grout. Reinforcing steel shall be inspected prior to placing grout.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Remove defective concrete, laitance, dirt, oil, grease, and other foreign material from concrete surfaces by brushing, hammering, chipping, or other similar means until sound and clean concrete surface is achieved.

C. Roughen concrete lightly, but not to interfere with placement of grout.

D. Remove foreign materials from metal surfaces in contact with grout.

E. Align, level, and maintain final positioning of components to be grouted.

F. Saturate concrete surfaces with clean water, and then remove excess water.

3.3 INSTALLATION

A. Formwork□

1. Construct leakproof forms anchored and shored to withstand grout pressures.
2. Install formwork with clearances to permit proper placement of grout.
3. As specified in Section 32 13 13 – Concrete Surface Improvements.

B. Mixing□

1. Portland Cement Grout□

a. □se proportions of two parts sand and one-part cement, measured by volume.
b. Prepare grout with water to obtain consistency to permit placing and packing.
c. Mix water and grout in two steps□

1) Premix using approximately 2/3 of water.
2) After partial mixing, add remaining water to bring mix to desired placement consistency and continue mixing two to three minutes.

d. Mix only quantities of grout capable of being placed within 30 minutes after mixing.

2. Rapid-Curing Epoxy Grout

a. Mix and prepare according to manufacturer instructions.
b. Minimum Compressive Strength 10,000 psi in 72 hours and 13,000 psi in 28 days.

3. Non-shrink Cementitious Grout

a. Mix and prepare according to manufacturer instructions.
b. Minimum Compressive Strength 4,500psi in 72 hours and 7,500 psi in 28 days.

4. Mix grout components in proximity to Work area and transport mixture quickly and in manner not permitting segregation of materials.

C. Placing of Grout

1. Place grout material quickly and continuously to avoid cold joints.
2. Do not place cement grout in layers.
3. Do not add additional water to the mix (retemper) after initial stiffening.
4. Do not use pneumatic-pressure or dry-packing methods.
5. Apply grout from one side only to avoid entrapping air.
6. Do not vibrate placed grout mixture or permit placement if area is being vibrated by nearby equipment.
7. Thoroughly compact final installation and eliminate air pockets.
8. Do not remove leveling shims for at least 48 hours after grout has been placed.

D. Curing

1. Prevent rapid loss of water from grout during first 48 hours by use of approved membrane curing compound or by using wet burlap method.
2. Immediately after placement, protect grout from premature drying, excessively hot or cold temperatures, and mechanical injury.
3. After grout has attained its initial set, keep damp for minimum three days. Saturate the grout surface by use of wet burlap, ponding or other approved means.
4. Epoxy grouts are self-curing and do not require the application of water.

E. pon completion of the jacking operations, all voids around the outside face of the conduit shall be filled by grouting.

F. Grouting equipment and material shall be on the job site before jacking operations and drilling of grout holes are completed in order that grouting around

the jacked conduit may be started immediately after the jacking operations have finished.

3.4 FIELD □□ALITY CONTROL

A. Section 01 45 00 - □uality Control□Requirements for inspecting and testing.

B. Inspection and Testing□

1. Comply with ACI 301, ACI 318.
2. Submit proposed mix design of each class of grout to the Project Manager for review prior to commencement of Work.
3. Tests of grout components may be performed to ensure compliance with specified requirements.

END OF SECTION 03 60 00

SECTION 09 90 00 - PAINTING AND COATING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Surface preparation and field application of paints, including pretreatment, coating application, touch-up of factory-coated surfaces, protection of surfaces not to be coated, cleanup and other coatings.

B. Glass, stainless steel, and equipment nameplates shall not be protective coated unless shown otherwise on the Drawings.

1.2 DEFINITIONS

A. Refer to ASTM D16 for definitions of terms used in this Section.

B. The term "paint," "coatings," "linings," or "finishes" as used herein, shall include surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective coatings, excepting galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat. The term "DFT" means minimum dry film thickness.

1.3 REFERENCE STANDARDS

A. ASTM International:

1. ASTM C309 – Standard for Liquid Membrane – Forming Compounds for Curing Concrete.
2. ASTM D16 – Standard Terminology for Paint, Related Coatings, Materials, and Applications.
3. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
4. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. AWWA
1. AWWA C105 – Standard for Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids.
2. AWWA C205 - Standard for Cement-Mortar Protective lining and Coating for Steel Water Pipe – 4-inch and larger – Shop applied.
3. AWWA C550 - Standard for Protective Epoxy Interior coatings for Valves and Hydrants.

C. California Department of Public Health

1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources sing Small-Scale Environmental Chambers, including 2004 Addenda.

D. Caltrans Standard Specifications
1. Section 59 – Structural Steel Coatings
2. Section 91 – Paint

E. Green Seal

1. GS-03 - Anti-Corrosive Paints.
2. GS-11 - Paints and Coatings.

F. Master Painters Institute

1. MPI - Approved Products List.
2. MPI - Architectural Painting Manual.

G. NACE National Association of Corrosion Engineers

H. NSF National Sanitation Foundation

I. SSPC Steel Structures Painting Council

1.4 SE ENCING

A. Do not apply finish coats until paintable sealant is applied.

B. Back prime wood trim before installation of trim.

1.5 S BMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data

1. Submit manufacturer data on finishing products, special coatings and paint.
2. Include MPI - Approved Products Lists with proposed products highlighted.

C. Samples

1. Submit two (2) paper chip samples, 4 inches by 4 inches in size, illustrating range of colors and textures available for each surface finishing product as scheduled.
2. Painted Samples

a. Submit two (2) painted samples, illustrating selected colors and textures for each selected color and system with specified coats cascaded.

D. Manufacturer's Certificate□ Certify that products meet or exceed specified requirements.

E. Manufacturer Instructions□ Submit special surface preparation procedures, substrate conditions requiring special attention.

F. Field □uality-Control Submittals□Indicate results of Contractor-furnished tests and inspections.

1.6 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Operation and Maintenance Data□Submit information on cleaning, touchup, and repair of painted and coated surfaces.

1.7 □□ALITY ASS□RANCE

A. MPI Standards□

1. Comply with indicated MPI standards.
2. Products□Listed in MPI - Approved Products List.

B. Surface Burning Characteristics□

1. Fire-Retardant Finishes□Maximum 25/450 flame-spread/smoke-developed index when tested according to ASTM E84.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Container Labeling□Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Inspection□

1. Accept materials on Site in manufacturer's sealed and labeled containers.
2. Inspect for damage and to verify acceptability.

D. Store materials in ventilated area and otherwise according to manufacturer instructions.

E. Protection

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.9 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls Requirements for ambient condition control facilities for product storage and installation.

B. Storage Conditions

1. Minimum Ambient Temperature 45 degrees F.
2. Maximum Ambient Temperature 85 degrees F.

C. Application Conditions

1. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint manufacturer.
2. Do not apply exterior coatings during rain, when relative humidity is outside humidity ranges, or when moisture content of surfaces exceeds those required by paint manufacturer.
3. Minimum Application Temperatures for Latex Paints 45 degrees F for interiors and 50 degrees F for exteriors, unless otherwise indicated by manufacturer instructions.
4. Minimum Application Temperature for Varnish and Finishes 65 degrees F for interiors and exteriors, unless otherwise indicated by manufacturer instructions.
5. Lighting Level 80 fc, measured mid-height at substrate surface.

1.10 WARRANTY

A. Section 01 70 00 - Execution and Section 01 77 00 - Closeout Requirements Requirements for warranties.

B. Furnish five (5) year manufacturer's warranty for paint and coatings.

PART 2 - PRODUCTS

2.1 PAINTS AND COATINGS

A. Manufacturers

1. elly-Moore Paint Company, Inc.
2. Sherwin-Williams Company
3. Vista Paint
4. Dunn-Edwards Corporation
5. Rust-Oleum
6. Glidden Company
7. Behr Process Corporation
8. Or approved equal
9. Substitutions As specified in Section 01 60 00 - Product Requirements.

B. Materials

1. Coatings

   a. Ready mixed, except field-catalyzed coatings.
   b. Capable of drying or curing free of streaks or sags.

2. Patching Materials Latex filler.
3. Fastener Head Cover Materials Latex filler.
4. Accessories

   a. Grade Commercial.
   b. Linseed oil.
   c. Shellac.
   d. Turpentine.
   e. Paint thinners.
   f. Other materials not specifically indicated but required to achieve specified finishes.

PART 3 - E ECUTION

3.1 S RFACE PREPARATION STANDARDS

A. The following referenced surface preparation specifications of the Steel Structures Painting Council's "Steel Structure Painting Manual, Volume 2, Systems and Specification" shall form a part of this specification

1. Solvent Cleaning (SSPC-SP1) Removal of oil, grease, dirt, soil, salts, and contaminants by cleaning with solvent, vapor, alkali, emulsion, or steam.

2. Hand Tool Cleaning (SSPC-SP2)□ Removal of loose rust, loose mill scale, and loose paint to degree specified, by hand chipping, scraping, sanding, and wire brushing.

3. Power Tool Cleaning (SSPC-SP3)□ Removal of loose rust, loose mill scale, and loose paint to degree specified by power tool chipping, descaling, sanding, wire brushing, and grinding.

4. White Metal Blast Cleaning (SSPC-SP5)□ Removal of all visible rust, mill scale, paint, and foreign matter by blast cleaning by wheel or nozzle (dry or wet) using sand, grit, or shot.

5. Commercial Blast Cleaning (SSPC-SP6)□ Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.

6. Brush-Off Blast Cleaning (SSPC-SP7)□ Blast cleaning of all except tightly adhering residues of mill scale, rust, and coatings, exposing numerous evenly distributed flecks of underlying metal.

3.2 EXAMINATION

A. Verify that surfaces and substrate conditions are ready to receive Work as recommended by product manufacturer.

B. Evaluate blast cleaned surface preparation work will be based upon comparison of the blasted surfaces with the definitions and standard visual samples available from SSPC, using SSPC-V1S1 Standards.

C. Examine surfaces scheduled to be finished prior to commencement of Work, and report conditions capable of affecting proper application to City's Project Manager. The Project Manager shall be sole judge as to whether the quality of blast cleaning conforms to visual comparison standards, and the Project Manager's decision as to allowability shall be final.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Moisture Content□

1. Measure moisture content of surfaces using electronic moisture meter.
2. Do not apply finishes unless moisture content of surfaces are below following maximums□
   a. Masonry, Concrete, and Concrete □nit Masonry□12 percent.
   b. Exterior Wood□15 percent, measured according to ASTM D4442.

3.3 PREPARATION

A. Section 01 70 00 - Execution Requirements for application preparation.

B. Prepare coatings as follows:

1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
2. For smooth flow and brushing properties.

C. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

D. The working parts of all mechanical and electrical equipment shall be protected from damage during surface preparation and coating operations. Openings in motors shall be masked to prevent entry of coating or other materials.

E. Defects:

1. Correct defects and clean surfaces capable of affecting Work of this Section.
2. Remove or repair existing coatings exhibiting surface defects.

F. Cleaning and coating shall be done such that dust and other contaminants from the cleaning process will not fall on wet, newly-coated surfaces.

G. Marks: Seal marks that may bleed through surface finishes with shellac.

H. Impervious Surfaces:

1. Remove mildew by scrubbing with solution of tetra-sodium or tri-sodium phosphate and bleach.
2. Rinse with clean water and allow surface to dry.

I. Aluminum Surfaces Scheduled for Paint Finish:

1. Remove surface contamination by steam or high-pressure water.
2. Remove oxidation with acid etch and solvent washing.
3. Apply etching primer immediately following cleaning.

. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish:

1. Remove foreign particles to permit adhesion of finishing materials.
2. Apply latex-based or compatible sealer or primer.

. Copper Surfaces Scheduled for Paint Finish:

1. Remove contamination by steam, high-pressure water, or solvent washing.
2. Apply vinyl-etch primer immediately following cleaning.

L. Copper Surfaces Scheduled for Natural Oxidized Finish□

1. Remove contamination by applying oxidizing solution of copper acetate and ammonium chloride in acetic acid.
2. Rub on repeatedly for required effect, and, once attained, rinse surfaces with clear water and allow to dry.

M. Galvanized Surfaces□

1. Remove surface contamination and oils, and wash with solvent.
2. Apply coat of etching primer.

N. Concrete and □nit Masonry Surfaces Scheduled to Receive Paint Finish□

1. Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter.
2. Remove oil and grease with solution of tri-sodium phosphate, rinse well, and allow to dry.
3. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water, and allow to dry.

O. □ncoated Steel and Iron Surfaces□

1. Remove grease, mill scale, weld splatter, dirt, and rust.
2. If heavy coatings of scale are evident, remove by power tool wire brushing or by sandblasting.
3. Clean by washing with solvent.
4. Apply treatment of phosphoric acid solution, ensuring that weld joints, bolts, and nuts are similarly cleaned.
5. Spot-prime paint after repairs.

P. Shop-Primed Steel Surfaces□

1. Sand and scrape to remove loose primer and rust.
2. Feather edges to make touch-up patches inconspicuous.
3. Clean surfaces with solvent.

□. Exterior Wood Scheduled to Receive Paint Finish□

1. Remove dust, grit, and foreign matter.
2. Seal knots, pitch streaks, and sappy sections.
3. Fill nail holes with tinted exterior paintable calking compound after prime coat has been applied.

R. Exterior Wood Scheduled to Receive Transparent Finish□

1. Remove dust, grit, and foreign matter.
2. Seal knots, pitch streaks, and sappy sections with sealer.

3. Fill nail holes with tinted exterior calking compound after sealer has been applied.

S. Existing Work□

1. Extend existing paint and coatings installations using materials and methods compatible with existing installations and as specified.

3.4 APPLICATION

A. Comply with MPI - Architectural Painting Manual.

B. Do not apply finishes to surfaces that are not dry.

C. Apply each coat to uniform appearance.

D. Apply each coat of paint slightly darker than preceding coat, unless specified otherwise.

E. Prime Coat DFT □ 3 mils each

F. Finish Coats (2 or more) DFT □ 3 mils each

G. Total System DFT □ 6 mils, minimum.

H. Sand wood and metal surfaces lightly between coats to achieve required finish.

I. Cleaning□

1. Vacuum surfaces to remove loose particles.
2. □se tack cloth to remove dust and particles just prior to applying next coat.

□. Fillers□

1. If clear finishes are required, tint fillers to match wood.
2. Work fillers into grain before set, and wipe excess from surface.

□. Concealed Surfaces□

1. Prime concealed surfaces of interior and exterior woodwork with primer paint.
2. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.

3.5 FIELD □□ALITY CONTROL

A. Inspecting and Testing□Comply with MPI - Architectural Painting Manual.

3.6 CLEANING

A. Section 01 77 00 - Closeout Requirements Requirements for cleaning.

B. Collect waste material that may constitute fire hazards, place in closed metal containers, and remove daily from Site.

C. Improper disposal for hazardous materials will not be allowed.

3.7 COATING SYSTEM

A. **Al yd Enamel:** High quality, gloss or semi-gloss, medium long oil alkyd finish shall have a minimum solids content of 49 percent by volume. Primer shall be as recommended by manufacturer.

B. **Fusion Bonded Epoxy:** The coating material shall be 100 percent powder epoxy applied in conformance with AWWA C550, except that the surface preparation shall be as specified in the Coating System Schedule of this Section.
   1. Liquid Epoxy For field repairs, the use of a liquid epoxy will be permitted, applied in not less than 3 coats to provide a total DFT of 12 mils. The liquid epoxy shall be 100 percent solids epoxy recommended by the powder epoxy manufacturer.
   2. Field Repair coatings (DFT 12 mils), Scotchkote 306 or 312, PCI Augsburg D RA-POX 646 or equal.

C. **Polyethylene Encasement:** Application of polyethylene encasement shall be in conformance with AWWA C 105 using Method A.

D. **Cement Mortar Coating:** nless otherwise shown on the Drawings, mortar coating and reinforcement shall be in conformance with AWWA C205.

E. **Factory Applied Coating:** The coating material shall be a liquid epoxy applied in conformance with AWWA C550.

F. **Coal Tar Paint:** High Solids content coal tar paint for use on buried pipeline and fittings.
   1. Prime Coat and finish coats (2 or more, total DFT 24 mils), Protecto Wrap CA-1200, Polyguard No. CA-14, op-Coat Bituminastic Super Service Black, or equal.

3.8 SCHED LE

A. See below Coating System Schedule A for Ferrous Metal and not galvanized.

Item	Surface Preparation	Coating System

All surfaces, indoors and outdoors, exposed or covered, except those surfaces included below	Commercial Blast Cleaning SSPC-SP6	Alkyd Enamel
Exposed Fire Hydrant, valve lids, marker posts, backflow preventor lettering, exposed pipe, fittings and vent pipe	Solvent Cleaning SSPC-SP1	Alkyd Enamel
Buried pipe with a nominal diameter of less than 6 inches and greater than 2 inches, excluding ductile iron pipe	Solvent Cleaning SSPC-SP1	Coal Tar Paint
Fittings and flanged joints, where the piping is plastic. Buried fittings on ductile iron pipe used for FH laterals, fire service laterals, and Backflow Prevention Assemblies. □oints, and fittings on ductile iron pipe with coal tar coating.	Commercial Blast Cleaning SSPC-SP6	Coal Tar Paint
Buried pipe couplings□fittings□and flanged joints, including epoxy coated surfaces, except valves□where the piping is polyethylene encased ductile iron	As specified in Specifications for appropriate fittings	Polyethylene Encasement
Buried pipe couplings, fittings, and flanged joints, where piping is cement mortar coated and lined steel pipe, excluding epoxy coated surfaces.	Solvent Cleaning SSPC-SP1	Cement Mortar Coating
Buried cast couplings, buried sleeve-type tapping sleeves, welded tapping outlets. Ferrous surfaces of gate valves.	White Metal Blast Cleaning SSPC-SP5	Fusion Bonded Epoxy

External ferrous surfaces of check valves and ferrous internal surfaces of fire hydrants.	White Metal Blast Cleaning SSPC-SP5	Fusion Bonded Epoxy
Internal/External Ferrous Surfaces of butterfly valves	White Metal Blast Cleaning SSPC-SP5	Factory Applied Epoxy

B. See below Coating System Schedule B for Ferrous Metal and Galvanized.

Item	Surface Preparation	Coating System
All exposed surfaces, indoors or outdoors, including exposed galvanized pipe, except those surfaces included below.	Alkaline Cleaning per SSPC-SP1	Alkyd Enamel
Buried pipe with a nominal diameter of 2 inches and less, including valves, fittings	Alkaline Cleaning per SSPC-SP1	Coal Tar Paint

END OF SECTION 09 90 00

SECTION 31 05 13 – CLEARING GRUBBING, E CAVATION, AND EARTHWORK

PART 1 - GENERAL

1.1 S MMARY

A. Section Includes

1. Clearing and Grubbing
2. Excavation
3. Earthwork
4. Grading and Compaction
5. Subsoil materials – Import Fill and Select Fill
6. Topsoil materials.

B. Related Sections
1. Section 01 74 00 – Construction Waste Management and Disposal
2. Section 31 23 16 – tility Trenching.
3. Section 32 90 00 – Landscape Work.
4. Project Geotechnical report bore hole locations and findings of subsurface materials if applicable.

1.2 NIT PRICES - MEAS REMENT AND PAYMENT

A. Clearing and Grubbing

1. Basis of Measurement Clearing and grubbing will be measured on a lump sum basis, unless specified otherwise.
2. Basis of Payment Clearing and grubbing shall be paid for at the contract lump sum price, which includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in clearing and grubbing as shown on the plans, as specified and as directed by the Project Manager, including the removal and disposal of all the resulting material.
    a. When the Contract does not include a pay item for Clearing and Grubbing and removal work, as specified above, and unless noted otherwise in the Technical Specifications, full compensation for any necessary Clearing and Grubbing and removal work shall be considered as included in the unit price paid for the type of earthwork involved, and no additional compensation will be allowed therefor.

B. Subsoil – Select Fill

1. Basis of Measurement By cubic yard of the compacted soil.

2. Basis of Payment□Includes excavating existing subsoil, verifying if existing subsoil meets the select fill requirements, supplying select fill, materials, stockpiling, maintaining, moving, placing and compacting of select fills.

C. Subsoil – Import Fill

1. Basis of Measurement□By cubic yard of the compacted soil.
2. Basis of Payment□ Includes excavating, importing, supplying import fill subsoil materials, stockpiling, surveying stockpile location, maintaining, moving, placing and compacting of import fill.

D. Subsoil – Export Fill

1. Basis of Measurement□By cubic yard of the compacted soil.
2. Basis of Payment□Includes excavating, stockpiling, covering, maintaining, moving, exporting cut subsoil materials, compacting of cut soil at the export location, and all other work described in this section, and as shown on the Drawings.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials□

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils □sing a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. City of Pittsburg - Environmental Services Department

C. ASTM International□

1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil □sing Standard Effort (12,400 ft-lbf/ft3).
2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3).
3. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (□nified Soil Classification System).

D. California Building Code – Appendix □- Grading

E. State Standard Specifications□

1. Section 14 – Environmental Stewardship
2. Section 17 - General
3. Section 19 – Earthwork

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Samples Submit results of the soil samples by a certified testing laboratory prior to importing onto the site for approval by the Project Manager.

C. Materials Source Submit name of imported materials source.

D. Manufacturer's Certificate Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Furnish each subsoil material from single source throughout the Work.

PART 2 - PRODUCTS

2.1 SUSTAINABILITY CHARACTERISTICS

A. Materials and Resources Characteristics

1. Regional Materials Furnish materials extracted, processed, and manufactured within 250 miles of jobsite.

2.2 SUBSOIL MATERIALS

A. Select Fill Material

1. Subsoil material is on-site excavated material meeting the requirements of the appurtenant Geotechnical Report.
2. Graded
3. Non-hazardous
4. Free of lumps larger than three (3) inches, rocks larger than two (2) inches, organic matter, frozen or other deleterious materials and debris.
5. Selected material encountered in excavation within the right of way shall be used for finishing the top portion of the roadbed, constructing shoulders, structure backfill as shown on the Drawings as specified in the Technical Specifications, or as directed by the Project Manager.

B. Import Fill Material

1. Subsoil material imported from sources outside the project site meeting the requirements of the appurtenant Geotechnical Report.

2. Graded
3. Non-hazardous
4. Free of lumps larger than three (3) inches, rocks larger than two (2) inches, organic matter, frozen or other deleterious materials and debris.
5. □nless otherwise specified, the Contractor shall obtain from the owners the right to procure material, pay all royalties and other charges involved, and bear all expense of developing the sources, including rights of way for hauling.
6. No import fill material shall be delivered to the site until approved by the Project Manager. Approval of import fill material shall be based on the testing of representative samples submitted by the contractor meeting the appurtenant Geotechnical Report and approved by the Project Manager. Such representative samples shall be submitted to the Project Manager not less than 15 days prior to commencing the work.
7. Imported fill, delivered to the site, that significantly differs from the submitted samples shall be subject to rejection. Rejected materials shall be removed from the site at the Contractor's expense
8. Approval of a particular import fill material shall constitute approval of only that portion of the proposed borrow source represented by the submitted sample.
10. Except as otherwise permitted, borrow pits and other excavation areas shall be excavated in such manner as will afford adequate drainage. Overburden and other spoil material shall be transported to designated spoil areas or otherwise disposed of as directed, local borrow pits shall be neatly trimmed and left in such shape as will facilitate accurate measurement after the excavation is completed.

2.3 FILL MATERIALS□

The following import fill parameters may be used for small City sidewalk and pavement rehabilitation projects□or for site improvements less than 5,000 square feet excluding any buildings or structures and do not have a geotechnical report included□

A. Fill material shall conform to the following as determined by ASTM C 117 and ASTM C 136□

1.	Maximum particle size	3 inches
2.	Percent passing 1-inch sieve	90-100 percent
3.	Percent passing No. 200 sieve	less than 20 percent

B. Imported non-expansive fill shall consist of a well-graded, slightly cohesive soil with relatively impervious characteristics when compacted.

C. Plasticity Index for acceptable import fill materials shall be a maximum of 15 when determined by the procedure set forth in ASTM D 4318.

D. The liquid limit shall not exceed 40 percent as determined by the procedures set forth in ASTM D 4318.

E. Import fill material shall have an R-value of 25 or greater as determined by ASTM D 2844.

2.4 TOPSOIL MATERIALS

A. Topsoil shall be imported top soil as specified in Section 32 90 00 “Landscape Work” and Project Specifications.

B. Topsoil excavated within the limits of the project meeting the requirements shown in Section 32 90 00, “Landscape Work”, and as shown in the Project Specifications will be considered as a material only for the purpose of backfilling areas to be planted.

2.5 SO□RCE □□ALITY CONTROL

A. Section 01 45 00 – □uality Control□Testing and Inspection Services Testing and analysis of soil material.

B. Testing and Analysis of Subsoil and Topsoil Materials□Perform in accordance with ASTM D698, ASTM D1557, and AASHTO T180.

C. When tests indicate materials do not meet specified requirements, provide alternate materials and retest.

D. Furnish materials of each type from same source throughout the Work.

PART 3 - E□ECUTION

3.1 PREPARATION

A. Call □SA not less than three (3) working days before performing Work that can be marked by □SA in a timely manner.

B. Request underground utilities to be located and marked within and surrounding construction areas.

C. Identify required lines, levels, contours and datum.

D. Notify utility companies to remove and relocate utilities where shown on the Drawings.

E. Protect utilities indicated to remain from damage.

F. Protect plant life, lawns, and other features remaining as portion of final landscaping.

G. Protect benchmarks or monuments, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

H. The ground shall be prepared to received select fill by removing vegetation, topsoil and other unsuitable materials, scarifying the ground to provide a bond with the fill material, and compacting the fill at optimum moisture content.

3.2 CLEARING AND GR□BBING

A. Clearing and grubbing shall be per Section 17-2, “Clearing and Grubbing”, of the State Standard Specifications.

B. Clear and grub before performing earthwork in an area.

C. Do not injure standing trees, plants, and improvements shown to be protected.

D. Clear and grub the entire length of the job site to the following widths□
1. 5 feet outside of excavation and embankment slope lines where slopes are not rounded
2. Outside limits of slopes where slopes are rounded
3. 5 feet outside of structures
4. 2 feet outside of slope lines for ditches and channels with a bottom width of less than 12 feet
5. 5 feet outside of slope lines for ditches and channels with a bottom width of 12 feet or more

E. Clearing and grubbing shall consist of removing all objectionable material from within the limits of the project. The limits of clearing and grubbing shall be of sufficient area and depth to complete the work shown on the Drawings or as described herein in.

F. Clear all construction areas above original ground of the following to a minimum depth of eight (8) inches below subgrade or eight (8) inches below original ground, or as required by the appurtenant geotechnical report, whichever is lower□
1. all vegetation such as trees, logs, upturned stumps, roots of downed trees, brush, grass, and weeds and
2. other objectionable material including concrete, masonry, and debris.

G. No burning of materials is allowed.

H. The site shall be stripped and cleared of all vegetation, debris, and organic-laden top soil as required by the appurtenant Geotechnical Report.

I. Trees within the limits of work including any traffic control work beyond the limits of work and within the area of influence shall be evaluated by the City or a City approved Landscape Architect or certified Arborist to assess protection measures. No trees will be removed until they have been tagged, numbered and a written release for the tree has been issued by the City.

. Tree which are designated to be removed, shall be excavated and removed 30" down to remove the tree trunk, roots, and backfill with fill material and compact as required in this section, unless specified otherwise on the Drawings.

. Grub all construction areas to a depth of at least 0.50 feet, necessary to remove all existing tree stumps, roots, buried logs and other objectionable material, unless noted otherwise on the Plans. In embankment areas where the grading plane is 2 feet or more above original ground, cut off trees, stumps, and roots not more than 1 foot above original ground, except, remove trees, stumps, and roots completely where work includes any of the following

1. Structure construction
2. Pile construction
3. Subdrainage trench excavation
4. Removal of unsuitable material
5. Cutting into slopes of original hillsides, old or new fill
6. tility line construction

3.3 EXCAVATION

A. Work under this section shall consist of performing all operations necessary to excavate earth and rock, regardless of character and subsurface conditions, from the roadway prism or adjacent thereto, to excavate all materials, of whatever nature, necessary for the construction of foundations for structures and other facilities to excavate drainage and irrigation ditches to excavate drainage channels to excavate selected material and import material for use as specified to construct embankments including the placing of selected fill or import fill material in connection therewith as specified to place backfill for structures, and other facilities to backfill trenches and depressions resulting from the removal of obstructions to backfill holes, pits and other depressions to remove and replace unsuitable material to excavate and grade road approaches, driveways, sidewalks, curb ramps, curb and gutters, plazas, parking lots, and connections to construct protection dikes to remove unstable material, slide material which has come into the graded area, and material which has slipped from embankments all as shown on the plans and as specified in these Specifications and the Technical Specifications and as directed by the Project Manager and furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work that may be required to construct and maintain the project facilities, except excavation, trenching and backfilling for pipe, culverts, utility systems, and other subsurface pipes. Excavation, trenching and backfilling for pipe, culverts,

utility systems, and other subsurface pipes is specified in Section 31 23 16 – □tility Trenching of the City Standard Specifications.

B. Excavate subsoil and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.

C. Stockpile excavated material meeting requirements for subsoil fill materials and topsoil materials approved by the Project Manager.

D. If practicable and unless processing of material is required, haul selected material directly from the excavation to its final position in the roadway prism and compact it in place.

E. Excavate to the described or authorized grade. If the Contractor over excavates, backfill with an authorized material and compact it at the Contractor's own expense.

F. Do not excavate wet subsoil unless directed by the Project Manager.

G. The temporary slope of cut surfaces shall be no steeper than is safe for the intended use, and shall not be more than one-unit vertical in two units horizontal (50-percent slope) unless approved by the Project Manager or appurtenant geotechnical report.

H. Archaeological Resources□ Contractor shall conform to Section 14, "Environmental Stewardship", of the State Standard Specifications. If archaeological resources are discovered within or near construction limits, do not disturb the resources and immediately□
   1. Stop all work within a 60-foot radius of the discovery
   2. Secure the area
   3. Notify the Project Manager.

I. City will investigate the discovery. Do not move archaeological resources or take them from the job site. Do not resume work within the radius of discovery until authorized.

□. Environmentally Sensitive Areas (ESA)□If an ESA is shown on the Drawings, the boundaries are approximate. Do not enter an ESA unless authorized. If an ESA is breached, immediately□
   1. Stop all the work within 60 feet of the ESA boundary
   2. Secure the area
   3. Notify the Project Manager

   If an ESA is damaged, the Project Manager determines the necessary remediation and the party to perform the work. The City deducts the cost for this work from the Contractor bid price.

□. Notify the Project Manager when buried man-made objects are encountered in an excavation as part of the excavation work and wait for direction from Project Manager unless shown on the plans for removal. All surplus material shall be disposed offsite.

L. Remove excess excavated materials, subsoil and topsoil not intended for reuse, from site.

M. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from site.

N. When hauling is done over highways or City streets, and when directed by the Project Manager the loads shall be trimmed and all material removed from shelf areas of vehicles in order to eliminate spilling of material. If directed by the Project Manager, the loads shall be watered down or covered after trimming to eliminate dust.

O. Excavation shall include the satisfactory removal and disposition of all materials not classified as rock excavation.

P. Earth and rock, regardless of character and subsurface conditions, shall be excavated to the lines and grades as established by the plans.

□. All existing materials that are designated to be salvaged shall be removed, cleaned and hauled to the City Corporation Yard, unloaded and stockpiled, by the Contractor unless otherwise directed by the Project Manager.

R. Existing pipes to be abandoned shall be filled with slurry, minimum of thirty (30) feet from either ends of the pipe and capped with concrete at the ends.

S. Existing structures, pavement slabs, and structural sections to be abandoned shall be demolished to an elevation three (3) feet below finished grade, unless specified otherwise on the Drawings. The bottom (if any remains) shall be broken thoroughly to prevent entrapment of water and all voids backfilled with suitable backfill.

T. Operations shall be conducted in such a manner that existing street, facilities, utilities, railroad tracks and other non-street facilities which are to remain in place will not be damaged.

□. The Contractor, at his expense, shall furnish and install-sheet piling, cribbing, bulkheads, shores or whatever means may be necessary to adequately support material carrying such facilities, or to support the facilities themselves, and shall maintain such supports until they are no longer needed. Temporary pavements, facilities, utilities and installations shall also be protected until they are no longer required. When temporary supports and other protective means are no longer

required, they shall become the property of the Contractor and shall be removed and disposed of from the job site

V. Prior to placing import fill material, all areas to receive fill shall be scarified and compacted. □nless otherwise stated in the appurtenant Geotechnical report, the area shall be scarified to a minimum of eight (8) inches, material shall be moisture conditioned by wetting or drying to optimum moisture content, and compacted.

3.4 ROC□ EXCAVATION

A. Rock excavation shall include excavating, grading, and disposing of materials classified as rock and shall include the satisfactory removal and disposition of rock 1/2 cubic yard or more in volume.

B. No blasting is allowed.

3.5 GRADING

A. Grading shall consist of placing fill materials on site to contours and elevations with select fill or import fill materials.

B. Place fill material in continuous layers of maximum lifts of 8 inches (0.67 feet) and compact in accordance with schedule shown in this section, unless otherwise shown on the appurtenant Geotechnical Report.

C. Maintain optimum moisture content of fill materials to attain required compaction density.

D. Construct slopes to the lines and grades shown on the Drawings.

E. Slope grade away from the building minimum 2□ slope for a minimum distance of 10 feet, unless noted otherwise.

F. Make grade changes gradual. Blend slopes into level areas.

G. Round the tops of excavation slopes and ends of excavation.

H. Maintain completed slopes. Repair any slopes damaged by erosion.

I. Repair or replace items indicated to remain that are damaged by excavation or filling.

□. Identify any site low points which need positive drainage and make adjustments with approval from Project Manager prior to pouring concrete.

□. Protection of existing slopes using erosion control measures as required in Section 01 57 23 – Storm Water Pollution Prevention.

3.6 TOLERANCES

A. Section 01 45 00 – □uality Control□ Tolerances.

B. Immediately before placing subsequent layers of material, prepare the grading plane such that the grading plane□

1. Does not vary more than 0.05 foot above or below the grade established by the Engineer where Hot Mix Asphalt (HMA) or aggregate base are to be placed.
2. Does not extend above the grade established by the Engineer where concrete base or pavement is to be placed.
3. Beneath structural approach slabs or the thickened portion of sleeper slabs do not extend above the grade established by the Engineer.
4. At any point is within 0.05 foot above the grade established by the Engineer if the material to be placed on the grading plane is paid by the cubic yard.

3.7 COMPACTION

A. Relative compaction specifications apply to material whether in an excavation or an embankment.

B. The moisture content of material to be compacted to at least 95 percent must be such that the specified relative compaction is attained, unless specified otherwise in the appurtenant Geotechnical Report.

C. Compact earthwork to a relative compaction of at least 95 percent for at least a depth of□

1. 0.5 foot below the grading plane for the width between the outer edges of shoulders
2. 2.5 feet below the finished grade for the width of the traveled way including any parking lots or other vehicular areas□to extend plus two (2) feet on each side.

D. All fill material shall be compacted to at least 90 percent of maximum density as determined by ASTM D1557, Modified Proctor, beyond the depth specified above in 3.7.C, unless otherwise shown in the appurtenant Geotechnical Report.

3.8 STOC□PILING

A. Stockpile materials on site at locations indicated on the plans or as designated by Project Manager.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Prevent intermixing of soil types or contamination.

E. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

F. Stockpile unsuitable or hazardous materials on impervious material and cover to prevent erosion and leaching, until disposed of. Dispose unsuitable or hazardous material within 48 hours of removal.

3.9 STOC□PILE CLEAN□P

A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

B. Leave unused materials in neat, compact stockpile.

C. When borrow area is indicated, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

3.10 PROTECTION

A. Prevent displacement or loose soil from falling into excavation□maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

C. Protect structures, utilities, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION 31 05 13

SECTION 31 05 14 – SUBGRADE ENHANCEMENT GEOS□NTHETIC

PART 1 - GENERAL

1.1 S□MMARY

A. Section Includes□
   1. Subgrade Enhancement Geogrid
   2. Subgrade Enhancement Geotextile.

B. Related Sections□
   1. Section 31 05 13 – Clearing & Grubbing, Excavation, and Earthwork
   2. Project Geotechnical report (if available).

1.2 □NIT PRICES - MEAS□REMENT AND PAYMENT

A. Subgrade Enhancement Geogrid/Geotextile

   1. Basis of Measurement□By square yard measured parallel to the surface, not including the additional quantity used for overlaps.
   2. Basis of Payment□Includes furnishing, storing, maintaining, placing the subgrade enhancement geogrid/geotextile between the subgrade and the pavement structure or as shown on the Drawings.

1.3 REFERENCES

A. State Standard Specifications□

   1. Section 19-10 – Subgrade Enhancement Geosynthetic
   2. Section 96 - Geosynthetics

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Samples□ Submit samples of the geogrid when requested by the Project Manager.

C. Manufacturer's Certificate□ Certify Products meet or exceed specified requirements.

PART 2 - PRODUCTS

2.1 S□BGRADE ENHANCEMENT GEOGRID

A. Subgrade enhancement geogrid must be biaxial geogrid. Biaxial georgid must conform to Section 96-1.02P- Biaxial Georgid.

B. Biaxial geogrid must be a punched and drawn polypropylene material formed into an integrally formed biaxial grid.

2.2 S□BGRADE ENHANCEMENT GEOTEXTILE

A. Subgrade enhancement geotextile must be Class B2 as specified in Section 96-1.02O- Subgrade Enhancement geotextile, unless otherwise shown on the Drawings.

B. A polyester geotextile must not be used for subgrade enhancement geotextile within four (4) inches of recycled concrete.

PART 3 - E□ECUTION

3.1 INSTALLATION

A. Before placing subgrade enhancement geogrid/geotextile, remove loose or extraneous material and sharp objects that may come in contact with the geosynthetic material.

B. Place the geosynthetic□
   1. Under the manufacturer's instructions
   2. Longitudinally along the roadway alignment
   3. Without wrinkles.

C. Overlap the adjacent edges of the rolls at least two (2) feet. Overlap the ends of rolls at least two (2) feet in the direction of spread covering the subgrade enhancement geosynthetic. Geogrid or Geotextile should be extended all the way to the gutter lip.

D. Fold or cut the geosynthetic to conform to curves. Overlap any cut material at least two (2) feet. Hold the overlap in place with staples, pins, or small piles of material placed on the subgrade enhancement material.

E. Make any repairs to the geogrid or geotextile material by placing a new piece of material over the damaged areas with at least three (3) feet of overlap from the edges of the damaged area.

F. Compact the aggregate base with either a
   1. Smooth wheeled roller with no vibrations
   2. Rubber tire roller

G. Do not stockpile material on the geosynthetic.

H. Do not place any geosynthetic material that cannot be covered on the same day.

I. Do not operate equipment or vehicles directly on geosynthetic material unless one of the following conditions are met□
   1. Vehicles and equipment are
      a. Equipped with rubber tires
      b. Operated under 10 miles per hour
      c. Operated in a manner to avoid sudden braking and sharp turns
   2. At least 0.35 feet of aggregate base had been placed, spread, and compacted on the geogrid.

□. Do not compact the subgrade geosynthetic material with a sheepsfoot or other non-smooth roller.

□. Do not turn vehicles on material placed directly over geosynthetic material.

L. Before operating equipment on areas where geosynthetic material has been placed, spread and compact 0.5 feet of material on the geosynthetic.

END OF SECTION 31 05 13

SECTION 31 23 16 – UTILIT TRENCHING

PART 1 - GENERAL

1.1 SMMARY

A. Section Includes

1. The work of this Section includes all saw cutting, utility trenching, earthwork and removal of surface material as required for construction of the utility trenches. Such earthwork shall include, but may not necessarily be limited to, the loosening, removing, loading, transporting, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the work, which shall include, but not necessarily be limited to, the furnishing, placing, and removing of sheeting, shoring and bracing necessary to safely support the sides of all excavations all pumping, ditching, draining and other required measures for the removal or exclusion of water from the excavation the supporting of structures above and below the ground all backfilling around structures and all backfilling of trenches and pits restoration of surface, pavement markings, the disposal of excess excavated materials borrow of materials to make up deficiencies for fills and all other incidental earthwork.

2. All utility lines not owned by the City shall be designed and constructed in accordance with the rules and regulations of serving utilities. All utilities shall be installed prior to placement of the wearing surface of the street. It shall be the responsibility of the Contractor to conform to these provisions.

3. All broken concrete, pavement, base and other material and unsuitable and surplus excavated material shall be removed, hauled off the site and disposed of by the Contractor at a location obtained by the Contractor and approved by the Project Manager all at no additional cost to the City said costs and fees shall be considered as included in the prices bid.

4. All materials regardless of character and subsurface conditions shall be excavated to the depths indicated or specified. During excavation, suitable trench material that will be used as backfill shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins, or shall be separately stockpiled. All excavated materials not required or unsuitable for backfill shall be disposed of outside the Right-of-Way as specified in Section 5-1.20B(4) “Contractor–Property Owner Agreement” of the State Standard Specifications

5. All hazardous materials shall be handled in accordance with all regulatory agency requirements and as specified in Section 14-11.03, “Hazardous Waste Management”, of the State Standard Specifications. Contractor-generated hazardous waste shall be disposed of outside the Right-of-Way as specified in Section 14-11.06B, “Contractor-Generated Contaminated Soil”, of the State Standard Specifications. Within 5 business days of transporting hazardous waste, submit documentation of proper disposal from the receiving landfill.

6. Where there is not a specific bid item for Hazardous Waste Management, full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in handling of the hazardous waste shall be considered included in the price paid for various items of work and no separate compensation will be allowed therefor.

7. All surface openings shall be saw cut using a power-driven saw with a diamond blade to provide a smooth joint for both concrete and bituminous street and sidewalk surfaces. All the trenches shall be “T” cut trenches as per City Standard details.

8. Impact pavement breakers (drop hammers, stampers, jack hammers) are not permissible.

9. The requirements of Section 7-1.02□(6) and 7-1.02L(2) of State Standard Specifications concerning Trench Safety and Antitrust Claims shall be complied with in addition to the requirements of Article 6 and Section 1503 of the State of California Construction Safety Orders.

10. Grading shall be done as may be necessary to prevent surface water from flowing into trenches or other excavations. □nless otherwise indicated, excavation shall be by open cut except that short sections of a trench may be tunneled if the pipe, cable, or duct can be safely and properly installed, backfilled with Controlled Low Strength Materials not tamped in such tunnel sections.

B. Related Sections□
1. Section 01 33 00 - Submittal Procedures
2. Section 02 41 00 - Demolition
3. Section 31 05 13 – Clearing & Grubbing, Excavation, and Earthwork
4. Section 32 11 23 - Aggregate Base Courses
5. Section 32 12 16 - Asphalt Paving
6. Section 32 13 13 - Concrete Surface Improvements
7. Section 33 05 13 - Manholes and Structures
8. Section 33 11 13 - Water Distribution Piping
9. Section 33 12 13 – Water Service Connections
10. Section 33 31 13 - Sanitary Sewer Piping
11. Section 33 41 13 - Storm Drainage Piping

C. California Codes
   1. Titles 17 and 22 California Code of Regulations - Chapter 16 – California Waterworks Standards
   2. Water Main Separation Criteria Chapter 16 - California Waterworks Standards Article 6 - 64572

1.2 NIT PRICE - MEAS REMENT AND PAYMENT (For City CIP Projects only)

A. tility Trenching and Earthwork

   1. Measurement tility Trenching is typically not a measured item. However, when a bid item is included for tility Trenching or oint tilities Trenching, measurement, unless otherwise designated, shall be the number of linear feet of longitudinal trench centerline, measured along the design slope of the trench bottom, to the nearest foot to the conduit end, pay line, or outside face of connecting structure as designated. Any trenching or excavation for connecting structures shall be included in the measurement for the structure.

   2. Payment nless there is a separate bid item, full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in tility Trenching, complete in place including saw cut, excavating to required elevations, protecting the excavation in compliance with Cal/OSHA, removing and disposing of excavated materials, removing and disposing of any asphalt paving mats or fabrics, stockpiling excavated materials, dewatering, bedding, backfill, removing trench sheathing, shoring and bracing when no longer required, restoration and disposing of materials outside the Right-of-Way shall be considered as included in various items of work most closely related to and no separate compensation will be allowed therefor. Payment is not made for over excavated work nor for replacement materials, unless approved in writing by the Project Manager.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials

   1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils sing a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International

   1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil sing Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).

2. ASTM D1556 - Standard Test Method for Density and □nit Weight of Soil in Place by the Sand-Cone Method.
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
4. ASTM D1633 - Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders.
5. ASTM D2167 - Standard Test Method for Density and □nit Weight of Soil in Place by the Rubber Balloon Method.
6. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
7. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (□nified Soil Classification System).
8. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
9. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
10. ASTM D3776 - Standard Test Methods for Mass Per □nit Area (Weight) of Fabric.
11. ASTM D3786 - Standard Test Method for Bursting Strength of Textile Fabrics -Diaphragm Bursting Strength Tester Method
12. ASTM D4253 - Standard Test Methods for Maximum Index Density and □nit Weight of Soils □sing a Vibratory Table
13. ASTM D4254 - Standard Test Methods for Minimum Index Density and □nit Weight of Soils and Calculation of Relative Density
14. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
15. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity
16. ASTM D4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
17. ASTM D4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile
18. Cal/OSHA - Division of Occupational Safety and Health (DOSH) Administration

C. State Codes□
   a. California Labor Code
   b. Construction Safety Orders of the State of California

D. State of California (Caltrans) - State Standard Specifications□
   a. Section 25 - Aggregate Subbases
   b. Section 26 - Aggregate Bases

1.4 DEFINITIONS

A. □tility□Any buried pipe, duct, conduit, or cable.

B. □tility Structure□Maintenance holes, inlets, catch basins or vaults

1.5 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Excavation Protection Plan□Contractor's attention is directed to the provisions in Section 6705 of the California Labor Code. Prior to beginning any trench or structure excavation five (5) feet or more in depth, the Contractor shall submit to the Project Manager for review for compliance with Section 6705 of the Contractor's detailed excavation protection plan showing the design of all shoring, bracing, sloping of the sides of excavation, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trenches or structure excavations.

C. Product Data□Contractor shall submit data for various types of backfill, trenching and shoring plans, and geotextile fabric. Contractor shall submit laboratory results indicating all soils and backfill material are not hazardous.

D. Samples□Contractor shall submit fill samples, in air-tight containers for each type of fill to testing laboratory.

E. Materials Source□ Contractor shall submit name of imported fill materials suppliers.

F. Manufacturer's Certificate□Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.

G. Contractor shall submit a Safety Certification

1.6 □□ALITY ASS□RANCE

A. Capital Improvement Projects (CIP)□

1. All soil and backfill testing shall be done by a testing laboratory of the City's choice at the City's expense except as otherwise specified in Paragraph 1.6 B. below. The Contractor shall notify the Project Manager at least 48 hours prior to performing any utility excavation and before beginning of backfill materials.
2. Where soil material is required to be compacted to a percentage of maximum density the maximum density at optimum moisture content will be determined in accordance with ASTM D 1557. Where cohesionless, free draining soil material is required to be densified to a percentage of relative

density the calculation of relative density will be determined in accordance with ASTM D 4253 and D 4254. Field density in-place tests will be performed in accordance with ASTM D 2922, or by such other means acceptable to the Project Manager.

3. In case the first test and one re-test of the fill or backfill show non-compliance with the requirements, the Contractor shall accomplish such remedy as may be required to insure compliance. Subsequent re-testing after the first re-test to show compliance shall be at the Contractor's expense.

B. All Other Projects including but not limited to permit projects, utility company projects, development and redevelopment projects

1. All soil and backfill testing shall be by the Permitee/Developer/ tility Company's Geotechnical Engineer of Record and shall submit all testing information to the City.
2. Maintain one copy of the Construction Documents and City Standard Details and Specifications on site.

1.7 ALIFICATIONS

A. If the Contractor's excavation protection plan varies from the shoring system standards established in the Construction Safety Orders of the State of California, such alternative system plan shall be prepared, stamped and signed by a Civil or Structural Engineer licensed in the State of California at the Contractor's expense.

1.8 FIELD MEAS REMENTS

A. Contractor shall verify field measurements prior to fabrication.

1.9 COORDINATION

A. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 - PRODUCTS

2.1 S ITABLE FILL MATERIALS

A. Suitable backfill shall be a selected or processed clean, fine earth, rock, or sand, free from objectionable materials, vegetation, or other deleterious substances.

B. All import material from a source outside the project limits for use as backfill shall be clean soil, not hazardous, free from organic material, trash, debris, rubbish,

broken Portland cement concrete, bituminous materials or other objectionable materials. Whenever the Contractor elects to use imported material for backfill, it shall be delivered not less than 10 days prior to the intended use and a sample of the material shall be submitted to the Project Manager for review. The sample shall have a minimum dry weight of 100 pounds and shall be clearly identified as to source, including street address and community of origin. The Project Manager will determine the suitability, the minimum relative compaction to be attained, and the placement method. If the backfill material is found not suitable, the Contractor shall remove material from the site and dispose of at no additional cost to the City.

C. Should the imported material not be substantially the same as the approved sample, it shall not be used for backfill and shall be removed from the job site at the Contractor's expense.

D. The densification method for imported material authorized by the Project Manager will be dependent upon its composition, the composition of the in-place soil at the point of placement, once the relative compaction to be obtained.

E. The following are the types of backfill materials□

1. **Sand** shall be a material with 100 percent passing a 3/8” sieve, at least 90 percent passing a No. 4 sieve, and a sand equivalent value not less than 30.

2. **Class 2 Aggregate Base** shall be crushed rock aggregate base material meeting the requirements of Section 26, “Aggregate Bases”, for 3/4" maximum aggregate gradation, of the State Standard Specifications. Recycled Aggregate Base is an acceptable backfill material.

3. **Controlled Low Strength Materials (CLSM)** shall be fluid workable mixture of cement, pozzolan, aggregate and water mixed in accordance with ASTM C94. Cement shall be Type II Cement and comply with ASTM C150. Pozzolan shall be added to improve the flowability and shall be Type F in accordance with the requirements of ASTM C618. Water must be free of oil, salts, and other impurities that adversely affect the backfill. Aggregate must consist of well graded mixture of crushed rock, soil, or sand with a maximum aggregate size of 1/2-inch. 100percent of the aggregate shall pass the 3/4" sieve and not more than 30-percent retained on the 3/8” sieve and not more than 12 percent shall pass the No. 200 sieve. Air entraining admixtures shall be added to improve the workability and shall in accordance with the requirements of ASTM C260. Density of CLSM shall be between 120 pounds per cubic feet to 135 pounds per cubic feet. Minimum 28-day compressive strength for CLSM shall be between 50psi minimum to 100psi for depths 20 feet or less in height of cover. For depths greater than 10 feet in height, CLSM mix shall have a minimum 28-day compressive strength of 100 psi.

4. **Native** material shall be material obtained from on-site excavations, provided the materials are not classified as unsuitable. Native materials shall be free of stones, lumps, rubbish, debris, organic material, broken concrete or bituminous surfacing over 4 inches in diameter, objectionable material, vegetation, and deleterious substances.

5. **Class 2 Permeable Material** shall be hard, durable, crushed stone, or gravel, and free from slaking or decomposition under action of alternate wetting or drying, uniformly graded, and shall meet the requirements of Section 68-2.02F for Class 2 “Permeable Material”, of the State Standard Specifications.

6. **Topsoil** shall be material which has been obtained at the site or may be imported and shall meet the requirements of Section 32 90 00 - Landscape Work. Removal of topsoil shall be done after the area has been stripped of vegetation and debris as specified.

2.2 □NS□ITABLE BAC□FILL MATERIALS

A. Any material determined to be hazardous is defined as unsuitable material.

B. □nsuitable soils for backfill material shall include soft, spongy, unstable or other similar soils which, when classified under ASTM D 2487, fall in the classifications of Pt, OH, or OL. Types CH and MH soils will be permitted in unimproved areas only where required compaction and stability can be demonstrated. In addition, any soil which cannot be compacted sufficiently to achieve the percentage of maximum density specified for the intended use, shall be classified as unsuitable material.

C. Washed, smooth rock (pea gravel) is classified as unsuitable material.

2.3 FILTER FABRIC

A. Filter Fabric shall be permeable, non-woven synthetic fabric meeting the requirements of Section 96-1.02B,” Filter Fabric” of the State Standard Specifications. Filter fabric shall have minimum Grab breaking load in each direction of 157 pounds, a minimum puncture strength of 310 pounds, apparent opening size between 40 and 70.

2.4 TEMPORARY STEEL PLATES

A. When approved by the Project Manager, the Contractor may use steel plate bridging in-lieu of backfill and temporary asphalt where the roadway surface is to be opened to traffic. All steel plates shall be without deformation. Inspectors shall

determine the trueness of steel plates by using a straight edge and shall reject any plate that is permanently deformed.

B. Trench plates shall be coated with Antiskid type surface meeting State Standard Specifications of a nominal Coefficient of friction of 0.35 in accordance with California Test Method 342 (Appendix H).

C. The following table shows the advisory minimal thickness of steel plate bridging required for a given trench width (A-36 grade steel, designed for HS20-44 truck loading per Caltrans Bridge Design Specifications Manual).

Trench Width	Minimum Steel Plate Thickness (inches)
10 inches	1/2 inch
1 feet 11 inches	3/4 inch
2 feet 7 inches	7/8 inch
3 feet 5 inches	1 inch
4 feet 3 inches	1-3/4 inch

NOTE□For trench width spans greater than 4 feet 3 inches, a structural design shall be prepared, signed, and stamped by a California Registered Civil Engineer.

D. A Rough Road signs (W8-8) with black lettering on an orange background shall be used in advance of steel plate bridging.

PART 3 - E□ECUTION

3.1 DEFINITIONS - PIPE □ONE, BEDDING, TRENCH & FINAL □ONE

A. **Pipe □one:** Pipe □one is defined as the vertical trench cross-section between the trench subgrade, which is 0.4 times the outside diameter of the pipe in inches below the bottom surface of the pipe or 4” minimum whichever is greater, and 12 inches above the top surface of the pipe.

B. **Bedding:** Bedding is defined as that portion of the Pipe □one between the trench subgrade, which is 0.4 times the outside diameter of the pipe in inches below the bottom surface of the pipe or 4” minimum whichever is greater and a level line from the bottom of the pipe.

C. **Trench □one:** The Trench □one is defined as the vertical trench cross-section between top of Pipe □one and 36” below finish paved surface. In unpaved areas, the Trench □one shall be the vertical cross-section between the top of Pipe □one and 24 inches below finished unpaved or landscape surface.

D. **Final □one:** The Final □one is defined as the upper 36 inches of vertical cross-section below the finished paved surface. In unpaved or landscaped areas, the Final □one is the upper 24 inches of vertical cross-section below the finished surface.

E. **Pavement Section:** The Pavement Section is defined as the engineered layers of pavement and base conforming to the hot mix asphalt pavement or concrete pavement and aggregate base thickness as shown on the Plans.

F. **Bac□fill:** Backfill is considered to be the material used to fill the portion of a trench between the pipe Bedding and the roadway subgrade or finish surface in non-roadway areas

G. **Trench Plugs:** Trench plugs are temporary barriers placed within an open trench excavation in order to minimize the volume and velocity of trench water flow at the base of slopes and to reduce erosion in the trench, preventing the trench from becoming a subsurface drainage path. These trench plugs may consist of unexcavated portions of the trench, compacted subsoil, sandbags, or some functional equivalent.

3.2 PIPE □ONE BAC□FILL MATERIALS

A. Bedding as defined in this section shall be Sand or Class 2 Aggregate Base.

B. Pipe □one backfill, excluding bedding as defined in this section shall be
   1. Sand for plastic pipe
   2. Sand or Class 2 Aggregate Base for ductile iron pipe, vitrified clay pipe and reinforced concrete pipe.

C. For dry utility and/or joint trench, Pipe □one backfill shall conform to latest Pacific Gas and Electric Company (PG&E) Greenbook's Engineering Material Specification No. 4123 - Backfill Sand or meeting the utility owner's specifications.

D. Trench plugs shall be provided at minimum intervals of 200 feet where pipelines are installed on grades exceeding 4 percent, and where backfill materials have gradation less than 10 percent passing a No. 4 sieve.

E. □nless otherwise specified Bedding and backfill around sub-drainage systems shall be minimum of 12 inches of Class 2 Permeable Material as specified in Section 68-2.02F(3) of the State Standard Specifications.

3.3 TRENCH □ONE BAC□FILL MATERIALS

A. Trench □one backfill as defined in this section shall be Class 2 Aggregate Base in paved areas.

B. Native backfill material shall be used in unpaved or landscape areas.

3.4 FINAL □ONE BAC□FILL MATERIALS

A. Final □one backfill as defined in this section shall be
   1. Native backfill in unpaved areas
   2. Native backfill with 6 inches thick minimum Top Soil material in landscape areas.
   3. Class 2 Aggregate Base in paved areas below the Pavement Section.

3.5 TRENCH WIDTH & LENGTH

A. Minimum Trench width shall be as follows□

□tility Pipe Outside Diameter (O.D.) (inches)	Minimum Trench Width (inches)
For Pipe Sizes under 12 inches	Pipe O.D. □ 12 inches
For Pipe Sizes between 12 inches to 48 inches	Pipe O.D. □ 24 inches
For Pipe Sizes above 48 inches	Pipe O.D. □ 48 inches

For Dry □tilities (electrical, telephone, cable, street light and traffic signal conduits), the trench width shall be 18” minimum.

B. Maximum Length of Open Trench□Except by permission of the Project Manager, the maximum length of open trench where prefabricated pipe is used shall be the distance necessary to accommodate the amount of pipe installed in a single day and shall not exceed 300 feet. The distance is the collective length at any location, including open excavation, pipe laying and appurtenant construction and backfill which has not been temporarily re-surfaced.

C. Except by permission of the Project Manager, the maximum length of open trench in any one location where concrete structures are cast in place will be that which is necessary to permit uninterrupted progress.

3.6 PREPARATION

A. Call Local □tility Line Information service at □SA North 811 not less than three working days before performing Work.

   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Contractor's Licensed Land Surveyor shall provide all construction surveying and staking prior to beginning any trenching and excavation.

C. Protect bench marks, street monuments, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Contractor shall maintain and protect above and below grade utilities unless otherwise noted.

E. Establish temporary traffic control per Contractor's approved traffic control plans when trenching is performed in public right-of-way. Relocate controls as required during progress of Work.

3.7 SHEETING AND SHORING

A. Sheet, shore, and brace excavations more than 5 feet deep to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.

B. All sheeting, shoring and bracing shall conform to Cal/OSHA.

C. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

D. Design sheeting and shoring to be removed at completion of excavation work.

E. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.

F. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

G. **Access to Trenches** - A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for the employees, the Contractor, and any other personnel.

H. **Bracing Excavations** - The manner of bracing excavations shall be as set forth in the rules, orders and regulations of the Division of Industrial Safety of the State at California.

3.8 TEMPORARY ACCESSIBLE PEDESTRIAN BRIDGES

A. Temporary Accessible Pedestrian bridges of approved construction not less than four feet in width in compliance with ADA, and provided with hand rails and supports of dressed lumber, shall be installed over trenches at all crosswalk

intersections, and at such other points where traffic conditions make it advisable. Substantially constructed bridges, adequate for handling all vehicular traffic, shall be installed over any trench or other excavation in a street intersection, whenever such excavation is in excess of half the width of the street crossing. Adequate bridges shall be provided to make possible the safe and full use of all driveways or roadways used to move vehicles from the public street onto private property.

B. All bridges required to be installed shall be maintained in place as long as the condition of the work requires their use for the safety and convenience of the public. Removal or relocation of these temporary bridges shall be at the Contractor's own discretion and risk.

3.9 TRENCHING AND EXCAVATION

A. All excavations for utilities, pipelines and Minor Structures shall be open cut trenches, unless otherwise shown.

B. Do not advance open trench more than 200 feet ahead of installed pipe.

C. Cut trenches to widths per Standard Specifications or as indicated on the Drawings and sufficiently wide to enable installation and allow inspection. Remove water or materials that interfere with Work.

D. Excavate trenches to depth per Standard Specifications or as indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and utility pipes.

E. Do not interfere with 45-degree bearing splay of foundations.

F. When Project conditions permit, slope side walls of excavation per Cal/OSHA. When side walls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this section.

G. Excavation and other work under or adjacent to existing pipe lines, cables, conduit runs or structures of any kind, shall be prosecuted in such a manner as not to interfere with the safe operation and use of such installations. Should any damage be incurred to existing facilities during the Contractor's operations, the Contractor shall immediately notify the proper owners or authorities, and shall arrange for the immediate repair of same at the Contractor's own expense.

H. Excavations for appurtenant structures, such as but not limited to maintenance holes, transition structures, junction structures, vaults, valve boxes, catch basins, thrust blocks, and boring pits shall, for the purpose of shoring and bracing, be deemed to be in the category of trench excavation.

I. Excavation shall include the removal of all water and materials of any nature which interfere with the construction work. Removal of ground water to a level

below the structure sub-grade will be necessary unless specified otherwise. The water removed during excavation shall not be directed to storm drain system. The contractor shall apply to Delta Diablo for a Discharge Permit to dispose the water encountered during excavations into the sanitary sewer system.

. Should the Contractor elect to tunnel or jack any portion, he shall first obtain approval from the Project Manager. Payment for such work will be made as though the originally specified method of construction has been used.

. Trenching, tunneling, boring and jacking shall comply with the applicable provisions of the State Standard Specifications, these specifications and the plans. All work shall comply with the applicable Federal, State and local laws, regulations, codes and ordinances, and in addition, shall meet the respective utility agencies requirements for joint trench construction for installation of conduits, including, but not limited to, safety, depth, size, type, connection and other regulations and shall be considered as included in the various contract items of work and no additional compensation shall be made therefore.

L. Pipe will be carefully inspected in the field before and after laying. If any cause for rejection is discovered in a pipe after it has been laid, it shall be subject to rejection. Any corrective work shall be approved by the Project Manager and shall be at no cost to the City.

M. When connections are to be made to any existing pipe, conduit, or other appurtenances, the actual elevation or position of which cannot be determined without excavation, the Contractor shall excavate for, and expose, the existing improvement before laying any pipe or conduit. The Project Manager shall be given the opportunity to inspect the existing pipe or conduit before connection is made.

N. Gravity flow pipe shall be laid downstream to upstream with the socket or collar ends of the pipe upgrade unless authorized by the Project Manager.

O. Concrete pipe with elliptical reinforcement shall be laid with the minor axis of the reinforcement cage in a vertical position.

P. Any adjustments in line or grade of not more than 0.1 feet up or down which may be necessary to accomplish the intent of the plans shall be considered as included in the various contract items of work and no additional compensation will be made therefore.

. Locations of existing underground utilities and structures, insofar as they ore known from information furnished by the respective utility companies and agencies, have been shown on the plans. The City assumes no responsibility for the accuracy or completeness of said data, which is offered solely for the convenience of the Contractor it shall be the Contractor’s responsibility to verify the location of these obstructions, and to locate any other underground utilities or structures, which might interfere with the Contractor’s operations.

R. If soft spongy, unstable or other similar material is encountered upon which the bedding material or pipe is to be placed, this unsuitable material shall be removed to a depth ordered by the Project Manager and replaced with bedding material suitably densified. Additional bedding so ordered, over the amount required by the plans or specifications, will be paid for as provided in the Proposal or the Technical Specifications. If the necessity for such additional bedding material has been caused by an act or failure to act on the part of the Contractor, or is required for the control of ground water, the Contractor shall bear the expense of the additional excavation and bedding.

S. Where pipe culverts are to be installed in new embankment, it shall first be constructed to the required height as shown on the plans, and for a distance each side of the culvert location of not less than five (5) times the diameter of the culvert, after which the trench shall be excavated with sides as nearly vertical as soil conditions will permit and culvert installed

T. For excavations in landscape areas, all damaged irrigation systems, including irrigation piping and electrical wiring shall be repaired and restored to the original condition on the same day they are damaged. All landscape surface areas shall be restored to its original condition unless specified otherwise.

. No tree roots over 1.5 inches in diameter shall be cut without the authorization from the Project Manager or City's Arborist. If existing roots over 1 inch in diameter are cut during the course of work, the cut faces shall be thoroughly coated with emulsified asphalt made especially for use on cut or damaged plant tissues. All exposed roots shall be covered with wet burlap to prevent them from drying out.

V. Trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.

W. Correct over excavated areas with compacted backfill as specified for authorized excavation as directed by Project Manager.

X. Remove excess subsoil not intended for reuse, from site. The legal disposal of excess materials shall be the responsibility of the Contractor.

Y. se of explosives and blasting material will not be permitted.

. Stockpile excavated material in area designated on site as shown on the Contractor's approved Staging Plans.

AA. In areas of high vehicular or pedestrian volumes, the Project Manager may order the immediate removal of excavated material and that sidewalks and gutters be kept clean at all times.

BB. The Contractor may transport or backhaul material to be used as backfill material from any portion of a project to any other portion or line of the same project, or from any project being constructed under one contract to any other project being

constructed under that same contract. Such transported material shall be clean soil, free from organic material, trash, debris, rubbish, or other objectionable substances except that broken Portland cement concrete or bituminous type paving allowable for the type of backfill specified may be permitted

3.10 OVER-EXACAVATION

A. When ordered by the Project Manager, whether or not indicated in the project plans and specifications, trenches shall be over-excavated beyond the depths shown and such over-excavation shall be to the depths ordered the Project Manager. Backfill for over excavation backfill shall be Class 2 Permeable materials. For wet trenches, Contractor shall install a filter fabric on top and below the permeable materials.

3.11 PIPE LAYING

A. Lay pipes to lines and grades indicated on Drawings, with uniform bearing under the full length of the barrel of the pipe. Project Manager reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.

B. Pipe sections shall be laid and joined in such a manner that the offset of the inside of the pipe at any joint will be held to a minimum at the invert. The maximum offset at the invert of pipe shall be 1 percent of the inside diameter of the pipe or 3/8 inch, whichever is smaller.

C. After the joints have been made, the pipe shall not be disturbed in any manner.

D. At the close of work each day, or whenever the work ceases for any reason, the end of the pipe shall be securely closed unless otherwise permitted by the Project Manager.

E. All pipe shall be installed in accordance with the manufacturer's recommendations.

F. The interior of the pipe shall be clean and free from foreign materials before sections of the pipe are connected. The open ends of the pipe shall be sealed with watertight plugs or other approved means at times when pipe laying is not in progress. □nder no conditions shall ground water be allowed to enter the pipe.

G. Dropping or bumping of pipe will not be permitted. Care shall be exercised by the Contractor to prevent damage to the pipe during handling. There shall be no distortion or deflection of the pipe which might induce damage to the pipe, pipe lining, pipe coating or joints.

H. Pipe will be carefully inspected in the field before and after laying. In no event shall rejected pipe be installed. Any pipe failing to pass inspection after laying shall be subject to rejection. Any corrective work shall be approved by the Project Manager and shall be at no cost to the City.

I. The Contractor shall provide a minimum of twelve (12) inches vertical clearance between the pipe and proposed or existing facilities and improvements or per the Utility owner's requirements. A minimum of twelve inches (12 inches) vertical clearance between the pipe and sanitary sewers, gas or petroleum lines and telephone cables shall be provided. Clearance for electrical conduits shall be as provided in the applicable General Safety Orders or utility regulations. Sanitary sewer and water lines shall be 10 feet horizontally clear and not in the same trench and in conformance with Water Main Separation Criteria□Chapter 16 - California Waterworks Standards Article 6 - □64572, unless specifically shown or directed by the Project Manager.

□. Every precaution shall be taken against floating the pipe. In case of such floating, the Contractor shall replace the pipe to its proper location at his own expense, and replace any damaged pipe which may have resulted.

3.12 PLACING AND SPREADING OF BAC□FILL MATERIALS

A. Regardless of compaction method, backfill shall be evenly spread in horizontal layers so that when compacted each layer shall not exceed eight (8) inches in thickness. During spreading, each layer shall be thoroughly mixed as necessary to promote uniformity of material and uniformity of moisture throughout backfill materials. Material placed in excess of eight (8) inches in thickness shall be removed and re-compacted with the next lift.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

C. Water shall be added before or during spreading until the proper moisture content is achieved where the backfill material moisture content is below the optimum moisture content.

D. Where the backfill material moisture content is too high to permit the specified degree of compaction, the material shall be dried or replaced until the moisture content is satisfactory.

E. □nless otherwise approved by the Project Manager, all trenches within the existing roadway shall be backfilled completely and the roadway made passable to traffic at the end of each day's operation.

F. Backfill, or fill, as the case may be, for cast-in-place structures such as, but not limited to, manholes, transition structures, junction structures, vaults, valve boxes and reinforced concrete conduits shall start at the sub-grade for the structure.

G. Except where the pipe must remain exposed for force main leakage tests and subject to the provisions herein, the Contractor shall proceed as soon as possible with backfilling operations. Care shall be exercised so that the conduit will not be damaged or displaced. If the pipe is supported by concrete bedding placed between the trench wall and the pipe, the reminder of any bedding material shall be placed to 1 foot over the top of the conduit. The backfill above the concrete bedding shall not be placed nor sheeting pulled until the concrete has attained sufficient strength as required by the Project Manager.

H. Trenches shall not be backfilled until all required pressure tests are performed and until the utilities systems as installed conform to the requirements specified in the several sections covering the installation of the various utilities.

I. Voids left by the removal of sheeting, piles and similar sheeting supports shall be immediately backfilled and compacted into place to assure dense and complete filling of the voids.

. After the placing of backfill has been started, the Contractor shall proceed as soon as practicable with compaction.

. Backfill shall be mechanically compacted by means of tamping rollers, sheepsfoot rollers, pneumatic tire rollers, vibrating rollers, or other mechanical tampers. All such equipment shall be of a size and type approved by the Project Manager. Impact-type pavement breakers (stompers) will not be permitted. Sheepsfoot equipment shall be limited to outside the Pipe one.

L. Permission to use specific compaction equipment shall not be construed as guaranteeing or implying that the use of such equipment will produce required results or will not result in damage to adjacent ground, existing improvements, or improvements installed under the contract. The Contractor shall make its own determination in this regard.

M. Material for mechanically compacted, backfill shall be placed in lifts which, prior to compaction, shall not exceed the thickness specified above.

N. Mechanically compacted backfill shall be placed in horizontal layers of thickness compatible to the material being placed and the type of equipment being used. Each layer shall be evenly spread, moistened (or dried, if necessary), and then tamped, vibrated or rolled until the specified relative compaction has been attained.

3.13 COMPACTION OF BAC FILL MATERIALS

A. Compaction of backfill materials shall be in accordance with ASTM D1557 for cohesive type soils and in accordance with ASTM D4253 and D4254 for cohesionless, free-draining granular type materials. The following compaction test requirements shall apply

Location of backfill	Relative Compaction
Pipe □one (including Bedding)	90
Trench □one	90
Final □one (paved areas, excluding the Pavement Section)	95
Final □one (unpaved or landscape areas)	90
Over-excavated areas	90
Around minor structures	90
Beneath minor structures	95

B. Compaction of Pipe □one including Bedding material shall be by hand tamping, hand held mechanical vibrating equipment or other means approved by the Project Manager.

C. Each layer of backfill material shall be mechanically compacted to the specified percentage of maximum density. Equipment that is consistently capable of achieving the required degree of compaction shall be used and each layer shall be compacted over its entire area while the material is at the required moisture content range. Flooding, ponding, or jetting shall not be used.

D. □se hand operated power compaction equipment where use of heavier equipment is impractical or restricted due to weight limitations.

E. Backfill within 3 feet of structures or walls shall be compacted with hand operated equipment. Do not use equipment weighing more than 10,000 pounds closer to walls than a horizontal distance equal to the depth of the fill at that time.

3.14 TEMPORARY RES□RFACING

A. □nless permanent pavement is placed immediately, temporary bituminous re-surfacing 2 inches thick shall be placed and maintained in streets and parking lot areas and at locations determined by the Project Manager wherever excavation is made through pavement, sidewalk or driveways. Temporary asphalt shall be placed flush with the adjacent pavement grade.

B. Hot Mix Asphalt shall be used for temporary resurfacing when permanent surfacing is not to be placed within seven (7) days.

C. In sidewalk areas the temporary bituminous re-surfacing shall be at least 1-inch-thick, in all other areas it shall be at least 2 inches thick. At major intersections and other critical locations, a greater thickness may be ordered. Temporary resurfacing shall be placed as soon as the condition of the backfill is suitable to receive it and shall remain in place until the condition of the backfill is suitable for permanent resurfacing. Surfacing shall be maintained in a smooth and level condition. The temporary paving shall conform to the requirements of Section 39

of the State Standard Specifications and unless specified differently in the Technical Specifications, may use any of the mixes allowed in Section 39 for such temporary surfacing of trenches.

D. The re-surfacing shall be placed, rolled, maintained, removed and disposed of by the Contractor.

3.15 PAVEMENT SECTION REPLACEMENT

A. □nless otherwise specified on the plans or in the Technical Specifications, all existing pavement surface improvements damaged or removed as a result of the Contractor's operations shall be reconstructed by the Contractor per City of Pittsburg Standard Detail R-5, to same dimensions, except for pavement thickness, and with the same type materials used in the original work. Trench resurfacing shall match the existing pavement thickness, but no less than 3 inches.

B. The type and thickness of the replacement pavement, base, cement treated base, and sub-base for trenches in public streets and highways shall be as shown on the plans or designated by the Project Manager.

C. □nless otherwise specified, the following requirements shall govern□

Sub-base□ Existing sub-base shall be replaced with Class 2 Aggregate Base. The thickness of sub-base replacement shall be designated by the Project Manager, and that portion of trench backfill lying within such designated limits shall be compacted in accordance with this Section and shall not be less than ninety-five (95) percent as determined by California Test Method No. 216.

D. Surfacing of trenches in new street sections shall be as required to match the Pavement Section as shown on the project plans and specifications.

3.16 TOLERANCES

A. Section 01 45 00 - □uality Control□Tolerances.

B. Top Surface of Backfilling under paved areas□Plus or minus 1/2 inch from required elevations.

C. Top Surface of General Backfilling□ Plus or minus 1/2 inch from required elevations.

3.17 FIELD □□ALITY CONTROL

A. Section 01 45 00 - □uality Control□Field inspecting, testing, adjusting, and balancing.

B. Perform laboratory material tests in accordance with ASTM D1557, ASTM D698, and AASHTO T180.

C. Perform in place compaction tests in accordance with the following□

1. Density Tests□ASTM D1556, ASTM D2167, or ASTM D2922.
2. Moisture Tests□ASTM D3017.

D. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest at the Contractor's expense.

3.18 PROTECTION OF FINISHED WOR□

A. Section 01 77 00 - Closeout Requirements□Contractor shall protect all the finished work and any damage to the finished work shall be replaced at the Contractor's expense.

3.19 TEMPORARY STEEL PLATE BRIDGING

A. When backfilling operations of an excavation in the roadway including bike lanes, sidewalks and parking strip, whether transverse or longitudinal, cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring shall be required to preserve unobstructed traffic and pedestrian flow. In such cases, the following conditions shall apply□

1. Steel plates used for bridging must extend a minimum of 12-inches beyond the edges of the trench.
2. Steel plate bridging shall be installed to operate with minimum noise or movement.
3. The trench shall be adequately shored to support the bridging and traffic loads.
4. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method (2) described below, is used.
5. Bridging shall be secured against displacement by using adjustable cleats, shims, or other devices.

B. The Contractor is responsible for maintenance of the steel plates, shoring, asphalt concrete ramps, and ensuring that they meet minimum specifications.

C. All work done by the City crews for lack of maintenance of the temporary steel plates as specified above by the Contractor shall be back charged to the Contractor.

D. Steel plate bridging shall not exceed four (4) consecutive working days in any given week and should not be left through the weekend, unless approved by the Enigneer.

E. Steel plate bridging and shoring shall be installed using either Method (1) or (2)□

1. **Method 1** For speeds of 45 MPH or greater□

The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate. Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels pre-drilled into the corners of the plate and drilled 2-inches into the pavement. Subsequent plates are to be butted and tack welded to each other.

2. **Method 2** For speeds less than 45 MPH□

Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels pre-drilled into the corners of the plate and drilled 2-in into the pavement. Subsequent plates are to be butted and tack welded to each other. Fine graded asphalt concrete shall be compacted to form ramps, maximum slope 8.5 percent with a minimum 12-inch taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fines of asphalt concrete mix, concrete slurry, epoxy or an equivalent that is satisfactory to the Project Manager.

END OF SECTION 31 23 16

SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Class 2 Aggregate Base course.

B. Related Sections:

1. Section 31 23 16 - Utility Trenching: Compacted fill under base course.
2. Section 32 12 16 - Asphalt Paving: Binder and finish asphalt courses.
3. Section 32 13 13 - Concrete Surface Improvements: Finish concrete surface course.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Aggregate Base Course:

1. Basis of Measurement: By the cubic yard as specified in the bid form. Quantities of aggregates will be calculated on the basis of dimensions shown on the plans. No allowance will be made for aggregate rejected or placed outside said dimensions unless otherwise order by the Project Manager.

2. Aggregate Base used under concrete work such as curb and gutter, valley gutter, sidewalk, driveways, curb ramps, median curbs, median nose surfacing, bus turnouts, retaining curbs, and in utility trenches shall not be measured unless specified otherwise in the Contract.

3. Basis of Payment: Includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, in aggregate base supplying fill material, stockpiling, scarifying subgrade surface, placing where required, watering, dust palliative, leveling, compacting and certifying the top of aggregate base design grades.

4. Aggregate Base used under concrete work such as curb and gutter, valley gutter, sidewalk, retaining curbs, etc. shall considered incidental to the item most closely related to and no separate compensation will be allowed therefor. Aggregate base used in utility trenches shall be considered incidental to the cost per linear foot paid for the utility pipes as shown on the bid form and no separate compensation will be allowed therefor.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials

1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.

B. Caltrans Standard Specifications

1. Section 26 Aggregate Base.

C. CalRecycle

1. http://www.calrecycle.ca.gov/ConDemo/Aggregate/

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data

1. Submit data for geotextile fabric and herbicide.

C. Samples Submit, in air-tight containers, 5 lbs sample of each type of aggregate fill to testing laboratory or as required by the City.

D. Submit aggregate base gradation, R-value requirements, and sand equivalent requirements as specified in this sections.

E. Aggregate samples must not be treated with lime, cement, or chemicals before testing for durability index.

F. Aggregate from untreated reclaimed processed asphalt concrete, Portland cement concrete, lean concrete base or cement-treated base is not considered treated.

G. If the aggregate gradation test results, sand equivalent test results, or both do not comply with the Contract compliance requirements, remove the aggregate base or request a payment deduction. If the payment deduction request is authorized, $2.00/cubic yard is deducted.

H. Materials Source Submit name of aggregate materials suppliers.

I. Manufacturer's Certificate Certify products meet or exceed specified requirements.

. Field survey and certify the top of aggregate base design grades as specified in Section 01 71 23 - Construction Surveying.

□. Supplier shall submit certification data that aggregate base meets the requirements per Caltrans Testing Methods.

1.5 S□STAINABLE DESIGN S□BMITTALS

A. Manufacturer's Certificate□Certify products meet or exceed specified sustainable design requirements.

1. Materials Resources Certificates□
   a. Certify source and origin for salvaged and reused products.
   b. Certify recycled material content for recycled content products.
   c. Certify source for regional materials and distance from jobsite.

1.6 □□ALITY ASS□RANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work according to City Standards.

PART 2 - PRODUCTS

2.1 S□STAINABILITY CHARACTERISTICS

A. Materials and Resources Characteristics□

1. Recycled Content Materials□Furnish materials with maximum available recycled content.

2. Regional Materials□ Furnish materials extracted, processed, and manufactured within 500 miles of jobsite.

2.2 AGGREGATE MATERIALS

A. Aggregate must be clean and consist of any combination of the following□
   1. Broken Stone
   2. Crushed Gravel
   3. Natural rough-surfaced gravel
   4. Sand
   5. Processed reclaimed asphalt concrete, Portland cement concrete, lean concrete base, or cement-treated base.

B. □uality□Aggregate base furnished for the base material shall be free from vegetable matter and other deleterious substances, and shall be of such nature

that it can be compacted readily under watering and rolling to form a firm stable base.

C. Maximum aggregate size shall be 3/4-inch maximum aggregate gradation unless specified otherwise.

D. Class 2 Aggregate Base ASTM D2940 graded type. Conform to Section 26 of the Caltrans Standard Specifications. Aggregate gradation for 3/4-inch maximum aggregate base must be within the percentage passing limits for the sieve sizes shown in the following table

Aggregate Gradation

Sieve Size	Percentage Passing	
	Operating Range	Contract compliance
2”	-	-
1-1/2”	-	-
1”	100	100
3/4"	90-100	87-100
No. 4	35-60	30-65
No. 30	10-30	5-35
No. 200	2-9	0-12

E. The aggregate quality characteristic must comply with the requirements shown in the following table

Aggregate Quality Characteristics

Quality Characteristics	Requirement	
	Operating Range	Contract compliance
Resistance (R-value, min.)	-	78
Sand Equivalent (min.)	25	22
Durability Index (min.)	-	35

PART 3 - E ECUTION

3.1 EXAMINATION

A. Verify compacted subgrade is dry and ready to support paving and imposed loads.
   1. Proof roll subgrade with minimum two perpendicular passes to identify soft spots unless specified otherwise in the Project Geotechnical Report.
   2. Remove soft subgrade and replace with compacted fill unless specified otherwise in the Project Geotechnical Report or as ordered by the Project Manager.

B. Immediately before spreading aggregate base, the subgrade must comply with the specified compaction and elevation tolerance for the material involved and be free from loose or extraneous materials.

C. Contractor may use aggregate base to fill areas of the subgrade that are lower than the grade as shown on the Drawings.

3.2 PREPARATION

A. Correct irregularities in subgrade gradient and elevation by scarifying, reshaping, and re-compacting.

B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

A. Deliver uniform thickness of aggregate base to the roadbed. Deposit aggregate base in layers or windrows.

B. Spread and shape the aggregate base to such thickness that after watering and compacting, the completed aggregate base is within the tolerances specified below in Section 3.5.

C. Avoid material segregation. Segregated materials shall be re-mixed until uniform.

D. Aggregate base must be free from pockets of coarse or fine material.

E. If the aggregate base thickness shown is 0.50 foot or less, spread and compact the aggregate base in one layer. If the thickness shown is more than 0.50 foot, spread and compact the aggregate base in at least 2 approximately equal layers in thickness. The compacted thickness of any one later must not exceed 0.50 foot.

F. At locations inaccessible to spreading equipment, spread and compact aggregate base by any means that will attain the specified requirements by hand compaction if needed.

G. Apply water to moisture condition the aggregate base as needed for optimum moisture content for compaction.

H. Compact each aggregate base layer to at least 95 percent relative compaction.

I. If bi-axial is installed as shown on the Drawings or as directed by the City's Project Manager, compact aggregate base with either (1) a smooth-wheeled roller or (2) a rubber-tired roller. Do not use vibratory devices during compaction.

. Level and contour surfaces to elevations, profiles, and gradients indicated.

□. Maintain optimum moisture content of fill materials to attain specified compaction density.

L. Correct areas of aggregate base that do not comply with the described thickness.

3.4 TOLERANCES

A. Section 01 45 00 - □uality Control□Tolerances.

B. Maximum Variation from Flat Surface□1/4 inch measured with 10-foot straight edge.

C. Maximum Variation from Thickness□1/4-inch.

D. Maximum Variation from Elevation□1/4-inch.

3.5 FIELD □□ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements□Field inspecting, testing, adjusting, and balancing.

B. When tests indicate Work does not meet specified requirements, correct areas of aggregate base that do not comply with the specified requirements and retest, or request a payment deduction. If a payment deduction is authorized, the deduction is calculated by multiplying□
   1. Deficient thickness less allowable tolerance
   2. Planned width
   3. Longitudinal distance of the deficient thickness
   4. $17.00/cubic yard of the item price adjusted for cubic yards, whichever is higher

END OF SECTION 32 11 23

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Asphalt materials.
2. Aggregate materials.
3. Type A HMA Asphalt paving
4. Tack coat
5. Asphalt Rubber Binder Seal Coat

B. Related Requirement:
1. Section 32 11 23 - Aggregate Base Courses: Compacted subbase for paving.
2. Section 33 05 13 - Manholes and Structures

1.2 PRICE AND PAYMENT PROCEDURES

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price

B. Asphalt Paving or HMA:

1. Basis of Measurement: By ton and will be based on certified weight-meters certificates showing gross, net weight and the type and grading of the mix for each load unless specified otherwise on the Bid Form.
2. Basis of Payment: Includes priming surfaces, tack coating surfaces, fog seal, furnishing, placing, compacting asphalt pavement and temporary HMA tapers.

C. Asphalt Dikes:

1. Basis of Measurement: By lineal foot.
2. Basis of Payment: Includes priming surfaces, tack coating surfaces, furnishing, placing, compacting.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO M17 - Standard Specification for Mineral Filler for Bituminous Paving Mixtures.

2. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
3. AASHTO M140 - Standard Specification for Emulsified Asphalt.
4. AASHTO M208 - Standard Specification for Cationic Emulsified Asphalt.
5. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
6. AASHTO M320 - Standard Specification for Performance-Graded Asphalt Binder.
7. AASHTO M324 - Standard Specification for □oint and Crack Sealant s, Hot Applied, for Concrete and Asphalt Pavements.
8. AASHTO MP1a - Standard Specification for Performance-Graded Asphalt Binder.
9. AASHTO T283-14 – Standard Method of Test for Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage.
10. AASHTO T324 (Modified) -Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA).

B. Asphalt Institute□

1. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot- Mix Types.
2. AI MS-19 - Basic Asphalt Emulsion Manual.
3. AI SP-2 - Superpave Mix Design.

C. State Standard Specification□
1. Section 39 Asphalt Concrete.
2. Section 92 Asphalt Binder.
3. Section 94 Asphaltic Emulsions
4. Section 96 Geosynthetics

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. □ob Mix Formula (□MF)□Except for the Hot Mix Asphalt (HMA) to be used in miscellaneous areas (median island areas not including inside shoulders, island areas, sidewalk, gutters, ditches, over side drains and aprons at end of drainage structures) and dikes, submit the proposed □MF for Type A HMA.

C. The □MF must be submitted on the Contractor □ob Mix Formula Proposal form along with□
1. Mix design documentation on Contractor's Hot Mix Asphalt Design data form dated with 12 months of submittal.
2. Safety Data Sheets (SDS) for the following□
   a. Asphalt Binder
   b. Supplemental fine aggregate except fines from dust collectors
   c. Antistrip additives.

D. The Contractor's Hot Mix Asphalt Design Data form must show documentation on aggregate quality.

E. Submit C test results for Reclaimed Asphalt Pavement (RAP) gradation with the combined aggregate gradation within 2 business days of taking RAP samples during Type A HMA production.

F. Contractor shall submit a new MF if there are changes to any of the following
   1. Target asphalt binder percentage greater than 0.2 percent.
   2. Asphalt binder supplier
   3. Combined aggregate gradation
   4. Aggregate sources
   5. Liquid antistrip producer or dosage
   6. Average binder content in a new processed RAP stockpile by more than 2.0 percent from the average RAP binder content reported on Contractor Hot Mix Asphalt Design Data form.
   7. Average maximum specific gravity in a new processed RAP stockpile by more than 0.060 percent from the average maximum specific gravity value reported on Contractor's Hot Mix Asphalt Design Data form.
   8. Any material in the MF.

G. Submit a current asphalt concrete mix design from two separate sources (primary source and backup source) for asphalt concrete proposed to be used.

H. Contractor shall provide delivery tickets to the City at the time of delivery of each load of product, including asphalt concrete, tack coat, sealant, and paving reinforcement fabric. Each delivery ticket shall include or be accompanied by appropriate batch information produced by the batching plant or factory of origin and information stating the mix or model number, total yield in tons, gallons, or square feet, and time, date, and location of delivery.

I. Any asphalt concrete rejected by the Project Manager shall be deducted from the total quantity of asphalt concrete tonnage.

. Reference Plan Contractor shall have a walk through with the Project Manager for all installed underground boxes and/or iron elements, 10 days prior to any pavement repair. Contractor shall submit a reference plan (RP) to the Project Manager's review for utility facilities adjustment 3 working days prior to lowering any utility facilities.

. Contractor shall submit a paving plan for longitudinal joints.

1.5 ALITY CONTROL PLAN

A. The Contractor shall submit a uality Control (C) plan for HMA.

B. The C plan shall describe the organization and procedures for

1. Controlling HMA quality characteristics
2. Taking samples, including sampling locations.
3. Establishing, implementing, and maintaining □C
4. Determining when corrective actions are needed.
5. Implementing corrective actions.
6. □sing methods and materials for backfilling core locations.

C. The □C plan must address the elements affecting HMA □uality, including

1. Aggregates
2. Asphalt binder
3. Additives
4. Productions
5. Paving

D. For CIP projects, the Contractor shall permit the City's certified testing laboratory to take samples of the aggregate and asphalt emulsion used in the project at the City's discretion. Gradation and sand equivalent tests may be run on the aggregate and residual asphalt tests on the emulsion. City will compare the test results with this Section and notify the Contractor if any test fails to meet specifications.

E. The Contractor shall furnish all tools and equipment and employ sufficient trained personnel to operate all equipment and perform all handwork efficiently and skillfully.

1.6 AGGREGATES TESTING□

A. Contractor shall test the quality of aggregates under the test methods and frequencies shown in the following table and provide results to the City□

Aggregate Testing Frequencies

Quality Characteristic	Test Method	Minimum Testing Frequency
Gradation[a]	AASHTO T 27	1 per 750 tons and any remaining part
Sand Equivalent[b,c]	AASHTO T 176	
Moisture Content[d]	AASHTO T 255	
Crushed particles	AASHTO T335	1 per 10,000 tons or 2 per project whichever is greater
Los Angeles Rattler	AASHTO T96	
Flat and Elongated particles	AASHTO D4791	
Fine Aggregate angularity	AASHTO T 304 Method A	

[a]If RAP is used, test the combined aggregate gradation under California Test 384.

[b]Reported Value must be average of 3 tests from a single sample

[c]□se of a sand reading indicator is required as shown in AASHTO T 176, Figure 1. Sections 4.7, “Manual Shaker,” 7.1.2, “Alternate Method No.2,” and 8.4.3, “Hand Method”, do not apply. Prepare the stock solution as specified in Section 4.8.1, “Stock solution with formaldehyde”, except omit the addition of formaldehyde.

[d]Test at continuous mixing plants only. If RAP is used, test the RAP moisture content at continuous mixing plant and batch mixing plant.

1.7 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls□Ambient conditions control facilities for product storage and installation.

B. Do not place HMA on wet pavement or frozen surface.

C. Maximum lift thickness for asphalt paving shall be 4-inches unless shown otherwise on the Drawings.

D. Spread Type A HMA at the ambient air and surface temperatures shown in the following table unless shown otherwise on the Drawings□

Lift Thic□ness (Feet)	Ambient air (□F)		Surface (□F)	
	Unmodified asphalt binder	Modified asphalt binder	Unmodified asphalt binder	Modified asphalt binder
□ 0.15	55	50	60	55
≥ 0.15	45	45	50	50

PART 2 - PRODUCTS

2.1 ASPHALT PAVING

A. Asphalt Concrete shall conform to Section 39, “Asphalt Concrete”, of the State Standard Specifications and the City Standard Specifications.

B. Asphalt Concrete for surfacing shall be Hot Mix Asphalt (HMA) Type A.

C. Asphalt Materials□

1. Asphalt Binder□Asphalt Binder must comply with Section 92, “Asphalt Binders” of the State Standard Specifications.

a. For a leveling course, the grade of the asphalt binder for the Hot mix asphalt (HMA) must be PG 64-10 or PG 64-16.
b. For Miscellaneous areas, and asphalt dikes the grade of the asphalt binder for the Hot mix asphalt (HMA) must be PG 70-10. Minimum asphalt binder content must be 6.40 percent for 3/8" maximum size aggregate.

2. Tack Coat□Diluted cationic emulsified asphalt per Section 94, "Asphaltic Emulsions", of the State Standard Specification. Asphaltic emulsion shall be Grade CSS1h setting type.
3. Reclaimed Asphalt Pavement (RAP)□ Processed material obtained by milling or full depth removal of existing asphalt paving.

D. Reclaimed Asphalt Pavement (RAP) aggregate may be substituted for a part of virgin aggregate in a quantity not to exceed fifteen percent (15□) by weight of the aggregate blend.
1. RAP shall conform to Section 39-2.02A(3)(c), "Reclaimed Asphalt Pavement", of the State Standard Specifications.
2. During Type A HMA production, sample RAP twice daily and perform □C testing for□
   a. Aggregate gradation at least once a day under California Test 384.
   b. Moisture content at least twice a day.
3. If RAP is used, RAP quality requirements must be as shown in the following table.

Reclaimed Asphalt Pavement Quality

Quality Characteristic	Test method	Requirement
Binder Content (□ within the average value reported)	AASHTO T 164	□2.00
Specific Gravity (within the average value reported)	AASHTO T 209	□0.06

E. Aggregate Materials□

1. Coarse Aggregate□ASTM D692□Aggregate retained on a no. 4 sieve. crushed stone or gravel.
2. Fine Aggregate□ASTM D1073, AASHTO M29□Aggregate passing a no. 4 sieve. Natural sand or sand manufactured from stone or gravel.
3. Mineral Filler□ finely ground mineral particles, free of foreign matter consisting of rock dust, slag dust, hydrated lime, hydraulic cement, or any combination of these and complying with AASHTO M17. Mineral fillers shall only be used if needed to improve the workability of the mix or gradation of the aggregate.
4. The aggregate gradation for Type A HMA must comply with the requirements shown in the following table unless specified otherwise on the Drawings□

Aggregate Gradation Requirements

Type A HMA pavement thic□ness shown	Gradation
Greater than 0.10 to less than 0.20 foot	1/2 inch
0.20 to less than 0.25 foot	3/4 inch
0.25 foot or greater	3/4 inch

5. The top 0.20-foot layer of asphalt pavement on the roadway shall have an aggregate gradation of 1/2" inch maximum.
6. Aggregate gradation must be within the Target Value (TV) limits for the specified sieve size shown in the following tables□

Aggregate Gradation for Type A HMA (percentage passing)
1 inch

Sieve Size	Target value limit	Allowable tolerance
1”	100	-
3/4"	88-93	TV □5
1/2"	72-85	TV □6
3/8”	55-70	TV □6
No. 4	35-52	TV □7
No. 8	22-40	TV □5
No. 30	8-24	TV □4
No. 50	5-18	TV □4
No. 200	3-7	TV □2.0

3/4 inch

Sieve Size	Target value limit	Allowable tolerance
1”	100	-
3/4"	90-98	TV □5
1/2"	70-90	TV □6
No. 4	42-58	TV □5
No. 8	29-43	TV □5
No. 30	10-23	TV □4
No. 200	2-7	TV □2.0

1/2 inch

Sieve Size	Target value limit	Allowable tolerance
3/4"	100	-
1/2"	95-98	TV □5
3/8”	72-95	TV □5
No. 4	52-69	TV □5
No. 8	35-55	TV □5
No. 30	15-30	TV □4
No. 200	2-8	TV □2.0

3/8 inch

Sieve Size	Target value limit	Allowable tolerance
3/4"	100	-
1/2"	95-98	TV □5
3/8”	72-95	TV □5
No. 4	52-69	TV □5
No. 8	35-55	TV □5
No. 30	15-30	TV □4
No. 200	2-8	TV □2.0

7. Before the additional of asphalt binder, the aggregates must comply with the quality requirements shown in the following table□

Quality characteristics	Test Method	Requirement
Aggregate Gradation[a]	AASHTO T27	□MF □Tolerance
Percent of crushed particles Coarse aggregate (min, □) One-fractured face Two-fractured face Fine aggregate (min, □) Passing No. 4 sieve and retained on No. 8 sieve.) One-fractured face	AASHTO T 335	 95 90 70
Los Angeles Rattler (max, □) Loss at 100 Rev. Loss at 500 Rev.	AASHTO T96	 12 40
Sand equivalent (min.) [b, c]	AASHTO T176	47
Flat and elongated particles (max, □ by weight at 5□1)	ASTM D4791	10
Fine aggregate angularity (min, □)[d]	AASHTO T304, Method A	45

[a]The Project Manager determines combined aggregate gradations containing RAP under California Test 384.
[b]Reported value must be the average of 3 tests from a single sample.
[c]□se of a sand reading indicator is required as shown in AASHTO T176, Figure 1. Section 4.7, “Manual Shaker”, 7.1.2, “Alternate Method No.2.” and 8.4.3, “Hand Method,” do not apply. Prepare the stock solution as specified in section 4.8.1, “Stock solution with formaldehyde,” except omit the addition of formaldehyde.
[d]The Project Manager waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

2.2 TYPE A HMA PROD□CTION

A. Contractor shall test the quality characteristics of Type A HMA under the test methods and frequencies shown in the following table and provide results to the City□

Type A HMA Production Testing Frequencies

Quality Characteristic	Test method	Minimum testing frequency
Asphalt Binder	AASHT T 308, Method A	1 per 750 tons and any remaining part
HMA Moisture Content	AASHTO T 329	1 per 2,500 tons but not less than 1 per paving day
Air Void Content	AASHTO T 269	1 per 4,000 tons or 2 every 5 paving days whichever is greater
Voids in mineral aggregate	SP-2 Asphalt Mixture Volumetrics	1 per 10,000 tons or 2 per project whichever is greater
Dust proportion	SP-2 Asphalt Mixture Volumetrics	
Density of core	California Test 375	2 per paving day
Nuclear gauge density	California Test 375	3 per 250 tons or 3 per paving day, whichever is greater
Hamburg wheel track	AASHTO T 324 (Modified)	1 per 10,000 tons or 1 per project whichever is greater.
Moisture susceptibility	AASHTO T 283	

2.3 TYPE A HMA ACCEPTANCE

A. In place Type A HMA quality requirements shall be as shown in the following table□

Type A HMA Acceptance In Place

Quality Characteristic	Test method	Requirement
Asphalt Binder content (□)	AASHTO T 308 Method A	□MF – 0.3, □0.50
HMA moisture content (max, □)	AASHTO T 329	1.00
Voids in mineral aggregate on laboratory-produced HMA (min, □)[d] Gradation□ No. 4 3/8-inch 1/2-inch	SP-2 Asphaltic Mixture Volumetrics	 16.5-19.5 15.5-18.5 14.5-17.5

3/4-inch 1-inch with NMAS □ 1-inch with NMAS □ 3/4-inch		13.5-16.5 13.5-16.5 14.5-17.5
Voids in mineral aggregate on plant-produced HMA (min, □)[a] Gradation□ No. 4 3/8-inch 1/2-inch 3/4-inch 1-inch with NMAS □ 1-inch with NMAS □ 3/4-inch	SP-2 Asphaltic Mixture Volumetrics[c]	 15.5-18.5 14.5-17.5 13.5-16.5 12.5-15.5 12.5-15.5 13.5-16.5
Dust proportion	SP-2 Asphaltic Mixture Volumetrics	0.6-1.3[g]
Density of core (□ of max theoretical density)[e,f]	California Test 375	91.0-97.0
Hamburg wheel track (min number of passes at 0.5-inch rut depth) Binder grade□ PG 58 PG 64 PG 70 ~~PG 76 or higher~~	AASHTO T 324 (Modified)	 10,000 15,000 20,000 ~~25,000~~
Hamburg wheel track (min number of passes at inflection point) Binder grade□ PG 58 PG 64 PG 70 ~~PG 76 or higher~~	AASHTO T 324 (Modified)	 10,000 10,000 12,500 ~~15,000~~
Moisture susceptibility (min, psi, dry strength)	AASHTO T 283	100
Moisture susceptibility (min, psi, wet strength)	AASHTO T 283	70
[a]Prepare 3 briquettes. Report the average of 3 tests, [b]For CIP projects, the City's Testing Laboratory determines the bulk specific gravity of each lab-compacted briquette under AASHTO T 275, Method A, and theoretical maximum specific gravity under AASHTO T 209, Method A. [c]Determine the bulk specific gravity under AASHTO T 275, Method A. [d]For CIP projects, the City's Testing Laboratory determines the laboratory-prepared Type A HMA value for only mix design verification.		

[e]For CIP projects, the City's Testing Laboratory determines percent of theoretical maximum density under
California Test 375 except for CIP Projects, City's Testing Laboratory uses

1. AASHTO T 275 to determine in-place density of each density core.
2. AASHTO T 209, method A to determine theoretical maximum density instead of calculating test maximum density.

[f]For CIP projects, the City's Testing Laboratory determines theoretical maximum density under AASHTO T 209, Method A, at the frequency specified in California Test 375, part 5, section D.
[g]For lime-treated aggregates, the dust proportion requirement is 0.6-1.5

2.4 SOURCE QUALITY CONTROL

A. Section 01 45 00 - Quality Control Testing, inspection and analysis requirements.

B. Test samples in accordance with AI MS-2.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution Requirements for installation examination.

B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.

C. Verify compacted aggregate base is dry and ready to support paving and imposed loads as specified in the project Geotechnical Report or as directed by the Project Manager.

1. Proof roll subbase with minimum two perpendicular passes to identify soft spots.
2. Remove soft subbase and replace with compacted fill.

D. Verify with a licensed land surveyor that the gradients and elevations of base are correct.

E. Verify drainage grates and frames, and manhole frames are installed in correct position and elevation.

3.2 CONSTRUCTION

A. Contractor may deposit HMA in a windrow and load it in the paver if
1. Paver is equipped with a hopper that automatically feeds the screed.

2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without contaminating or damaging HMA and subgrade base material.
3. Activities for depositing, pickup loading and paving are continuous.
4. HMA temperature in the windrow does not fall below 260-degree F.

B. HMA placed in a windrow on the roadway surface must not extend more than 250 feet in front of the loading equipment or material transfer vehicle.

C. HMA handled, spread, or windrowed must not stain the finished surface of any improvement, including pavement.

D. Do not use petroleum products such as kerosene or diesel fuel to release HMA from trucks, spreaders, or compactors.

E. HMA must be free of
1. Segregation
2. Coarse or fine aggregate pockets
3. Hardened lumps

F. Complete finish rolling activities before the pavement surface temperature is
1. Below 150 degrees F for HMA with unmodified binder
2. Below 140 degrees F for HMA with modified binder

3.3 SPREADING AND COMPACTING E IPMENT

A. Paving equipment for spreading must be
1. Self-propelled
2. Mechanical
3. Equipped with a screed or strike-off assembly that can distribute HMA the full width of a traffic lane.
4. Equipped with a full-width compacting device.
5. Equipped with automatic screed controls and sensing devices that control the thickness, longitudinal grade, and transverse screed slope.

B. Install and maintain grade and slope reference.

C. The screed must be heated and produce a uniform HMA surface texture without tearing, shoving, or gouging.

D. The paver must not leave marks such as ridges and indentations unless you can eliminate them by rolling.

E. Rollers must be equipped with a system that prevents HMA from sticking to the wheels. You may use a parting agent that does not damage the HMA or impede the bonding of layers.

F. In areas inaccessible to spreading and compacting equipment□
   1. Spread the HMA by any means to obtain the specified lines, grades and cross sections.
   2. □se a pneumatic tamper, plate compactor, or equivalent to achieve thorough compaction.

3.4 MATERIAL TRANSFER VEHICLE□

A. The material transfer vehicle must have sufficient capacity to prevent stopping the paver and must be capable of□
   1. Either receiving HMA directly from trucks or using a windrow pickup head to load it from a windrow deposited on the roadway surface.
   2. Remixing the HMA with augers before transferring into the paver's receiving hopper or feed system.
   3. Transferring HMA directly into the paver's receiving hopper or feed system.

3.5 METHOD COMPACTION E□□IPMENT□

A. For method compaction, each paver spreading HMA must be followed by 3 rollers□
   1. One vibratory roller specified designed to compact HMA. The roller must be capable of at least 2,500 vibrations per minute and must be equipped with amplitude and frequency controls. The roller's gross static weight must be at least 7.5 tons.
   2. One oscillating-type pneumatic-tired roller at least 4 feet wide. Pneumatic tires must be of equal size, diameter, type, and ply. The tires must be inflated to 60 psi minimum and maintained so that the air pressure does not vary more than 5 psi.
   3. One steel-tired, 2-axle tandem roller. The roller's gross static weight must be at least 7.5 tons.

3.6 S□RAFCE PREPARATION□

A. Before placing HMA, remove loose paving particles, dirt, and other extraneous material by any means including flushing and sweeping.

B. Prepare subgrade to receive HMA under the sections for the material involved. Subgrade must be free of loose and extraneous material.

3.7 TAC□ COAT□

A. Apply tack coat in accordance with Section 39-2.01C(3)(f) of the State Standard Specifications.

B. Apply tack coat□
   1. To existing pavement including planed surfaces.
   2. Between HMA layers
   3. To vertical surfaces of□

      a. Curbs
      b. Gutters
      c. Construction joints.

C. Coat surfaces of manholes and catch basins.

D. Equipment for the application of tack coat must comply with Section 37-1.03B, "Equipment" of the State Standard Specifications.

E. Before placing HMA, apply tack coat in one (1) application at the minimum residual rate shown in the following table for the condition of the underlying surface□

Tac□ Coat Application Rates for HMA

HMA Over:	Minimum residual rates (gal/sq□yd) CSS1/CSS1h asphaltic emulsion
New HMA (between layers)	0.02
Concrete Pavement and existing asphalt concrete surfacing	0.03
Planed pavement	0.05

F. If a stress absorbing membrane interlayer as specified in Section 37-2.05, "Stress Absorbing Membrane Interlayers", of the State Standard Specification is applied, the tack application rates for new HMA apply.

G. Notify the Project Manager if you dilute asphaltic emulsion with water. The weight ratio of added water to asphaltic emulsion must not exceed 1 to 1.

H. Apply tack coat to vertical surfaces with a residual rate that will thoroughly coat the vertical face without running off.

I. Immediately in advance of placing HMA, apply additional tack coat to damaged areas or where loose or extraneous material is removed.

□. Close areas to traffic receiving tack coat. Do not allow the tracking of tack coat onto pavement surfaces beyond the job site.

□. If an asphalt binder is used for tack coat, the asphalt binder temperature must be from 285 to 350-degree F when applied.

3.8 LONGITUDINAL JOINTS

A. Longitudinal joints in the top layer must match lane lines. Alternate the longitudinal joint offsets in the lower layers at least 0.5 foot from each side of the lane line.

B. A vertical longitudinal joint of more than 0.15 foot is not allowed at any time between adjacent open lanes to traffic.

C. For an HMA thickness of 0.15 foot or less, the distance between the ends of the adjacent surfaced lanes at the end of each day's work must not be greater than can be completed in the following day of normal paving.

D. For an HMA thickness greater than 0.15 foot, you must place HMA on adjacent travel way lanes or shoulder such that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. Place kraft paper or other authorized release agent under the conform tapers to facilitate the taper removal when paving activities resume.

E. If placing HMA against the edge of existing pavement, saw cut or grind the pavement straight and vertical the joint to the full depth and remove extraneous material.

3.9 MISCELLANEOUS AREAS AND DIKES

A. Asphalt concrete for dikes shall be Type A, 3/8" maximum size aggregate.

B. Prepare the areas to receive HMA for miscellaneous areas and dikes, including excavation, placing tack coat, and backfill as needed.

C. Spread the HMA in miscellaneous areas in 1 layer and compact to the specified lines and grades.

D. The finished surface must be
   1. Textured uniformly
   2. Compacted firmly
   3. Without depressions, humps, and irregularities.

3.10 COMPACTION

A. Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving.

B. If a vibratory roller is used as a finish roller, turn the vibrator off.

C. If the surface to be paved is both in sunlight and shade, pavement surface temperatures are taken in the shade.

D. Relative compaction will be determined by California Test 375.

3.11 PAVEMENT CRAC SEALING

A. See Section 32 12 17 – Asphalt Paving Rehabilitation for Pavement Crack Sealing Specifications.

3.12 ASPHALT PAVING TOLERANCES

A. Section 01 45 00 - uality Control Tolerances.

B. Flatness Maximum variation of 1/8 inch measured with 10-foot straight edge.

C. Scheduled Compacted Thickness Within 1/4 inch.

3.13 FIELD ALITY CONTROL

A. Section 01 45 00 – uality Control Requirements for testing, adjusting, and balancing.

B. Asphalt Paving Mix Temperature Measure temperature at time of placement.

3.14 PROTECTION

A. Section 01 77 00 - Closeout Requirements Requirements for protecting finished Work.

B. Immediately after placement, protect paving from mechanical injury for until surface temperature is less than 140 degrees F.

END OF SECTION 32 12 16

SECTION 32 12 17 - ASPHALT PAVEMENT REHABILITATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Asphalt materials.
2. Aggregate materials.
3. Type A HMA Asphalt paving
4. Tack coat
5. Cold Planing
6. Geosynthetic pavement interlayer
7. Crack treatment
8. Adjusting iron castings to grade
9. Surface slurry.
10. Micro-surfacing

B. Related Requirement:
1. Section 32 11 23 - Aggregate Base Courses: Compacted subbase for paving.
2. Section 33 05 13 - Manholes and Structures

1.2 PRICE AND PAYMENT PROCEDURES

A. Section 01 29 00 - Payment Procedures Contract Sum/Price

B. Asphalt Paving or HMA:

1. Basis of Measurement: By ton and will be based on certified weight-meters certificates showing gross, net weight and the type and grading of the mix for each load.
2. Basis of Payment: Includes priming surfaces, tack coating surfaces, fog seal, furnishing, placing, compacting, and testing base course.

C. Cold Planing Asphalt Pavement:

1. Basis of Measurement: By Square foot.
2. Basis of Payment: Includes removing existing pavement markers, legends and pavement striping, removing detector loops, grinding or cold planing asphalt pavement to achieve a minimum 2-inch HMA thickness overlay, and preparing surface for HMA overlay.

3. If a separate bid item is not listed in the bid form for Monument Protection and Referencing, full compensation for referencing monuments, re-establishing the monuments and submitting corner record to the County by a Licensed Land Surveyor shall be considered as included in the price paid for Cold Planing Asphalt Pavement and no separate compensation will be allowed therefor.
4. If a separate bid item is not listed in the bid form for lowering of utilities and re-adjustment of utility boxes, valves, grates and manholes covers to finish grade after paving, full compensation for adjusting the utility boxes, valves, grates and manhole covers to finish grade shall be considered as included in the price paid for Cold Planing Asphalt Pavement and no separate compensation will be allowed therefor.

D. Geosynthetic Pavement Interlayer

1. Basis of Measurement By square yard of area measured from the actual pavement covered over the interlayer. If multiple layers of pavement interlayer are used, square footage of each layer would be added for the measurement.
2. Basis of Payment Includes priming surfaces, tack coating surfaces, furnishing, placing, overlapping and compacting.

E. Crack Treatment

1. Basis of Measurement Crack treatment will be measured per lineal foot, unless specified otherwise in the Contract Documents.
   Basis of Payment Crack treatment is considered incidental to the item most closely related to and no separate compensation will be allowed therefor.

F. Slurry seal

1. Basis of Measurement By square feet of area measured from the actual pavement covered by slurry seal application
2. Basis of Payment Includes coordinating with utility companies, covering and protecting utility structures before and after slurry seal, sweeping, traffic controls, surface preparation, equipment inspections, applying slurry seal, rolling, clean up, and opening to traffic.

G. Micro-surfacing

1. Basis of Measurement By square feet of area measured from the actual pavement covered by Micro-surfacing application.
2. Basis of Payment Includes coordinating with utility companies, covering and protecting utility structures before and after micro-surfacing, grade, sweeping, traffic controls, surface preparation, equipment inspections, applying micro-surfacing, rolling, clean up, and opening to traffic.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials□

1. AASHTO M17 - Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
2. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
3. AASHTO M140 - Standard Specification for Emulsified Asphalt.
4. AASHTO M208 - Standard Specification for Cationic Emulsified Asphalt.
5. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
6. AASHTO M320 - Standard Specification for Performance-Graded Asphalt Binder.
7. AASHTO M324 - Standard Specification for □oint and Crack Sealant s, Hot Applied, for Concrete and Asphalt Pavements.
8. AASHTO MP1a - Standard Specification for Performance-Graded Asphalt Binder.
9. AASHTO T283-14 – Standard Method of Test for Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage.
10. AASHTO T324 (Modified) -Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA).

B. Asphalt Institute□

1. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot- Mix Types.
2. AI MS-19 - Basic Asphalt Emulsion Manual.
3. AI SP-2 - Superpave Mix Design.

C. State Standard Specification□

1. Section 39 Asphalt Concrete.
2. Section 92 Asphalt Binders.
3. Section 94 Asphaltic Emulsions
4. Section 96 Geosynthetics

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. □ob Mix Formula (□MF)□Except for the Hot Mix Asphalt (HMA) to be used in miscellaneous areas (median island areas not including inside shoulders, island areas, sidewalk, gutters, ditches, over side drains and aprons at end of drainage structures) and dikes, submit the proposed □MF for Type A HMA.

C. The □MF must be submitted on the Contractor □ob Mix Formula Proposal form along with□

1. Mix design documentation on Contractor's Hot Mix Asphalt Design data form dated with 12 months of submittal.
2. Safety Data Sheets (SDS) for the following□
   a. Asphalt Binder
   b. Supplemental fine aggregate except fines from dust collectors
   c. Antistrip additives.

D. The Contractor's Hot Mix Asphalt Design Data form must show documentation on aggregate quality.

E. Submit □C test results for Reclaimed Asphalt Pavement (RAP) gradation with the combined aggregate gradation within 2 business days of taking RAP samples during Type A HMA production.

F. Contractor shall submit a new □MF if there are changes to any of the following□
   1. Target asphalt binder percentage greater than □0.2 percent.
   2. Asphalt binder supplier
   3. Combined aggregate gradation
   4. Aggregate sources
   5. Liquid antistrip producer or dosage
   6. Average binder content in a new processed RAP stockpile by more than □2.0 percent from the average RAP binder content reported on Contractor Hot Mix Asphalt Design Data form.
   7. Average maximum specific gravity in a new processed RAP stockpile by more than □0.060 percent from the average maximum specific gravity value reported on Contractor's Hot Mix Asphalt Design Data form.
   8. Any material in the □MF.

G. Submit a current asphalt concrete mix design from two separate sources (primary source and backup source) for asphalt concrete proposed to be used.

H. For Capital Improvement Projects (CIP) projects, the Contractor shall provide delivery tickets to the City at the time of delivery of each load of product, including asphalt concrete, tack coat, sealant, and paving reinforcement fabric. Each delivery ticket shall include or be accompanied by appropriate batch information produced by the batching plant or factory of origin and information stating the mix or model number, total yield in tons, gallons, or square feet, and time, date, and location of delivery.

I. Any asphalt concrete rejected by the Project Manager shall be deducted from the total quantity of asphalt concrete tonnage.

□. Reference Plan□ Contractor shall have a walk through with Engineer for all installed underground boxes and/or iron elements, ten (10) working days prior to any pavement repair. Contractor shall submit a reference plan (RP) for utility facilities adjustment prior to covering or lowering any utility facilities three (3) working days prior to any pavement repair.

□. Submit a laboratory report of test results and a proposed mix design 10 days before starting placement of slurry seal. The report and mix design must include the specific materials to be used. The laboratory report must include□
1. Test results used in the mix design
2. Proportions of the following materials based on the aggregate's dry weight:
   a. Aggregate
   b. Filler determined from tests, minimum and maximum
   c. Water, minimum and maximum
   d. Asphalt solid content
   e. Set control agent
3. Comparison of slurry seal test results to the specified values

L. Submit a laboratory report of test results and a proposed mix design 10 days before starting placement of micro-surfacing. The report and mix design must include the specific materials to be used. The laboratory report must include□
1. Test results used in the mix design
2. Proportions of the following materials based on the aggregate's dry weight□
   a. Aggregate
   b. Water, minimum and maximum
   c. Additives
   d. Mineral filler, minimum and maximum
   e. Micro-surfacing emulsion residual asphalt content, minimum and maximum
3. Recommend changes to the following proportions based on heating the mixture to 100-degree F and mixing for 60 seconds□
   a. Water
   b. Additives
   c. Mineral Filler
4. Comparison of each individual material's test results to its specified values.
5. Quantitative moisture effects on the aggregate's unit weight determined under ASTM C29.

1.5 □□ALITY CONTROL PLAN

A. The Contractor shall submit a □uality Control (□C) plan for HMA.

B. The □C plan shall describe the organization and procedures for□

1. Controlling HMA quality characteristics
2. Taking samples, including sampling locations.
3. Establishing, implementing, and maintaining □C
4. Determining when corrective actions are needed.
5. Implementing corrective actions.
6. □sing methods and materials for backfilling core locations.

C. The □C plan must address the elements affecting HMA □uality, including

1. Aggregates
2. Asphalt binder
3. Additives
4. Productions
5. Paving

D. For CIP projects, the Contractor shall permit the City's certified testing laboratory to take samples of the aggregate and asphalt emulsion used in the project at the City's discretion. Gradation and sand equivalent tests may be run on the aggregate and residual asphalt tests on the emulsion. City will compare the test results with this Section and notify the Contractor if any test fails to meet specifications.

E. The Contractor shall furnish all tools and equipment and employ sufficient trained personnel to operate all equipment and perform all handwork efficiently and skillfully.

1.6 AGGREGATES TESTING

A. Contractor shall test the quality of aggregates under the test methods and frequencies shown in Section 32 12 16 – Asphalt Paving.

1.7 AMBIENT CONDITIONS

A. Refer to Section 32 12 16 – Asphalt Paving for ambient air and surface temperatures for spreading HMA.

PART 2 - PRODUCTS

2.1 ASPHALT PAVING

A. Asphalt Concrete shall conform to Section 39, "Asphalt Concrete", of the State Standard Specifications and the City Standard Specifications.

B. Asphalt Concrete for surfacing shall be Hot Mix Asphalt (HMA) Type A.

C. Asphalt Materials

1. Asphalt Binder Asphalt Binder must comply with Section 92, "Asphalt Binders", of the State Standard Specifications.
   a. For a leveling course, the grade of the asphalt binder for the Hot mix asphalt (HMA) must be PG 64-10 or PG 64-16.
   b. For Miscellaneous areas, and asphalt dikes the grade of the asphalt binder for the Hot mix asphalt (HMA) must be PG 70-10. Minimum

asphalt binder content must be 6.40 percent for 3/8" maximum size aggregate.

2. Tack Coat□Diluted cationic emulsified asphalt per Section 94, "Asphaltic Emulsion", of the State Standard Specification. Asphaltic emulsion shall be Grade CSS1h setting type.
3. Reclaimed Asphalt Pavement (RAP)□ Processed material obtained by milling or full depth removal of existing asphalt paving.
4. Oil

D. Reclaimed Asphalt Pavement (RAP) aggregate may be substituted for a part of virgin aggregate in a quantity not to exceed fifteen percent (15□) by weight of the aggregate blend.
1. RAP shall conform to Section 39-2.02A(3)(c), "Reclaimed Asphalt Pavement", of the State Standard Specifications.
2. During Type A HMA production, sample RAP twice daily and perform □C testing for□
   a. Aggregate gradation at least once a day under California Test 384.
   b. Moisture content at least twice a day.
3. If RAP is used, RAP quality requirements must be as shown in the following table.

Reclaimed Asphalt Pavement Quality

Quality Characteristic	Test method	Requirement
Binder Content (□ within the average value reported)	AASHTO T 164	□2.00
Specific Gravity (within the average value reported)	AASHTO T 209	□0.06

E. Aggregate Materials□All aggregate materials shall conform to the aggregate material specifications specified in Section 32 12 16 – Asphalt Paving.

2.2 TYPE A HMA PROD□CTION

A. Contractor shall test the quality characteristics of Type A HMA under the test methods and frequencies shown in Section 32 12 16 – Asphalt Paving.

2.3 TYPE A HMA ACCEPTANCE

A. For Type A HMA quality requirements, see Type A HMA acceptance specified in Section 32 12 16 – Asphalt Paving.

2.4 GEOSYNTHETIC PAVEMENT INTERLAYER□

A. Geosynthetic pavement interlayer shall conform to Geosynthetic pavement interlayer specified in Section 32 12 16 – Asphalt Paving.

2.5 CRAC□ TREATMENT□

A. Crack sealant must comply with Section 37-6, “Crack Treatments”, of the State Standard Specifications.

B. The pavement crack treatment material must comply with the requirements for Type 1 or Type 2 crack treatment material shown in the following table□

Crac□ Treatment Material

		Requirements	
Quality characteristic[a]	**Test method[b]**	**Type 1**	**Type 2**
Softening Point (min, □C)	ASTM D36/D36M	102	96
Cone Penetration at 77-degrees F (max)	ASTM D5329	35	40
Resilience at 77-degre F, unaged (□, min)	ASTM D5329	20-60	25-65
Flexibility[c] (□C)	ASTM D3111	0	0
Tensile adhesion (min, □)	ASTM D5329	300	400
Specific Gravity (max.)	ASTM D70	1.25	1.25
Asphalt Compatibility	ASTM D5329	Pass	Pass
Sieve test (□ passing)	See note d	100	100

[a]Cold-applied crack treatment material residue collected under ASTM D6943, Method B and sampled under ASTM D140 must comply with the grade specifications.

[b]Except for viscosity, cure each specimen at a temperature of 23 □2 □C and a relative humidity of 50 □10 percent for 24 □2 hours before testing.

[c]For the flexibility test, the specimen size must be 6.4 □0.2 mm thick by 25 □ 0.2 mm wide by 150 □0.5 mm long. The test mandrel diameter must be 6.4 □ 0.2 mm. The bend arc must be 180 degrees. The bend rate must be 2 □1 seconds. At least 4 of 5 test specimens must pass at the specified test temperature without fracture, crazing, or cracking.

[d]For hot-applied crack treatment, dilute with toluene and sieve through a no. 8 sieve. For cold-applied crack treatment, sieve the material as-received through a no. 8 sieve. If the manufacturer provides a statement that added components passed the no. 16 sieve before blending, this requirement is void.

C. The material shall be capable of being melted and applied to cracks and joints at temperatures below 400-degrees F. When heated, it shall readily penetrate cracks 1/4-inch wide or wider.

D. Crack treatment material must be delivered to the job site with manufacturer's name, production location, brand or trade name, designation, crack treatment trade name, batch number, maximum heat temperature and expiration date for cold application only.

E. Hot-applied crack treatment must be delivered to the job site premixed in cardboard containers with meltable inclusion liners or in a fully meltable package.

F. Sand applied to tacky crack treatment material must be clean, free of clay, and comply with the gradation shown in the following table□

Sand Gradation

Sieve Size	Percent passing
No. 4	100
No. 50	0-30
No. 200	0-5

2.6 SL□RRY SEAL

A. Slurry Seal shall be in conformance with Section 37-3 – Slurry Seal and Micro-Surfacing of the State Standard Specifications.

B. Applying slurry seal consists of spreading a mixture of asphaltic emulsion, aggregate, set-control additives, and water on a surface or pavement.

C. Aggregates for slurry seal and micro-surfacing must comply with the gradation requirements shown in the following table□

Sand Gradation

Sieve Size	Percent passing (Class II)
3/8"	100
No. 4	94-100
No. 8	65-90
No. 16	40-70
No. 30	25-50
No. 200	5-15

D. Aggregate must be rock dust or sand such as plaster sand. Aggregate larger than No. 50 sieve must be 100 percent crushed rock. Aggregate must be free from vegetable matter, deleterious substances, caked or clay clamps, and oversized particles.

E. The mix design must have the percent of asphaltic emulsion, based on percentage by weight of the dry aggregate, within the range of 12□ -18□ for Class II aggregate type.

F. Minimum sand equivalent per California Test 217 and minimum durability index and California Test 229 shall be 55 for Class II Aggregate.

2.7 MICRO-S□RFACING

A. Micro-surfacing shall be in conformance with Section 37-3, “Slurry Seal and Micro-surfacings”, of the State Standard Specifications.

B. Applying Micro-surfacing consists of spreading a mixture of micro-surfacing emulsion, water, additives, mineral filler and aggregate on the pavement.

C. Micro-surfacing mix design must have the material proportion limits shown in the following table□

Micro-surfacing Mix Design Proportion Limits

Material	Proportion Limits
Micro-surfacing emulsion residual asphalt	5.5□ -9.5□ of aggregate by weight
Water and additives	No Limit
Mineral Filler	0□ -3□ aggregate dry weight

D. Aggregate for micro-surfacing except mineral filler must comply with the requirements shown in the following table□

Micro-surfacing aggregate

Quality Characteristic	Test Method	Requirement
Sand equivalent (min.)	California Test 217	65
Durability index (min.)	California Test 229	65
Percentage of crushed particles (min., □)[a]	California Test 205	95
Los Angeles Rattler Loss at 500 revolutions (max, □)[b]	California Test 211	35
[a]Crushed particles must have at least 1 fractured face [b]California Test 211 must be performed on the aggregate before crushing.		

E. Micro-surfacing emulsion must be a homogeneous mixture of asphalt, polymer, and emulsifier solution and shall conform to Section 37-3.03A(4)(b)(ii), “Micro-surfacing Emulsion”, of the State Standard Specifications.

F. If Portland cement is used as mineral filler, it must be any combination of Type I, Type II or Type II cement.

2.8 SO□RCE □□ALITY CONTROL

A. Section 01 45 00 - □uality Control□Testing, inspection and analysis requirements.

B. Test samples in accordance with AI MS-2.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Section 01 77 00 - Closeout Requirements□ Requirements for installation examination.

B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.

C. Verify compacted aggregate base is dry and ready to support paving and imposed loads as specified in the project Geotechnical Report or as directed by the Project Manager.

1. Proof roll subbase with minimum two perpendicular passes to identify soft spots.
2. Remove soft subbase and replace with compacted fill.

D. Verify with a licensed land surveyor that the gradients and elevations of base are correct.

E. Verify drainage grates and frames, and manhole frames are installed in correct position and elevation.

3.2 DEMOLITION

A. Saw cut and notch existing paving as indicted on Drawings. Before removing any portion of an asphalt concrete facility, make a sawcut full depth to a true line along the limits of the removal area.

B. Clean existing paving to remove foreign material, excess joint sealant and crack filler from paving surface.

C. Repair surface defects in existing paving to provide uniform surface to receive new paving.

D. Where replace asphalt concrete surfacing is shown, remove the full depth of the existing asphalt concrete surfacing and replace with HMA.

E. Before removing asphalt concrete, outline the replacement areas and cut neat lines with a saw or grind to full depth of on the existing asphalt concrete. Do not damage asphalt concrete and base that is to remain in place.

F. Any excavations of the base material beyond the specified plane, shall be replaced with HMA. No additional compensation will be allowed for HMA placed beyond the specified plane.

G. Do not use a material transfer vehicle for replacing asphalt concrete surfacing.

H. When base and surfacing are described to be removed, remove base and surfacing to a depth of at least 6 inches below the grade of the existing surfacing. Backfill resulting holes and depressions.

I. All material removed shall become the property of the Contractor and shall be disposed of in a legal manner.

3.3 COLD PLANING ASPHALT CONCRETE PAVEMENT

A. Cold planning asphalt concrete pavement includes the removal of pavement markers, traffic stripe, and pavement markings within the area of cold planning.

B. Cold plane existing asphalt paving to a minimum depth that results in a new HMA pavement section which is minimum 2-inch thick as shown on the Drawings. Contractor shall make a sawcut after cold planing at the conform edges to allow for a minimum 2-inch vertical surface at the conforms.

C. HMA for temporary tapers must be of the same quality that is used for the HMA overlay.

D. Do not use a heating device to soften the pavement.

E. The cold planning machine must be□
   1. Equipped with a cutter head width that matches the planing width unless a wider cutter head is authorized
   2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and□
      a. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.
      b. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system

must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint matching shoe may be used.

3. Equipped to effectively control dust generated by the planing operation.
4. Operated such that no fumes or smoke is produced.

F. Replace broken, missing, or worn machine teeth.

G. If the Contractor does not complete placing the HMA surfacing before opening the area to traffic, the Contractor must□
1. Construct a temporary HMA taper to the level of the existing pavement
2. Place HMA during the next work shift
3. Submit a corrective action plan that shows that the Contractor will complete cold planing and placement of HMA in the same work shift. Do not restart cold planing activities until the corrective action plan is authorized.

H. The completed surface of the planed pavement must not vary more than 0.02 foot when measured with a 12-foot straightedge parallel with the centerline. With the straightedge at right angles to the centerline, the transverse slope of the planed surface must not vary more than 0.03 foot.

I. Where lanes are open to traffic, the drop-off between adjacent lanes must not be more than 0.15 foot.

□. Remove cold planed material concurrently with planing activities such that the removal does not lag more than 50 feet behind the planer. All materials removed shall become the property of the Contractor and shall be disposed of in a legal manner.

□. The Contractor shall be responsible for maintaining the street in a clean condition during the course of the cold planing or grinding operations using a vacuum sweeper.

L. If a drop-off between the existing pavement and the planed areas at transverse joints cannot be avoided before opening to traffic, construct a temporary HMA taper. The HMA temporary taper must be□
1. Placed to the level of existing pavement and tapered on a slope of 30□1 (horizontal□vertical) or flatter to the level of the planed areas.
2. Compacted by any method that will produce a smooth riding surface.

M. Completely remove temporary tapers before placing permanent surfacing.

N. Remove and replace any traffic signal detector loops and loop conductors including the loop conductors leading into the detector box. For City owned traffic signals where traffic signal detector loops are present, the Contractor shall notify the Project Manager a minimum of one (1) week prior to beginning work near the loops. For Caltrans traffic signals the Contractor shall notify Caltrans in conformance with Caltrans requirements.

3.4 CONSTR□CTION

A. Refer to Section 32 12 16 - Asphalt Paving for construction of asphalt paving.

3.5 SPREADING AND COMPACTING E□□IPMENT

A. Refer to Section 32 12 16 - Asphalt Paving for construction of compaction of asphalt paving.

3.6 MATERIAL TRANSFER VEHICLE□

A. Refer to Section 32 12 16 - Asphalt Paving for material transfer vehicle.

3.7 METHOD COMPACTION E□□IPMENT□

A. Refer to Section 32 12 16 - Asphalt Paving for material method compaction equipment.

3.8 S□RAFCE PREPARATION□

A. Refer to Section 32 12 16 - Asphalt Paving for surface preparation and tack coat.

3.9 GEOSYNTHETIC PAVEMENT INTERLAYER

A. Where shown on Drawings, place geosynthetic pavement interlayer over a coat of asphalt binder and in compliance with the manufacturer's instructions. Do not place the interlayer on a wet or frozen surface.

B. Before placing the interlayer and asphalt binder□
   1. Repair cracks 1/4-inch and wider, spalls, and holes in the pavement. Repairing cracks is not change order work.
   2. Clean the pavement of loose and extraneous material.

C. Immediately before placing the interlayer, apply 0.25 □0.03 gal of asphalt binder per square yard of interlayer or until saturated. Apply asphalt binder the width of the interlayer plus 3 inches on each side. At an overlap, apply asphalt binder on the lower interlayer the same overlap distance as the upper interlayer.

D. Align and place the interlayer with no overlapping wrinkles, except a wrinkle that overlaps may remain if it is less than 1/2-inch thick. If the overlapping wrinkle is more than 1/2-inch thick, cut the wrinkle out and overlap the interlayer no more than 4 inches.

E. Overlap the interlayer borders between 4 to 6 inches. In the direction of paving, overlap the following roll with the preceding roll at any break.

F. Use rolling equipment to correct distortions or wrinkles in the interlayer.

G. If asphalt binder tracked onto the interlayer or brought to the surface by construction equipment causes interlayer displacement, cover it with a small quantity of HMA.

H. Before placing HMA on the interlayer, do not expose the interlayer to:
1. Traffic except for crossings under traffic control and only after you place a small HMA quantity.
2. Sharp turns from construction equipment
3. Damaging elements.

I. Pave HMA on the interlayer during the same work shift. The minimum HMA thickness over the interlayer must be 0.17-foot thick including at pavement conforms as shown on the drawings.

3.10 LONGITUDINAL JOINTS

A. Refer to Section 32 12 16 - Asphalt Paving for longitudinal joints.

3.11 WIDENING EXISTING PAVEMENT

A. If widening existing pavement, construct new pavement structure to match the elevations of the existing pavement's edge before placing HMA over the existing pavement.

3.12 COMPACTION

A. Refer to Section 32 12 16 - Asphalt Paving for compaction.

3.13 PAVEMENT CRACK SEALING

A. Prior to overlaying existing pavements, crack sealing operations shall be performed in accordance with the following:

1. Crack sealing shall be performed on all pavement cracks 1/4-inch wide or wider. Cracks between 1/4-inch and 1/2-inch wide shall be routed to a depth and width of 1/2-inch prior to sealing.
2. Fill or repair cracks wider than 1-inch or as shown on the Drawings.
3. Crack sealing shall be performed after any required pavement repair or grinding operations and prior to placing flexible pavement coatings, pavement reinforcing fabric, or overlay.

4. All pavement cracks not routed shall first be treated for weed prevention.
5. For hot-applied crack treatment material, rout cracks or sawcut to form a reservoir.
6. Immediately prior to performing crack sealing, the cracks shall be cleaned by the use of oil-free compressed air at a pressure of at least 90 psi such that all vegetation, dirt, and other objectionable materials are removed. The compressed air shall be filtered of moisture and oils. □nder damp conditions, a hot compressed air lance shall be utilized to dry the cracks as well. The hot air lance must not apply flame directly on the pavement.
7. Crack sealant material shall conform to the provisions of PART 2 “Products” of this Section and shall be applied at the temperature and rate recommended by the manufacturer.
8. Apply crack treatment with a nozzle inserted into the crack. Fill the crack flush. If after 2 days the crack treatment is more than 1/4-inch below the specified level, the sealant fails, or the crack re-opens, re-treat the crack.
9. Extensively cracked pavement areas shall not be crack sealed unless specifically directed by the Project Manager. This is necessary to avoid interference with proper adhesion of the flexible pavement coatings, pavement reinforcing fabric, or overlay, and to avoid subsequent asphalt bleeding on the new surface. Where the Project Manager determines excessive coating or thickness of pavement crack sealant by the Contractor, the Contractor shall perform the necessary pavement base repairs at the Contractor’s expense to correct the problem prior to placement of any flexible pavement coating, pavement reinforcing fabric, or overlay.
10. Immediately remove crack treatment material that is spilled or deposited on the pavement surface.
11. Crack seal areas shall be protected from traffic until the material has sufficiently cured and does not track. Any damage or loss of material from freshly placed crack seal material shall be replaced by the Contractor.
12. Before opening to traffic, apply sand or the manufacturer’s recommended detackifying agent to tacky crack treatment material on the traveled way. Sweep up excess sand before opening to traffic.

3.14 AD□□ST IRON CASTINGS TO GRADE

A. Before applying slurry seal or micro-surfacing, cover manholes, valves and monument covers, grates or other exposed facilities located within the area of application using plastic or oil resistant construction paper secured by tape or adhesive to the facility being covered. Reference the covered facilities with enough control points to locate the facilities after application of the seal coat.

B. All Iron Castings shall be set to finish grade after placing the asphalt concrete. The adjustment of structures and monuments to grade shall be in conformance with Section 15, "Existing Facilities," of the State Standard Specifications and this Section.

C. When streets are overlayed unless deemed unsuitable by the Project Manager, existing frames and covers shall be salvaged and re-used. All iron castings damaged during construction shall be replaced by the Contractor with new iron castings at the Contractor's expense. Replacement iron castings for City utility structures shall be replaced in conformance with the appropriate technical section. Replacement iron castings for other Agency utility structures shall be replaced in conformance with the appropriate Agency requirements.

D. All water valve covers shall be exposed on the same day in which they are covered by resurfacing operations.

E. All maintenance hole covers shall be raised no later than 2 working days after resurfacing is placed, and shall be patch-paved with asphalt concrete within 2 working days after being raised.

F. Tops of frames shall be set flush with finish grade. Frames which are not flush with finish grade shall be re-adjusted by the Contractor at the Contractor's expense.

G. After adjusting frames Contractor shall ensure all covers are removable and seat properly when replaced. For new iron castings the new covers shall not rock.

H. Hand mixing of concrete for use in raising iron castings to grade will be allowed. Concrete shall be placed and thoroughly consolidated in conformance with Section 32 13 13 - Concrete Surface Improvements.

I. The contractor shall place a false bottom in manholes and valve boxes prior to starting any work. The contractor is to remove any debris with a vacuum cleaner and remove the false bottom after paving. False bottom is to be constructed of 1" marine grade moisture-resistant plywood or City approved equal. The plywood is cut to a circle or otherwise shaped to fit the bottom of the manhole or valve box and then cut in half. The false bottom is then placed in the manhole or valve box with the seam crossing the flow or in such a manner to protect the sewer system from any debris. False bottom is to be placed on blocks at a minimum of 1" above all inlets to the manhole. False bottom shall be connected to the blocks via nails or staples to prevent the blocks from falling into the flow. Blocks shall not obstruct any part of the flow. All debris shall be removed from manhole prior to constructing false bottom. All debris shall be removed from manhole each time the manhole is worked on. False bottoms must be approved by the City prior to installations.

J. Asphalt concrete patch paving shall be 1/2" maximum asphalt concrete placed over a tack coat. Patch paving may be placed by hand using a vibratory plate compactor or roller in conformance with this Section.

3.15 SL□RRY SEAL & MICRO-S□RFACING

A. Proportion slurry seal ingredients in compliance with the authorized mix design. Proportion and blend different aggregate types before adding other ingredients. After proportioning, the slurry seal mixture must be workable.

B. Proportion the micro-surfacing materials using the authorized mix design. Field conditions may require adjustments to the proportions during construction. Obtain Project Manger's written authorization before adjusting proportions.

C. Before placing slurry seal or micro-surfacing, clean the pavement surface by removing loose particles of extraneous materials, including paving and dirt. □se any nondestructive methods, such as flushing and sweeping, cleaning any oil spots.

D. If the slurry seal and micro-surfacing activities affect access to public parking, residential property or commercial property, business□ notify residents, businesses, and utility companies at least 48 hours before starting activities, The notice must□
   1. Describe the work to be performed
   2. Detail streets and limits of activities
   3. Indicate work hours
   4. Be authorized by the Project manager
   5. Have an emergency contact information for the Contractor.

E. Before starting slurry seal and micro-surfacing activities, post signs at 100-foot intervals on the affected streets. Signs must display *No Parking-Tow Away*. Signs must state the day of the week and hours parking or access will be restricted. Signs when no longer required shall be removed.

F. Place slurry seal and micro-surfacing of both the pavement and air temperatures are at least 50 degrees F. Do not place Slurry or micro-surfacing if either the pavement or air temperature is below 50-degree F and falling. The expected high temperature must be at least 65 degrees F within 24 hours after placement.

G. Do not place slurry seal or micro-surfacing if rain is imminent or the air temperature is expected to be below 36 degrees F within 24 hours after placement.

H. Longitudinal joint must correspond with lane lines. Spread slurry in full lane widths.

I. Longitudinal and transverse joints must be uniform, straight, neat in appearance, butt-type joints, without material buildup, and without uncovered areas.

□. Spread slurry seal uniformly within the spread rate range of 10 to 15 lbs. of dry aggregate per square yard for Class II aggregate. Do not spot, rehandle or shift the mixture.

□. Coat the pavement surface with CSS grade asphaltic emulsion mixed with additional water. The ratio of water to asphaltic emulsion must be 3 to 1. Apply the tack coat at a rate from 0.08 to 0.15 gal/sq. yd.

L. The slurry seal mixture must be uniform and homogenous after spreading, and there must not be separation of the emulsion and aggregate after setting.

M. The slurry seal surface must be cured to allow traffic without pilot cars within 1 hour after placement. The slurry seal must not show bleeding, raveling, separation, or other distresses for 15 days after placing.

N. Protect the slurry seal from damage until it has cured and will not adhere or picked up by vehicle tires.

O. Before micro-surfacing, fog the roadway surface with water ahead of the spreader box. The fog spray must be adjusted for pavement temperature, surface texture and dryness.

P. The completed spread rate must be within 10 percent of the specified spread rate. The micro-surfacing spread rates must be within the ranges shown in the following table□

Micro-surfacing Spread Rates

Micro-surfacing type	Location	Range (lbs□of dry aggregate per sq□yd□)
Type II	Full lane width	10-20
Type III[a]	Full lane width	20-32

[a]Over asphalt concrete pavement

□. Spread micro-surfacing either in the direction of traffic or in the opposite direction.

R. Finished micro-surfacing must be free of irregularities such as scratch or tear marks. Do not leave any marks that are over 1-inch wide or 6-inches long.

S. Sweep the micro-surfacing 24 hours after the placement without damaging the micro-surfacing. For 5 days afterward, sweep the micro-surfacing daily.

T. If bleeding, raveling, delaminating, rutting, or wash-boarding occurs after placing the micro-surfacing make repairs as approved by the Project Manager.

□. Sidewalk and driveways must be kept clean with an air compressor after 1st and 5th day of sweeping.

3.16 ASPHALT PAVING TOLERANCES

A. Section 01 45 00 – □uality Control□Tolerances.

B. Flatness□Maximum variation of 1/8 inch measured with 10-foot straight edge.

C. Scheduled Compacted Thickness□Within 1/4 inch.

3.17 FIELD □□ALITY CONTROL

A. Section 01 45 00 – □uality Control□Requirements for testing, adjusting, and balancing.

B. Asphalt Paving Mix Temperature□Measure temperature at time of placement.

3.18 PROTECTION

A. Section 01 77 00 - Closeout Requirements□Requirements for protecting finished Work.

B. Immediately after placement, protect paving from mechanical injury for until surface temperature is less than 140 degrees F.

END OF SECTION 32 12 17

SECTION 32 13 13 - CONCRETE SURFACE IMPROVEMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Aggregate base course.
2. Concrete Surface Improvements for:

   a. Concrete sidewalks
   b. Concrete driveways
   c. Concrete curb ramps
   d. Concrete curbs and gutters
   e. Concrete retaining curbs
   f. Concrete median curbs
   g. Concrete median nose surfacing
   h. Concrete valley gutters
   i. Concrete bus turnouts
   j. Concrete survey monuments
   k. Concrete ditches

3. Forms for Concrete
4. Concrete reinforcement (reinforcing bars, welded wire fabric and accessories).
5. Portland Cement Concrete placement
6. Concrete Joints - Expansion, Weakened plane and Score joints
7. Curing compounds

B. Related Requirements:

1. Section 09 90 00 - Painting and Coating: Pavement markings.
2. Section 31 05 13 - Clearing & Grubbing, Excavation, and Earthwork
3. Section 32 11 23 - Aggregate Base Courses
4. Section 32 12 16 - Asphalt Paving
5. Section 33 05 13 - Manholes and Structures

1.2 PRICE AND PAYMENT PROCEDURES

A. Section 01 29 00 - Payment Procedures

B. Aggregate Base Course:

1. Basis of Measurement: Not measured.

2. Basis of Payment□ Incidental to measurement for concrete surface improvements and includes supplying fill material, stockpiling, scarifying substrate surface, placing where required, and compacting.

C. Concrete Surface Improvements□

1. Basis of Measurement□ By square feet for sidewalks, driveways, curb ramps, valley gutters, bus turnouts, trash enclosure pads and median nose surfacing□By linear feet for curb & gutter, concrete retaining curbs, and median curbs. Concrete pads around utility facilities and miscellaneous concrete footings are incidental to the bid item most closely related to and no separate compensation allowed therefor. Truncated domes for curb ramps are not measured separately are considered incidental to the pay item for Curb Ramps. Retaining curbs at curb ramps are not measured and are considered incidental to the measurement of curb ramps. Curb and gutter and vertical curbs adjacent to the curb ramp will be measured separately. Concrete Survey Monuments shall be measured on a per unit basis.
2. Basis of Payment□ Includes all labor, materials, tools, equipment, and incidentals including subgrade preparation, excavation, base preparation, forms, reinforcing, concrete, accessories, placing concrete, finishing concrete, expansion joints, weakened plane joints, scoring joints, curing, removal of all forms, and testing.

1.3 REFERENCE STANDARDS

A. State of California (Caltrans) Standards□

1. Section 19 Earthwork
2. Section 26 Aggregate Base
3. Section 51 Concrete Structures
4. Section 52 Reinforcement
5. Section 73 Concrete Curbs and Sidewalks
6. Section 90 Concrete

B. American Association of State Highway and Transportation Officials□

1. AASHTO M295 - Standard Specification for Coal Fly Ash or Calcined Natural Pozzolan for □se in Concrete.
2. AASHTO M302 – Standard Specification for Ground Blast-Furnace Slag for □se in Concrete and Mortars
3. AASHTO T160 - Standard Method of Test for Length Change of Hardened Hydraulic Cement Mortar and Concrete

C. American Concrete Institute□

1. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials.
2. ACI 301 - Specification for Structural Concrete
3. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
4. ACI 308.1 - Specification for Curing Concrete.
5. ACI 347 – Guide to Formwork for Concrete

D. American Forest & Paper Association

1. AF&PA - National Design Specification (NDS) for Wood Construction.

E. APA - The Engineered Wood Association

1. APA/EWA PS 1 - Voluntary Product Standard - Structural Plywood.

F. ASTM International
1. ASTM A185 - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
2. ASTM A497 - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
3. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
4. ASTM A775 - Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
5. ASTM A1064 - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
6. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
7. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
8. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
9. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
10. ASTM C150 - Standard Specification for Portland Cement.
11. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete.
12. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
13. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
14. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
15. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
16. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
17. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
18. ASTM C595 - Standard Specification for Blended Hydraulic Cements.

19. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for □se as a Mineral Admixture in Concrete.
20. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
21. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for □se in Concrete and Mortars.
22. ASTM C1017 - Standard Specification for Chemical Admixtures for □se in Producing Flowing Concrete.
23. ASTM C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
24. ASTM D209 - Standard Specification for Lampblack Pigment
25. ASTM D1751 - Standard Specification for Preformed Expansion □oint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

G. Concrete Reinforcing Steel Institute□

1. CRSI 10-MSP – Manual of Standard Practice
2. CRSI 10PLACE – Placing Reinforcing Bars

H. West Coast Lumber Inspection Bureau□

1. WCLIB - Standard No. 17 Grading Rules for West Coast Lumber.

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□

1. Submit data on concrete materials, joint filler, joint sealants, admixtures, curing compounds.
2. Submit certified copies of mill test report of reinforcement materials analysis. Indicate bending and cutting schedules and supporting and spacing devices.
3. Submit manufacturer's information on curing compounds. Submit detailed instructions on installation requirements, including storage and handling procedures.
4. Shop drawings indicate formwork, shoring and reshoring.

C. Design Data□

1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following□

a. Hot and cold weather concrete work.

2. Identify mix ingredients and proportions, including admixtures.

3. Chloride can contribute to corrosion of metals embedded in concrete. Admixture manufacturers shall identify chloride content of admixtures and whether or not chloride was added during manufacture.

D. Protection

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

E. Source uality Control Submittals Indicate results of factory tests and inspections.

F. Certifications

1. At the time of delivery provide certificates of compliance signed by both the Contractor and Supplier to verify the following

a. Materials supplied comply with the specification in all respects.
b. Proportioning and mixing is in compliance with a design mix which has been field tested in accordance with the herein requirements and produces the required compressive strength under like conditions.
c. Statement of type and amount of admixtures.
d. All Certificates shall include the Material and Supplier's mix design number.
e. Volume of concrete. At the time of delivery provide certified delivery ticket stating volume of concrete delivered and time of mixing, or time of load-out in case of transit mixers.

1.5 ALITY ASS RANCE

A. Perform Work according to ACI 301.

B. Obtain cementitious materials from same source throughout unless approved by the City.

C. Concrete finish shall be consistent with adjacent concrete unless specified otherwise on the Drawings.

D. For wood products furnished for Work of this Section, comply with AF&PA.

1.6 MOC P

A. Section 01 45 00 - uality Control Requirements for mockup.

B. Construct mockup, 5 feet x 5 feet, including paving, expansion joints, weakened plane joints, score joints, surface texture, and base material for decorative colored concrete work.

C. Locate where directed by the Project Manager.

D. Remove mockup when directed by Project Manager.

1.7 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls Ambient conditions control facilities for product storage and installation.

B. Do not place concrete when surface is wet or frozen.

C. Do not place concrete when base surface temperature is less than 45 degrees F, nor when conditions indicate that the temperature may fall less than 45 degrees F. within 24 hours, except with the written permission of the City Engineer. Salt chemicals, or other foreign materials shall not be mixed with the concrete for the purpose of preventing freezing. Concrete shall be effectively protected from freezing or frost for period of 5 days after placing.

D. Concrete for structures shall not be mixed or placed while the ambient temperature is above 110 degrees F. unless adequate means are employed to cool the aggregate and water and satisfactory provisions have been made for protecting the work.

PART 2 - PRODUCTS

2.1 AGGREGATE BASE CO RSE

A. Aggregate Base 3/4" maximum - Class 2 Aggregate Base as specified in Section 32 11 23 - Aggregate Base Courses.

2.2 CONCRETE S RFACE IMPROVEMENTS

A. Form Materials

1. Form Materials Conform to ACI 301 and shall be new.
2. Plywood
   a. Species Douglas fir.
   b. Grade Solid one side
   c. Edges Clean and true.
3. Plywood Forms
   a. Application Exposed finish concrete.

b. Description□
   1) Comply with APA/EWA PS 1.
   2) Panels□Full size, 4 by 8 feet.
   3) Label each panel with grade trademark of APA/EWA.
c. Plywood for Surfaces to Receive Membrane Waterproofing□
   1) Minimum Thickness□5/8 inch.
   2) Grade□APA/EWA "B-B Plyform Structural I Exterior."

4. Formwork shall be designed for the loads and lateral pressure outlined in Section 102 of ACI 347 and other loads indicated and shall be designed to have sufficient strength to carry the dead weight of the concrete as a liquid, without appreciable deflection. If any such deflection occurs, it shall be sufficient cause for rejection of the work.
5. Where necessary to maintain the tolerances indicated, the formwork shall be cambered to compensate for anticipated deflections due to the weight and pressure of the fresh concrete and due to construction loads.
6. Forms shall be smooth, mortar-tight, true to the required lines and grades and of sufficient strength to resist springing out of shape during the placing of concrete.
7. Surfaces of forms shall be free from irregularities, dents, snags, rust, and other material which would discolor or transfer to the concrete.

B. Reinforcement□
1. Deformed Reinforcing□Steel□ASTM A615, 60 ksi yield grade, deformed billet bars, uncoated finish.
2. Welded Deformed Wire Fabric□ASTM A497□in □flat sheets□□coiled rolls□□ □unfinished□□epoxy coated finish□.
3. Dowels□ASTM A615□60 ksi yield strength, plain steel bars□cut to length indicated on Drawings, square ends with burrs removed□unfinished. One end of the dowel shall include a sleeve over the dowel.
4. Tie Wire□ASTM A1064, Minimum 16 gage, black annealed type.
5. Chairs, Bolsters, Bar Supports, and Spacers□
   a. Size and Shape□To strengthen and support reinforcement during concrete placement conditions.
1. Splicing□Splice reinforcing where indicated on Drawings. The length of lapped splices shall be as follows□
   a. Reinforcing bars No. 8, or smaller, shall be lapped at least 45 bar diameters of the smaller bar joined, except when otherwise shown on the Drawings.
   b. Reinforcing bars No. 9, 10 and 11 shall be lapped at least 60 bar diameters of the smaller bars joined, except when otherwise shown on the Drawings.
   c. If not indicated on Drawings, locate reinforcement splices at point of minimum stress. Obtain approval of splice locations from the City.
2. Reinforcing bars shall be free of mortar, oil, dirt, excessive mill scale and scabby rust and other coatings of any character that would destroy or

reduce the bond. All bending shall be done cold, to the shapes shown on the Drawings.

3. Place, support, and secure reinforcement against displacement by using precast mortar blocks or ferrous metal chairs, spacers, metal hangers, supporting wires, and other approved devices of sufficient strength to resist crushing under applied loads. Supports and ties shall be such as to permit walking on reinforcing without undue displacement.
4. Do not deviate from required position beyond specified tolerances.
5. Accommodate placement of formed openings.
6. Spacings□
   a. Space reinforcement bars with minimum clear spacing as shown on the Drawings.
   b. If bars are indicated in multiple layers, place upper bars directly above the lower bars, unless specified otherwise on the Drawings.
7. Maintain minimum concrete cover around reinforcement according to ACI 318 code and as follows□
   a. Footings and Concrete formed against earth□3 inches
   b. Concrete Exposed to Earth or Weather□2 inches
8. Splice reinforcing where indicated on Drawings. The length of lapped splices shall be as follows□
   a. Reinforcing bars No. 8, or smaller, shall be lapped at least 45 bar diameters of the smaller bar joined, except when otherwise shown on the Drawings.
   b. Reinforcing bars No. 9, 10 and 11 shall be lapped at least 60 bar diameters of the smaller bars joined, except when otherwise shown on the Drawings.
9. All reinforcing shall be securely tied in place prior to pouring concrete.
10. Placing of dowels or other reinforcing in the wet concrete is not permitted.

C. □oint Filler□ASTM D1751□Premolded expansion joint filler 1/4-inch thick.

D. □oint seal materials must be either silicone joint sealant, asphalt rubber joint sealant, or preformed compression joint seal. Silicone or asphalt rubber joint sealant must not bond or react with the backer rod.
   a. Silicone □oint Sealant. Silicone joint sealant must be on the Authorized Material List for silicone joint sealant.
   b. Asphalt Rubber □oint Sealant. Asphalt rubber joint sealant must□
      1) Be asphalt binder mixed with not less than 10 percent ground rubber by weight. Ground rubber must be vulcanized or a combination of vulcanized and devulcanized materials that pass a no. 8 sieve.
      2) Comply with ASTM D6690 for Type II.
      3) Be capable of melting at a temperature below 400 degrees F and applied to cracks and joints.
      4) Be delivered in containers complying with ASTM D6690.

E. Concrete Materials□

1. Cement Cement shall conform to Section 90, “Concrete” of the State Standard Specifications.

2. Fine and Coarse Aggregates Conform to the requirements of Section 90-1.02C, “Aggregates” of the State Standard Specifications. Size of aggregate for Portland cement concrete mix to be used for Survey monuments shall be 1/2-inch maximum.

3. Water Conform to Section 90-1.02D, “Water” of the State Standard Specifications.

4. Air Entrainment Air Entrainment admixtures shall meet the requirements of Section 90-1.02E(3), “Air-Entraining Admixtures” of the State Standard Specifications.

5. Chemical Admixture Chemical admixtures shall meet the requirements of Section 90-1.02E(2), “Chemical admixtures” of the State Standard Specifications.

6. Supplementary Cementitious Materials - Fly Ash Conform to the requirements of Section 90-1.02B(3), “Supplementary Cementitious Materials” of the State Standard Specifications.

7. Supplementary Cementitious Materials - Slag Conform to the requirements of Section 90-1.02B(3), “Supplementary Cementitious Materials” of the State Standard Specifications.

8. Color Pigment ASTM C979 mineral oxides, alkali and fade resistant. The dosage must not exceed 10 percent by weight of cementitious material in the concrete mix design.

    a. Lampblack Conform to ASTM D209, and shall be of approved quality mixed at a rate of one pound per cubic yard of concrete.
    b. Color No added color unless specified otherwise on the Drawings, except lampblack.

2.3 CONCRETE MIX

A. Concrete Mix

1. Concrete shall conform to Section 90, “Concrete”, of the State Standard Specifications.
2. The concrete shall contain not less than 564 pounds of cementitious material per cubic yard.
3. Maximum slump for concrete is 4”.
4. Provide concrete to the following criteria

Item	Min 28-day Compressive Strength (psi)
Sidewalks	4,000
Driveways	4,000
Curb Ramps	4,000
Curb and Gutters	4,000
Median Curbs	4,000
Median Nose Surfacing	4,000
Concrete Ditches	4,000
Valley Gutters	5,000
Bus Turnouts	5,000
Survey Monuments	5,000

2.4 CONCRETE C RING COMPO ND

A. Curing Compound ASTM C309, Type 1D, Class A and shall conform to Section 90-1.03B (3) “Curing Compound Method”, of the State Standard Specifications.

2.5 SO RCE ALITY CONTROL

A. Section 01 45 00 - uality Control Testing and Inspection Services.

B. Submit proposed mix design of each class of concrete to City for review prior to commencement of Work.

C. Concrete Slump shall conform to Section 90-1.02G (6) “ uantity of Water and Penetration or Slump”, of the State Standard Specifications

D. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Section 01 77 00 - Closeout Requirements Requirements for installation examination.

B. Verify compacted subgrade and base is dry and ready to support paving and imposed loads.

1. Proof roll subgrade with two perpendicular passes to identify soft spots.
2. Remove soft subgrade and replace with compacted fill as specified in Section 31 05 13 – Clearing & Grubbing, Excavation, and Earthwork.

C. Verify gradients and elevations of base are correct.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Section 01 77 00 - Closeout Requirements Requirements for installation preparation.

B. Moisten subgrade to minimize absorption of water from fresh concrete.

C. Notify City minimum 24 hours prior to commencement of concrete operations.

3.3 INSTALLATION

A. Subgrade Preparation

1. Remove soft or spongy basement material to a depth of six (6) inches below the subgrade elevations for sidewalks, driveways, curb ramps, curbs, gutter depressions, median nose island paving, valley gutters, bus turnouts, and other miscellaneous concrete pads. Backfill the subgrade with earth, sand, gravel or suitable backfill materials to produce a stable foundation.
2. The subgrade, including any base material, shall be thoroughly compacted by an approved mechanical device to not less than ninety-five percent (95) relative compaction as determined by Test Method No. Calif. 216 or 231 before placing the concrete at bus turnouts, driveways and valley gutters.
3. The subgrade, including any base material, shall be thoroughly compacted by an approved mechanical device to not less than ninety percent (90) relative compaction as determined by Test Method No. Calif. 216 or 231 before placing the concrete at curb and gutters, sidewalk, median nose surfacing and curb ramps.

B. Sawcutting Existing Concrete
   1. Where a portion of existing concrete surface improvements is to be removed and replaced, the section to be removed shall be sawcut with an approved concrete saw to a minimum depth of 2-1/2 inches. For sidewalks, curbs, gutters, concrete pads, curb ramps, and driveways the limit of the saw cut shall be at a minimum the first score line beyond the limits of the area to be replaced or as directed by the City.

C. Base Course
   1. Aggregate Base Course Install as specified in Section 32 11 23 - Aggregate Base Courses.

D. Forms
   1. No forms shall be placed prior to approval of the aggregate base and subgrade by the City.
   2. Place and secure forms and screeds to correct location, dimension, profile, and gradient.
   3. All dirt, chips, soil, dust, nails, and other foreign matter shall be completely removed from forms before any concrete is deposited therein.
   4. Form boards having joints opened by shrinkage of the wood shall be swelled by wetting until closed, before concrete is placed.
   5. The design and construction of forms and form supports shall be subject to approval, but responsibility for their adequacy shall rest with the Contractor.
   6. Forms shall be carefully set to alignment and grade and shall conform to the required dimensions. Forms shall be held rigidly in place by stakes. Clamps, spreaders and braces shall be used where required to insure rigidity in the forms.
   7. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
   8. When grades are less than 0.4 percent, the Contractor shall set grade stakes at a minimum of 25 foot intervals.
   9. Where shown on the Drawings, specified in the Technical Specifications or permitted by the City, side forms for footings may be omitted and concrete may be poured against the firm earth.

E. Coating
   1. Before concrete is placed, the contact surfaces for forms shall be coated with an approved non-staining form coating compound.
   2. Forms previously used shall be thoroughly cleaned of all dirt, mortar, and foreign matter before being re-used.
   3. When forms are coated to prevent bond with concrete, coating shall be done prior to placing of the reinforcing steel.
   4. Excess coating material shall not be allowed to stand in puddles in the forms nor allowed to come in contact with concrete against which fresh concrete will be placed

F. Reinforcement

1. Place reinforcing as indicated on Drawings.
2. Interrupt reinforcing at weakened plane and expansion joints as shown on the Drawings.
3. Place dowels where required to achieve concrete paving and curb alignment as detailed.

G. Ties
1. Approved form clamps or bolts shall be used to fasten forms.
2. The use of ties consisting of twisted wire loops to hold forms in position during the placing of concrete will not be permitted.
3. Bolts and form clamps shall be positive in action and shall be of sufficient strength and number to prevent spreading of the forms.
4. They shall be of such type that when the forms are removed all metal shall be at least one (1) inch from any surface.
5. Spreader cones and ties shall not exceed one (1) inch in diameter. These shall be of the type which do not have to be completely withdrawn as holes through the wall will not be permitted

H. oints
1. Place weakened plane joints at D/4 (1” deep and 1/8” wide with rounded edges of 1/8” radius for a 4” thick concrete sidewalk) at maximum of 10 foot intervals, unless shown otherwise on the Drawings. Align curb, gutter, and sidewalk joints.
2. Place expansion joints (full depth of concrete section and 1/2” wide) at maximum of 40 foot intervals, at begin and end of curve, all changes in horizontal alignment, back of sidewalk at driveways, at corners of tree wells and corners of utility vaults, unless shown otherwise on the Drawings. Align curb, gutter, and sidewalk joints.
3. Place joint filler between concrete paving components and building or other appurtenances. Recess top of filler 1/4 inch for sealant installation.
4. Seal all expansion joints as shown on the Drawings.
5. The joint opening shall be thoroughly cleaned before the sealing material is placed.
6. Sealing material shall not be spilled on exposed surfaces of the concrete. Any excess material on exposed surfaces of the concrete shall be removed immediately and concrete surfaces cleaned.
7. Provide scored joints transversely (1/4” deep and 1/8” wide with rounded edges of 1/8” radius for a 4” thick concrete sidewalk) at maximum of 5 foot intervals, unless shown otherwise on the Drawings and between sidewalk and back of curbs at an optimum time after finishing. Provide additional score lines longitudinally at mid-point on sidewalks 8 feet and over in width.
8. Provide keyed joints as indicated.
9. For sidewalk replacement projects, match adjacent scoring and joint pattern.

I. Inspections prior to Placing Concrete

1. All excavations, false-work, forms, reinforcement, joints made prior to pouring, electrical and mechanical inserts, etc., shall be inspected and approved before concrete is placed, and if found unsatisfactory the work shall not proceed until all defects have been remedied. Approval will in no way relieve the Contractor of his obligations to produce the finished concrete required by the Drawings and the Specifications

□. Placing Concrete□

1. Place concrete according to Section 73, “Concrete Curbs and Sidewalks” of the State Standard Specifications.
2. All concrete shall be placed while fresh and before it has taken an initial set.
3. Re-tempering partially hardened concrete with additional water or vibrating will not be permitted.
4. Runways or other means must be provided to convey the concrete to the place of deposit in order not to disturb forms or reinforcement. Runways shall not be blocked up on reinforcement and wheel barrows shall not be run directly over reinforcement.
5. Immediately before placing reinforcement or pouring concrete on the ground, the surface of the ground shall be brought to a true, even plane, and compacted to a solid bearing by rolling or tamping. The subgrade surface shall then be dampened to prevent absorption of water form the concrete. Too much water shall not be used and no pools shall form on the area to receive concrete.
6. Concrete shall be effectively protected from freezing or frost for period of 5 days after placing.
7. The concrete shall be deposited as nearly as possible in its final position and the use of vibrators for extensive shifting of the mass of fresh concrete will not be permitted.
8. Fresh concrete shall not be permitted to fall from a height greater than 4 feet without the use of adjustable pipes or "elephant trunks.”
9. Concrete shall be placed with square ends and level tops. Concrete shall be deposited continuously or in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness within the section.
10. The Contractor shall stamp an appropriate two (2) inch symbol S, W or C in the top of curb at all locations where sanitary sewer, water or conduit crosses under curbs.
11. All exposed edges shall be tooled with a one-half inch (1/2") radius tool.
12. If a section cannot be placed continuously, keyed construction joints shall be located at points as indicated or as approved. Placing shall be carried out at such a rate that the concrete which is being integrated with fresh concrete is still plastic.
13. Concrete placement shall be stopped at construction joints before rainfall starts or is sufficient to cause damage to the work.
14. Poured work shall be covered and protected.
15. Concrete, after being deposited, shall be consolidated until all voids are filled and free mortar appears on the surface.

16. Consolidate the concrete by means of high frequency internal vibrators of type, size, and number as approved by the City. The number of vibrators employed shall be ample to consolidate the incoming concrete to a proper degree within 15 minutes after it is deposited in forms. Vibrators shall not be attached to nor held against the forms or the reinforcing steel. The location, manner, and duration of the application of the vibrators shall be such as to secure maximum consolidation of the concrete without causing segregation of mortar and coarse aggregate and without causing water or cement paste to flush to the surface. The thickness of the layers shall be not greater than can be satisfactorily consolidated with the vibrators. The vibrators shall vertically penetrate a few inches into the previous lift (which should not be rigid) at regular intervals. The use of approved external vibrators for consolidating concrete will be permitted when the concrete is inaccessible for adequate consolidation, provided the forms are constructed sufficiently rigid to resist displacements and damage from external vibration.
17. The forms on the face of curbs shall not be removed while the concrete is sufficiently plastic to slump.

□. Finishing□

1. After the concrete has been placed and consolidated, the surface of the concrete shall receive a preliminary finish. The preliminary finish shall consist of carefully striking of the surface of the concrete with a template, strike board, or approved compacting type screed, operated on and between supports or headers, until a uniform surface is obtained.
2. Horizontal surfaces shall receive a broom finish unless otherwise shown on the Drawings. Make the broom finish perpendicular to the path of travel on surfaces used by Pedestrians.
3. Miscellaneous concrete footings shall be sloped to provide drainage away from the post/pipe.
4. Imperfect or Damaged Work□The Contractor shall repair and clean all concrete damaged or discolored during construction.
5. Finishing □nformed Surfaces□ Following completion of the preliminary finish, a final finish of the type indicated shall be provided.

L. Curing and Protection

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Curing concrete shall conform to Section 90-1.03B – “Curing Concrete”, of the State Standard Specifications.
3. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
4. Membrane-Curing Compound□Apply curing compound in two coats with second coat applied at right angles to first over the entire exposed faces of the concrete.
5. Do not permit traffic over unprotected surfaces.

3.4 TOLERANCES

A. Section 01 45 00 – □uality Control□Tolerances.

B. Maximum Variation from True Position□1/4 inch.

C. The finished surface must not vary more than 0.02 foot from a 10-foot straightedge except at grade changes.

3.5 FIELD □□ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements□Requirements for testing, adjusting, and balancing.

B. Perform field inspection and testing according to State Standard Specifications.

C. Inspect reinforcing placement for size, spacing, location, support.

D. For development projects, Developer's or Contractor's testing firm will take cylinders and perform slump and air entrainment tests according to ACI 301. For City projects, the City's testing team will perform testing.

E. Clean any discolored concrete by abrasive blast cleaning or other authorized method.

F. Strength Test Samples□
   1. Sampling Procedures□ASTM C172.
   2. Cylinder Molding and Curing Procedures□ASTM C31, cylinder specimens, standard cure/field cured.
   3. The frequency of sampling will be determined by the City.
   4. Sample concrete and make at a minimum of one set of three cylinders (each cylinder must be six (6) inches in diameter by 12 inches depth) for every 100 cubic yards less of each class of concrete placed each day and for every 5,000 square feet of surface area paving.
   5. Make one additional cylinder during cold weather concrete and placement, and field cure.

G. Field Testing□
   1. Slump Test Method□ASTM C143.
   2. Air Content Test Method□ASTM C173 or ASTM C231.
   3. Temperature Test Method□ASTM C1064.
   4. Density□ASTM C138
   5. Measure slump and temperature for each compressive strength concrete sample.
   6. Measure air content in air entrained concrete for each compressive strength concrete sample.

H. Cylinder Compressive Strength Testing
   1. Test Method ASTM C39.
   2. Test Acceptance Average compressive strength of three consecutive compressive strength test shall be equal to or greater than minimum specified compressive strength specified in this Section. No single strength test should fall below the specified compressive strength by more than 500 psi.
   3. Test one cylinder at 7 days.
   4. Test two cylinders at 28 days.
   5. Retain one cylinder for testing when requested by City.
   6. Dispose remaining cylinders when testing is not required.

I. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

. The finished surface shall be true and straight, and shall be of uniform width, free from humps, sags, or other irregularities.

. Where curb and gutter, valley gutter and bus turnout gutter grades are less than one percent (1), the Contractor shall water test the gutters for low spots. Any depressions shall be corrected prior to asphalt concrete paving.

3.6 PROTECTION

A. Section 01 77 00 - Closeout Requirements Requirements for protecting finished Work.

B. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.

C. Do not permit pedestrian or vehicular traffic over paving for 7 days minimum after finishing until 75 percent design strength of concrete has been achieved, unless approved by the City.

D. Vandalism Contractor shall be responsible for protection of newly poured concrete against vandalism. Any damage to the newly poured concrete shall be the responsibility of the Contractor and shall be replaced at the Contractor's expense.

END OF SECTION 32 13 13

SECTION 32 17 00 - PAVEMENT DELINEATION

PART 1 - GENERAL

1.1 SUMMARY

A. Work under this section shall consist of all traffic striping, markings and all other directional information or pavement delineation on the surfaces of streets, detour roads, parking lots, median strips and curbing in accordance with the plans, Technical Specifications and as specified herein, in conformance with the applicable provisions of the Department of Transportation Standard Specifications, California Manual on Uniform Traffic Control Devices (CA MUTCD), and California Vehicle Code.

B. Related Sections:
1. Section 01 33 00 – Submittal Procedures
2. Section 01 60 00 - Product Requirements
3. Section 01 77 00 - Closeout Requirements
4. Section 01 78 00 - Closeout Submittals

1.2 REFERENCES

A. Department of Transportation (Caltrans Standard Specifications)

B. California Manual on Uniform Traffic Control Devices (CA MUTCD)

C. California Vehicle Code (CVC)

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Certificates of Compliance: Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.

C. Product Data: Provide manufacturers specification and literature for materials furnished.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 78 00 - Closeout Submittals: Requirements for submittals.

1.5 □□ALITY ASS□RANCE

A. Perform work in accordance with the plans, Technical Specifications and as specified herein, in conformance with the applicable provisions of the Caltrans Standard Specifications, CA M□TCD, and CVC.

1.6 □□ALIFICATIONS

A. Pavement markings installer shall have experience in the type of work required and a reputation for producing satisfactory work on time.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□Product transportation, storage, handling, and protection requirements.

B. Accept materials on site in original factory packaging, labeled with manufacturer's identification.

C. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.

D. Do not deliver items to project before time of installation. Limit shipment of bulk and multiple-use materials to quantities needed for immediate installation.

1.8 ENVIRONMENTAL RE□□IREMENTS

A. Section 01 60 00 - Product Requirements□Environmental conditions affecting products on site.

B. Install pavement markers only when ambient temperature and humidity conditions acceptable per manufacturer's specifications.

C. Testing and removal of yellow traffic stripe and pavement markings with hazardous waste residue shall be in conformance with Department of Transportation Standard Specification 14-11.12, “Removal of Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue”.

1.9 MAINTENANCE/EXTRA MATERIALS

A. Section 01 77 00 - Closeout Requirements□Extra materials and maintenance products.

PART 2 - PRODUCTS

2.1 GENERAL

A. Unless otherwise specified in the Technical Specifications or contract plans, all pavement striping and markings (except temporary) shall be thermoplastic.

2.2 THERMOPLASTIC

A. Thermoplastic for traffic stripes and pavement markings shall conform to Section 84-2, "Traffic Stripes and Pavement Markings", of the Caltrans Standard Specifications.

B. The thermoplastic material shall conform to Caltrans Specification PTH-02SPRAY, PTH-02HYDRO or PTH-02ALKYD. Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of Caltrans Standard Specification.

C. Concrete surfaces shall be treated before thermoplastic stripes and markings are installed, per Section 84-2, "Traffic Stripes and Pavement Markings", of the Caltrans Standard Specification.

2.3 PAINT

A. Paint for traffic stripes and pavements markings shall conform to Section 84-2, "Traffic Stripes and Pavement Markings", of the Caltrans Standard Specifications and the following:

1. Waterborne Traffic Line (White, Yellow, Black): Caltrans Standard Specification PTWB-01

2. Acetone-Based (White, Yellow, Black): Specification PT-150VOC(A)

3. Waterborne Traffic Line for disabled persons' parking, and other curb markings (blue, red, green): Federal Specification No. TT-P-1952D

B. Glass beads shall conform to Caltrans Standard Specification.

2.4 PAVEMENT MARKERS

A. Pavement markers shall conform to Section 81-3, "Pavement Markers," of the Caltrans Standard Specifications, as specified herein, and in the Technical Specifications.

B. Fire Hydrant markers shall be two-way, reflective blue markers.

2.5 TEMPORARY PAVEMENT DELINEATION

A. Temporary Pavement Delineation shall conform to Section 12-6, "Temporary Pavement Delineation," and Section 84-2, "Traffic Stripes and Pavement Markings", of the Caltrans Standard Specifications.

2.6 ADHESIVE

A. Adhesive for Pavement Markers shall be the hot melt bituminous type conforming to Section 81-3, "Pavement Markers," of the Caltrans Standard Specifications.

PART 3 - EXEC□TION

3.1 LAYO□T, ALIGNMENT, AND SPOTTINGS

A. All layout, spotting and tracking required shall be performed by and at the expense of the Contractor and approved by the City, prior to placement of pavement striping or markings.

B. When no previously applied figures, markings, or traffic striping are available to serve as a guide, suitable layouts shall be spotted in advance of the permanent paint application by any means satisfactory to the City.

C. The Contractor shall mark or otherwise delineate the traffic lanes in the new roadway or portion of roadway, or detour before opening it to traffic.

D. The Contractor shall provide an experienced technician to supervise the location, alignment, layout, dimensions, and application of the delineation or marking.

E. The Contractor shall furnish all equipment, materials, labor and supervision necessary for installing pavement striping and markings in accordance with the contract plans for temporary detours required for the safe control of traffic through and/or around the project.

F. Standard word markings, letters, numerals, and symbols shall be as shown, on the plans. In the absence of such information, all stencils and templates shall be identical with those used by the City. The Contractor shall obtain stencils for all required legends.

3.2 TEMPORARY PAVEMENT MAR□INGS

A. Should the Contractor elect to alter the existing traffic stripes and markings, or to divert the flow of traffic on construction projects for his own convenience and

there are no special pavement markings or lane delineations shown on the plans or in the Technical Specifications, he shall, at no expense to the City, provide the necessary temporary striping in accordance with the CA M□TCD, unless otherwise directed by the City. Removal of such striping shall be at the Contractor's expense. The Contractor shall remove all existing or temporary detour striping or markings that may confuse the public. When temporary detour striping or markings are no longer required, they shall be removed prior to applying the new traffic stripes or markings.

B. Temporary Traffic Stripe or Marking Tape shall be removed "clean" prior to installation of permanent pavement delineation.

3.3 REMOVAL OF EXISTING MAR□INGS

A. Existing striping and pavement markings that will be in conflict with the finish traffic circulation shall be removed as directed by the City in accordance with Section 84-9 of the Caltrans Standard Specifications.

B. The Contractor shall conduct his work so as not to damage existing pavement and public improvements to remain. Any resultant damage determined to be excessive by the City shall be repaired in kind by the Contractor at its sole expense.

C. Damage to the pavement resulting from removal of pavement markers shall be considered as any depression more than 1/4-inch (6.35mm) deep and shall be repaired by the Contractor by filling the depression with hot melt bituminous adhesive to the satisfaction of the City.

D. Where blast cleaning is used for the removal of traffic stripes and pavement markings or objectionable material, the residue including dust shall be removed immediately after contact between the sand and the surface being treated. Such removal shall be by a vacuum attachment operating concurrently with the blast cleaning operation.

E. Where removal of traffic stripes and pavement markings is done by grinding or sandblasting methods, the effected pavement surface shall be completely covered by applying asphaltic emulsion conforming to Section 94 of Caltrans Standard Specifications.

F. All reference markings made by the Contractor shall be done with spray chalk.

G. All temporary traffic stripes and pavement markings shall be removed by the Contractor on the same day as placement of the permanent striping and markings.

3.4 PAVEMENT MAR□ER INSTALLATION

A. Placement of pavement markers shall conform to Section 81-3, "Pavement Markers," of the Caltrans Standard Specifications, as specified herein, and in the Technical Specifications.

B. Fire hydrant markers shall be two-way blue retroreflective pavement markers and installed at all fire hydrant locations, as directed by the City.

3.5 PAVEMENT MAR□INGS INSTALLATION

A. Placement of all traffic stripes and pavement markings shall be in conformance with Section 84, "Markings" of the Caltrans Standard Specifications, referenced Plans of the Caltrans Standard Plans, with color required as shown on the Drawings and as specified herein.

B. Any overlap, dripping, or tracking of fresh thermoplastic or paint onto unmarked surfacing shall be removed to the satisfaction of the City.

C. Thermoplastic and paint shall be placed as close as possible to existing utility structure and monument frames and covers without covering them.

D. The Contractor shall protect all fresh thermoplastic and paint and shall repair or replace all damage to traffic stripes and pavement markings caused by his failure to do so at its own expense.

E. All traffic stripes and pavement markings, new or existing, within or adjacent to the work limits which become defaced or damaged during the Contractor's operations shall be replaced by the Contractor at its expense concurrently with other traffic marking operations in the immediate area. The City shall be the sole judge as to which stripes or legends are defaced or damaged.

F. Curb painting shall be applied as shown on the plans and as directed by the City. Curb painting shall include the application of two coats of traffic paint with glass beads incorporated in the second coat. Top and face of curb shall be painted. Color of curb markings shall conform to ASTM D6628.

G. All traffic stripes and pavement markings shall be placed at application rates in conformance with Section 84-2, "Traffic Stripes and Pavement Markings", of the Caltrans Standard Specifications.

3.6 GLASS BEAD APPLICATION

A. All traffic stripes, except the black separation line, shall be beaded.

B. Glass beads shall be applied directly and uniformly to the set traffic line with a bead dispenser machine placed the proper distance behind the paint spray nozzle, unless pre-mix is approved.

C. Glass beads shall be applied to pavement markings and crosswalks by a special paint spray gun developed for this purpose.

D. Glass beads shall be applied at application rates in conformance with Section 84-2, "Traffic Stripes and Pavement Markings", of the Caltrans Standard Specifications.

3.7 CLEANING

A. Section 01 77 00 - Closeout Requirements Final cleaning.

B. Clean finishes and touch up damage.

3.8 PROTECTION OF FINISHED WOR

A. Section 01 77 00 - Closeout Requirements Protecting finished work.

END OF SECTION 32 17 00

SECTION 32 17 26 - DETECTABLE WARNING SURFACING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Detectable warning surfacing and accessories at curb ramps, median opening islands, and at other locations as shown on the drawings.

B. Related Requirements:

1. Section 01 50 00 - Temporary Facilities and Controls: Short-term traffic control as required by this Section.
2. Section 32 12 16 - Asphalt Paving: Coordination with paving systems for equipment specified in this Section.
3. Section 32 13 13 - Concrete Surface Improvements: Coordination with paving systems for equipment specified in this Section.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Detectable Warning Surfacing:

1. Basis of Measurement: Detectable domes shall be included in the cost of curb ramps and median island openings unless specified otherwise in the Technical Specifications.
2. Basis of Payment: Includes furnishing, installing, inspecting, and maintaining detectable warning surfacing until final inspections.

1.3 REFERENCE STANDARDS

A. American Association of State and Highway Transportation Officials:

1. AASHTO HB-17 - Standard Specifications for Highway Bridges.

B. ASTM International:

1. ASTM C1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
2. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
3. ASTM D570 - Standard Test Method for Water Absorption of Plastics.

4. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.
5. ASTM D790 - Standard Test Methods for Flexural Properties of □nreinforced and Reinforced Plastics and Electrical Insulating Materials.
6. ASTM D1044 - Standard Test Method for Resistance of Transparent Plastics to Surface Abrasion.
7. ASTM D2240 - Standard Test Method for Rubber Property - Durometer Hardness.
8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
9. ASTM E303 - Standard Test Method for Measuring Surface Frictional Properties □sing the British Pendulum Tester.
10. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces □sing Inspection-Meter Techniques.
11. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials □sing Integrating Spheres.
12. ASTM E1918 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
13. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

C. □.S. Architectural and Transportation Barriers Compliance Board (Access Board)□

1. Americans with Disabilities Act (ADA) - Accessibility Guidelines for Buildings and Facilities.

D. California Code of Regulations (CCR)□Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR) Title 24, Chapter 2, Section 202 definition of “Detectable Warning”. Section 11B-247 and 11B-705 “Detectable Warnings And Detectable Directional Texture”

E. Caltrans Standard Specifications

1. Section 73 – Concrete Curbs and Sidewalks.

F. California Building Code (CBC).

1.4 COORDINATION

A. Coordinate Work of this Section with Work of other Sections.

1.5 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures specifies requirements for submittals.

B. Product Data Submit manufacturer's information including characteristics, dimensions, domes, and special shapes.

C. Manufacturer's Certificate Certify that product meets or exceeds specified requirements.

D. Manufacturer's Instructions Submit detailed instructions on installation requirements, including storage, cleaning and handling procedures.

E. Submit maintenance recommendations.

F. Source uality-Control Submittals Indicate results of factory tests and inspections.

G. Manufacturer Reports

1. Certify that equipment has been installed according to manufacturer's instructions.
2. Indicate activities on Site, adverse findings, and recommendations.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements Requirements for transporting, handling, storing, and protecting products.

B. Inspection Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store and protect materials according to manufacturer's instructions. Finished surfaces shall be protected by sturdy wrappings.

1.7 WARRANTY

A. Section 01 78 00 - Closeout Submittals Requirements for warranties.

B. Furnish five (5) year manufacturer's warranty for detectable warning surfacing.

PART 2 - PRODUCTS

2.1 DETECTABLE WARNING S RFACING

A. Manufacturer List

1. Armor-Tile Tactile Systems by Engineered Plastics, Inc.
2. ADA Solutions

3. Or approved equal

B. Description

1. ADA-compliant detectable warning surfaces for visually impaired pedestrians.
2. Suitable for installation on both asphalt and concrete.

C. Design and Performance Criteria

1. Loading Single-wheel HS20-44, according to AASHTO HB-17.
2. Resistant to impacts, wear, freeze-thaw, V exposure, and stains.
3. Fire Spread Less than 25 when tested according to ASTM E84.
4. Slip Resistance 0.80, according to ASTM E303.
5. Taber Abrasion 150 mgs, according to ASTM D1044.
6. Durometer Hardness 90, according to ASTM D2240, Type A.
7. Water Absorption

a. Comply with ASTM D570.
b. Maximum 0.05 percent.

8. Minimum Strengths

a. Compressive 28,000 psi according to ASTM D695.
b. Flexural 25,000 psi, according to ASTM D790.
c. Tensile 11,000 psi, according to ASTM D638.

9. Slip Resistance

a. Static coefficient of friction (Dry) 1.03.
b. Static coefficient of friction (Wet) 0.83.
c. Wheelchair Safety Furnish minimum 40, 90-degree raised 0.045-inch points per sq. in.

d. Spacing Center to center spacing of 2.30-inches minimum to 2.40-inches maximum, and base-to-base spacing of 0.65-inches minimum, measured between the most adjacent domes on a square grid.

Exception: Where installed in a radial pattern, truncated domes shall have a center-to-center spacing of 1.60-inches minimum to 2.40-inces maximum.

e. Size Base bottom diameter of 0.90-inches minimum and 0.92-inches maximum, top diameter of 0.45-inches minimum and 0.47-inches maximum, and a height of 0.2-inches.

D. Cast-in-Place-Type

1. Epoxy polymer, glass-reinforced, thermoset composite
2. Length and Width As shown on the Drawings.
3. Depth 1-3/8 inches.
4. Face Thickness 3/16 inch
5. Color Yellow, FS33538 of Federal Standard 595C. Color shall be homogeneous throughout the detectable warning surface.
6. Detectable Warning surfaces shall provide a 70 percent minimum visual contrast with adjacent walking surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution Requirements for installation examination.

B. Verify that substrate is level or to correct grade, is smooth, is capable of supporting detectable warning surface units and imposed loads, and is otherwise ready to receive Work of this Section.

3.2 PREPARATION

A. Maintenance and Protection of Traffic

1. Provide short-term traffic control as specified in Section 01 50 00 - Temporary Facilities and Controls.
2. Prevent interference with operations.
3. Maintain access to existing business and other properties requiring access.

B. Surface Preparation

1. Clean and dry paved surface prior to installing detectable warning surface modules.
2. Blow or sweep surface free of dirt, debris, oil, grease, or gasoline.
3. Cleaning materials used on site shall have code acceptable low VOC solvent content and low flammability.

C. Existing Work

1. Remove existing detectable warning surface modules by methods that will cause least damage to pavement surface.
2. Repair pavement or surface damage caused by removal operations.

3.3 INSTALLATION

A. Install detectable warning surfacing according to manufacturer's instructions. Contractor shall use whole pieces before using any cut pieces of domes.

B. The concrete shall be poured and finished, true and smooth to the required dimensions and slope prior to Cast-in-Place Detectable Warning Surfacing.

C. Cast-in-Place Detectable Warning Surfacing shall be tamped or vibrated into the fresh concrete to ensure that there are no voids or air pockets, and the field level of the Cast-in-Place Detectable Warning Surfacing is flush to the adjacent concrete surface or as the Drawings indicate to permit proper water drainage and eliminate tripping hazards between adjacent finishes.

3.4 FIELD □□ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements□Requirements for testing, adjusting, and balancing.

B. Inspect for correct location, extent of coverage, and final grade.

3.5 CLEANING

A. Clean detectable warning surfacing according to manufacturer's instructions.

3.6 PROTECTION

A. During and after the detectable warning surfacing installation and the concrete curing stage, it is imperative that there are no walking, leaning or external forces placed on the detectable warning surfacing to rock the detectable warning surfacing, causing a void between the underside of the detectable warning surfacing and the concrete.

B. Protect detectable warning surfacing from vehicular and pedestrian traffic on newly installed detectable warning surface modules for period of time as instructed by manufacturer.

C. Remove Protective Plastic Sheeting from detectable warning surfacing within 24 hours of installation of the detectable warning surfacing. Particularly under hot weather conditions (80 degrees or higher), plastic sheeting will adhere strongly (resulting in difficult removal of same) to detectable warning surfacing when not removed quickly.

D. While detectable dome installation is susceptible to vandalism, Contractor shall have someone present on-site to ensure that the detectable dome installation isn’t damaged.

END OF SECTION 32 17 26

SECTION 32 31 13 - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fence framework, fabric, and accessories.
2. Excavation for post bases.
3. Concrete foundation for posts and center drop for gates.
4. Manual gates and related hardware.
5. Privacy slats.

B. Related Sections:

1. Section 03 30 00 – Utility Cast-in-place concrete

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Fencing:

1. Basis of Measurement: By linear foot measured along the base of the fence to the fence height specified, based on specified post spacing.
2. Basis of Payment: Includes posts, rails, tension wire, fabric, accessories, attachments.

B. Post Footings:

1. Basis of Measurement: Not Measured.
2. Basis of Payment: Includes excavation, concrete placed, finishing and is incidental to the price paid per linear foot for Chain link fence or unit price paid for Gates as shown on the bid form.

C. Gates:

1. Basis of Measurement: Measured as each to the gate width and height specified.
2. Basis of Payment: Includes excavation, concrete post & gate footings, finishing, frame posts, fabric, accessories, hardware.

1.3 REFERENCES

A. ASTM International:

1. ASTM A121 - Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
2. ASTM A123 - Standard Specification for □inc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A153 - Standard Specification for □inc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A392 - Standard Specification for □inc-Coated Steel Chain-Link Fence Fabric.
5. ASTM A491 - Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
6. ASTM A817 - Standard Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric and Marcelled Tension Wire.
7. A1011/A1011M-07 Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and □ltra-High Strength
8. ASTM B42 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
9. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
10. ASTM F552 - Standard Terminology relating to Chain Link Fencing.
11. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
12. ASTM F626 - Standard Specification for Fence Fittings.
13. ASTM F668 - Standard Specification for Polyvinyl Chloride (PVC) and Other Organic Polymer-Coated Steel Chain-Link Fence Fabric.
14. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.
15. ASTM F934 - Standard Specification for Standard Colors for Polymer-Coated Chain Link Fence Materials.
16. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
17. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped □inc-Coated (Galvanized) Welded, for Fence Structures.
18. ASTM F1183 - Standard Specification for Aluminum Alloy Chain Link Fence Fabric.
19. ASTM F1184 - Standard Specification for Industrial and Commercial Horizontal Slide Gates.
20. ASTM F1345 - Standard Specification for □inc - 5□ Aluminum -Mischmetal Alloy-Coated Steel Chain-Link Fence Fabric.

B. Chain Link Fence Manufacturers Institute□

1. CLFMI - Product Manual.

C. State Standard Specifications
1. Section 75 Miscellaneous Metal
2. Section 80 Fences

1.4 SYSTEM DESCRIPTION

A. Fence Height Six (6) feet nominal, unless otherwise indicated otherwise on the Drawings.

B. Line Post Spacing At intervals not exceeding ten (10) feet, unless otherwise indicated otherwise on the Drawings.

C. Fence Post and Rail Strength Conform to ASTM F1043 quality, unless otherwise indicated otherwise on the Drawings.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Shop Drawings Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.

C. Product Data Submit data on fabric, posts, accessories, fittings and hardware.

D. Manufacturer's Installation Instructions Submit installation requirements and post foundation anchor bolt templates.

E. Submit structural calculations and structural details for footings, posts and rail diameter for Chain Link Fences greater than six (6) feet in height and for gates longer than 16 feet with any gate leaf greater than 8 feet in length.

F. For fence to be located on or near the property line, and prior to the Contractor installing fence, Contractor’s licensed land surveyor to obtain the recorded property line map and stake the property line every 50 feet along the fence and at all changes in direction.

G. Contractor to obtain from the Engineer the dimension from the line post and corner post to the property line.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 78 00 - Closeout Submittals Closeout procedures.

B. Project Record Documents Accurately record actual locations of property perimeter posts relative to property lines and easements.

C. Operation and Maintenance Data Procedures for submittals.

1.7 □□ALITY ASS□RANCE

A. Supply material according to CLFMI - Product Manual.

B. Perform installation according to ASTM F567.

C. Perform Work according to 2018 Caltrans Standard Plans A85, 85A, and A85B.

1.8 □□ALIFICATIONS

A. Manufacturer□Company specializing in manufacturing Products specified in this section with minimum three (3) years documented experience.

1.9 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

C. Identify each package with manufacturer's name.

D. Store fence fabric and accessories in secure and dry place.

PART 2 - PRODUCTS

2.1 MAN□FACT□RERS

A. Manufacturers□
1. Master Halco
2. Pacific Fence and Wire Company
3. Allied Tube & Conduit, a part of Atkore International.
4. Amico Corporation
5. Or approved equal.

2.2 MATERIALS AND COMPONENTS

A. Materials and Components□Conform to CLFMI Product Manual.

B. Fabric Size□Chain link fabric must comply with AASHTO M 181 for Type 1 fabric (zinc-coated steel) with a class C coating (1.2 oz/ft^2) or ASTM F1345, Class 2 (1.0 oz/ft^2 - □inc-5□ Aluminum-Mischmetal Alloy Coated Steel Fabric). The wire for the fabric must be 11 gauge for a fence height 84 inches or less in height and 9 gauge for a fence over 85 inches in height and for a slatted chain link fence.

Chain link fabric for fence must have the diamond count corresponding to the fabric height as shown in the following table□

Diamond Counts

Fabric Height (inches)	36	42	48	60	72	84	96
Diamond Count	10-1/2	12-1/2	13-1/2	17-1/2	20-1/2	24-1/2	27-1/2

C. Chain link fabric for slatted fence must have 3-1/4-inch-vertical and 5-1/4-inch horizontal mesh. □nuckle finish fabric on the top and bottom edges.

D. Posts and Braces□The base metal for posts and braces must be commercial-quality, weldable steel complying with AASHTO M181, Type 1, except for the protective coating requirements.

E. Posts and braces must comply with the strength requirements in ASTM F1043□
   1. Group IA (Round Steel Pipe-Schedule 40), regular grade, for round pots
   2. Group II-L (Roll formed Steel Shapes – C-Sections), for roll-formed posts and braces.

F. Galvanize posts and braces as required per State Standard Specification section 75-1.02B, except, instead of galvanizing, tubular posts and braces may have a protective coating system complying with the following□
   1. Exterior surfaces of tubular posts and braces must have a combination coating consisting of hot-dip galvanized primer followed by a chromate conversion coating, and then a finish coat of clear, cross-linked organic coating. For this combination coating□
      a. Thickness of the zinc coating must be at least 0.9 mil as determined from the average results of at least 2 samples and at least 0.8 mil on an individual sample.
      b. Chromate conversion coating must be at least 15□g/square inch.
      c. Total thickness of the combination coating must be at least 1.7 mils.
      d. Clear finish coat must not have any film cracking after 500 hours of exposure in an artificial weathering device under one of the following□
         1) ASTM G152, cycles 1, or 3 Carbon Arc artificial weathering device.
         2) ASTM G155, cycles 1, or 2 Xenon Arc artificial weathering device

         Clear finish coat must not have blistering or cracking after 500 hours of exposure to 100 percent relative humidity under ASTM D2247.

   2. Interior surfaces must have a zinc coating or a cross-linked organic coating containing a corrosion inhibitor. For these coating□
      a. Coating thickness must be at least 0.3 mil.

G. Each post must have provisions to securely hold the top tension wire in position and allow for post removal and replacement without damaging the wire. Fit each tubular post with rainproof top.

H. Post tops, extension arms, stretcher bars, and other fittings and hardware must be
   1. Steel or malleable or wrought iron
   2. Galvanized after fabrication per State Standard Specification Section 75-1.02B.

I. Galvanize or coat ferrous materials. Do not use materials imperfectly galvanized or imperfectly coated or with serious abrasion.

. Concrete Type specified in Section 03 30 00 – tility Cast-in-Place Concrete.

2.3 GATES

A. General

1. Gate Types, Opening Widths and Directions of Operation As indicated on Drawings.
2. Factory assemble gates.
3. Each walk gate must be minimum four (4) feet wide, unless shown otherwise on Drawings. Maximum gate width is 24 feet or 2-12-foot gate leafs, unless shown otherwise on Drawings.
4. Gates greater than 8 feet in length must have vertical stays such that no panel exceeds 8 feet in length.
5. A gate frame must be made with pipe at least 1-1/2 inch in diameter.
6. Interior vertical stays must be made with pipe at least one (1) inch in diameter. Pipe must comply with the Specifications for post and braces as specified in this Section.
7. Each gate frame panel must be cross trussed with adjustable truss rods at least 3/8 inch in diameter.
8. Fasten and reinforce each corner of a gate frame by welding per the gusset detail shown on the Caltrans Standard Plans.
9. Each pressed steel fitting must have a nominal thickness before galvanizing of at least 0.135 inch and fastened to develop the strength of the connected members.
10. Factory welds must be smooth and develop the strength of the connected member.
11. Galvanize fittings, latches, rods, nuts, bolts, and other gate hardware per State Standard Specification section 75-1.02B.
12. Fabric for gates in chain link fences must comply with the specification for the fabric for the fence in which the gate is installed.

13. Attach chain link fence fabric to the gate frame using stretcher bars and tie wires as specified for fence construction. Space tension connectors at 1-foot intervals.
14. For a chain link walk gate installed in an existing fence, the gate mounting hardware must not contain open-end slots for the fastening bolts.
15. Each gate must have a combination steel or malleable iron catch and locking attachment that does not rotate around the latch post.
16. Design gates for operation by one person.

B. Swing Gates

1. Fabricate gates to permit 180-degree swing.
2. Gates Construction ASTM F900 with welded corners. se of corner fittings is not permitted.

2.4 PRIVACY SLATS

A. Slats must be wood or plastic. Wood slats must be clear redwood or as shown on Drawings.

B. Each wood slat must have a thickness of at least 1/4 inch, width about 2-5/8 inch and length enough to fill the vertical openings of the fabric.

C. Plastic slats must be HDPE with V inhibitors and have a flat tubular cross section with a minimum wall thickness of 0.03 inch, minimum depth of 0.325 inch, minimum width of 2.38 inch, and length equal to the fence height.

D. Plastic slat material must comply with the requirements shown in the following table

Plastic Slat Material Requirements

uality characteristic	Test Method	Requirement
Melt Index	ASTM D1238	0.24
Density	ASTM D1505	0.951
Low temperature brittleness (F)	ASTM D746	-76
Tensile strength (psi)	ASTM D638	3,700

2.5 ACCESSORIES

A. Caps Galvanized pressed steel sized to post diameter, set screw retainer.

B. Fittings□Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings□ galvanized steel.

C. Extension Arms□Galvanized pressed steel to accommodate strands of barbed wire, ~~-~~sloped to 45 degrees~~-~~.

D. Gate Hardware□Fork latch with gravity drop or center gate stop and drop rod for double gates□two 180-degree gate hinges for each leaf and hardware for padlock keyed.

2.6 FINISHES

A. Components and Fabric□Galvanized to ASTM A123 for components□ASTM A153 for hardware□ASTM A392 for fabric.

B. Components and Fabric□Vinyl coating, dark green color according to ASTM F934 over galvanized coating as selected and as shown on Drawings.

C. Hardware□Galvanized to ASTM A153

D. Accessories□Same finish as fabric□

PART 3 - E□ECUTION

3.1 INSTALLATION

A. Contractor shall contact □nderground Service Alert (□SA) and utility locators at least three (3) days prior to installation to identify and mark utilities around the proposed chain link fence to avoid damaging any utilities. Any utilities damaged shall be replaced at the Contractor's expense.

B. Install framework, fabric, accessories and gates according to ASTM F567.

C. Excavate holes for posts to diameter and spacing indicated on Drawings without disturbing underlying materials.

D. Prior to drilling posts, mark gate width locations in the field and obtain written approval from City for gate location.

E. Center and align posts. Place concrete around posts, and vibrate or tamp for consolidation. Verify vertical and top alignment of posts and make necessary corrections.

F. Set intermediate, terminal, and gate posts plumb, in concrete footings with top of footing one (1) inch above finish grade. Slope top of concrete forming crown for water runoff.

G. Line Post Footing Depth Below Finish Grade□ASTM F567□varies from 2.5 feet to 4 feet depending on height of fence as shown on Caltrans Standard Plans A85.

H. Corner, Gate and Terminal Post Footing Depth Below Finish Grade□ASTM F567□ varies from 2.5 feet to 4 feet depending on height of fence as shown on Caltrans Standard Plans A85.

I. Allow footings to cure minimum seven (7) days before installing fabric and other materials attached to posts.

□. Brace each end, latch, and corner post to the nearest line post with either of the following□
   1. Diagonal brace used as a compression member.
   2. Horizontal brace used as a compression member and truss rods used as tension member

□. Install brace rail one bay from end and gate posts.

L. Brace each gate post to the nearest line post with a horizontal brace used as a compression member and truss rods used as tension members.

M. Equip each steel truss rod with a turnbuckle or truss tightener.

N. Brace line posts horizontally and truss in both directions at intervals of at most 300 feet.

O. Fasten chain link fabric on the side of the posts designated by the Engineer. Stretch and securely fasten the fabric to the posts.

P. Fasten the top and bottom edges of the fabric to the tension wires. Stretch the tension wires tight.

□. Install the bottom tension wire on a straight grade between posts by excavating high points of the ground. Do not fill in low points.

R. Fasten the fabric to end, latch, corner, and gate posts with stretcher bars and stretcher bar bands at 1-foot intervals except the fabric may be fastened to end and corner posts by threading through loops formed on the posts.

S. Fasten the fabric to line posts with tie wires or post clips and to tension wires with tie wires or hog rings. Space the fasteners at about 14 inches on line posts and about 18 inches on tension wires. Give wire ties at least 1 complete turn. Close each hog ring with the ends overlapping. Wrap tension wires around terminal posts. The top of the fabric to the top tension wire must be at most 2 inches.

T. If supporting arms for barbed wire are shown, extend each arm upward from the top of the fence at an angle of about 45 degrees. Fit it with clips or other means for attaching 3 lines of barbed wire. Attach the top outside wire to the supporting

arm at a point about 12 inches above the top of the chain link fabric and 12 inches out from the fence line. Attach the other wires to the arm spaced evenly between the top of the fence and the top outside wire.

□. Hang each gate with at least 2 steel or malleable iron hinges at least 3 inches in width such that the gate is securely clamped to the gate post and permits the gate to be swung back against the fence. The bottom hinge must have a socket to take the ball end of the gate frame.

V. Construct a center rest with a catch and stops to hold gates open.

W. For a walk gate constructed in an existing fence, remove a line post and install the gate such that the gate is centered on the hole of the removed post. When not working on the walk gate, close the opening made in the existing fence with existing fence fabric or 6-foot chain link fabric.

X. Install top rail through line post tops and splice with 6-inch-long rail sleeves.

Y. Place fabric on outside of posts and rails, unless shown otherwise on Drawings or otherwise directed by Project Manager.

□. Do not stretch fabric until concrete foundation has cured for 7 days.

AA. Position bottom of fabric 2 inches above finished grade.

BB. Install bottom tension wire stretched taut between terminal posts.

CC. Install support arms sloped outward unless shown otherwise on Drawings and attach barbed wire□tension and secure.

DD. Support gates from gate posts. Do not attach hinged side of gate from building wall.

EE. Install gate with fabric to match fence. Install minimum of two hinges on each gate, one latch per leaf, and catches.

FF. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

GG. Connect to existing fence at existing terminal post or existing line post converted to terminal post by installation of brace rails and brace rods, unless shown otherwise on Drawings.

HH. Install posts with six (6) inches maximum clear opening from end posts to buildings, fences and other structures, unless shown otherwise on Drawings.

3.2 PRIVACY SLATS

A. Install slat inserts in vertical-pattern woven through fence fabric, unless shown otherwise on the Drawings.

B. For a chain link fence with slats, install slats vertically in the mesh openings such that the slats fit snugly.

3.3 ERECTION TOLERANCES

A. Section 01 45 00 - Quality Control Tolerances.

B. Maximum Variation from Plumb 1/4 inch.

C. Maximum Offset from Indicated Position 1 inch.

END OF SECTION 32 31 13

SECTION 32 80 00 - IRRIGATION S□STEM

PART 1 - GENERAL

1.1 S□MMARY

A. The CONTRACTOR shall provide all labor, materials, supplies, tools, and transportation and perform all operations in connection with and reasonably incidental to complete the installation of the automatic sprinkler irrigation systems as shown on the drawings. Items hereinafter are included as an aid to take off, and are not necessarily a complete list of work items.

1. Trenching, stockpiling, excavation, materials, and refilling trenches.
2. Furnishing materials and installation for complete system including piping, valves, fittings, sprinkler heads, automatic controls, and final adjustment of heads to insure complete coverage.
3. Line voltage connections to the irrigation controllers and low voltage control wiring from controllers to remote control valves.
4. Replacement of unsatisfactory materials.
5. Clean-up, inspection and approval.
6. All work of every description mentioned in the specification and/or addenda thereto, all other labor, and materials reasonably incidental to the satisfactory completion of the work, including clean-up of the site, as directed by the Project Manager.
7. Tests.
8. Record drawings.

B. Related Requirements□

1. Section 01 29 00 - Payment Procedures
2. Section 01 70 00 - Execution
3. Section 01 77 00 - Closeout Requirements
4. Section 31 23 16 – □tility Trenching
5. Section 32 90 00 – Landscape Work
6. Section 33 05 26 – □tility Identification
7. Section 33 11 13 – Water Distribution Piping
8. Section 33 12 00 – Water Distribution Equipment
9. Section 33 12 13 – Water Service Connections
10. Section 33 12 16 – Water Distribution Valves

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Irrigation System:
   1. Measurement: Irrigation system installation is measured on a lump sum basis.
   2. Payment: The contract lump sum price paid for the Irrigation System shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing the Irrigation System, complete in place.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit manufacturer catalog information on all material to be used on the project as specified on the legend, notes, details and plans. Redline or highlight exact items on page to be submitted. Complete material list shall be submitted prior to performing any work.

C. Substitutions: No substitution will be permitted without prior written approval by the Project Manager. If the product is approved and, in the opinion of the Project Manager, the substituted product does not perform as well as the specified product, the Contractor shall replace it with the specified product at no additional cost to the City.

D. All equipment or materials installed or furnished without prior approval of the City may be rejected and the Contractor may be required to remove the equipment or material at their own expense.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 78 00 - Closeout Submittals: Requirements for submittals.

B. Project Record Documents: The Contractor shall maintain in good order in the field office, one complete set of black line prints of all sprinkler drawings which form a part of the contract, showing all water lines, electrical, sprinklers, valves, stub-outs. In the event any work is not installed as indicated on the drawings, such work shall be corrected and dimensioned accurately from the building walls. All underground stub-outs for future connections and valves shall be located and dimensioned accurately from building walls on all record drawings. In addition to the hard copies a full sized scanned PDF will be required at completion.

C. Controller Chart:

1. Provide one laminated controller chart showing the area covered by controller for each automatic controller supplied at the maximum size controller door will allow. Chart shall be a reduced drawing of the actual "as-built" system. If controller sequence is not legible when the drawing is reduced to door size, the drawing shall be enlarged to a size that is readable and placed folded, in a sealed plastic container, inside the controller door.
2. Controller chart shall be a blackline print with a different color used to show area of coverage for each station. Charts must be completed and approved by the Project Manager prior to final inspection of the irrigation system.

D. Maintenance and Operating Instructions and Manuals
1. Contractor shall prepare an Operation and Maintenance Manual, organized in a 3-ring binder, containing the following information.
   a. Contractor's name, address, and telephone number. Duration of guarantee, periods as specified herein, list of equipment with names and addresses of local manufacturer's representatives with duration of written warranties. Complete operating and maintenance instructions on all equipment spare parts lists and related manufacturer's information.
2. Submit the Operation and Maintenance Manual to the Project Manager within 10 Calendar Days of completion of work of this Section and as a condition of project acceptance.

E. SiteOne Green Tech controller certification
1. Contractor shall coordinate with SiteOne Green Tech to have each controller certified after installation. A certification letter shall be provided to the Project Manager upon completion of project. Irrigation Controller shall be EPA WaterSense approved.

1.5 ALITY ASS RANCE & GENERAL RE IREMENTS

A. ualifications The Contractor, personally or through an authorized and competent representative, shall supervise the work constantly, and shall as far as possible keep the same foreman and workmen on the job from commencement to completion. The workmanship of the entire job must in every way be first class, and only experienced and competent workmen will be allowed on the job. A minimum of five years' experience of installing irrigation systems of similar scope, size and complexity as the system being installed under this scope of work is required for all on-site job superintendents.

B. Manufacturer's installation instructions and best practices: Manufacturer's installation instructions shall be followed in all cases when not shown in the Drawings or Specifications.

C. O.S.H.A. Compliance All articles and services covered by this specification shall meet or exceed the safety standards established under the Federal Occupational

Safety and Health Act of 1970, together with all amendments in effect as of the date of this specification.

D. All irrigation systems shall be installed to meet or exceed the requirements set forth in the California Department of Water Resources Model Water Efficient Landscape Ordinance.

E. All irrigation systems shall be installed to meet or exceed the requirements set forth in Bay Friendly Landscape Guidelines.

F. Codes and Standards Comply with all applicable codes and standards.
   1. All work and materials shall be in full accordance with the latest rules and regulations of the National Electric Code published by the Western Plumbing Officials Association and other State or local laws regulations. Nothing in these drawings or specifications is to be construed as to permit work not conforming to these codes.
   2. When the specifications call for materials or construction of a better quality or larger size than required by the above mentioned rules and regulations, the provision of the specifications shall take precedence over the requirements of said rules and regulations.
   3. Contractor shall furnish, without extra charge, any additional material and labor when required by the compliance with these rules and regulations, though the work be not mentioned in these particular specifications or shown on the drawings.
   4. The Contractor shall erect and maintain barricades, guards, warning signs, and lights as necessary or required by O.S.H.A. regulations for the protection of the public or workmen.
   5. Any existing buildings, equipment, piping, pipe covering sewers, etc., damaged by the Contractor during the course of his work shall be replaced or repaired by the Contractor in a manner satisfactory to the Project Manager and at Contractor's own expense, before final payment is made. The Contractor shall be responsible for damage caused by leaks in the piping systems being installed or having been installed under this contract. He/she shall repair, at his/her own expense, all damage so caused, in a manner satisfactory to the Project Manager.
   6. The Contractor shall pay for all permits, licenses, and fees required.

1.6 EXISTING CONDITIONS

A. Protection Of Existing Structures and tilities
   1. The Drawings show, if applicable, existing above and below grade structures and utilities that are known to the City. Locate known existing installations before proceeding with construction operations that may cause damage to such installations. Existing installations shall be kept in service where possible and damage to them shall be repaired with no adjustment of Contract Sum. Verify with Project Manager if As Built drawings are available.

2. If other structures or utilities are encountered, request Project Manager to provide direction on how to proceed with the Work. If a structure or utility is damaged, take appropriate action to ensure the safety of persons and property.

B. Trench Interference with Existing Tree Root Systems□Prior to trenching, layout main and lateral line locations within drip Line of trees and review locations with Project Manager. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by Project Manager.

1.7 LAYO□T OF WOR□

A. The Contractor shall stake out the irrigation system as shown on the drawings. These areas shall be checked by the Contractor and Project Manager before construction is started. Any changes, deletions or additions shall be determined at this check.

B. Due to the scale of the Drawings, it is not possible to indicate all piping offsets, fittings, sleeves, etc., which may be required. Carefully investigate the conditions affected all of the work and plan accordingly, and furnish all required fittings. Install system in such a manner to avoid conflicts with planting, utilities and architectural features.

C. Do not install the irrigation system as shown on the Drawings when it is obvious in the field that obstructions, grade differences or discrepancies in arc dimensions exist that might not have been considered in Project Manager. Bring such obstruction or differences to the attention of the Project Manager. Notify and coordinate irrigation Work with applicable contractors for location and installation of piping and sleeves through or under walls, pavement and structures. In the event this notification is not given, the Contractor shall assume full responsibility for any revision necessary.

1.8 SE□□ENCING AND SCHED□LING

A. Acceptance□ Do not install main line trenching prior to acceptance by Project Manager of rough grades completed under another Section.

B. Coordination□ Coordinate with the all other trades the sleeving, power requirements of the project, prior to the start of construction.

1.9 INSTR□CTION

A. After the system has been installed and approved, the Contractor shall instruct the Project Manager in complete operation and maintenance of the irrigation system.

PART 2 - MATERIALS

2.1 PIPE AND FITTINGS

A. Main lines (constant pressure) 4" and larger shall be polyvinylchloride (PVC) 1120-Class 200, ASTM D1785, Type 1, Grade 1 with rubber gasketed bell connections with ductile iron fittings with thrust blocks or joint restraints 3" and smaller shall be PVC 1120-Schedule 40 plastic pipe. Pipe shall be made from NSF approved Type 1, Grade 1 PVC compound conforming to ASTM D1785.
   1. oin lengths of pipe by means of integrally formed bell end on pipe using rubber ring seal.
   2. Ring-tite main line At changes in direction or branch mains, use appropriate Ductile Iron rubber ring seal fittings with thrust blocks or joint restraints.
   3. Solvent weld main lines At changes in direction or branch mains, use appropriate Schedule 40 PVC solvent weld fittings as approved by the niform Plumbing Code.

B. All piping for recycled water systems shall be manufactured from purple-colored PVC material and shall be printed on two sides with the wording "CA TION-RECLAIMED WATER". Refer to Delta Diablo specifications for requirements.

C. Lateral lines (non-pressure) 3/4" and larger shall be 1120-Schedule 40 PVC plastic pipe. All lateral lines shall be connected with Schedule 40, Type I, Grade I, PVC solvent weld fittings.

D. Irrigation Sleeves shall be 1120-Schedule 40 PVC plastic pipe. Irrigation pipe and wires crossing beneath hardscape surfaces shall be contained within sleeving and Schedule 40 PVC conduit. Provide a minimum of one sleeve for water lines and a minimum of one Schedule 40 PVC electrical conduit for control wires. Sleeving size shall be a minimum of two times the aggregate diameter of all pipes contained within sleeve. Provide vertical sweeps for all electrical conduit on each side of hardscape and terminate ends a minimum of 12" from hardscape surface.

E. Connections between main lines and RCV's shall be of Schedule 80 PVC (threaded both ends) nipples and fittings.

F. Risers shall be as follows
   1. Rotary Sprinklers Schedule 80 PVC threaded nipples and Schedule 80 PVC ells as shown in the construction details.

2.2 BAC FLOW PREVENTION DEVICE

A. Backflow prevention device shall be the reduced pressure type with gate valves, check valves, test cocks, reduced pressure chamber and air vent.

B. Provide a freeze preventative blanket around backflow assembly. Blanket shall be green.

C. All metallic pipe and fittings installed below grade shall be may be wrapped with an approved asphaltic tape.

D. Backflow prevention device model shall be per City of Pittsburg standard equipment list. Size as shown on the drawings. Install backflow prevention device in accordance with City of Pittsburg standard detail.

2.3 BAC□FLOW PREVENTION DEVICE ENCLOS□RE

A. Enclosure shall be sized to completely enclosure backflow device.

B. Install enclosure device in accordance with City of Pittsburg standard detail.

C. Enclosure model shall be per City of Pittsburg standard equipment list. Powder coated dark green. Size as shown on drawings.

2.4 PRESS□RE RED□CING VALVE

A. Pressure reducing valve shall be diaphragm type, bronze body, with bolt to adjust the downstream pressure.

B. Pressure reducing valve shall reduce pressure in both flow and no-flow conditions.

C. Pressure shall adjustable with a range of 25-75 PSI.

D. Pressure reducing valve shall be per City of Pittsburg standard equipment list. Size as shown on drawings.

2.5 BOOSTER P□MP

A. When static water pressure in the City water system is less than 55 psi or when the hydraulic analysis of a proposed irrigation system requires more pressure than available a booster pump is required.

B. Booster pump shall be a prefabricated, self-contained, Variable speed, (VFD), horizontal centrifugal pump station with piping, valves, and enclosure. Controls will be an operator interface with software programming written specifically for the project specific pump requirements. Pump station shall have a formed and reinforced base platform and enclosure with lockable lid contains all manifolding, pumps, motors and control panels to provide an integral unit ready for easy installation.

2.6 MASTER CONTROL VALVE

A. Master control valve shall be a normally closed 24 VAC solenoid actuated globe pattern valve.

B. Valves shall be made of durable glass-filled nylon with a pressure rating of 200 PSI

C. Valve shall have external and internal bleed for manual operation.

D. Valve shall have a scrubber mechanism to clean the stainless steel screen.

E. Valve shall be model shall be per City of Pittsburg standard equipment list. Size as shown on drawings.

2.7 GATE VALVES

A. Gate valves 3” and smaller shall meet the following requirements□
1. Valves shall be of stainless steel (304 or higher) construction with non-rising stem, cross handle and threaded connections.
2. Valves shall be per City of Pittsburg standard equipment list. Size as shown on the drawings
3. Install in 10” diameter plastic valve box as detailed.

B. Gate valves 4” and larger shall meet the following requirements:
1. Valves shall be cast iron with operating nut (2” square) and “O” ring connections for Class 200 PVC plastic pipe.
2. Valves shall be per City of Pittsburg standard equipment list. Size as shown on the drawings.
3. Install in 10” diameter plastic valve box as detailed.

2.8 □□IC□ CO□PLING VALVES

A. □uick coupling valves shall per City of Pittsburg standard equipment list. □se Rain Bird 44NP with purple covers for use with recycled water. Install in 10” diameter plastic valve box as detailed. Refer to Delta Diablo specifications for requirements.

2.9 CONTROLLERS

A. Controller’s size and model shall be as listed on the drawings.

B. Final location(s) of controller shall be approved by the Project Manager.

C. Controller requires 120v power. Maximum power output of controller is 2.0 amps.

D. Controllers shall be RainMaster Evolution DX2 controller within a Strongbox Stainless Steel Top entry controller. All controllers shall have a high gain antenna installed adjacent to the enclosure for communication with City’s central computer. Contact Site One Green Tech when purchasing.

E. Controller shall have a preinstalled flow sensor terminal board.

F. Install Controller and accessories per City and Manufacturer's details.

G. Each controller shall be equipped with a built in radio remote receiver and one remote transmitter.

2.10 CONTROLLER COMM□NCATION CABLE

A. All sites with multiple Rain Master DX2 controllers shall be connected together via communication cable. Cable shall be Rain Master model EV-CAB-COM

B. Communication cable shall be installed within 1¼" Schedule 40 grey PVC with Schedule 40 fittings and Schedule 40 electrical long sweeps elbows at all changes in direction. Pull boxes shall be located a minimum of 200 feet on center, adjacent to controller, and at each change of direction. □se rectangular boxes for all pull boxes. □se Carson model 1419-12 with bolt down lid. Color shall be black. Heat brand box "PB". Text height of letters to be 2".

C. Maximum distance of communication cable shall be 2000'.

D. Splicing of cable between controllers is not permitted.

2.11 CONTROL WIRE

A. Control wire shall be copper with □.L. approval for direct burial in ground, size #14-Common ground wire shall have white insulating jacket□control wire shall have insulating jacket of color other than white or yellow. Runs over 2,000 lineal feet shall be #12- AWG-□F 600-volt copper wire. Splices shall be made with 3M-DBY seal packs.

B. Provide a separate ground wire for each controller.

C. Provide a minimum of two spare control wires into each RCV box for future. Spare wires shall be yellow in color.

D. Tracer wire shall be used on all pressure piping. Tracer wire shall be blue and suitable for direct burial and wet conditions. Refer to Section 33 05 26 for additional requirements.

2.12 ELECTRIC REMOTE CONTROL VALVES

A. Electric remote control valves sizes shall be shown on drawings.

B. Electric remote control valve shall be a normally closed 24 VAC solenoid actuated globe pattern valve.

C. Valves shall be made of durable glass-filled nylon with a pressure rating of 200 PSI

D. Valve shall have external and internal bleed for manual operation.

E. Provide and install one Schedule 80 PVC FIPT threaded true union ball valve with EPDM O-rings on the upstream side of valve and one Schedule 80 union on the downstream side of valve. Match valve size when sizing ball valve and union.

F. All electric remote control valves for dripline or drip systems shall include a wye filter with a 200 mesh stainless steel screen and pressure regulator on the valve or downstream of the valve.

2.13 IDENTIFICATION TAGS/TAPE

A. Identification tags for all electric control valves shall be manufactured by Christy. Tag numbers shall match stationing in controller and as shown on as-built drawings. Provide one yellow station number tag for each electric control valve and an additional purple one for recycled water system as follows□
   1. Potable water systems□Christy ID.STD.Y1
   2. Recycled water systems□ Christy ID.STD.Y1 and Christy ID.MAX.P2.RC006. Refer to Delta Diablo specifications for requirements.

B. Identification tags for all quick coupling valves are ONLY required for recycled water systems. Tags shall be Christy model ID.MAX.P2.RC006. Refer to Delta Diablo specifications for requirements.

C. Detectable tape shall be installed on all pressurized pipes greater than 2”. Tape shall be placed above the centerline of the pipe, spanning the full length of the pipe, and be placed at a depth of 6” above the top of the pipe. Tape shall be 3” wide by 5 mil thick and manufactured for direct burial service. □se blue colored tape for potable irrigation and purple for recycled water systems. Standard imprints shall read “CAUTION WATER LINE BELOW” AND “CAUTION BURIED RECLAIMED WATER LINE BELOW”.

2.14 VALVES BOXES

A. ELECTRIC REMOTE CONTROL VALVE BOXES□
   1. All electric remote control valve boxes that service non-drip systems shall be installed within a Carson Model 1419-12 or 1324-12 plastic valve box with bolt down plastic lid. Size of box is dependent on the size of valve. Lid shall be marked□"Irrigation Control Valve." Color□Green.
   2. All electric remote control valve boxes that service dripline or drip systems shall be installed within a Carson Model 1324-12 plastic valve box with bolt down plastic lid. Lid shall be marked□"Irrigation Control Valve." Color□ Green.
   3. □se purple colored boxes with bolt down lid marked “RECLAIMED OR RECYCLED WATER” and with bilingual non-potable warning and symbol for all recycled water systems. Refer to Delta Diablo specifications for requirements.

4. Heat brand controller letter and numbers into lid. Minimum text height to be 2”.

B. GATE VALVE AND □□IC□ CO□PLING VALVE BOXES□

1. All gate valve and quick coupling valve shall be installed within a Carson Model 910-10 plastic valve box with plastic lid or approved equal. Use 8” sleeve to encase gate valve. Color□Green.
2. □se purple color boxes with bolt down lid marked “RECLAIMED OR RECYCLED WATER” and with bilingual non-potable warning and symbol. Refer to Delta Diablo specifications for requirements.
3. Heat brand the letters “GV” into lid. Minimum text height to be 2”.

C. DRIP COMPONENT BOXES□

1. All drip components shall be installed within a 6” round black plastic valve box with plastic lid.
2. □se purple color lid with non-hinged bolt down lid marked “RECLAIMED OR RECYCLED WATER” and with bilingual non-potable warning and symbol. Refer to Delta Diablo specifications for requirements.

2.15 SPRIN□LER HEADS AND B□BBLERS

A. All sprinkler heads shall be as listed on the drawings. Refer to City of Pittsburg standard equipment list for make and model of pop-up rotary and spray sprinklers.

B. Pop-up spray sprinklers shall include a built in check valve in the body to hold up to 14 feet of head.

C. Pop-up spray sprinklers shall include built in pressure regulation in the body.

D. □se built in 30 psi regulators for all spray nozzles and 45 psi regulators for all rotating nozzles. Use 12” pop-ups in shrub and ground cover areas and 6” pop-ups in turf areas.

E. Riser units and nipples shall be the same size as the inlet to the sprinkler body.

F. □se purple caps on sprinkler head for recycled water systems. Refer to Delta Diablo specifications for requirements.

2.16 DRIPLINE & DRIPLINE COMPONENTS

A. Dripline shall be as listed on the drawings. Refer to City of Pittsburg standard equipment list for model number.

B. Tubing shall be low density, □V resistant, polyethylene tubing with 17mm in size with internal pressure-compensating, drip emitters impregnated into the tubing spaced at 12 or 18 inches

C. The built in emitters shall be capable of delivering 0.6 gallons per hour per emitter.

D. □se purple colored tubing for recycled water systems.

E. All dripline systems shall have a manual flush valve at each isolated zone within the systems. Multiple flush valves may be required per drip zone.

F. All dripline systems shall have air relief valve(s) at the highest elevation point(s) within each isolated zone. Install one air relief valve for every 500 linear feet of dripline.

2.17 FLOW SENSORS

A. Inline flow sensors shall be installed in accordance with the manufacturer's installation instructions. Contractor is responsible for the installation, all required materials and connections of the flow sensors for complete operation with the irrigation controller.

B. Flow sensor size and model shall be listed on the drawings. Contact Site One Green Tech for models numbers

2.18 FLOW SENSOR CABLE AND COND□IT□

A. Flow sensor wire shall be shielded cable model EV-CAB-SEN manufactured by Rain Master.

B. Maximum cable distance from controller to flow sensor shall be 2000 ft.

C. Install flow sensor cable in a 1" grey SCH 40 PVC conduit with long sweep elbows.

D. Conduit and flow sensor cable shall be routed with mainline wherever possible. Install 18" below grade. Provide a minimum 6" separation between conduit and pressure main line.

E. Provide 10" round grey electrical pull boxes a minimum of every 200 ft, at each change in direction and adjacent to each controller. Heat brand lid of pull box "FSB".

2.19 CHEC□ VALVE

A. Spring check valve shall be Schedule 40 PVC with □ lb spring and stem rated at 150 PSI.

B. Model and size as shown on drawings.

2.20 MISCELLANEO□S INSTALLATION MATERIALS

A. Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.

B. Lubricant for assembling rubber ring seal joints shall be of make and type approved by manufacturer of pipe.

C. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as RectorSeal #5.

2.21 MISCELLANEO□S E□□IPMENT

A. Provide all equipment called for by the drawings.

B. Provide to the Project Manager, at completion of the maintenance period, three (3) each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valve. Include all wrenches necessary for complete disassembly of all heads and valves.

PART 3 - INSTALLATION

3.1 PREPARATION

A. Schedule and coordinate placement of materials and equipment in a manner to effect the earliest completion of work in conformance with construction and progress schedule.

3.2 HANDLING AND STORAGE

A. Protect work and materials from damage during construction and storage as directed by the Project Manager.

B. Handle plastic pipe carefully□especially protect it from prolonged exposure to sunlight. Any section of pipe that has been damaged will be discarded and removed and replaced if installed.

3.3 LAYO□T

A. Lay out work as accurately as possible in accordance with diagrammatic drawings.

B. Where site conditions do not permit location of piping, valves and heads where shown, notify Project Manager immediately and determine relocation in joint conference.

C. Prior to installation, the Contractor shall stake out the routing of all pressurized main lines and sprinkler heads for approval by Project Manager.

D. Run pipelines and automatic control wiring in common trenches wherever practical.

3.4 EXCAVATING AND TRENCHING

A. Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.

B. Make trenches for pipelines deep enough to provide minimum cover from finish grade as follows□
   1. 18” minimum cover over main lines to control valves and quick coupling valves.
   2. 18” minimum cover over control wires from controller to valves.
   3. 12” minimum cover over RCV controlled lateral lines to sprinkler heads.

C. Restore surfaces, existing underground installations, etc., damaged or cut as a result of excavations, to original conditions in a manner approved by the Project Manager.

D. Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by the Project Manager.

3.5 ASSEMBLING PIPELINES

A. All pipe shall be assembled free from dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.

B. Install plastic pipe in accordance with manufacturer’s recommendations.

C. Install 3” wide detectable warning tape above all pressurized main lines as shown in the City standard “Irrigation System Trenching Detail”. Refer to Section 33 05 26 – □tility Identification.

D. Rubber Ring Seal □oint□
   1. □se factory made male end or prepare field-cut male end to exact specifications of factory made end.
   2. Carefully clean bell or coupling and insert rubber ring without lubricant. Position ring carefully according to manufacturer’s instructions.
   3. Lubricate male end according to manufacturer’s instruction and insert male end to specified depth. □se hands only when inserting PVC pipe.
   4. Thrust blocks shall be provided where necessary to resist system pressure on ring-tite pipe and fittings. Blocks shall be concrete and the size shall be based on an average soil safe bearing load of 700# per square foot.
   5. Form thrust blocks in such a manner that concrete comes in contact only with the fittings. Thrust blocks shall be between solid soil and the fittings.

C. Solvent Weld □oint□
   1. Prepare joint by first making sure the pipe end is square. Then, de-burring the pipe end, and clean pipe and fitting of dirt, dust and moisture.
   2. Dry insert pipe into fitting to check for proper sizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
   3. Coat the inside socket surface of the fitting and the male end of the pipe with P-70 primer (manufactured by Weld-On). Then without delay, apply Weld-On 711 cement liberally to the male end of the pipe and also apply 711 cement lightly to the inside of the socket. At this time, apply a second coat of cement to the pipe end.
   4. Insert pipe immediately into fitting and turn 1/4 turn to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
   5. Hold joint still for approximately thirty (30) seconds and then wipe the excess cement from the pipe and fitting.
   6. Cure joint a minimum of thirty (30) minutes before handling, at least six (6) hours before allowing water in the pipe.

D. Threaded □oint□
   1. Field threading of plastic pipe or fittings is not permitted. Only factory formed threads will be permitted.
   2. Factory made nipples shall be used wherever possible. Field cut threads in metallic pipe will be permitted only where absolutely necessary. When field threading, cut threads accurately on axis with sharp dies.
   3. All threaded joints shall be made up with pipe joint compound. Apply compound to male threads only.
   4. Where assembling metallic pipe to metallic fitting or valve, not more than three (3) full threads shall show when joint is made up.
   5. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tight.
   6. Where assembling plastic pipe, use strap type friction wrench only□do not use metal-jawed wrench.

E. Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstructions. Remove caps or plugs only when necessary to continue assembly.

F. Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of earth.

3.6 REMOTE CONTROL VALVES

A. Install where shown on drawings and group together where practical. Limit one remote control valve per box. No exceptions□

B. Locate valve boxes 12” from and perpendicular to walk edges, buildings and walls. Provide 12” between valve boxes where valves are grouped together.

C. Thoroughly flush main line before installing valves.

D. Install in shrub or groundcover areas where possible.

E. Label control line wire at each valve with an I.D. tag, indicating identification number of valve (controller and station number). Attach label to control wire.

F. Flow control stems shall be adjusted or tuned per manufacturer recommendations.

3.7 A□TOMATIC CONTROL WIRE

A. Run lines along mains wherever practical. Tie wires in bundles with pipe wrapping tape at 10’ intervals and allow slack for contraction between strappings.

B. Loop a minimum of three (3) feet of extra wire in each valve box□both control wire and ground wire.

C. Connections shall be made by crimping bare wires with brass connectors and sealing with watertight resin sealer packs.

D. Splicing will be permitted only on runs exceeding 2500’. Locate all splices at valve locations within valve boxes.

E. Where control lines pass under paving, they shall pass through Schedule 40 electrical PVC conduit. Do not tape wire in bundles inside conduit.

3.8 A□TOMATIC CONTROLLER

A. Provide and install automatic irrigation controller in approximate locations shown on drawings. The exact location will be determined on the site by the Project Manager. Provide conduit and wire and connect to 120 volt switch accessible to controller for ease of maintenance.

B. Connect control lines to controller in sequential arrangement according to assigned identification number on valve. Each control line wire shall be labeled at controller with a permanent non-fading label indicating station number of valve controlled. Attach label to control wire.

C. Provide each irrigation controller with its own independent low voltage common ground wire.

D. Provide each pedestal controller with its own ground rod. Separate the ground rods by a minimum of eight feet. The ground rod shall be an eight foot long by 5/8" diameter □.L. approved copper clad rod or as recommended by controller manufacturer. Install no more than 6" of the ground rod above finish grade. Connect #8 gauge wire with a □.L. approved ground rod clamp to rod and back to ground screw at base of controller with appropriate connector. Make this wire

as short as possible, avoiding any kinks or bending. Install a minimum of 8’ away from pedestal housing base unless otherwise noted.

3.9 B□BBLERS, SPRIN□LER HEADS AND □ □IC□ CO□PLING VALVES

A. Thoroughly flush lines before installing heads, bubblers or QCV’s.

B. Locate bubblers, heads and QCV’s as shown in the drawings and details.

C. Adjust sprinkler heads for proper distribution and trim.

D. Install lawn heads 1” above grade in seeded lawn area at time of installation. Lower to finished grade after turf is well established and as directed by Project Manager.

3.10 DRIPLINE AND DRIPLINE COMPONENTS

A. Thoroughly all flush lines driplines.

B. Install dripline a minimum of 12” away from all buildings and 6” off hardscapes for shrubs and groundcover. 2” of paving for all no-mow or sod type grasses.

C. Space driplines equally throughout the planting area as detailed. Refer to legend for emitter and row spacing of dripline. Adjust alternate rows so emitters are spaced in a triangular pattern.

D. All dripline tubing shall be buried 3” below finish grade and stapled down every 4’ and at each change in direction with a 6” tubing stake.

E. For slopes greater than 10□1, modify dripline row spacing on the bottom 1/3 of the slope to be 25□ greater at the bottom of the slope.

F. Install flush valves at the low end of each drip zone minimum of 2 valves are required for each valve. Refer to manufacturer details for installation instructions.

G. Install air vacuum relief valve(s) at high point(s) of each planting area. Refer to drawings for approximate locations. Revise locations in field based on actual grades of the site. Locate 1 valve per every 500’ of dripline. Refer to manufacturer details for installation instructions.

H. Thoroughly saturate soil prior to planting. Provide additional surface watering as required to keep plant root systems moist during planting establishment period.

3.11 BAC□FILLING

A. Backfill only after piping and wire has been inspected and approved.

B. Sand bed all pressurized mainlines as shown in the City standard “Irrigation System Trenching Detail”

C. Backfill material shall be the earth excavated from the trenches, free from rocks, concrete chunks, and other foreign or coarse materials. The pH value of all backfill material shall be tested to be within 6.5 to 7.5 range.

D. Place backfill materials in 6" layers and compact by tamping to a minimum compaction of 90 percent of original soil density.

E. Dress off areas to finish grade and remove excess soil, rocks, or debris remaining after backfill is completed.

F. If settlement occurs along trenches, and adjustments in pipes, valves, and sprinkler heads, soil, sod, or paving are necessary to bring the system, soil, sod, or paving to the proper level or the permanent grade, the Contractor, as part of the work under this contract, shall make all adjustments without extra cost to the City.

3.12 FIELD □□ALITY CONTROL

A. Coverage Tests□
   1. Perform coverage tests in the presence of Project Manager, after sprinkler or drip system is completed. Test system to assure that all areas are irrigated completely and uniformly.
   2. Do not spray onto pavement or structures. Adjust arc nozzles as needed to provide full coverage without over spray.

B. Adjusting and Cleaning□
   1. System adjustment□
      a. Valves□Adjust flow for proper operation.
      b. Heads□Adjust for alignment and coverage.
      c. If it is determined that coverage could be improved by adding additional driplines or a nozzle change, make such changes as required to provide adequate coverage to all plant material.
      d. Perform final cleaning of all risers, dripline, heads, and equipment for proper operation. Demonstrate operation and uniform coverage in the presence of the Project Manager prior before final acceptance.

3.13 TESTING

Perform test as specified below. Remake any faulty joints with all new materials. □se of cement or caulking to seal leaks is absolutely prohibited.
Contractor shall□

A. Notify the Project Manager at least three (3) days in advance of testing.

B. Perform testing at his/hers own expense.

C. Center load piping with small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered

D. Apply the following tests after welded plastic pipe joints have cured at least twenty-four (24) hours.

1. Ring-Tite Mainline□Remove all the air from the piping system then test live (constant pressure) and □CV lines hydrostatically at 125 PSI minimum. Lines will be approved if test pressure is maintained for two (2) hours. Maintain pressure during this time period and measure the amount of water required to maintain that test pressure. Approved tables of allowable loss are below, and the line will be approved or not approved as such results may indicate. The Contractor shall make tests and repairs as necessary until test conditions are met.

   Allowable leakage for PVC plastic pipe with elastomeric joints in □.S. gallons per hour at a test pressure of 150 PSI.

   a. 4" - 0.30 gallons per 1000 ft. or 50 joints
   b. 6" - 0.45 gallons per 1000 ft. or 50 joints
   c. 8" - 0.60 gallons per 1000 ft. or 50 joints

2. Solvent Weld Mainline□Remove all the air from the piping system then test live (constant pressure) and □CV lines hydrostatically at 125 PSI minimum. Lines will be approved if test pressure is maintained for six (6) hours. The lines shall be restored to the original test pressure. The Contractor shall make tests and repairs as necessary until test conditions are met.
3. Test RCV controlled lateral lines with water at line pressure and visually inspect for leaks. Retest after correcting defects.

3.14 MAINTENANCE

A. Continuously maintain irrigation system in areas indicated in the Contract during the progress of work and for a period of **90 days** after substantial completion.

B. It is Contractor's responsibility to turn over the irrigation in a first-class condition at the end of the maintenance period.

C. Maintenance Schedule□Contractor shall submit schedule of maintenance tasks to be performed for City review and approval. At a minimum, maintenance staff shall be on-site two times per month. It is not the intention of these Specifications to allow a "quick cleanup" at the end of the maintenance period, but rather that the work be continuous and ongoing.

D. Proper irrigation system maintenance includes the overall supervision of the system, controller scheduling, routine adjustments and necessary repairs.

E. Maintain irrigation system for optimum performance, as per manufacturer's specifications, by inspecting the entire system on an on-going basis. This includes cleaning and adjusting all sprinkler, bubbler heads, drip and drip tube emitters and valves for proper coverage

3.15 G□ARANTEE

A. It shall be the responsibility of the Contractor to fill and repair all depressions and replace all necessary lawn and planting due to the settlement of irrigation trenches for one year following completion and acceptance of the job.

B. The Contractor shall also guarantee all materials, equipment and workmanship furnished by him to be free of all defects of workmanship and materials, and shall agree to replace at his expense, at any time within one year after installation is accepted, any and all defective parts that may be found.

3.15 CLEAN-□P

A. When work of this section has been completed and at such other times as may be directed, remove all trash, debris, surplus materials, and equipment from site.

END OF SECTION 32 80 00

SECTION 32 90 00 - LANDSCAPE WORK

PART 1 - GENERAL

1.1 SUMMARY

A. The CONTRACTOR shall provide all materials, equipment, and labor necessary to furnish and install the planting as shown on the Drawings and herein specified.

B. Related Requirements:
1. Section 01 29 00 - Payment Procedures
2. Section 01 70 00 - Execution
3. Section 01 77 00 - Closeout Requirements
4. Section 32 80 00 - Irrigation

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Planting
1. Measurement: Measurement for landscape planting shall be as provided in the bid proposal.
2. Payment: The contract lump sum or unit prices shall include full compensation for furnishing all labor, materials, tools and equipment and preforming all work necessary to complete the landscape installation work as shown and specified in the contract documents.

C. Landscape Maintenance
1. Measurement: Measurement for landscape maintenance shall be as provided in the bid proposal.
2. Payment: The contract lump sum shall include full compensation for furnishing all labor, materials, tools and equipment and preforming all work necessary to maintain the planting and irrigation work as shown and specified in the contract documents.

1.3 DEFINITIONS

A. Bay-Friendly Landscaping (BFL) is a holistic approach to design, construction and maintenance of the landscape in order to support the integrity of the San Francisco Bay watershed ecosystem. BFL practices foster soil health, conserve water and other valuable resources while reducing waste and preventing pollution. BFL practices incorporated in these specifications are designated as ***(BFL Practice)***. Additional Bay-Friendly resources are available at www.rescapeca.org/resources/publications-list

B. Compost□An organic matter resource that is the product of controlled biological decomposition of organic materials, often including urban plant debris and food waste. Compost contains plant nutrients but is typically not characterized as a fertilizer. It has the unique ability to improve chemical, physical and biological characteristics of soils or growing media. (Excerpted from □S Compost Council, Field Guide to Compost □se).

1.4 REFERENCE STANDARDS

D. Reference Standards□
1. American Standard for Nursery Stock (ANSI) - ANSI A300□Tree, Shrubs and Other Woody Plant Maintenance - Standard Practices, current edition.
2. ANSI □133.1□Tree Care Safety Standards, current edition.
3. **BASMAA-SBF:** Bay Area Stormwater Management Agencies Association Specification of Soils for Biotreatment or Bioretention Facilities, dated April 18, 2016, or most current edition.
4. International Society of Arboriculture (ISA) Tree Pruning Guidelines, current edition.
5. □.S. Composting Council (□SCC) Seal of Testing Assurance (STA) Program assures that compost producers have regularly tested compost for chemical, physical and biological properties. www.compostingcouncil.org

E. Related Documents□
1. California Model Water Efficient Landscape Ordinance (MWELO), updated □uly 2015, or current edition.
2. Bay-Friendly Landscape Guidelines describing the principles and practices in sustainable landscape construction and maintenance. Bay-Friendly publications and resources are available on-line at www.rescapeca.org/resources/publications-list.
3. Cal-Trans 'Storm Water Quality Handbooks' - Construction Site Best Management Practices (BMP's) Manual, current edition.

1.5 S□BMITTALS AND SAMPLES

A. References
1. Section 01 33 00 - Submittal Procedures□Requirements for submittals.
2. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Product Data & Schedules: Furnish manufacturer's literature, laboratory analytical data (soil analysis results and amendment recommendations) as required in this specification section, samples as noted, and schedules for the following items□
1. Planting fertilizer(s)
2. Composted Greenwaste Organic Amendment ***(BFL Practice)***
3. Mulch (two one-quart samples) ***(BFL Practice)***
4. Import topsoil (two one-quart samples)
5. Bioretention Soil (two one-gallon samples)

6. Nursery invoices for all plant material for this project
7. Pesticide(s)
8. Maintenance Schedule

C. Substitutions□Plant Material Substitutions of plant material shall not be permitted unless authorized in writing by the Landscape Architect / Project Manager. If proof is submitted that specified plant material is not available, a proposal will be considered for use of the nearest equivalent size or variety with an equitable adjustment of contract price. These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials.

D. Closeout Submittals
1. As-built drawings (hard copy and PDF-format scanned images) shall be provided as part of the closeout submittals.

E. The Landscape Architect / Project Manager reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request of the Project Manager. Rejected materials shall be immediately removed from the site at Contractor's expense. Costs of testing materials not meeting specifications shall be paid by Contractor.

1.6 □□ALITY ASS□RANCE

A. Contractor □ualifications□ Provide sufficient experienced workmen and supervisors who shall be present at all times during execution of this portion of work and who are thoroughly familiar with the type of construction, materials and methods involved. In the acceptance or rejection of the work, no allowance will be made by City for lack of workmen's skill.

B. Requirements of Regulatory Agencies□
1. Obtain and pay for all licenses and permits and pay all inspection and other fees connected with the work.
2. Conform to requirements of applicable Federal, State and local agencies. Nothing in the Contract Documents is to be construed to permit work not conforming to these requirements. Furnish without extra charge any additional material and labor required by above.
3. Where conflict exists between requirements of above agencies and/or these Specifications, the more restrictive shall govern.
4. All plants and planting material shall meet or exceed the Specifications of Federal, State, and local laws requiring inspection for plant disease and insect control. All inspection certificates required shall accompany shipments.

C. Source □uality Control□□uality and size shall conform to current edition of "□SA Standard for Nursery Stock" for number one grade nursery stock as adopted by American Associations of Nurserymen. In all cases, botanical names shall take precedence over common names.

1.7 □□ANTITIES

A. Plant material quantities indicated on the Drawings are for estimating purposes only. Furnish and install all plant materials as indicated - drawn quantities shall supersede numerical quantities.

1.8 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Deliver all items to the site in their original containers with all labels intact and legible. Protect plants at all times from sun or drying winds as necessary or until planted. Do not handle plants by stems, trunks or tops, but only by container.

1.9 SITE CONDITIONS

A. Contractor shall familiarize himself with existing site conditions as they may affect his work.

B. Water will be provided at the site at no cost to Contractor. Make and remove temporary lines and connections as necessary for the proper execution of the work.

1.10 WARRANTY PERIOD

A. All trees, shrubs, vines and ground covers shall be guaranteed to take root and thrive for a period of one year after FINAL ACCEPTANCE date.

B. Plants shall be free of dead or dying branches and branch tips, and shall bear foliage of normal density, size and color. All dead plants, all plants not in a vigorous growing condition and plants exhibiting conditions unacceptable due to actions during planting and maintenance operations, as determined by Landscape Architect / Project Manager, shall be replaced immediately by Contractor at no additional cost to the City. Replacement shall closely match size and habit of adjacent specimens of the same species and shall be subject to all requirements of the Specifications.

C. Contractor shall not be responsible for failures due to neglect by the City, vandalism, abuse or damage by others, or unusual phenomenon or incidents

above and beyond the Contractor's control, during Warranty Period. Report such conditions to the City in writing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fertilizers, Soil Amendments and Mulch First quality, standard brand, agricultural products. Deliver in original containers with brand name marked thereon. Furnish City with all certificates or delivery slips for each material delivery in containers or in bulk.

1. Commercial Fertilizer A complete control-release fertilizer in pellet form of which part of the elements are derived from organic sources
   16 Nitrogen, 16 Phosphoric Acid and 16 Potash
   Plant Fertilizer Paks Best-Paks 20-10-5 planter paks.
2. Soil Sulfur Agricultural grade Sulfur containing minimum of 99 Sulfur (expressed as elemental).
3. Ammonium Sulfate, 21-0-0
4. Iron Sulfate 20 iron (expressed as metallic iron) derived from ferric and ferrous sulfate, 10 sulfur (expressed as elemental).
5. Potassium Sulfate, 0-0-50.
6. Calcium Carbonate 95 lime derived from oyster shells.
7. Gypsum Agricultural grade with 98 Calcium Sulfate.
8. Sulfur Coated rea (SC) SC 21-7-14 or SC 21-7-7.
9. Composted Organic Greenwaste Amendment ***(BFL Practice)*** Yard waste compost free of contaminants with pH of 5.5-8.0, minimum organic content of 250 pounds per cubic yard of compost (minimum 50% of compost's dry weight, TMECC 05.07-A), 35-60 moisture content, maximum 4.5 dS/m Ece, salinity measured on the saturation extract solution shall not exceed 8.0 dS/m, 8 or below carbon dioxide evolution rate (TMECC 05.08-B), greater than 80 seedling emergence maturity bioassay (TMECC 05.05-A), and a minimum of 90 of the material by weight shall pass a " screen. Material passing the " screen shall meet the following criteria

Sieve Designation	Percent Passing
9.51 mm (3/8")	85-100
2.38 mm (No. 8)	50-80
500 micron (No. 35)	0-40

   - Composted Organic Amendment shall have 'STA' certification from .S. Composting Council (SCC).
   - Provide sample (two one-quart size) certificate of conformance and current analysis for approval.

   Approved products include WM EarthCare "Homegrown Compost" (877.963.2784) BFI Organics "Super Humus" compost (408.687.1928) - Best Organic Compost (408.263.2384) "Premium Compost" by Recology Blossom Valley Organics (209.872.0734), or equal.
   (verify products)

10. Mulch 100% recycled, clean, untreated lumber coarsely ground to 2” minus, and dyed with colorfast, natural dye with 1-year color retention no ground wood stumps or branches. “Mission Mahogany” by WM EarthCare (877.963.2784), or equal.
    - Submit samples (two one-quart size) for approval.

B. Soils
1. "On-Site" topsoil Topsoil from the site without admixture of subsoil, free from rocks, clay or foreign matter.
   a. Soil Testing Obtain soil analysis and recommendations from Waypoint Analytical, San ose, (408)727-0330, for approval prior to planting. At a minimum, soil analysis shall include soil texture, infiltration rate determined by laboratory test or soil texture infiltration rate table, PH, total soluble salts, sodium, essential nutrients and percent organic matter. Recommendations shall reflect amending soil with compost to bring the soil organic matter to a minimum of 5 by dry weight and incorporating fertilizers to recommended levels for planting area.
   b. Amendments, fertilizer rates and quantities listed under Item 3.2 -Soil Amendment are to be used for bid basis only. Adjust the quantities of soil amendments and fertilizer per soil report. Contractor shall be reimbursed for additions as approved by Project Manager.
2. "Import" Topsoil: “Import" Topsoil: Fertile, friable local natural sandy loam or loam, free from weeds, seed, stones, subsoil or other debris and complying with the following
   a. Physical Properties

Class	Particle size range	maximum, wt.	minimum, wt.
Coarse sand	0.05-2.0 mm	15	0
Silt plus clay	.05 mm	50	25
Silt	0.002-0.05 mm	30	10
Clay	0-0.002 mm	20	10
Other Classes			
Gravel	2-13 mm	15	0
Rock	inch	10 by volume	0
	none 1 inch		
Organic matter		15	0

   If the native subgrade texture is within specified limits, the import topsoil texture should be as similar as practical to that material to minimize interfacing concerns.
   b. Chemistry pH shall be between 5.5 and 7.5 without high qualitative lime content and boron shall not exceed 1 part per million as measured on a saturation extract. Salinity ECe shall be less than 3.0 dS/m 25 degrees C. and sodium adsorption ratio (SAR) shall be less than 6.0.
   c. Fertility Considerations Soil to contain sufficient available nitrogen, phosphorus, potassium, calcium and magnesium to support normal

plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials prior to planting.

d. Sample□Submit samples (two one-quart size) with a soil analysis and recommendations from Waypoint Analytical for approval.

3. Bioretention Soil□A mixture of fine sand and compost, conforming to ***BASMAA-SBF***, shall provide a long-term, in-place infiltration rate of at least 5 inches per hour, shall support vigorous plant growth and consist of the following mixture, measured on a volume basis□60-70□ Sand, 30-40□ Compost.
   a. Submit Requirements per ***BASMAA-SBF***□
      - Sample of mixed Bioretention Soil (one-gallon size).
      - Certification that the Bioretention Soil meets the guideline specification requirements.
      - Grain size analysis results of the fine sand component.
      - □SCC STA quality analysis results for compost.
      - Organic content test results of mixed Bioretention Soil.
      - Grain size analysis results of compost components.
      - Description of equipment and methods used to produce Bioretention Soil.
   b. Suppliers producing Bioretention Soil found to meet and/or exceed the Guideline Specifications are□
      - LH Voss Materials, 925.560.9920
      - Contra Costa Topsoil, Martinez, 925.228.4007

C. Plants□
   1. Furnish plant materials to complete work as indicated on Drawings and as specified.
   2. Plants shall be typical for variety and species□healthy, vigorous, free from disease and insects, with healthy normal root systems, filling their containers, but shall not be rootbound.
   3. Plants shall be subject to review and approval by the Landscape Architect / Project Manager at place of growth and upon delivery for conformity to Specifications. Such approval shall not impair the right of review and rejection during progress of the work.
      a. Submit written request for review of plant material at place of growth to the Project Manager. Written request shall state the place of growth and quantity of plants to be inspected. The Landscape Architect / Project Manager reserves the right to refuse review at this time if, in his judgment, a sufficient quantity of plants is not available for review.
      b. Inspection for approval or rejection is reserved for the project site upon delivery. Plants shall be inspected for size, variety, condition, root system and defects. Any rejected material shall be promptly removed from site. Notify Project Manager 48 hours prior to inspection.
   4. Sod□As noted on the Drawings. Sod shall be machine cut at a uniform thickness. It shall be harvested, delivered and planted within 30 hours. Individual slabs shall be no larger than 9 sq. ft. and shall be weed free.

D. Supplies□

1. Tree Stakes□Lodgepole Pine tree stakes□untreated chamfered top and bottom.
2. Tree Ties□Cinch-Tie, □V resistant, virgin flexible black vinyl meeting ASTM-D-412 standards for tensile elongation strength. Ties shall have a double back locking configuration and secured with one galvanized screw to prevent slippage. Manufacturer□V.I.T. Products, 800.729.1314.
3. Tree Drains□Flexible corrugated perforated plastic drain pipe, 4” diameter. Tree drain to extend 6” deeper than tree rootball, 18” minimum length. Backfill with ¾” drain rock.
4. Root Barrier□#□B 24-2 polypropylene plastic barrier. Manufacturer□Deep Root Corp. available through Ewing 510-687-3220.
5. Water Barrier□WB24/30 24/40 24/60 24/80 24" depth polyethylene (HDPE), 0.030" (0.76 mm) thickness, by Deep Root Corp.
6. Pesticides□Product and application rates to conform to manufacturer’s recommendations and as approved by City IPM Coordinator. Notify Project Manager 24-hours prior to application. City staff shall be present during application unless otherwise directed.
   a. Pre-emergence Weed Control□Ronstar manufactured by Chipco
   b. Broad Leaf Control□Trimec.
   c. Grass Control□Poast (mix with oil concentrate emulsifier - No Foam Herbicide Activator) or Fusilade (mix with non-ionic surfactant).

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Prior to the work of this section, inspect existing grades and installed work of other trades and verify that planting may be completed in accordance with Contract Documents.

B. Should sub-surface drainage or soil conditions (high water table, excessive compaction, etc.) be encountered which would be detrimental to growth or survival of plant material, notify Project Manager in writing, stating conditions and submitting a proposal covering cost of correction. If the Contractor fails to notify Project Manager of such conditions, he shall be responsible for plant material under the guarantee clause of this Section.

3.2 PREPARATION

A. Layout of Work□Drawings are to be considered schematic unless specifically dimensioned. Check all Drawings and make work conform to all conditions shown thereon. Stake out exact plant locations on the job to suit actual conditions. Verify with Project Manager any variations prior to planting. Locations so determined are Contractor's responsibility and changes required because of such actions shall be by Contractor at no extra cost to City.

B. Debris Removal Remove all construction debris, base rock, refuse and paving material to full depth where occurs in planting areas.

C. Plant Material Protection Existing plant material to remain shall be protected from damage. Do not stockpile material or equipment within 25' of dripline. Trenching adjacent to roots shall be performed in accordance with the irrigation specs.

D. Existing Plant Material to Be Removed In order to accommodate proposed planting installation, remove existing plant material including vegetation, stumps, and roots 1" in diameter and larger to a depth of 2 feet below existing ground surface or to subgrade, whichever is deeper. Fill all stump and roots holes with import or on-site (see plan) topsoil in accordance with fill and compaction requirements.

E. Plant Material Removal All vegetation, stumps, and roots 1" in diameter and larger shall be removed 2 feet below existing ground surface or to subgrade, whichever is deeper. Fill all stump and roots holes with suitable material in accordance with fill and compaction requirements.

F. Root Barrier Provide as noted on Drawings. Install barrier per manufacturer's specifications and as detailed.

G. Water Barrier Provide water barrier at perimeter of all median planting areas. Provide as noted on Drawings. Install barrier per manufacturer's specifications and as detailed.

H. Topsoil "On-site Topsoil" shall be used where possible. If there is not sufficient soil available to meet finish grades, add "Import Topsoil" to complete grading.

I. Bioretention Soil Installation Conform to Civil Engineer's Drawings. Place soil in 8" to 12" lifts. Lifts are not to be compacted but are placed to reduce the possibility of excessive settlement. Allow time for natural compaction and settlement prior to planting. Bioretention Soil may be watered to encourage compaction.

. Topsoil Preparation Do not work soil when moisture content is so great that excessive compaction will occur or when clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and planting.
   1. Grades shall conform to those indicated on the Drawings and herein specified. Do not place topsoil in the drip line of any existing tree.
   2. Cultivate all planting areas to 10" depth for continuous area of friable soil. Larger areas may be cultivated by ripping using tractor with downpressure on ripper shanks at 8" to 10" on center, or equivalent.
   3. Import topsoil shall be incorporated into top two inches (2") of existing site soil.
   4. Compact topsoil to 80 maximum relative compaction.

□. Soil Amendment (excluding Bioretention Soil)□After grading, cultivation, and topsoil placement has been completed and soil water settled, high and low spots regraded and rough grades approved by Project Manager, add soil amendment as indicated below and rototill until thoroughly mixed to six inch (6") depth.

AMO□NT/1,000 S□□ARE FEET

6 Cubic Yards Composted Organic Amendment
20 Pounds 18-12-6 Commercial Fertilizer

L. Planting Backfill at Tree and Shrub Planting Pits□

1. Shrubs (5 gallon and smaller)□□tilize surface amended soil for planting backfill, full depth of plant pit.
   a. At areas where soil amendment procedure is not required, amend soil at plant pits. Amend plant pit at the following rate□.33 cubic yards organic amendment per cubic yard of soil.
2. Shrubs (15-gallon size)□See tree planting backfill as follows.
3. Trees□
   a. 0-12" depth□□tilize surface amended soil.
   b. 0-12" depth (areas where soil amendment procedure is not required)□ Amend soil at each plant pit. Amend upper 12" of plant pit at the following rate□.33 cubic yards organic amendment per cubic yard of soil.
   c. Backfill below 12" depth□ □tilize native soil without amendment or additives. Incorporate 1 pound 6-20-20 and 2 pounds iron sulfate per cubic yard of soil.

M. Finish Grading□

1. Slope soil areas adjacent to buildings away from buildings. Surface drainage shall conform to Engineer's drawings.
2. Finish grades shall be uniform levels or slopes between points where elevations are given or established by paving, curbs or catch basins. Grades shall be smooth, uniform planes with no abrupt changes.
3. All grades shall provide for natural runoff of water without pockets. Accurately set flow line grades to a minimum of 2□ gradient.
4. Finish grade for all planted areas shall be 1" below top of paving, curbs or walls unless indicated on Drawings.

3.3 INSTALLATION

A. General□

1. Do not install plant material until all construction work has been completed and irrigation system installed and checked. Do not install planting during unfavorable weather.
2. Set all plants so that, when settled, the natural grade in the container is the same as the finished grade of planting area. All roots shall be covered and

no filling will be permitted around trunk. Water all plants at least 1/2 hour before planting and again after planting each plant.

B. Installation of Shrubs and/or Trees

1. Locate plant material as indicated on the Drawings. Where material is indicated in a "loose" pattern, maintain an unequal, random spacing. Excavate holes for trees and shrubs to depths and widths as shown on details. Scarify bottom and sides of holes. Soils at bottom of plant pit shall be scarified to 8" depth to improve soil porosity. If rocky or shale soil is encountered, increase width and depth of plant hole by 6", and insure drainage.
2. Lift plant out of container carefully by the rootball. Place each plant in the center of plant hole. Spread out any exposed roots, do not fold under or bend up. Prune injured roots.
3. Place Plant Fertilizer Paks in backfill, 6"-8" under soil surface & 1" from rootball at all plants when planted. Apply paks at the following rate one gallon - 1 Pak 5 gallon - 3 Paks 15 gallon - 9 Paks boxed trees - 12 Paks.
4. Backfill with specified material and firmly tamp around the rootball to force out all air pockets. Water thoroughly.
5. If settlement occurs, lift plant or replant plants to finish flush with existing grade.
6. Form a circular earth watering basin centered on plant. Basin rim shall be 4" above finish grade at the trunk. Install 2" depth mulch at inside of basin. Basins shall be lifted around plants until winter, and then one side shall be broken to allow water passage.
7. Remove all nursery stakes and plant labels.

C. Mulch

1. Mulch all planted areas (including Bioretention Facilities) with minimum 3” depth of mulch ***(BFL Practice)***, except that within plant basins mulch shall be 2” depth.
2. Hold mulch material a minimum four (4”) inches away from rootcrown of tree and a minimum two (2”) inches away from rootcrown of shrubs, perennials and ornamental grasses one (1) gallon size and larger. Mulch may be installed to the rootcrown of plant material smaller than one (1) gallon in size.
3. Install mulch immediately after plant installation.

D. Ground Cover Installation

1. Prior to planting ground cover, install mulch in planting areas indicated on the Drawings.
2. Plant ground cover in designated areas at spacing shown on Drawings, in neat staggered rows, insuring complete coverage and including around shrubs and trees. After planting, smooth the soil around plants.

3. Water plants immediately after planting with a light spray until soil is saturated. Do not spray in hot direct sun. Do not allow plants to dry out before planting.

E. Installing of Tree Stakes and Ties
1. Double stake all trees as detailed on Drawings. Set stakes at right angles to prevailing wind. Drive stakes 2' into firm ground, set plumb. Do not drive stake through rootball.
2. Tree Ties Install per manufacturer's specifications, securing at stakes with galvanized screws.
3. Set up a sample stake and ties for approval of Project Manager prior to installing tree stakes and ties.

F. Vine/Espalier Installation Remove stake support without damage to plant and train upon adjacent support as directed. Secure vine/espalier with plastic, ribbon or glue-on vine ties.

G. Lawn Installation
1. Do not install lawns until all construction and irrigation work has been completed. This includes cultivation and incorporation of soil amendment as specified.
2. Rototill soil to 6" minimum depth. Remove all stones 3/4" or larger. Incorporate soil amendment as specified. Remove all stones 3/4" or larger.
3. Bring lawn bed to grade by rolling, raking and dragging until surface is smooth and of a uniform fine texture.
4. Sodding Sod shall be as noted on the Drawings.
   a. Sod shall be machine cut at a uniform thickness of 3/4" excluding top growth and thatch. It shall be harvested, delivered and planted within 30 hours. Individual slabs shall be no larger than 9 sq. ft. and shall be weed free.
   b. Distribute SC 21-7-14 commercial fertilizer over lawn areas at rate of 10 lbs. per 1000 sq.ft. water thoroughly.
   c. While areas are still damp, lay slabs tightly together without overlapping. Stagger rows of slabs.
   d. Lightly roll sod with 200 lb. roller to obtain uniform grade. Correct any irregularities or settlement by lifting sod, regrading area and relay.
   e. Water thoroughly to a depth of 8", and keep moist at all times until it has rooted into the soil.
5. Seeding
   a. Lawn seed mix shall be as noted on Drawings. Seed application rate shall be 6 lbs. per 1000 square feet.
   b. Seed shall be fresh, clean and new crop. Deliver to the site in sealed standard containers. All containers shall be labeled to show mixture and percentages of purity and germination of each variety of seed. No mixture shall contain more than 3.50 inert material and 10 weed

seed. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be accepted.

c. Sow seed during the windless period with an approved seeder, sowing of the amount in each direction.

d. Distribute SC21-7-14 commercial fertilizer over lawn areas at the rate of 10 lbs. per 1000 square feet and lightly rake surface to cover seed and to mix with fertilizer. Compact by rolling with 200 lb. roller.

e. Wet seeded area slowly, but thoroughly, and keep moist at all times until germination.

f. Contractor shall guarantee an even and uniform stand of grass and shall re-seed and maintain until such stand is produced.

3.4 CLEAN-P Prior to pre-maintenance inspection, remove all debris, dirt, rocks, trash, etc. from paving, sidewalks, and other non-planter areas. Be prepared to wash all paved areas clean with either a water truck or fire hose or other large suitable equipment capable of accomplishing the work quickly.

3.5 PRE-MAINTENANCE INSPECTION

A. Upon receipt of Contractor's written notification that all construction and installation work has been completed, a date for pre-maintenance inspection will be scheduled.

B. All planting areas shall be free of weeds and neatly cultivated at time of inspection.

C. Contractor, Project Manager, Landscape Architect and such others as the Project Manager directs shall be present at the inspection. If, after the review, the Landscape Architect / Project Manager is of the opinion that all work has been performed per the Contract Documents and that all plant materials are in satisfactory growing condition, the Contractor will be given a written notice of acceptance of the planting portions of the Work and commencement of the Maintenance Period.

D. Work requiring corrective action or replacement shall be performed within 10 days after the Inspection. This work will not be accepted for the start of the maintenance period until all items noted as deficient during the inspection are corrected or completed. Corrective work and materials replacement shall be in accordance with the Plans and Specifications and shall be made by the Contractor at no cost to the City. Upon approval of work by Project Manager, maintenance period shall begin.

3.6 MAINTENANCE

A. Continuously maintain all plantings and irrigation system in areas indicated in the Contract during the progress of work and for a period of **90 days** after substantial completion.

B. It is Contractor's responsibility to turn over the landscaping in a first-class condition at the end of the maintenance period. All plants will be healthy and growing the beds will be free from weeds and generally clean.

C. Maintenance Schedule Contractor shall submit schedule of maintenance tasks to be performed for City review and approval. At a minimum, maintenance staff shall be on-site two times per month. It is not the intention of these Specifications to allow a "quick cleanup" at the end of the maintenance period, but rather that the work be continuous and ongoing.

D. Plant Material Reset plants to proper grades or upright position. Replace, without cost to City, all dead, dying or missing plants with plants of a size, condition and variety acceptable to the Landscape Architect / Project Manager. Replacement plants shall be installed as soon as unacceptable condition is noted.

E. Tree Staking Check and adjust frequently to ensure that no tree damage is being caused. Remove stakes as soon as tree roots are established and trees are stable (typically after one full growing season).

F. Weeding Manually or chemically at Contractor's discretion and as approved by City.
   1. Pre-emergence control
      a. Four (4) days following the planting of the trees and shrubs, treat all exposed soil with Ronstar G or equal.
      b. Exposed soil shall be defined as "that soil not planted with ground cover at least 6 inches away from a shrub rootball and 12 inches away from a tree rootball."
      c. Pre-emergence materials shall always be applied prior to mulching of any kind.
   2. Post-emergence control
      a. Grass control Apply in accordance with manufacturer's recommendations.
      b. General broad spectrum control Apply in accordance with manufacturer's recommendations. NEVER SPRAY ON WINDY DAYS APPLICATOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ALL DAMAGED PLANT MATERIALS.

G. Fertilizing - Ground Cover/Shrub Areas Apply ammonium sulfate (21-0-0) at the rate of 5 lbs per 1,000 sq. ft. of area in all ground cover areas at least once every 30 calendar days during the maintenance period, until final acceptance of Project Manager. Water thoroughly.

H. Fertilizing - Lawn Areas□Apply SC□ 21-7-14 fertilizer at the rate of 10 lbs per 1,000 sq. ft. 50 days after planting.

I. Cultivation□All areas that are not covered with ground cover or mulch shall be kept cultivated. Perform this work in such a way as not to disturb feeder roots. Cultivating at least once a month in prominent areas close to entrance ways to keep the "fresh look" apparent. Do not cultivate until all trash and leaves are removed from planting beds.

□. Insect and Disease Control□Contractor shall be prepared to effect a spraying program to control all infestations of insects, fungus diseases, etc. that could cause damage to the landscape. Inspection for spraying program shall be on the same schedule as fertilization.

□. Rodent & Pest Control (If problems occur)□Contractor shall be prepared to implement a pest management program to control rodents, rabbits, and ground squirrels that could cause damage to the landscape.

1. Coordination with City staff for recommendations and approval.
2. □tilize tamperproof trapping devices to control infestations where feasible. Submit product literature for City's review and approval.
3. □tilize EPA-approved rodenticides applied at manufactured recommended rates. Submit literature for City's review and approval.

L. Pruning□ Pruning shall be kept to the minimum necessary for safety, improving long-term tree structure, and providing the necessary clearance for construction equipment. Remove crossover branching, developing co-dominant leaders and dead wood. Do not over prune or shear plants.

1. All pruning shall be performed by a tree contractor possessing a State of California Contractor's License for Tree Service and supervised by a certified arborist. All operations shall be in accordance with the ISA pruning guidelines and adhere to ANSI □133.1 and ANSI A300. Heading cuts shall not be used.
2. Prune all trees once a year in the dormant season for thinning and shaping. In the spring at the start of growing season, remove unwanted sucker growth by "thumb" pruning.

Pruning□Follow the standard pruning techniques recommended by the □niversity of California at Davis Pruning Manual.

M. Mowing□Lawns shall be mowed once a week during growing season and as required during dormant season.

N. Watering□Automatic□Contractor is responsible for setting irrigation controller to apply enough water each week to keep the plantings moist--not too wet and not too dry. The amount of watering will vary with the season and location. Make sure through weekly examination of irrigation system that all heads are operating properly. See Section 32 80 00 for irrigation system maintenance.

3.7 FINAL ACCEPTANCE REVIEW

A. Contractor shall request review in writing. Arrangements shall be made 48 hours in advance for final review at end of maintenance period.

B. Contractor, Project Manager, Landscape Architect and such others as the Project Manager directs shall be present at the review.

C. If, after the review, the Landscape Architect / Project Manager is of the opinion that all work has been performed per the Contract Documents and that all plant materials are in satisfactory growing condition, and the irrigation system is in operating order, the Contractor will be given a written notice of Final Acceptance Review, the end of the Maintenance Period, and commencement of the Warranty Period.

D. Work requiring corrective action or replacement shall be performed within 10 days after the Final Acceptance Review. Corrective work and materials replacement shall be in accordance with the Plans and Specifications and shall be made by the Contractor at no cost to the City.

E. No partial approvals will be given.

END OF SECTION 32 90 00

SECTION 33 01 30 – TESTING FOR SANITAR SEWER, STORM DRAINAGE - PIPING AND MANHOLES

PART 1 - GENERAL

1.1 SMMARY

A. The CONTRACTOR shall provide all materials, equipment and labor to perform and complete pipeline flushing and testing, and Closed Circuit Television Inspection (CCTV) complete, for sanitary sewer and storm drain system piping, as specified herein.

B. The CONTRACTOR shall be responsible for conveying test water from the source to the point of usage and also for proper disposal, as required, of water used in the testing operations. All costs associated with supply and disposal of test water shall be at the Contractor's expense.

C. Section Includes

1. Testing of Gravity Sewer Piping and Storm Drainage Piping
   a. Low pressure air testing.

2. Deflection testing of plastic sewer piping and storm drainage piping.

3. Testing of Manholes
   a. Vacuum testing.

4. Closed Circuit Television Inspection (CCTV)

D. Related Requirements

1. Section 01 33 00 – Submittal Procedures
2. Section 01 70 00 - Execution
3. Section 01 77 00 - Closeout Requirements
4. Section 33 31 13 - Sanitary Sewer Piping
5. Section 33 41 13 - Storm Drainage Piping

1.2 REFERENCE STANDARDS

A. ASTM International
1. ASTM C 828 - Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines.
2. ASTM C1244 - Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.

3. ASTM D2122 - Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings. (For Determining Dimension of PVC pipes).

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Contractor shall submit following items a minimum of 3 working days prior to start of testing:
1. Testing procedures.
2. List of test equipment.
3. Testing sequence schedule.
4. Provisions for disposal of flushing and test water.
5. Certification of test gage calibration certified by laboratory at the Contractor's expense prior to the leakage test.
6. Deflection mandrel drawings and calculations.

C. Test and Evaluation Reports: Contractor shall submit results of manhole and piping tests.

D. The Contractor shall provide all inspection data and files on a portable external hard drive or CD or DVD and shall become the property of the City once submitted. All mpg video files and individual report PDF's contained on the hard drive shall be named as follows: upstream manhole ID-downstream manhole ID-Date Time Stamp: (i.e.MH22-MH23 MM-DD-YYYY-HHMMSS.mpg)

E. The Contractor shall utilize Pipeline Assessment and Certification Program (PACP) certified inspectors for the CCTV work at all times and PACP latest Version. coding methods shall be employed for all CCTV inspections conducted. Evidence of PACP certification of the Operator shall be provided to the City prior to the commencement of any work

PART 2 - PRODUCTS

2.1 MATERIAL REQUIREMENTS

A. All testing equipment and materials including but not limited to materials and equipment specified below shall be provided by the Contractor. No materials shall be used which would be injurious to pipeline system or structure or future function.

B. All test gages shall be laboratory-calibrated test gages and shall be recalibrated by a certified laboratory at the Contractor's expense prior to the leakage test. A timeline for the last testing of the calibration gage shall be submitted prior to use.

2.2 VAC□□M TESTING

A. Contractor shall furnish all equipment□

1. Vacuum pump.
2. Vacuum line.
3. Vacuum Tester Base□

a. Compression band seal.
b. Outlet port.

4. Shutoff valve.
5. Stopwatch.
6. Plugs.
7. Vacuum Gage□Calibrated to 0.1 in. Hg.

2.3 AIR TESTING

A. Contractor shall furnish all equipment□

1. Air compressor.
2. Air supply line.
3. Shutoff valves.
4. Pressure regulator.
5. Pressure relief valve.
6. Stopwatch.
7. Plugs.
8. Pressure Gage□Calibrated to 0.1 psi.

2.4 DEFLECTION TESTING

A. Contractor shall furnish all equipment□

1. "Go, no go" mandrels of various sizes with diameter not less than 95 percent of the average inside diameter of pipe, as determined by ASTM standard to which pipe is manufactured.
2. Pull/retrieval ropes.

2.5 CCTV INSPECTION

A. For Capital Improvement Projects (CIP) and new development projects, the CCTV inspections shall be completed by the City. The Project Developer shall pay the City for the CCTV inspection services and fees. The developer will only be responsible to conduct the CCTV inspections if the City is unable to perform the work.

B. Television inspection equipment shall have an accurate footage counter that will display on the monitor and record the camera distance from the centerline of the starting manhole.

C. The camera shall be of the remotely operated pan and tilt type and shall have full HD resolution (1920x1080 pixels) camera capable of zooming. The rotating camera and light head configuration shall have the capability of panning 360□ with pan and tilt capability of providing a full view of the pipe to ensure complete inspection of the mainline pipe and service laterals. A disk to determine the depth of water shall be installed to the CCTV camera.

D. The camera, television monitor, and other components shall be color. To ensure peak picture quality throughout all conditions encountered, the color camera shall be equipped with the necessary circuitry to allow for the remote adjustment of the optical focus iris from the power control unit at the viewing station. A variable intensity control of the camera lights shall also be located at the viewing station

E. Lighting and camera quality shall be suitable to allow a clear, in focus picture for the entire inside periphery of the pipe.

F. Camera quality shall be suitable to provide a full 360□view of the pipe during the inspection pipelines extending at least ten (10) feet in front of the camera.

G. The travel speed of the camera shall be variable but uniform and shall not exceed 30 feet per minute. Any means of propelling the camera through the sewer line which would produce non-uniform or jerky movement of the camera, will not be acceptable.

H. The television system shall be capable of performing line segment inspection in increments of 400 feet with one setup.

I. Service laterals shall be inspected utilizing a CCTV inspection push camera system, capable of inspecting up to one hundred (100) feet of pipe.

□. Water shall be flowing in pipe continuously during CCTV recording.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that manholes and piping are ready for testing.

B. Verify that trenches are backfilled.

3.2 PREPARATION

A. Section 01 70 00 - Execution Requirements for preparation.

B. Lamping

1. Lamp gravity piping after flushing and cleaning.
2. Perform lamping operation by shining light at one end of each pipe section between manholes.
3. Observe light at other end.
4. Pipe not installed with uniform line and grade will be rejected.
5. Remove and reinstall rejected pipe sections.
6. Re-clean and lamp until pipe section is installed to uniform line and grade.

C. Plugs

1. Plug outlets, wye branches, and laterals.
2. Brace plugs to resist test pressures.

3.3 FIELD QUALITY CONTROL

A. Section 01 45 00 – Quality Control Requirements for testing, adjusting, and balancing.

B. All sanitary sewer and storm drain lines shall be cleaned and flushed prior to testing using a high-pressure sewer jet with vacuum equipment or other methods acceptable to the Project Manager.

C. Contractor will be solely responsible for conveying test water from the source point to the point of usage as part of Contractor's expense and will be solely responsible for the proper disposal of all water used in the flushing and testing process. Disposal of all water shall be in accordance with appropriate regulatory agency requirements. All flushing and testing operations shall be performed in the presence of the Project Manager. During flushing of the sanitary sewer and storm drain lines, the manholes at the low end of the new line shall be plugged and incoming water pumped to a drain point approved by the Project Manager. Before the plug can be removed, all sand, silt, gravel and other foreign material shall be completely removed from the manhole.

3.4 LOW-PRESSURE AIR TESTING FOR STORM DRAINAGE AND SANITARY SEWER PIPING

A. The Contractor shall furnish all materials, equipment and labor for making an air test. Air test equipment shall be approved by the Project Manager. The Contractor may conduct an initial air test of the sewer main line after densification of the backfill but prior to installation of the laterals. Such tests will be considered

to be for the Contractor's convenience and need not to be performed in the presence of the Project Manager.

1. Test each reach of gravity sewer piping between manholes by plugging and bracing all openings in the main sewer line and the end of all laterals.
2. Prior to any air pressure testing, all pipe plugs shall be checked with a soap solution to detect any air leakage. If any leaks are found, the air pressure shall be released, the leaks eliminated and the test procedure started over again.
3. The final leakage test of the sewer main line and laterals shall be conducted in the presence of the Project Manager.
4. Introduce air pressure within the line slowly to approximately 4 psig using a compressed air supply.
5. Determine ground water elevation above spring line of piping.
6. For every foot of ground water above spring line of piping, increase starting air test pressure by 0.43 psi.
7. Do not increase pressure above 10 psig.
8. Allow pressure to stabilize for at least five minutes before the actual test begins.
9. Adjust pressure to 3.5 psig or to increased test pressure as determined above when ground water is present.
10. Minimum Testing Duration in Minutes□

	Distance between openings					
Pipe Size (inches)	50 ft	100 ft	150 ft	200 ft	250 ft	300 ft
3	0.10	0.20	0.30	0.40	0.50	0.60
4	0.15	0.30	0.45	0.60	0.75	0.90
6	0.35	0.70	1.05	1.40	1.75	2.10
8	0.60	1.20	1.80	2.40	3.00	3.60
10	0.75	1.50	2.25	3.00	3.75	4.50
12	0.90	1.80	2.70	3.60	4.50	5.40
15	1.05	2.10	3.15	4.20	5.25	6.30
18	1.20	2.40	3.60	4.80	6.00	7.20
21	1.50	3.00	4.50	6.00	7.50	9.00
24	1.80	3.60	5.40	7.20	9.00	10.80
27	2.10	4.20	6.30	8.40	10.50	12.60
30	2.40	4.80	7.20	9.60	12.00	14.40
33	2.70	5.40	8.10	10.80	13.50	16.20
36	3.00	6.00	9.00	12.00	15.00	18.00

11. Record drop in pressure during testing period.
12. If air pressure drops more than 1.0 psi during testing period, piping has failed.
13. If 1.0 psi air pressure drop has not occurred during testing period, piping is acceptable□discontinue testing.

14. If piping fails, test reach of piping in incremental stages until leaks are isolated, repair leaks, and retest entire reach between manholes.
15. After completion of the test, the air pressure shall be released slowly and the test plugs shall not be removed until the air pressure is no longer measurable.
16. At the Contractor's option, joints may be air tested individually, joint by joint, with the use of specialized equipment. The Contractor shall submit its joint testing procedure for the Project Manager's review prior to testing. Prior to each test, the pipe at the joint shall be wetted with water.

3.5 DEFLECTION TESTING OF PLASTIC STORM DRAINAGE AND SANITARY SEWER PIPING

A. See below for Deflection Testing requirements.

1. Contractor shall perform vertical ring deflection testing on PVC non-pressure piping after backfilling and initial paving has been in place and prior to last lift of paving.
2. Allowable maximum deflection for installed plastic sewer pipes shall not exceed the limits on the Central San Standard Specifications for Design and Construction.
3. Perform deflection testing using properly sized "go, no go" mandrel.
4. Furnish mandrel with diameter not less than 95 percent of the average inside diameter of pipe, as determined by ASTM standard to which pipe is manufactured measure pipe diameter in compliance with ASTM D2122.
5. Perform testing without mechanical pulling devices.
6. All PVC non-pressure piping shall be tested by passing the mandrel from the nearest downstream structure to the nearest upstream structure.
7. Contractor shall locate, excavate, replace, and retest piping that exceeds allowable deflection.

3.6 MANHOLE TESTING

A. All manholes shall be vacuum tested for leakage after installation in the presence of the Project Manager. Prior to vacuum testing all manholes shall be visually inspected for leaks. All leaks, cracks and lift holes shall be repaired by the Contractor, prior to vacuum testing, to the satisfaction of the Project Manager. All repairs shall be made with non-shrink grout. Any alternative repair methods shall be approved by the Project Manager.

1. If air testing, test prior to backfilling in order to easily locate the leaks.
2. Repair both outside and inside of joint to ensure permanent seal.
3. Test manholes with manhole frame set in place.
4. Vacuum Testing

    a. Comply with ASTM C1244.

b. Plug pipe openings securely brace plugs and pipe to sufficiently hold against vacuum pressure during testing, and removed following successful completion of the testing.
c. Inflate compression band to create seal between vacuum base and structure.
d. Connect vacuum pump to outlet port with valve open, then draw vacuum to ten (10) inches of Mercury (Hg). Stabilize the vacuum at ten (10) inches of Mercury (Hg).
e. Close valve and shut off the vacuum pump.
f. Manhole Test Duration in Seconds
   1) Diameter 4 Feet 60.
   2) Diameter 5 Feet 75.
   3) Diameter 6 Feet 90.

g. Record vacuum drop during test period.
h. If vacuum drop is greater than one (1) inches of Mercury (Hg) during testing period, repair and retest manhole.
i. If vacuum drop of one (1) inches of Mercury (Hg) does not occur during test period manhole is acceptable discontinue testing.
j. If vacuum test fails to meet one (1) inches of Mercury (Hg) drop in specified time after repair, repair and retest manhole.
k. Manholes repairs and retesting shall proceed until a passing test is completed.

3.7 CCTV INSPECTION

A. See below for CCTV requirements before final lift of paving**:**
   1. All sanitary sewer systems shall be CCTV inspected. In addition, all storm drain systems are subject to CCTV inspection. In all paved areas the CCTV inspection must be coordinated by the Contractor to allow sufficient time for the CCTV inspection to be performed after backfill, initial paving and prior to the final lift of asphalt paving being placed. The City's approved CCTV testing company will perform the CCTV inspections. The Contractor shall repair all problems revealed by the CCTV inspection. The Contractor shall coordinate with the Project Manager to arrange for a compatible time to conduct the inspection.
   2. The Contractor shall contact the Project Manager for a list of approved CCTV testing companies. The Contractor shall submit the sanitary sewer video (CD/DVD disk) to the City for review. No unrecorded gaps shall be left in the recording of a segment between the inspections. All recording of a single segment shall not extend over more than one CD/DVD disk.
   3. CD/DVD shall visually display, at a minimum, CCTV Contractor's name, project name, date of inspection, pipe segment number, manhole numbers as shown on the Drawings or lateral lot numbers. The distance between manholes shall be verified by measuring tape. If the counter distance and the

taping distance differ by more than 2 feet per 100 feet, the run shall be re-televised by the CCTV Contractor at the Contractor's expense.

4. Any of, but not limited to the following observations from CCTV inspections will require correction□
   a. Low spot 0.0625 x diameter of pipe or greater (e.g., 0.5" for an 8" pipe).
   b. Joint separations (3/4" or greater opening between pipe sections).
   c. Cocked joints present in straight runs or on the inside of pipe curves.
   d. Chips in pipe ends.
   e. Cracked or damaged pipe.
   f. Offset joints.
   g. Infiltration.
   h. Debris or other foreign objects.
   i. Other obvious deficiencies.

5. CD/DVD disk, □SB flash drive, or portable external hard drive shall become the property of the City.

END OF SECTION 33 01 30

SECTION 33 05 13 - MANHOLES AND STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-in-place concrete manholes and structures with transition to cover frame, covers, anchorage, and accessories.
2. Modular precast concrete manholes and structures with tongue-and-groove joints and transition to cover frame, covers, anchorage, and accessories.
3. Bedding and cover materials.

B. Related Requirements:

1. Section 03 30 00 – Utility Cast-in-Place Concrete: Concrete Forming and Accessories, Erection and bracing of forms.
2. Section 03 30 00 – Utility Cast-in-Place Concrete: Concrete Reinforcing: Execution requirements for reinforcing steel as required by this Section.
3. Section 03 30 00 – Utility Cast-in-Place Concrete: Concrete type for manhole and structure foundation slab construction.
4. Section 31 05 13 – Clearing & Grubbing, Excavation, and Earthwork: Backfill.
5. Section 31 23 16 – Utility Trenching: Excavating for manholes, structures, and foundation slabs.
6. Section 33 01 30 – Testing for Sanitary Sewer, Storm Drainage – Piping and Manholes: Testing requirements for manholes.
7. Section 33 05 17 – Precast Concrete Valve Vaults and Meter Boxes: Execution requirements for utility structures affected by this Section.
8. Section 33 31 13 – Sanitary Sewer Piping: Piping connections to manholes.
9. Section 33 41 13 – Storm Drainage Piping: Piping connections to manholes and structures.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 – Payment Procedures: Contract Sum/Price modification procedures.

B. Manholes and Structures:

1. Basis of Measurement: Manholes, Catch Basin, Area Drains, Headwalls, Flare pipe end are measured by each. Structure bedding and backfill are

incidental to the bid item most closely related to and no separate compensation allowed therefor.

2. Basis of Payment□Includes excavating, all utility trenching work as specified in Section 31 23 16 – □tility Trenching, concrete foundation slab, concrete structure sections, bedding, backfill, concrete masonry structure construction, transition to cover frame, cover frame and cover to indicated design depth, forming, sealing pipe inlets and outlets and air testing of structures.

1.3 REFERENCE STANDARDS

A. American Association of State Highway Transportation Officials□
   1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
   2. AASHTO M306 - Standard Specification for Drainage, Sewer, □tility, and Related Castings.

B. American Concrete Institute□

   1. ACI 530/530.1 - Building Code Requirements and Specification for Masonry Structures.

C. ASTM International□

   1. ASTM A48 - Standard Specification for Gray Iron Castings.
   2. ASTM A123 - Standard Specification for □inc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
   3. ASTM C361 - Standard Specification for Reinforced Concrete Low-Head Pressure Pipe.
   4. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
   5. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
   6. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
   7. ASTM C923 - Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals.

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□ Submit data for manhole covers, component construction, features, configuration, and dimensions.

C. Shop Drawings□

1. Indicate structure locations and elevations.
2. Indicate sizes and elevations of piping, conduit, and penetrations.

D. Manufacturer's Certificate Certify that products meet or exceed the Specifications.

E. Manufacturer Instructions Submit detailed instructions on installation requirements, including storage and handling procedures.

F. Field uality-Control Submittals Indicate results of Contractor-furnished tests and inspections.

1.5 ALIFICATIONS

A. Manufacturer Company specializing in manufacturing products specified in this Section with minimum three (3) years' documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements Requirements for transporting, handling, storing, and protecting products.

B. Inspection Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Comply with precast concrete manufacturer's instructions and ASTM C913 for unloading, storing, and moving precast manholes and drainage structures.

D. Storage

1. Store precast concrete manholes and drainage structures to prevent damage to Owner's property or other public or private property.
2. Repair property damaged from materials storage.

PART 2 - PRODUCTS

2.1 MANHOLES AND STR CT RES

A. Manufacturers
1. Oldcastle Precast, Inc.
2. ensen Precast
3. Cook Concrete Products, Inc.
4. S Concrete Precast Group
5. Forterra
6. Or approved equal

B. Manhole and Structure Sections

1. Description Reinforced precast concrete conforming to ASTM C478 with gaskets conforming to ASTM C923.
2. oints for Precast Manholes and Structures

a. Conforming to ASTM C913.
b. Maximum Leakage 0.025 gal. per hour per foot of joint at 3 feet of head.

C. Manhole and Structure Sections Reinforced cast-in-place concrete as specified in Section 03 30 00 – tility Cast-in-Place Concrete.

D. Mortar and Grout
1. Type S with minimum 28-day compressive strength of 2,100 psi.

E. Reinforcement Formed steel Welded wire and reinforcing rebar per ASTM A615 Grade 60.

F. Shaft Construction and Eccentric Cone Top Section

1. Pipe Sections Reinforced precast concrete, unless specified otherwise.
2. oints

a. Watertight oints
b. Dry.

3. Sleeved to receive pipe.

G. Shape Cylindrical for Manholes and Square or Rectangular for inlet structures

H. Clear Inside Dimensions Diameter of Minimum 48 inches for manholes unless specified otherwise on the Drawings.

I. Design Depth As indicated on Drawings.

. Clear Cover Opening Diameter of Minimum 26 inches unless specified otherwise on the Drawings.

. Pipe Entry Furnish openings as indicated on Drawings.

L. Structure oint Gaskets

1. ASTM C361.
2. Material Rubber.

M. Steps No steps are to be installed in any structures.

N. All storm drain inlet structures require a fish decal with the wording, “No Dumping, Drains to Delta”, or as approved by the Project Manager.

O. The exterior surfaces of all Precast Concrete Structure sections shall be waterproofed.
   1. Tremco, TREMproof 250GC
   2. Or approved equal.

2.2 FRAMES, GRATES AND COVERS

A. Manufacturers

   1. D&L Foundry and Supply
   2. Neenah Enterprises, inc.
   3. E
   4. Or approved equal.

B. Description

   1. Construction ASTM A48, Class 35B, AASHTO M306, cast iron.
   2. Lid

      a. Machined flat bearing surface.
      b. Lockable on all unpaved areas and Boltable for all grates.
      c. One Pick/Lift hole

   3. Grate Grates shall be boltable and covers in unpaved areas shall be lockable.

   4. Cover Design Closed, Open checkerboard grille ASTM grid pattern and waterproof.
   5. Frame and covers shall be non-rocking.
   6. Wheel Load Rating H-20.
   7. Sealing gasket.
   8. Cover Molded with identifying name and logo Storm Drain or Sanitary Sewer, City of Pittsburg.
   9. Grate Galvanized and Bicycle safe
   10. All castings shall be thoroughly cleaned and subject to a hammer inspection after which they shall be twice dipped with an asphalt or coal tar coating applied at a temperature of not less than 290 F, nor more than 310 F.

2.3 RISER RINGS

A. Riser Rings

   1. 4 Inches to 6 Inches Thick

a. Material□Precast concrete.
b. Comply with ASTM C478.

2. Less than 4 Inches Thick□

a. Material□Cast iron.
b. Comply with AASHTO M306.

B. Accessories□

1. □oint Sealant□Comply with ASTM C990.

2.4 R□BBER SEAL WRAPS□

1. Rubber Seal Wraps shall be

a. Wraps and Band Widths□Conform to ASTM C877, Type III.
b. Cone/Riser Ring □oint□Minimum 3 inches of overlap.
c. Frame/Riser Ring □oint□2 inches of overlap.
d. Additional Bands□Overlap upper band by 2 inches.

2.5 CONCRETE CRADLES

A. Concrete Cradle□

1. As specified in Section 03 30 00 – □tility Cast-in-Place Concrete.
2. Description□Minimum compressive strength of 4,000 psi, 28-day reinforced concrete, air entrained, rough troweled finish.

B. Cast-in-place Concrete Reinforcement□As specified in Section 03 30 00 – □tility Cast-in-place Concrete.

2.6 MATERIALS

A. Bedding and Backfill□

1. Install minimum 8-inches thick Class 2 Permeable material as specified in Section 31 23 16 – □tility Trenching below the manholes and structures.
2. Bedding and Backfill shall conform to Section 31 23 16 – □tility Trenching.

2.7 ACCESSORIES

A. Foundation Slab□

1. Cast-in-place concrete as specified in Section 03 30 00 – Utility Cast-in-Place Concrete.
2. Top Surface Level.

B. Interior Manhole Coating Coatings shall be white in color or grey in color.

1. Manufacturers
   a. Sewper Coat
   b. Carboline
   c. Or approved equal.

C. Concrete As specified in Section 03 30 00 – Utility Cast-in-Place Concrete

D. Grout As specified by the Manufacturer.

2.8 FINISHES

A. Steel Galvanizing

1. ASTM A123.
2. Hot dip galvanize after fabrication.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that items provided by other Sections of Work are properly sized and located.

B. Verify that built-in items are in proper location and are ready for roughing into Work.

C. Verify correct size of manhole and structure excavation.

3.2 PREPARATION

A. Section 01 70 00 - Execution Requirements for installation preparation.

B. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers as indicated on Drawings to indicate its intended use.

C. Coordinate placement of inlet and outlet pipe or duct sleeves required by other Sections.

D. Do not install manholes and structures where Site conditions induce loads exceeding structural capacity of manholes or structures.

E. Inspect precast concrete manholes and structures immediately prior to placement in excavation to verify that they are internally clean and free from damage remove and replace damaged units.

3.3 INSTALLATION

A. Excavation and Backfill

1. Excavate for manholes and structures as specified in Section 31 23 16 – tility Trenching and in indicated locations and depths.
2. Provide twenty-four (24) inches of minimum clearance around sidewalls of manhole or structure for construction operations, granular backfill, and placement of geotextile filter fabric if required.
3. If groundwater is encountered, prevent accumulation of water in excavations place manhole or structure in dry trench. Where possibility exists of watertight manhole or structure becoming buoyant in flooded excavation, anchor manhole or structure to avoid flotation, as approved by Project Manager.

B. Foundation Slab

1. Cast-in-place foundation slab and trowel top surface level. Precast foundation slabs are acceptable with approval from City.
2. Place manhole sections plumb and level, trim to correct elevations, and anchor to foundation slab.

C. Install manholes and structures supported at proper grade and alignment on Class 2 permeable material bedding extending twenty-four (24) inches beyond the sidewalls of manholes or structures.

D. Backfill excavations for manholes and structures as specified in Section 31 23 16 – tility Trenching

E. Form and place manhole or structure cylinder plumb and level, to correct dimensions and elevations.

F. Cut and fit for pipe, conduit and sleeves.

G. Grout base of shaft sections to achieve slope to exit piping, trowel smooth, and contour to form continuous drainage channel as indicated on Drawings.

H. Paint interior with two coats of interior coating at rate of 120 sq. ft. per gal. for each coat.

I. Set cover frames and covers level to correct elevations without tipping.

. Precast Concrete Manholes and Structures

1. Lift precast components at lifting points designated by manufacturer.
2. When lowering manholes and structures into excavations and joining pipe to units, take precautions to ensure that interior of pipeline and structure remains clean.
3. Set precast structures, bearing firmly and fully on Class 2 Permeable Material bedding, compacted as specified in Section 31 23 16 – tility Trenching or on other support system as indicated on Drawings.
4. Assembly

    a. Assemble multi-section manholes and structures by lowering each section into excavation.
    b. Install rubber gasket joints between precast sections according to manufacturer's recommendations.
    c. Lower, set level, and firmly position base section before placing additional sections.

5. Remove foreign materials from joint surfaces and verify sealing materials are placed properly.
6. Maintain alignment between sections by using guide devices affixed to lower section.
7. oint sealing materials should be installed on site.
8. Verify that installed manholes and structures meet required alignment and grade.
9. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe fill annular spaces with mortar.
10. Cut pipe flush with interior of structure.
11. Install synthetic rubber water stop gasket at all pipe entries.
12. Shape inverts through manhole and structures as indicated on Drawings.

. Cast-in-Place Concrete Manholes and Structures

1. nless approved in writing by the City Engineer, Cast-in-Place Concrete Manholes shall only be constructed to retrofit existing sanitary sewer mains at locations without an existing manhole in place.

2. Cast-in-Place Concrete Manholes shall be installed in accordance with Central San Standard Specifications for Design and Construction.

3. Prepare Class 2 Permeable Material bedding or other support system as indicated on Drawings to receive base slab as specified for precast structures.

4. Erect and brace forms against movement, install reinforcing steel, place and cure concrete as specified in Section 03 30 00 – Utility Cast-in-Place Concrete.

L. Sanitary Manhole Exterior Drop Connections

1. CLSM Encasement Minimum 2 feet outside of manhole.
2. Form channel from pipe drop to sweep into main channel at maximum angle of 30 degrees.

M. Castings

1. Set frames using mortar and masonry as indicated on Drawings.

3.4 FIELD QUALITY CONTROL

A. Section 01 77 00 - Closeout Requirements Requirements for testing, adjusting, and balancing.

B. Test cast-in-place concrete as specified in Section 03 30 00 – Utility Cast-in-Place Concrete.

C. Test concrete manhole and structure sections prior to backfill according to ASTM C497 as specified in Section 33 01 30 - Testing for Sanitary Sewer, Storm Drainage - Piping and Manholes.

D. Vertical Adjustment of Existing Manholes and Structures
1. If required, adjust top elevation of existing manholes and structures to finished grades as indicated on Drawings.
2. Frames, Grates, and Covers

a. Install a false bottom to prevent dirt getting into the structure. Carefully remove frames, grates, and covers cleaned of mortar fragments.
b. Reset to required elevation according to requirements specified for installation of castings.

3. Reinforcing Bars

a. Remove concrete without damaging existing vertical reinforcing bars if removal of existing concrete wall is required.
b. Clean vertical bars of concrete and bend into new concrete top slab or splice to required vertical reinforcement as indicated on Drawings.

4. Clean and apply sand-cement bonding compound on existing concrete surfaces to receive cast-in-place concrete as specified in Section 03 30 00 – Utility Cast-in-Place Concrete.

3.5 REHABILITATION OF MANHOLES

A. Contractor shall hire a certified Manhole Rehabilitation Inspector by NASSCO (National Association of Sewer Service Companies).

B. Remove existing steps within manhole.

C. Clean and prepare interior surface of manhole using a power wash with up to 5000 psi to remove all loose concrete to get to a good substrate.

D. Repair any existing leaks considered as weepers using a fast setting blend of special cements and fillers that is used to stop leaks through cracks and holes on underground concrete and brick structures and remove any infiltrating roots. Manufacturer for fast setting blend of cement shall be Mainstay ML-10 or approved equal.

E. Apply up to 3/4" of a Portland cement-based, microsilica-enhanced, high-strength structural restoration and resurfacing mortar designed to be applied at a minimum of 1/4", and up to 5" on vertical and overhead surfaces and trowel it to get a smooth finish. Manufacturers for Portland cement-based resurfacing mortar is Mainstay ML-72 or approved equal.

F. Spray 100 mils of a 100□ solids epoxy coating. Manufacturer is Mainstay DS-5, or approved equal.

G. Finalize with at least 4" wide of a 100□ solids flexible epoxy joint sealant that is applied by trowel to the joint between the chimney and the manhole frame, at a thickness of 1/4" to prevent premature cracks where the manhole frame and mortar meet. Manufacturer for this flexible epoxy joint sealant is Madewell 806, or approved equal.

H. Create a smooth transition between the bench and the walls of the manhole to avoid debris accumulation.

I. Seal, plug, patch and coat the manhole structure as specified in the specifications from bench up to the top of each manhole.

□. Contractor shall provide a minimum one year guarantee of material from the manufacture company and one year on workmanship.

END OF SECTION 33 05 13

SECTION 33 05 17 - PRECAST CONCRETE VALVE VAULTS AND METER BO□ES

PART 1 - GENERAL

1.1 S□MMARY

A. Section Includes□

1. Precast concrete valve vaults.
2. Precast concrete meter boxes.

B. Related Requirements□

1. Section 33 11 13 - Water Distribution Piping□Execution requirements for piping Work as required by this Section.

1.2 □NIT PRICE - MEAS□REMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures□ Contract Sum/Price modification procedures.

B. Precast Concrete Valve Vaults□

1. Basis of Measurement□By each.
2. Basis of Payment□ Includes sawcut, demolition, excavation, all utility trenching work as specified in Section 31 23 16 – □tility Trenching, protecting the excavation in compliance with Cal/OSHA, installing valve vault, accessories, tests, backfill and surface restoration.

C. Precast Concrete WATER Meter Boxes□

1. Basis of Measurement□By each.
2. Basis of Payment□Includes sawcut, demolition, excavation, water meter box, accessories, test, and backfill and surface restoration.

1.3 REFERENCE STANDARDS

A. ASTM International□

1. ASTM A48 - Standard Specification for Gray Iron Castings.
2. ASTM A185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
3. ASTM A536 - Standard Specification for Ductile Iron Castings.
4. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

5. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
6. ASTM C33 - Standard Specification for Concrete Aggregates.
7. ASTM C150 - Standard Specification for Portland Cement.
8. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
9. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
10. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
11. ASTM C890 - Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures.
12. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
13. ASTM C990 - Standard Specification for □oints for Concrete Pipe, Manholes, and Precast Box Sections □sing Preformed Flexible □oint Sealants.
14. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3).
15. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
16. ASTM D4104 - Standard Test Method (Analytical Procedure) for Determining Transmissivity of Nonleaky Confined Aquifers by Overdamped Well Response to Instantaneous Change in Head (Slug Tests).
17. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.4 COORDINATION

A. Coordinate Work with other utilities within construction area.

1.5 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□Submit data on valve vaults and meter boxes.

C. Shop Drawings□Indicate plan, location, and inverts of connecting piping.

D. Manufacturer's Certificate□Certify that precast concrete valve vaults and meter boxes meet or exceed ASTM standards and specified requirements.

E. Manufacturer Instructions□Submit special procedures for precast concrete valve vaults and meter boxes installation.

F. Field □uality-Control Submittals□Indicate results of Contractor-furnished tests and inspections.

G. □ualifications Statement□

1. Submit qualifications for manufacturer.

1.6 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for closeout procedures.

B. Project Record Documents□Record actual locations and inverts of buried pipe, components, and connections.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Inspection□Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Transport and handle precast concrete units with equipment designed to protect units from damage.

D. Storage□

1. Store precast concrete valve vaults and meter boxes according to manufacturer instructions.
2. Do not place concrete units in position to cause overstress, warping, or twisting.

PART 2 - PRODUCTS

2.1 DESIGN RE□□IREMENTS

A. Performance and Design Criteria□

1. Watertight, Precast, Reinforced, Air-Entrained Concrete Structures□

a. Design to ASTM C890 A16□equivalent to AASHTO HS20 - 16-kip wheel live loading and installation conditions.

b. Manufactured to conform to ASTM C913.

2. Minimum 28-Day Compressive Strength 5,000 psi
3. Honeycombed or re-tempered concrete is not permitted.

2.2 WATER METER BOXES

A. Manufacturers
1. Christy
   a. B9X with FL9X lid for ¾" meter
   b. B16 with FL16D lid for 1-inch meters.
   c. B-36 (17 ¼" X30") with FL36E lid for 1 ½" & 2" meter
   d. R37 P36 Pit with R37-52HT lid for 3" thru 6" meters
   e. For 4" meter and larger, install concrete water meter vaults. Submit detailed drawings.
2. Or approved equal

B. After payment of fees, water meter shall be furnished and installed by the city for new services.

C. When meter box is to be located in an area subject to vehicular traffic loading, the permittee shall furnish a regular box for ¾" & 1" meters and a H/20 traffic rated box for 1 ½" & 2" meters. Traffic box cover shall be FL12 box with FL12D lid for 5/8" x ¾" through 1-inch meters (or approved equal) and Christy B10" X 17" with B36-616 lid (or approved equal) for 1 ½" & 2" meters.

D. For all types of pipes, service saddle shall be Mueller H-13000 series cc tapered thread (or approved equal). Saddles for PVC pipe shall be double or wide strap design.

E. Corporation stop shall be 1" Mueller B-25008N (or approved equal) for ¾" & 1" meters and a 2" Mueller B-25008N (or approved equal) for 1 ½" & 2" meters.

F. Angle meter stop shall be Mueller B-24258N (or approved equal) for ¾" & 1" meters and a 2" Mueller B-24276N (or approved equal) for 1 ½" & 2" meters.

G. Water meter shall be located in the center of water meter box.

H. Water lateral and services to be sized per the requirements of latest version of the California plumbing code.

I. All water service fittings shall be lead-free

. Where the material for service fittings is specified to be bronze, brass fittings may be used.

□. Minimum cover over building supply (yard piping) shall not be less than that specified in the plumbing code.

L. 1” x ¾” brass reducer shall be used for 5/8” x ¾” meter.

M. The meter box for a 1 ½” turbine meter shall be a Christy B-30E lid (or B-30-61G for traffic areas), or approved equals. The meter box for a 2 in turbine shall be a Christy B-36 box with B-36E lid (or B-36-61G for traffic areas), or approved equals.

N. 5lb minimum anode required on all copper service lines 2” and smaller unless geotechnical report stipulates, it is not necessary. Additional weight may be required by geotechnical report. Insulating coupling required between copper water lateral and water if main is metallic.

O. Meter boxes, extensions, and covers shall be commercial products. Boxes shall be large enough to allow easy maintenance, testing, and removal meters.

2.3 PRECAST CONCRETE VALVES

A. Manufacturers□
1. Oldcastle Precast, Inc.
2. □ensen Precast
3. Or approved equal

B. Valve Vault and Covers□

1. Cast Iron Castings□

a. ASTM A48, Class 30 or better.
b. Free of bubbles, sand, air holes, and other imperfections.
c. Slip resistant coating.
d. ADA rated grating in pedestrian routes and pathways.

2. Christy G5 traffic valve box (or approved equal)

2.4 MATERIALS

A. Portland Cement□

1. ASTM C150, Type II.

B. Coarse Aggregates□

1. ASTM C33.
2. Graded 1 inch to No. 4 sieve.

C. Sand□

1. ASTM C33.
2. Fineness Modulus□2.35.

D. Water□

1. Potable.
2. Clean and free of injurious amounts of acids, alkalis, salts, organic materials, and substances incompatible with concrete or steel.

E. Air-Entraining Admixtures□ASTM C260.

F. Reinforcing Steel□

1. Deformed Bars□ASTM A615, Grade 60.
2. Welded Wire Fabric□ASTM A185.

G. □oint Sealant□

1. ASTM C990.

H. Bedding and Backfill□

1. Bedding□Bedding Type, as specified in Section 31 23 16 – □tility Trenching.
2. Backfill□Backfill Type, as specified in Section 31 23 16 – □tility Trenching.

2.5 FABRICATION

A. Fabricate precast reinforced concrete structures according to ASTM C913, to dimensions indicated on Drawings, and to specified design criteria.

2.6 MIXES

A. Design concrete mix to produce required concrete strength, air-entrainment, watertight properties, and loading requirements.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that piping connections, sizes, locations, and inverts are as indicated on Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution Requirements for installation preparation.

B. Ream pipe ends and remove burrs.

C. Remove scale and dirt from components before assembly.

D. Establish invert elevations for each component in system.

E. Hand trim excavation to suit valve vaults and meter boxes remove stones, roots, and other obstructions.

3.3 INSTALLATION

A. Bedding and Backfill

1. Excavate as specified in Section 31 23 16 – tility Trenching for Work of this Section.
2. Hand trim excavation for accurate placement of vaults and meter boxes to elevations indicated.
3. Place bedding material level in one continuous layer and compacted depth and compact to percent maximum density as specified in Section 31 23 16 – tility Trenching.
4. Backfill around sides of vaults and meter boxes, tamp in place, and compact to 95 percent maximum density.
5. Maintain optimum moisture content of bedding material to attain required compaction density.
6. Install vaults and meter boxes and related components on bedding.

B. Connect piping.

3.4 FIELD ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements Requirements for testing, adjusting, and balancing.

B. Request inspection by Project Manager prior to placing aggregate cover over piping.

C. Compaction Testing Conform to ASTM D1557.

D. When tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

END OF SECTION 33 05 17

SECTION 33 05 26 - UTILIT IDENTIFICATION

PART 1 - GENERAL

1.1 SMMARY

A. The Contractor shall provide all materials, equipment, and labor necessary to furnish, install all utility identifications systems and appurtenances as required and as specified below

1. Pipeline marker posts.
2. Metal utility markers.
3. Marking flags.
4. Plastic warning tape for placement above direct-buried utility.
5. Trace wire for placement above direct-buried utility.

B. Related Requirements

1. Section 31 23 16 – tility Trenching Backfilling considerations for installation of underground pipe markers.
2. Section 33 11 13 - Water Distribution Piping Piping, valves, and appurtenances requiring identification marking.
3. Section 33 31 13 - Sanitary Sewer Piping Piping, valves, and appurtenances requiring identification marking.
4. Section 33 41 13 - Storm Drainage Piping Piping, valves, and appurtenances requiring identification marking.

1.2 SBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data Submit manufacturer's catalog information for each product required.

C. Samples Submit one sample of pipeline marker post, utility marker, marking flag, 10 feet of warning tape, and 10 feet of trace wire.

D. Manufacturer's Certificate Certify that products meet or exceed specified requirements.

E. ualifications Statement Submit qualifications for manufacturer.

1.3 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Project Record Documents□Record actual locations of tagged valves.

1.4 MAINTENANCE MATERIAL S□BMITTALS

A. Section 01 77 00 - Closeout Requirements□Requirements for maintenance materials.

PART 2 - PRODUCTS

2.1 PIPELINE MAR□ER POSTS

A. Manufacturers□
1. Furnish above ground utility marker materials with visibility enhancer according to City standards.
   a. Pro-Mark □tility Supply Inc,
   b. Northtown Company
   c. Bernsten
   d. or approved equal.

B. Description□

1. Material□High Impact Fiberglass Reinforced Resins
2. Width□4 inches □/- 0.25 inches
3. Length□96 inches
4. Color□ Orange (Telecommunications, Fiber Optic cables or conduits), Yellow (Natural Gas, Oil, Steam, Petroleum Pipelines), Blue (Water lines), Red (Electric Power Lines, cables), Green (Sewer and Drain Lines), Purple (Reclaimed Water, Irrigation), White (Proposed excavation limits) and Pink (Temporary Survey Markings, □nknown/□nidentified facilities).
5. Embedment□T-anchor.
6. Technical Data□

Description	Test Spec□or Criteria	Test Result
Tensile Strength	ASTM D638	410 kg/cm^2
Tensile Elongation	ASTM D638	35□
Tensile Modulus	ASTM D638	17,600 kg/cm^2
Flexural Strength	ASTM D790	660 kg/cm^2
Flexural Modulus	ASTM D790	19,500 kg/cm^2
I□OD Impact Strength	ASTM D256	45 kg cm/cm
Heat Deflection Temp	ASTM D648	204.8□F

Vicat Softening Temp	ASTM D1525	201.2□F
Flammability	□L94	HB Class

2.2 □TILITY MAR□ERS

A. Manufacturers□
1. Furnish materials according to City standards.
   a. Bernsten
   b. Rhino
   c. or approved equal.

B. Metal□

1. Material□Bronze
2. Diameter□2 inches.
3. Stem□3/4 by 2 inches
4. Text□"Warning Water Pipeline Caution Call 811 Before you dig" or "Stub for Pipeline".

2.3 MAR□ING FLAGS

A. Manufacturers□
1. Furnish materials according to City standards.
   a. Bernsten
   b. Presco Products
   c. or approved equal.

B. Description□

1. Material□Polyethylene
2. Minimum Size□2-1/2 by 3-1/2 inches.
3. Wire Stem□21 inches
4. Color□Yellow, Orange, Blue, Green, Red, Pink and White.
5. Text□Blue (Buried Waterline), Red (Buried Electric Line), Pink (Survey Marker), Green (Buried Sewerline), Yellow (Buried Gas line) and Orange (Buried Fiber Optic conduits).

2.4 WARNING TAPE

A. Warning Tape□
1. Warning Tape shall be installed on all pipes greater than 2 inches and the warning tape shall be place above the centerline of the pipe, spanning the full length of the pipe, and be placed at a depth of 1-foot above top of pipe.
2. Furnish materials according to National Transportation Safety Board NTSB-PSS-73-1, GSA Public Buildings Service Guide, American Gas Association

72-D-56, API RP 1109, OSHA 1926.956 (c)(1), APWA □niform Color Code, DOT Office of Pipeline Safety □SAS B31.8, and Federal Gas Safety Regulations S 192-321 (e).

3□ Technical Data:

Properties	Test Method	Value
Thickness	ASTM D2103	0.005” (5 mil)
Elongation	ASTM D882-75B	80□
Colors	APWA Coded	See below
Tensile Strength	ASTM D882	35 lbs/inch (15,000 psi)
Bond Strength	Boiling Water	5 Hours w/o Peel
Adhesives	Mfg. Specs	Morton 548 or Equivalent
Bottom Later	Mfg. Specs	Virgin PE
Top Later	Mfg. Specs	Virgin PET
Foil	Mfg. Specs	0.00035 (0.35 Mil)
Flexibility	ASTM 671-76	Pliable Hand
Message Repeat	Mfg. Specs	AXL II
Inks	Mfg. Specs	Varies per Legend
Printability	ASTM D2578	45 Dynes

4. Manufacturers□
   a. Northtown Company
   b. Christy’s
   c. Bernsten
   d. or approved equal.

B. Description□

1. Material□Polyethylene
2. Brightly colored, continuously printed.
3. Minimum Size□6 inches wide by 5 mils thick.
4. Manufactured for direct burial service.
5. Lettering Size□1 inch
6. Color□All tape is APWA color coded and permanently printed
   a. Red – Electric, Fire
   b. Yellow – Gas, Oil
   c. Blue – Water, Potable Water
   d. Green – Sewer, Storm Drain
   e. Orange – Fiber Optic, Telephone
   f. Purple – Recycled Water, Non-Potable Water.
7. Standard Imprints□“CA□TION WATER LINE B□RIED BELOW”, “CAUTION SEWER LINE BURIED BELOW”, “CA□TION SANITARY SEWER B□RIED BELOW”, CAUTION GAS LINE BURIED BELOW’, “CAUTION HIGH VOLTAGE ELECTRIC BURIED BELOW” or other custom utility legends in large letters.

2.5 TRACE WIRE

A. Tracer Wire□
1. Tracer wire shall be used on all pressure piping (water, recycled water, irrigation water, sewer force main etc). Tracer wire shall be blue and suitable for direct burial and wet conditions.
2. Tracer wire shall be continuous and splices shall be made with two copper or brass split bolt fasteners without encapsulation in epoxy.
3. Contractor shall submit proof of continuity testing to the City in a written format.
4. Tracing wire through valve boxes shall be placed outside of riser but inside the valve box.
5. Tracer wire shall be □L listed, Standard 83, conforming to Federal Specification □C-30-B, ANSI-C 33.80 and the requirements of National Electric Code.
6. For all pressure piping systems (potable, recycled water, sewer force mains, irrigation system, and water valves), a No. 12 A.W.G. □F Insulated solid copper wire shall be attached to the pipeline.
7. The wire shall be taped to hold in place and the tape shall be 2 inches wide, 10 mil. thick. On mains the wire shall be held in place with tape spaced not more than 10 feet apart. On service laterals the wires shall be wrapped around the pipe.
8. Furnish materials according to City standards.
    a. Northtown Company
    b. Priority Wire and Cable, Inc.
    c. or approved equal.
9. Description□
    a. Wire□□nshielded 12-AWG THWN insulated copper.

2.6 RECYCLED WATER SIGNING

A. Contractor shall provide all identification signs and stickers for irrigation controllers for recycled water systems in compliance with Delta Diablo Water District's requirements.

B. Signs shall be measured no less than 8"x8" with white type against a purple background.

PART 3 - E□ECUTION

3.1 INSTALLATION

A. Pipeline Marker Posts, □tility Markers, and Marking Flags□As recommended by manufacturer.
B. Warning Tape and Tracer Wire□

1. Warning tape shall be continuous over top of pipe buried 12 inches above piping.
2. Tracer wire shall be taped to the pipe.
3. If multiple pipes occur in common trench, locate tape and wire above centerline of trench.
4. Coordinate with trench Work as specified in Section 31 23 16 – □tility Trenching.

END OF SECTION 33 05 26

SECTION 33 11 13 - WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for public line, including potable water line, fire water line and fire hydrant lateral.
2. Tapping sleeves and valves.
3. Valves and fire hydrants.
4. Underground pipe markers.
5. Precast concrete vault and boxes
6. Pipe support systems.
7. Bedding and cover materials.

B. Related Requirements:

1. Section 03 30 00 – Utility Cast-in-Place Concrete: Concrete for thrust restraints and Reinforcing steel and required supports for cast-in-place concrete.
2. Section 31 05 13 – Clearing & Grubbing, Excavation, and Earthwork: Soils for backfill in trenches.
3. Section 31 23 16 – Utility Trenching: Execution requirements for trenching required by this Section.
4. Section 33 05 13 - Manholes and Structures: Cast-in-place, precast concrete, fiber reinforced plastic (FRP), masonry manholes and covers, and other structure construction for access to subsurface drainage piping or utilities.
5. Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes: Precast concrete valve vaults and meter boxes for valve and meter installation.
6. Section 33 12 13 - Water Service Connections: Backflow prevention at water main.
7. Section 33 12 16 - Water Distribution Valves: Valves and valve boxes for fire hydrant and water main installation.
8. Section 33 12 19 - Water Distribution Fire Hydrants: Fire hydrants used in water main installations.
9. Section 33 13 00 - Disinfecting of Water Distribution: Disinfection of water piping.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Pipe and Fittings:

1. Basis of Measurement: By linear foot.
2. Basis of Payment: Includes hand-trimming, sawcut, excavation, all utility trenching work as specified in Section 31 23 16 – Utility Trenching, protecting the excavation in compliance with Cal/OSHA, pipe and fittings, bedding, backfill, surface restoration, concrete thrust restraints, mechanical joints, warning tape, tracer wire, polyethylene fittings, connection and tap to building service piping, pressure pipeline testing, flushing, disinfection and connection and tie into municipal utility water source.

C. Taps:

1. Basis of Measurement: By unit.
2. Basis of Payment: Includes sawcut, excavation, all utility trenching work as specified in Section 31 23 16 – Utility Trenching, protecting the excavation in compliance with Cal/OSHA, pipe and fittings, bedding, backfill, surface restoration, concrete thrust restraints, mechanical joints, warning tape tracer wire, tapping sleeve, tapping valves, and accessories to connect to the existing water main, pressure pipeline testing, flushing, disinfection and surface restoration.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Society of Mechanical Engineers:

1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

C. ASTM International:

1. ASTM A36 - Standard Specification for Carbon Structural Steel.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A193 - Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Application.

4. ASTM A194 - Standard Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
5. ASTM A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
6. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3).
7. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
8. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinly Chloride) (CPVC) Compounds.
9. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
10. ASTM D2412 - Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
11. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
12. ASTM D3139 - Standard Specification for □oints for Plastic Pressure Pipes □sing Flexible Elastomeric Seals.
13. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
14. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for □oining Plastic Pipe.

D. American Water Works Association□

1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber-Gasket □oints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
6. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
7. AWWA C153 - Ductile-Iron Compact Fittings.
8. AWWA C223 - Fabricated Steel and Stainless Steel Tapping Sleeves.
9. AWWA C515 - Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service.
10. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
11. AWWA C605 - □nderground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.

12. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.
13. AWWA C905 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm) for Water Transmission and Distribution.

E. California Codes
1. Titles 17 and 22 California Code of Regulations - Chapter 16 – California Waterworks Standards
2. Water Main Separation Criteria Chapter 16 - California Waterworks Standards Article 6 - 64572

F. Manufacturers Standardization Society of the Valve and Fittings Industry

1. MSS SP-60 - Connecting Flange oints between Tapping Sleeves and Tapping Valves.

G. National Fire Protection Association

1. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

1.4 SBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data Submit data on pipe materials, pipe fittings, valves, and accessories.

C. Shop Drawings Indicate piping layout, including piping specialties.

D. Manufacturer's Certificate Certify that product meet or exceeds the manufacturer’s requirements.

E. For all federal-aid construction projects, manufacturer certifies that all melting, casting, cutting, welding, machining and finishing process for manufacturing and fabricating the products and/or materials shipped or provided are in full compliance with the American Iron and Steel requirement as mandated in EPA’s State Revolving Fund Programs and with all nited States Federal Highway Administration “Buy America” requirements identified in Title 23 CFR Section 635.410

F. Field uality-Control Submittals Indicate results of Contractor-furnished tests and inspections.

G. Preconstruction Photographs

1. Submit digital files of colored photographs of Work areas and material storage areas.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 78 00 - Closeout Submittals: Requirements for submittals.

B. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

A. Pipes: Each length of Ductile iron pipe supplied shall be hydrostatically tested at the point of manufacture to 500 psi for a duration of 10 seconds per AWWA C151. Testing may be performed prior to machining bell and spigot. Failure of ductile iron pipe shall be defined as any rupture of the pipe wall. Certified test results shall be furnished in duplicate to the City prior to the time of shipment.

B. All pipe and fittings shall be permanently marked with the manufacturer's name, date, nominal size, dimension ratio number, type, pressure rating or class, or wall thickness, material cell classification, seal of the National Sanitation Foundation (NSF) testing agency that verified the suitability of the pipe and the material for potable water, and standard produced (AWWA, ASTM etc.)

C. Valves: Mark valve body with manufacturer's name, date, size, type, pressure rating and standard produced (AWWA, ASTM etc.).

D. Pipes, valves hydrants, fittings and appurtenances shall be new and unused.

E. Perform Work according to City standards and manufacturer's specifications.

F. Contractor shall submit 5-year warranty for all pipe materials.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Deliver and store valves in shipping containers with manufacturer's labeling in place and inspect for damage.

C. Block individual and stockpiled pipe lengths to prevent moving.

D. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.

E. Store polyethylene and PVC materials out of sunlight.

1.8 EXISTING CONDITIONS

A. Field Measurements

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 WATER PIPING

A. Ductile-Iron Pipe Ductile Iron pipe shall be supplied in standard factory lengths for all pipe diameters. All pipe size beyond 12” in size shall be per the Technical Specifications.
1. Comply with AWWA C151.
2. All pipes 12” and smaller shall have a minimum pressure rating of 350 psi.
3. Bituminous Outside Coating Comply with AWWA C151.
   a. Asphaltic coating shall be approximately one mil thick.
4. Pipe Mortar Lining
   a. Comply with AWWA C104.
   b. Cement mortar linings shall be double thickness linings.
   c. Thickness of lining shall not be less than
      i. 1/4-inch for 3” to 12” pipe
5. Polyethylene Encasement 8 mil thick minimum and comply with AWWA C105.
6. Pipe Class
   a. Comply with AWWA C151.
   b. Pipe class shall be Pressure Class 350 for 3”-12” pipe diameter, unless specified otherwise on the Drawings.
7. Manufacturers
   a. .S. Pipe
   b. McWane,Ductile
   c. AMERICAN Cast Iron Pipe Company
   d. Or approved equal.

B. Fittings Fittings shall have the same pressure rating, as a minimum of the connecting pipe unless specified otherwise.

1. Fittings

a. Material Ductile iron, AWWA C153.
b. Fittings Comply with AWWA C153.
c. Fittings shall conform to a minimum pressure rating of 350 psi.
d. Coating and Lining

i. Bituminous Coating Comply with AWWA C115.
ii. Cement Mortar Lining Comply with AWWA C104.

2. oints
a. Mechanical and Push-on oints Comply with AWWA C111.
b. Flanged oints Comply with AWWA C115.
c. Tighten bolts alternately (across from one another) to the recommended manufacturer rating or if not provided, to the following normal torques and as stated in ANSI/AWWA C600 are

oint Size	Bolt Size	Range of Torque (ft.-lb.)
3”	5/8”	45 - 60
4"-24”	3/4”	75 - 90
30"-36”	1”	100-120
42"-48”	1-1/4”	120 -150

d. Flange gasket Full face type per AWWA C111 to provide positive sealing for the flange ductile iron joints.
e. Flange Bolts Comply with ASTM A193, Type 304 Stainless Steel, Grade B8 hex-head bolts, washers, and hexagon nuts. Bolts shall have “B8 Class 2” stamped on the head. Threads shall conform to ANSI B1.1. Bolt lengths shall be such that after joints are assembled, the bolts shall protrude through the nuts, but not more than inch.
f. Restrained oints Boltless, push-on type, joint restraint independent of joint seal.
g. ointing of pipe dissimilar in size or material shall be accomplished either by use of special adapters or couplings as specified on the plans or approved by the Project Manager for such use.

3. ackets Comply with AWWA C105, polyethylene jacket, Double layer, half lapped, 10-mil polyethylene tape.

4. Manufacturers for ductile iron pipe fittings
a. Tyler
b. Sigma
c. Star
d. Or approved equal.

5. Manufacturers for pipe restraints
   a. EBAA Iron Sales, Inc. (1100 Megalug for DIP and 2000PV for PVC pipes)
   b. Star Pipe Products (Stargrip Series 3000 for DIP pipes and Stargrip Series 4000 for PVC pipes)
   c. Or approved equal.

C. PVC

1. Comply with AWWA C900 and AWWA C905 – Pressure Class 305 (DR14) or as specified on the project plans.
2. Fittings Comply with AWWA C900, AWWA C905, AWWA C111, cast iron.
3. oints

   a. Comply with ASTM D3139, ASTM F477.
   b. Seals PVC flexible elastomeric.
   c. Solvent-cement couplings are not permitted.

4. Manufacturers
   a. Vinyltech
   b. Diamond Plastics Corporation
   c. North American Pipe
   d. M Eagle
   e. Or approved equal

2.2 TAPPING SLEEVES AND VALVES

A. Tapping Sleeves

1. Manufacturers
   a. Mueller Co. (H-304SS Stainless steel tapping sleeve with stainless steel outlet flange)
   b. Romac Industries, Inc. (STS420 Stainless Steel Tapping Sleeve)
   c. CM Industries, Inc. (CM 432 All Stainless steel tapping sleeve)
   d. Or approved equal

2. Description

   a. Comply with ASTM A240 and AWWA C223
   b. Material Stainless Steel Type 304 (18-8)
   c. Maximum Working Pressure
      i. Pipe Sizes 3”-12”: 250 psig
      ii. Pipe Sizes 14”-24”: 200 psig
   d. Gasket Full circumferential Virgin Styrene-Butadiene Rubber (SBR) per ASTM D2000. For 3”-12” size-on-size flanges, the gaskets are

reinforced with a metal ring. Larger than 12” size-on-size sleeves us a square profile o-ring NBR per ASTM D2000 set in a full body thickness cavity.

e. Certified to ANSI/NSF 61.

f. Outlet Flange Dimensions and Drilling Comply with ASME B16.1, Class 125 and MSS SP-60. Flanges on Stainless Steel Tees shall be Stainless Steel. A -inch NPT stainless steel test plug shall be provided.

g. Bolts and Nuts All hardware for tapping sleeves shall be Polytetrafluoroethylene (PTFE) Teflon coated Type 304 Stainless Steel.

B. Tapping Valves

1. Manufacturers
   a. Mueller Co. (T-2361)
   b. American (2500 Series)
   c. Or approved equal

2. Description

   a. Comply with AWWA C515, certified to ANSI/NSF 61 Standard, listed by nderwriters Laboratories, Inc. and approved by Factory Mutual Corporation.
   b. Type Double disc with non-rising stem.
   c. Sizes: 4”-48”
   d. Maximum Working Pressure 250 psig
   e. Inlet Flanges Comply with ANSI B16.42, Class 125 and MSS SP-60.
   f. Mechanical oint Outlets Comply with AWWA C111.
   g. Coating Comply with AWWA C550 and Epoxy Fusion Coating interior and Exterior surfaces.
   h. Fasteners Stainless Steel Type 316.
   i. Non-rising stem (NRS) valve with 2” square wrench nut (optional hand wheel).
   j. All wedges shall be fully encapsulated with EPDM rubber.
   k. All tapping valves shall include a minimum 3/8 in. NPT pipe plug on the bonnet of the valve body to aid in the field testing of the valve.

3. Mark manufacturer's name and pressure rating on valve body.

2.3 HOT TAP

A. Water Department personnel shall be present during hot tap and inspection of materials and installation. If Water Department personnel is not available, Contractor shall not perform the hot tap installation.

B. The location of hot tap to be verified by the Contractor to insure a minimum of 2 feet is kept from tap location and a bell end or end of pipe on a dead end.

C. For direct tap only Contractor shall apply two layers of adhesive tape completely around the pipe at tapping location prior to tapping.

D. Contractor shall encase tapping saddle, all fasteners, all pipe fittings, and service lines within, with polywrap.

E. Where the connection is to be a hot tap larger than 2 inches, the Contractor shall provide and install a flanged by mechanical joint tapping valve and sleeve, and any other hardware required, and Contractor will make the tap with 3 working days advance notice.

F. In cases, where the tapping sleeve cannot be moved, the joint shall be removed and the proposed hot tap shall be replaced with a "cut-in" tee. When a "cut-in" tee and valve(s) assembly is required on the plans, the Contractor shall provide and install the entire assembly (including valves) and any other hardware necessary under inspection, and shall provide all other work and materials necessary to complete the installation to City Standards.

2.4 VALVES AND FIRE HYDRANTS

A. Valves As specified in Section 33 12 16 - Water Distribution Valves.

B. Fire Hydrants As specified in Section 33 12 19 - Water Distribution Fire Hydrants.

2.5 CO PLINGS

A. Couplings shall be fusion bonded epoxy ductile iron per ASTM A536. Rods and nuts shall be Type 304 stainless steel.

B. Pipe couplings shall be installed in strict accordance with the manufacturer's printed recommendations, using the correct style coupling and gasket as appropriate.

C. Couplings and sleeves for 4-inch through 12-inch PVC pipe shall be fusion epoxy coated ductile iron, with a minimum working pressure equal to the connecting pipe.

D. Where flexible connections in piping are specified or indicated on the plans, they shall be obtained by the use of sleeve-type coupling. All sleeve-type couplings and accessories shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed.

E. Sleeve type couplings shall be

1. Romac Industries, Inc. (501)
2. Dresser Mfg Div., (Style 38)
3. Ford Couplings
4. Smith-Blair
5. or approved equal

2.6 AIR RELEASE VALVES

A. Manufacturers
   1. A.R.I - D-040-NS Combination Air Valve with a non-slam, discharge-throttling attachment, allows full air intake, throttles air discharge.
   2. Or approved equal

B. Description
   1. Body and Cover Ductile Iron ASTM A536 Gr 65-45-12
   2. Float Stainless Steel, ASTM A240
   3. Needle and Seat Buna-N.
   4. Plug Stainless Steel ASTM A276

C. Maximum Working pressure 250 psi

D. Test Pressure 360 psi.

E. All valves are combination air release valves unless requested otherwise by the Project Manager.

2.7 NDERGRO ND PIPE MAR ERS

A. Warning Tape As specified in Section 33 05 26 – tility Identification.

B. Trace Wire As specified in Section 33 05 26 – tility Identification.

2.8 PRECAST CONCRETE VALVE VA LTS AND METER BOXES

A. Precast Concrete Valve Vaults and Meter Boxes As specified in Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes.

2.9 VALVE BOXES

A. Valve Boxes As specified in Section 33 12 16 – Water Distribution Valves.

2.10 PIPE S□PPORTS AND ANCHORING

A. Metal for Pipe Support Brackets□Structural steel, galvanized, thoroughly coated with bituminous paint.

B. Metal Tie Rods and Clamps or Lugs□Stainless Steel Type 304.

2.11 CONCRETE ENCASEMENT AND CRADLES

A. Concrete□

1. As specified in Section 03 30 00 – □tility Cast-in-Place Concrete.
2. Type□reinforced, air entrained.
3. Compressive Strength□4,000 psi at 28 days.
4. Finish□Rough troweled.

B. Concrete Reinforcement□As specified in Section 03 30 00 – □tility Cast-in-Place Concrete.

2.12 MATERIALS

A. Bedding and Backfill□

1. Bedding□Bedding Type, as specified in Section 31 23 16 – □tility Trenching.
2. Backfill□Backfill Type, as specified in Section 31 23 16 – □tility Trenching.

2.13 ACCESSORIES

A. Concrete for Thrust Restraints□As specified in Section 03 30 00 – □tility Cast-in-Place Concrete.

B. Rods, Bolts and Nuts□

1. Comply with ASTM A193 and ASTM A194.
2. Material□Type 304 Stainless Steel
3. Bolts and Nuts for flanges and couplings shall be Heavy Hex Head ASTM A193 (Grade B8 - Class 2) for bolts and Heavy Hex Head ASTM A194 (Grade 8) for nuts.
4. When approved by the Project Manager, Bolts and Nuts for flanges and couplings which are Heavy Hex Head ASTM A193 (Grade B7) bolts and Heavy Hex Head ASTM A194 (Grade 2H) nuts, they shall be coated as described below.
   a. Rods, Bolts, Lugs and Nuts (including threads) shall be coated using a three-layer system consisting of a metallic base coat, an adhesion coat, and a heat cured fluoropolymer compound containing PTFE or

TEFLON as topcoat. Coating shall be Fluoro ote#1 by Metal Coatings Corp., Tripac 2000 Blue Coating System by Tripac Fasteners, or approved equal.

b. Washers shall be provided for each nut, and shall be the same material and coating as the nut.

c. Apply a liberal coat of white food grade anti-seizing compound containing PTFE or TEFLON to the threads of all nuts and bolts, and to the face of all washers. The compound shall have operating range covering -20 F to 440 F, be NSF approved (or meet SDA-H1 and FDA requirements for incidental food contact), suitable for use on stainless steel, with a coefficient of friction no greater than 0.13. Compound shall be White- night as manufactured by et-Lube, or approved equal.

2.14 TEST E IPMENT

A. Hydrostatic Testing of Pressure Pipes.
1. Water – From the City's existing water system.
2. Pump – Install water meter in-line with pump to measure water use to maintain pressure.
3. Strainer – On inlet side of the pump to prevent foreign matter form entering the system.
4. Valves – Shall be provided on the suction and discharge side of the pump.
5. Relief Valve – Set a pressure to relieve at 20 to 25 percent above the required test pressure.
6. Pressure Gage(s) – Capable of reaching 50 percent over the test pressure. These should be located at the pump discharge and any other place deemed convenient by the Contractor.
7. Pressure Gages and relief valves shall be checked for accuracy before use in test procedures.
8. Backflow Prevention assembly - A state approved reduce pressure backflow assembly installed to prevent flow into the existing system.
9. Tank or other materials as needed for hydrostatic testing.

PART 3 - E ECUTION

3.1 EXAMINATION

A. Verify that existing utility water main size, location, and invert are as indicated on Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution Requirements for installation preparation.

B. Preconstruction Site Photos□

1. Take photographs along centerline of proposed pipe trench□minimum one photograph for each 50 feet of pipe trench. The picture should be clear with minimum resolution of 1024 x 768 pixels.
2. Show mailboxes, curbing, lawns, driveways, signs, culverts, and other existing Site features.
3. Include Project description, date taken, and sequential number on back of each photograph.

C. Pipe Cutting□

1. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.
2. □se only equipment specifically designed for pipe cutting and recommended by the pipe manufacturer□use of chisels, hammer or hand saws is not permitted.
3. Grind edges smooth with beveled end for push-on connections.

D. Remove scale and dirt on inside and outside before assembly.

E. Prepare pipe connections to equipment with flanges or unions.

3.3 CONNECTION TO EXISTING MAINS

A. The Project Manager shall be given not less than three (3) working days' notice before any connection shall be made to any existing main. In general, shut-downs in residential areas shall be made at times when there will be the least interference. Connections shall be made only after correlate and satisfactory preparation for such work has been made including passing bacteria test results, in order that the shutdown may be as short as possible. Prior written approval from the Project Manager is required.

The Contractor shall be responsible for contacting the citizens and the City will be responsible to provide the notes.

B. □nder no circumstances shall anyone other than a representative of the Water Division of the Department of Public Works open or close any valve in the city-operated water system.

3.4 INSTALLATION

A. Bedding□

1. Excavation□

a. Excavate pipe trench as specified in Section 31 23 16 – □tility Trenching for Work of this Section.
b. Hand trim excavation for accurate placement of pipe to elevations as indicated on Drawings.

2. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation as specified in Section 31 23 16 – □tility Trenching.
3. Provide sheeting and shoring as specified in Section 31 23 16 – □tility Trenching.
4. Place bedding material at trench bottom, level fill materials in one continuous layer, and compacted as specified in Section 31 23 16 – □tility Trenching.

B. Piping□

1. Install pipe according to AWWA C600 and AWWA C605.
2. Handle and assemble pipe according to manufacturer instructions and as indicated on Drawings.
3. Steel Rods, Bolt, Lugs, and Brackets□Coat buried steel with one coat of coal tar coating before backfilling.
4. Water Main Separation Criteria□ Chapter 16 - California Waterworks Standards□Article 6 - □64572
   a. New water mains and new supply lines shall not be installed in the same trench as, and shall be at least 10 feet horizontally from and one foot vertically above, any parallel pipeline conveying sanitary sewer, recycled water or fuel lines.
   b. New water mains and new supply lines shall be installed at least 4 feet horizontally from, and one foot vertically above, any parallel pipeline conveying storm drainage and disinfected tertiary recycled water.
   c. If crossing a pipeline conveying a fluid listed in subsections a and b above, a new water main shall be constructed no less than 45-degrees to and at least one foot above that pipeline. No connection joints shall be made in the water main within eight horizontal feet of the fluid pipeline.
   d. The vertical separation specified in subsections above is required only when the horizontal distance between a water main and pipeline is less than ten feet.
5. Install ductile-iron piping and fittings according to AWWA C600.
6. Route pipe in straight line□re-lay pipe that is out of alignment or grade.
7. High Points□

   a. Install pipe with no high points.
   b. If unforeseen field conditions arise that necessitate high points, install air release valves as directed by Project Manager.

8. Bearing□

a. Install pipe to have bearing along entire length of pipe.
b. Excavate bell holes to permit proper joint installation.
c. Do not lay pipe in wet or frozen trench.

9. Prevent foreign material from entering pipe during placement.
10. Install pipe to allow for expansion and contraction without stressing pipe or joints.
11. Close pipe openings with watertight plugs during Work stoppages.
12. Install access fittings to permit disinfection of water system performed under Section 33 13 00 - Disinfecting of Water Distribution.
13. Cover

a. Establish elevations of buried piping with not less than forty-two (42) inches of cover or as shown on the plans.
b. Measure depth of cover from final surface grade to top of pipe barrel.

14. Pipe Markers

a. Install warning tape and tracer wire continuous over top of pipe as specified in Section 33 05 26 – tility Identification.
b. Coordinate with trench Work as specified in Section 31 23 16 – tility Trenching.

C. Valves and Hydrants

1. Install valves as specified in Section 33 12 16 - Water Distribution Valves.
2. Install hydrants as specified in Section 33 12 19 - Water Distribution Fire Hydrants.

D. Tapping Sleeves and Valves As indicated on Drawings and according to manufacturer instructions.

E. Polyethylene Encasement

1. Encase piping in polyethylene for all ductile iron pipe and fittings to prevent contact with surrounding backfill material.
2. Comply with AWWA C105.
3. Terminate encasement 3 to 6 inches above ground where pipe is exposed.
4. Care shall be exercised to prevent entrapment of soil materials between the polyethylene wrap and metal surfaces.

F. Thrust Restraints

1. Provide valves, tees, bends, caps, and plugs with concrete thrust blocks.
2. Pour concrete thrust blocks against undisturbed earth.

3. Locate thrust blocks at each elbow or change of pipe direction to resist resultant force and to ensure that pipe and fitting joints will be accessible for repair.
4. Provide minimum square feet of thrust restraint bearing on subsoil as specified in the City Standard Details.
5. Install tie rods, clamps, setscrew retainer glands, or restrained joints.
6. Protect metal-restrained joint components against corrosion by applying a bituminous coating or encasing metal area using concrete mortar.
7. Do not encase pipe and fitting joints to flanges.
8. Install thrust blocks, tie rods, and joint restraint at dead ends of water main.

G. Service Connections As specified in Section 33 12 13 - Water Service Connections.

H. Backfilling Backfill around sides and to top of pipe as specified in Section 31 23 16 - tility Trenching.

I. Disinfection of Potable Water Piping System As specified in Section 33 13 00 - Disinfecting of Water Distribution.

3.5 TOLERANCES

A. Section 01 45 00 - uality Control Requirements for tolerances.

B. Install pipe to indicated elevation within tolerance of 5/8 inch.

3.6 FIELD ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements Requirements for testing, adjusting, and balancing.

B. Pressure test system according to AWWA C600 and following
1. Test Pressure Not less than 200 psig or 50 psi in excess of maximum static pressure, whichever is greater. The tests shall be performed at ambient temperature unless otherwise specified.
2. Preparation of Test
   a. Vents shall be at the high points of the system and drains provided where means of venting or draining do not exist.
   b. Remove or block off, all relief valves, rupture discs, alarms, control instruments, etc. that shall not be subjected to the test pressure. All gages used in the system shall be calibrated gages.
   c. All discs, balls, or pistons from check valves shall be removed if they interfere with filling the system. Open all valves between inlet and outlet of the section to be tested.

d. Connect pump and provide temporary closures for all the external openings in the system. Use caution to insure that the closures are properly designed and strong enough to withstand the test pressure.
e. A joint previously tested in accordance with this specification may be covered or insulated.
f. Expansion joints shall be provided with temporary restraint for additional pressure under test or shall be isolated from the test.
g. Flanged joints, where blanks are inserted to isolate equipment during the test, need not be tested.
h. All concrete block shall be allowed to cure a sufficient time to develop the minimum compressive strength before testing.
i. Pressure tests on exposed and above ground piping shall be conducted only after the entire piping systems has been installed and attached to the pipe supports, hangers or anchors or as shown on the plans.
j. Any connection between the new pipeline being installed and the existing water system shall include a state approved reduced pressure backflow assembly installed to prevent flow into the existing system. The backflow device assembly shall be required until bacteriological sampling proves the new pipeline is properly disinfected.
k. Contractor shall disconnect system from the pump prior to verifying the drop in pressure.

3. The Contractor shall pay costs of all water used for construction purposes, including flushing and testing. The City, at his expense, shall provide a meter approved by the Project Manager to complete the work.
4. The Contractor shall furnish all required equipment, pumps, calibrated gages and materials, make all connections and perform the required tests.
5. Conduct hydrostatic test for at least two hours. Apply the hydrostatic test pressure in increments of 25 psig, or as directed by the Project Manager until the maximum test pressure is reached. Hold pressure for 5 minutes at each 25 psig increment and inspect for leaks before adding more pressure.
6. Slowly fill section to be tested with water expel air from piping at high points using the vents. Prior to beginning hydrostatic testing, the pipeline shall have been filled with water and allowed to stand a minimum of four (4) hours under a slight pressure. Install corporation cocks at high points. Close air vents and corporation cocks after air is expelled. Raise pressure slowly with the pump to specified test pressure.
7. Maintain pressure for four (4) hours keeping personnel at a safe distance.
8. Observe joints, fittings, and valves under test. Remove and renew cracked pipes, joints, fittings, and valves showing visible leakage. Retest.
9. Correct visible deficiencies by releasing the pressure, draining the system and continue testing at same test pressure for additional two hours to determine any leakage. Maintain pressure within plus or minus 5 psi of test pressure.
10. During hydrostatic testing, the contractor shall provide for temporary blocking of the pipeline at the tie-in points or as directed by the Project

Manager. No hydrostatic test will be allowed against a closed valve connected to the existing system except under specific supervised conditions approved by the Project Manager.

11. No leakage is allowed.
12. If test of pipe indicates leakage, locate source of leakage, make corrections, and retest until there is no leakage in the system
13. After hydrostatic test is complete, remove the pressure with caution to avoid escaping fluid and debris.

C. Compaction Testing for Bedding□As specified in Section 31 23 16 - □tility Trenching.

D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

END OF SECTION 33 11 13

SECTION 33 12 00 - WATER DISTRIBUTION EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Reduced-pressure backflow preventer assemblies.
2. Double-check-valve backflow preventer assemblies.
3. Valve vaults.
4. Buried piping within 5 feet of backflow preventer valve vault.
5. Interior piping.
6. Valves.
7. Pipe supports.
8. Bedding and cover materials.

B. Related Requirements:

1. Section 09 90 00 - Painting and Coating: For pipe supports.
2. Section 31 05 13 – Clearing & Grubbing, Excavation and Earthwork: Excavation and Earthwork
3. Section 31 23 16 – Utility Trenching: Trenching for buried pipe installation.
4. Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes: Backflow preventer precast concrete valve vault.
5. Section 33 05 26 – Utility Identification: Warning tape and tracer wire.
6. Section 33 11 13 - Water Distribution Piping: Potable water piping beyond backflow preventer valve vault.
7. Section 33 13 00 - Disinfecting of Water Distribution: Disinfection of domestic water piping beyond backflow preventer valve vault.

1.2 DEFINITIONS

A. NRS: Non-rising stem.

B. OS&Y: Outside screw and yoke.

1.3 REFERENCE STANDARDS

A. American Water Works Association:

1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
3. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.

4. AWWA C506-78 (R83) - Backflow Prevention Devices - Reduced Pressure Principle and Double Check Valve Types
5. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
6. AWWA C510 - Double Check Valve Backflow Prevention Assembly.
7. AWWA C511 - Reduced-Pressure Principle Backflow Prevention Assembly.
8. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.

B. American Welding Society

1. AWS A5.8/A5.8M - Specification for Filler Metals for Brazing and Braze Welding.

C. ASME International

1. ASME B16.18 - Cast Copper Alloy Solder oint Pressure Fittings.
2. ASME B16.22 - Wrought Copper and Copper Alloy Solder- oint Pressure Fittings.
3. ASME B31.9 - Building Services Piping.

D. ASSE International

1. ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers.
2. ASSE 1015 - Performance Requirements for Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies.
3. ASSE 1047 - Performance Requirements for Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies.
4. ASSE 1048 - Performance Requirements for Double Check Detector Fire Protection Backflow Prevention Assemblies.

E. ASTM International

1. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
2. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
3. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
4. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
5. ASTM D2855 - Standard Practice for Making Solvent-Cemented oints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.
6. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.

7. ASTM D3139 - Standard Specification for □oints for Plastic Pressure Pipes □sing Flexible Elastomeric Seals.

F. California Code of Regulations (CCR) – Title 17. Public Heath – Division 1 State Department of Health Services – Chapter 5 Sanitation (Environmental), subchapter 1 Engineering (Sanitary) – Group 4 Drinking Water Supplies, Article 2 Protection of Water System.

G. California Regulations Related to Drinking Water dated □uly 16, 2015 - □64572. Water Main Separation

H. Manufacturers Standardization Society of the Valve and Fittings Industry□

1. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation.

I. Municipal Code

1. Chapter 13.14 – Regulations for the Control of Backflow and Cross-Connections to the City's Water System.

□. Foundation of Cross-Connection Control and Hydraulic Research (FCCCHR) of the □niversity of Southern California – Specifications of Backflow Prevention Assemblies.

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□

1. Submit data on backflow preventer assemblies.
2. Piping□Submit data on pipe materials, fittings, and accessories.
3. Valves□Submit manufacturer's catalog information with valve data and ratings for each service.
4. Supports□ Submit manufacturer's catalog information including load capacity.

C. Manufacturer's Certificate□Certify that products meet or exceed the Standard Specification requirements

D. Manufacturer Instructions□Submit installation instructions for backflow preventer assemblies, valves, and accessories.

E. Field □uality-Control Submittals□Indicate results of Contractor-furnished tests and inspections.

F. □ualifications Statements□

1. Submit qualifications for manufacturer and installer.
2. Submit manufacturer's approval of installer.

1.5 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Project Record Documents□ Record actual locations of backflow preventer assemblies.

C. Operation and Maintenance Data□Submit spare parts list, exploded assembly views, and recommended maintenance intervals.

1.6 MAINTENANCE MATERIAL S□BMITTALS

A. Section 01 77 00 - Closeout Requirements□ Requirements for maintenance materials.

B. Extra Stock Materials□

1. Furnish two (2) sets of seals for each backflow preventer assembly.

1.7 □□ALIFICATIONS

A. Manufacturer□Company specializing in manufacturing products specified in this Section with minimum three (3) years' documented experience.

B. Backflow preventers shall have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the State Water Resources Control Board.

C. Installer□Company specializing in performing Work of this Section with minimum three (3) years' documented experience and approved by manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Inspection□Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Furnish temporary protective coating for cast-iron and steel valves.

D. Furnish temporary end caps and closures for pipe and fittings□maintain caps and closures in place until installation.

E. Protection□

1. Provide temporary covers for backflow preventer assemblies to prevent entry of foreign materials.
2. Protect openings in sections of completed piping systems.
3. Protect openings in piping systems when Work is not in progress.

1.9 EXISTING CONDITIONS

A. Field Measurements□

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

1.10 WARRANTY

A. Section 01 77 00 - Closeout Requirements□Requirements for warranties.

B. Furnish five-year manufacturer's warranty for backflow preventer assemblies.

PART 2 - PRODUCTS

2.1 BAC□FLOW PREVENTERS

A. All backflow assemblies are reduced pressure backflow prevention assemblies, except for fire services.

B. Backflow Prevention Assemblies for Fire Prevention Systems
1. Fire Protection Systems
a. Class I & II□Direct connections from public water mains only, no physical connection from other water supplies (tanks, reservoirs) and all sprinkler drains discharge to the atmosphere or other safe outlets. Class II same as class I except that booster pumps may be installed.
b. Class III (low hazard)□Direct connection from public water supply main plus one or more of the following□elevated storage tanks, fire pumps taking suction from above ground, covered reservoirs or tanks.
c. Class IV (low hazard)□Similar to class I & II but which uses or has available for an unapproved auxiliary water supply.
d. Class V (high hazard)□Supplied from public mains and interconnected with an unapproved auxiliary water exposed to contamination (harbors, rivers, ponds, wells or industrial fluids). The appropriate

backflow prevention assembly shall be determined after the fire marshal and the engineering department have made a complete survey of the fire protection requirements of the premises.

2. All fire protection systems have detector meters only and do not require service meters.
3. Reduced pressure backflow prevention assembly per □niversity of Southern California's foundation for cross connection control and hydraulic research's list of approved backflow prevention assemblies.

C. Manufacturers□

1. Reduced-Pressure Backflow Preventers□
   a. Febco LF825YA RP with ball valves (1/2" to 2")
   b. Febco LF880V (2-1/2" to 8").
   c. □urn Wilkins 975XL2 (3/4" to 2")
   d. □urn Wilkins 375 (2-1/2" to 10")
   e. Or approved equal

2. Double Check Detector Assemblies□
   a. Febco LF876V (2-1/2" to 8")
   b. □urn Wilkins 350 (2-1/2" to 10")
   c. Or approved equal

D. Points of Service
1. Point of service is at the back of the curb for all city streets with planter strips.
2. Point of service is at the back of the sidewalk for streets with combined curb and sidewalk.
3. Point of service is at the right-of-way line on all unimproved streets and alleys.

E. Lists of approved (by state & city) backflow prevention assemblies and certified backflow prevention assembly testers are available at City of Pittsburg, Public Works Dept. at 357 E. 12th St. and/or at the Engineering Department at 65 Civic Ave.

F. Reduced Pressure Backflow Preventers are required on all irrigation systems and domestic water main systems mains greater than 3 inches. Install BPDI Guardshack two-piece protective enclosure around unit, hinged, stainless steel with forest green powder coating or approved equal. □

G. A Reduced pressure principle backflow prevention device shall be located as close as practical to the user's connection and shall be installed a minimum of twelve inches (12") above grade and not more than thirty-six inches (36") above grade measured from the bottom of the device

H. A backflow assembly shall be installed above ground, in a horizontal and level position unless otherwise approved by the engineering department or public works department.

I. No additional connections (outlet, tap or tee) are permitted between the water main and backflow prevention assembly.

. Backflow assemblies shall not be installed in basements or vaults.

. Provide 20 mil tape between copper supply line and concrete pad 4” above and below concrete.

L. Provide a 2” minimum bypass on all BFDS. Provide a reduced pressure backflow prevention detector on the bypass 3” and up.

M. Reduced pressure backflow prevention assembly per niversity of Southern California’s foundation for cross connection control and hydraulic research’s list of approved backflow prevention assemblies.

N. Reduced-Pressure Backflow Preventers

1. Size 3/4 inch to 2 inches.
2. Comply with ASSE 1013 and AWWA C511.
3. Materials

    a. Body Cast Bronze, ASTM B 584
    b. Internal Parts Cast Bronze, ASTM B 584
    c. Springs Stainless steel.
    d. Maximum Working Pressure of 175psi.
    e. Maximum Hydrostatic Pressure of 350psi.

4. Check Valves

    a. uantity Two, operating independently.
    b. Spring loaded.
    c. Third Check Valve Open under back pressure in case of diaphragm failure.

5. Differential-Pressure Relief Valve

    a. Type Diaphragm.
    b. Located between check valves.

6. Ball Valves

    a. Type Full port, resilient seated.
    b. uantity Two.
    c. Operation uarter turn.

d. Material□Bronze.

7. Accessories Strainer and test cocks.

O. Reduced-Pressure Backflow Preventers□

1. Size□3 inches to 10 inches.
2. Comply with ASSE 1013 and AWWA C511.
3. Materials□

a. Body□Ductile Iron Grade 65-45-12
b. Finish□Fusion epoxy coating inside and outside.
c. Springs□Stainless steel.
d. Maximum Working Pressure of 175psi.
e. Maximum Hydrostatic Pressure of 350psi.

4. Check Valves□

a. □uantity□Two, operating independently.
b. Spring loaded.
c. Third Check Valve□Open under back pressure in case of diaphragm failure.

5. Differential-Pressure Relief Valve□

a. Type□Diaphragm.
b. Located between check valves.

6. Gate Valves□

a. Type□Resilient seated according to AWWA C509 and AWWAC515.
b. □uantity□Two.
c. End Connections□Flanged
d. Operation□OS&Y.

7. Accessories□

a. Strainer.
b. Four resilient-seated ball valve test cocks.

P. Double-Check-Valve Backflow Preventer with Detector Assembly□

1. Size□2-1/2 inch to 10 inches.
2. Comply with ASSE 1048 and AWWA C510.
3. Materials□

a. Body□Ductile Iron Grade 65-45-12
b. Finish□Fusion epoxy coating inside and outside.

c. Springs□Stainless steel.
d. Maximum Working Pressure of 175psi.
e. Maximum Hydrostatic Pressure of 350psi.

4. Check Valves□

a. □uantity□Two, operating independently.

5. Gate Valves□

a. Type□Resilient seated according to AWWA C509 and AWWAC515.
b. □uantity□Two.
c. End Connections□Flanged.
d. Operation□OS&Y.

6. Accessories□Strainer and test cocks.

2.2 VALVE VA□LTS

A. Description□Precast concrete vaults shall be as specified in Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes.

2.3 PIPING

A. Description□As specified in Section 33 11 13 - Water Distribution Piping.

2.4 PIPE S□PPORTS

A. Manufacturers□
1. Copper B-line#3093
2. Or approved equal

B. Floor Support for Pipe□Cast-iron adjustable pipe saddle, lock nut, nipple, floor flange, and steel support.

C. Copper Pipe Support□Adjustable carbon-steel ring and copper plate.

2.5 MATERIALS

A. Bedding and Backfill□

1. Bedding□Bedding Type, as specified in Section 31 23 16 – □tility Trenching.
2. Backfill□Backfill Type, as specified in Section 31 23 16 – □tility Trenching.

2.6 FLANGES, □NIONS, AND CO□PLINGS

A. Pipe Size 3 Inches and Smaller□

1. Ferrous Pipe□

a. Class 150, malleable iron.
b. □nions□Threaded.

2. Copper Tube and Pipe□

a. Class 150.
b. □nions□Bronze.
c. □oints□Soldered.

B. Grooved and Shouldered Pipe End Couplings□

1. Housing□

a. Description□

1) Malleable iron clamps to engage and lock.
2) Designed to permit some angular deflection, contraction, and expansion.

b. Bolts, Nuts, and Washers□Type 304 Stainless Steel ASTM A193 (Grade B8-Class 2) and ASTM A194 (Grade 8).

2. Sealing Gasket□

a. "C" shape.
b. Material□Composite.

C. PVC Pipe□

1. Description□ For connections to equipment and valves with threaded connections.
2. Schedule 80 threaded PVC pipe.

D. Dielectric Connections□

1. Description□ □nion with one end connection of galvanized or plated threaded steel, and other end connection of copper solder.
2. Isolation Barrier□Impervious to water.
3. Manufacturer□
   a. Epco, Inc.
   b. Or approved equal

2.7 □NDERGRO□ND PIPE MAR□ERS

A. Warning Tape□As specified in Section 33 05 26 – □tility Identification.

B. Trace Wire□As specified in Section 33 05 26 – □tility Identification.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that excavations are to required grade, dry, and not over-excavated.

B. Verify that piping connections to existing piping system, sizes, locations, and inverts are as indicated on Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Remove scale and dirt on inside and outside before assembly.

3.3 INSTALLATION

A. Valve Vault□As specified in Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes.

B. Pipe Supports□

1. Install pipe supports according to MSS SP-58.
2. Exposed Supports□Prime coated as specified in Section 09 90 00 - Painting and Coating.

C. Buried Piping Systems□

1. Establish elevations of buried piping with not less than 2.5 feet of cover.
2. Establish minimum five (5) feet of separation from sanitary sewer lateral piping according to □64572. Water Main Separation of the California Regulations Related to Drinking Water.
3. Remove scale and dirt from inside of piping before assembly.
4. Excavate pipe trench as specified in Section 31 23 16- □tility Trenching.
5. Install pipe to elevation as indicated on Drawings.
6. Place bedding material at trench bottom to provide uniform bedding for piping.
7. Level bedding material in one continuous layer as specified in Section 31 23 16- □tility Trenching

8. Compact bedding material to percent maximum density as specified in Section 31 23 16- □tility Trenching.
9. Install pipe on prepared bedding.
10. Route pipe in straight line.
11. Install pipe to allow for expansion and contraction without stressing pipe or joints.
12. Install shutoff and drain valves at locations as indicated on Drawings and as specified in this Section.
13. Install plastic warning tape and tracer wire continuous over the top of pipe as specified in Section 33 05 26 – □tility Identification
14. Backfill□Install backfill Type, as specified in Section 31 23 16 – □tility Trenching.

D. Vault Interior Piping Systems□

1. Install non-conducting dielectric connections wherever joining dissimilar metals.
2. Establish elevations of buried piping outside valve vault to obtain not less than 2.5 feet of cover.
3. Prepare exposed and unfinished pipe, fittings, supports, and accessories ready for finish painting as specified in Section 09 90 00 - Painting and Coating.
4. Install water piping according to ASME B31.9.
5. Install unions downstream of valves and at equipment or apparatus connections.
6. Install brass male adapters on each side of valves in copper piped system□ solder adapters to pipe.

E. Backflow Preventer Assemblies□

1. Install backflow preventers of type, size, and capacity indicated.
2. Comply with California Regulations Related to Drinking Water and authority having jurisdiction.
3. Install air-gap fitting on units with atmospheric vent connection.
4. Pipe relief outlet drain to nearest floor drain.
5. Do not install bypasses around backflow preventers.

3.4 FIELD □□ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements□Requirements for testing, adjusting, and balancing.

B. Perform pressure test on installed backflow pressure assemblies as specified in Section 33 11 13 - Water Distribution Piping.

C. Disinfect installed backflow preventer assemblies as specified in Section 33 13 00 - Disinfecting of Water Distribution.

END OF SECTION 33 12 00

SECTION 33 12 13 - WATER SERVICE CONNECTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for water service connections.
2. Corporation stop assemblies.
3. Curb stop assemblies.
4. Meter setting equipment.
5. Water meters.
6. Backflow preventers.
7. Underground pipe markers.
8. Precast concrete vaults.
9. Bedding and cover materials.

B. Related Requirements:

1. Section 03 30 00 – Utility Cast-in-Place Concrete: Concrete for thrust restraints.
2. Section 31 05 13 – Clearing & Grubbing, Excavation and Earthwork: Excavation for water services.
3. Section 31 23 16 – Utility Trenching: Excavation of pipe trench.
4. Section 33 05 13 - Manholes and Structures: Soil backfill type, manholes, and covers.
5. Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes: Valve vaults.
6. Section 33 13 00 - Disinfecting of Water Distribution: Flushing and disinfecting of water system.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Water Service Pipe and Fittings:

1. Basis of Measurement: By linear foot or each as specified in the Bid Form.
2. Basis of Payment: Includes hand trimming, sawcut, demolition, excavation, pipe and fittings, corporation stop assembly, curb stop assembly, bedding, concrete thrust restraints, backfill, surface restoration and connection to building service piping and utility water source.

C. Corporation Stop Assembly

1. Basis of Measurement Not a measured item.
2. Basis of Payment Incidental to water service

D. Curb Stop Assembly

1. Basis of Measurement Not a measured item.
2. Basis of Payment Incidental to water service

E. Water Meters

1. Basis of Measurement By unit.
2. Basis of Payment Includes installing city-furnished meter, meter setting equipment, fittings, and accessories.

F. Backflow Preventers

1. Basis of Measurement By unit.
2. Basis of Payment Includes reduced pressure backflow preventer, fittings, thrust blocks, concrete pad, backflow enclosure, and accessories.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils sing a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Society of Mechanical Engineers

1. ASME B16.18 - Cast Copper Alloy Solder oint Pressure Fittings.
2. ASME B16.22 - Wrought Copper and Copper Alloy Solder oint Pressure Fittings.

C. American Society of Sanitary Engineering

1. ASSE 1012 - Performance Requirements for Backflow Preventers with an Intermediate Atmospheric Vent.
2. ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers.

D. ASTM International

1. ASTM A48 - Standard Specification for Gray Iron Castings.

2. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
3. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
4. ASTM B584 – Standard Specification for Copper Alloy Sand Castings for General Applications.
5. ASTM C858 - Standard Specification for □nderground Precast Concrete □tility Structures.
6. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).
7. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
8. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
9. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
10. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
11. ASTM D2855 - Standard Practice for Making Solvent-Cemented □oints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
12. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

E. American Welding Society□

1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.

F. American Water Works Association□

1. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
2. AWWA C700 - Cold-Water Meters - Displacement Type, Bronze Main Case.
3. AWWA C701 - Cold-Water Meters - Turbine Type, for Customer Service.
4. AWWA C702 - Cold-Water Meters - Compound Type.
5. AWWA C706 - Direct-Reading, Remote-Registration Systems for Cold-Water Meters.
6. AWWA C800 - □nderground Service Line Valves and Fittings.
7. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service.
8. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□Submit data on pipe materials, pipe fittings, corporation stop assemblies, curb stop assemblies, meters, meter setting equipment, service saddles, backflow preventer, and accessories.

C. Shop Drawings□Indicate details showing vault and accessories.

D. Manufacturer's Certificate□Certify that products meet or exceed the AWWA and ASTM Standards.

E. Manufacturer Instructions□ Submit detailed instructions on installation requirements, including storage and handling procedures.

F. Field □uality-Control Submittals□Indicate results of Contractor-furnished tests and inspections.

G. □ualifications Statement□

1. Submit qualifications for manufacturer.

1.5 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Project Record Documents□Record actual locations of piping mains, curb stops, connections, thrust restraints, and invert elevations.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 □□ALITY ASS□RANCE

A. All pipe, fittings used for potable water systems shall be “lead free”. All bronze goods shall be “lead free” and marked by stamping, etching, or casting “NL” in the main body or by other methods acceptable to City.

B. All bronze parts in contact with potable water shall be certified by an ANSI accredited test lab for “Lead Free” requirements. Contractor shall submit proof of certification.

1.7 □□ALIFICATIONS

A. Manufacturer□Company specializing in manufacturing products specified in this Section with minimum three (3) years' documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements Requirements for transporting, handling, storing, and protecting products.

B. Inspection Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store products and materials off ground and under protective coverings and away from walls.

D. Exercise care in handling precast concrete products to avoid chipping, cracking, and breakage.

PART 2 - PRODUCTS

2.1 WATER PIPING AND FITTINGS

A. Copper Tubing

1. Comply with ASTM B88.
2. Type , soft temper, joint free for buried piping and uniform wall thickness.
3. Fittings Soldered Fittings shall conform to ASME B16.18, cast copper or ASME B16.22, wrought copper.
4. oints Compression connections.

2.2 CORPORATION STOP ASSEMBLIES

A. Manufacturers
1. Mueller Co. (H-15008 with CC thread only and H-15013N for 1-1/2” and 2”).
2. Ford Meter Box, Inc.
3. Or approved equal.

B. Corporation Stops

1. Comply with ASTM B62 with the exception that any bronze part of the fitting in contact with potable water (wetted parts) shall be made of a “No-Lead Bronze”, in accordance with the chemical and mechanical requirements of ASTM B584 and “Lead Free” requirements of California Assembly Bill 1953.
2. Maximum working pressure 300 psig.
3. Type Ground ey Corporation valve
4. Body Low Lead Bronze alloy.
5. Inlet End Threaded for tapping according to AWWA C800.
6. Outlet End Compression connection for CTS O.D tubing.
7. O-ring EPDM ASTM D2000

C. Service Saddles

1. Type Double strap.
2. Material Bronze when used with PVC pipe, and full circle stainless steel with full circle insulating pad, when used with ductile iron pipe.
3. Outlet thread shall be AWWA Standard CC thread only.
4. Designed to hold pressures in excess of pipe working pressure.
5. The bronze saddles shall comply with lead leaching threshold per local regulations.
6. Manufacturers
   a. Mueller Co. (BR2B Series)
   b. Or approved equal.

2.3 ANGLE METER STOP

A. Type Bronze

B. Compression connection for CTS OD Tubing x meter flange

C. Manufacturer
1. Mueller Co. (H-14258 for 1" service and H-14277 for 1-1/2" and 2" service)
2. Or approved equal.

2.4 METER SETTING E IPMENT

A. As specified in Section 33 05 17 – Precast Concrete Valve Vaults and Meter Boxes.

2.5 WATER METERS

A. For Capital Improvement Projects (CIP) the Contractor shall connect to existing meters.

B. For Development Projects, the Contractor shall install water meters for two (2) inches and smaller diameter lines furnished by the City. For larger diameter lines, the Contractor is responsible to furnish the water meters.

2.6 BAC FLOW PREVENTERS

A. As specified in Section 33 12 00 - Water Distribution Equipment.

2.7 NDERGRO ND PIPE MAR ERS

A. As specified in Section 33 05 26 – tility Identification

2.8 PRECAST CONCRETE VA□LTS

A. As specified in Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes.

2.9 MATERIALS

A. Bedding and Backfill□

1. Bedding□Bedding Type, as specified in Section 31 23 16 – □tility Trenching.
2. Backfill□Backfill Type, as specified in Section 31 23 16 – □tility Trenching.

2.10 ACCESSORIES

A. Concrete for Thrust Restraints□As specified in Section 03 30 00 – □tility Cast-in-Place Concrete.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that building service connections and municipal utility water main sizes, locations, and inverts are as indicated on Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.

C. Remove scale and dirt from inside and outside of piping before assembly.

D. Prepare pipe connections to equipment with flanges or unions.

3.3 INSTALLATION

A. Bedding□

1. Excavate pipe trench and backfill as specified in Section 31 23 16 – □tility Trenching

B. Pipe and Fittings□

1. Maintain a minimum of five (5) feet of separation between water and sewer services.
2. Group piping with other Site piping Work whenever practical.
3. Route pipe in straight line.
4. Install pipe to allow for expansion and contraction without stressing pipe or joints.
5. Install access fittings to permit disinfection of water system performed under Section 33 13 00 - Disinfecting of Water Distribution.
6. Form and place concrete for thrust restraints at each elbow or change of direction of pipe.
7. Establish elevations of buried piping with not less than two and half (2.5) feet of cover.
8. Install warning tape continuous over top of pipe as specified in Section 33 05 26 – Utility Identification.
9. Backfill trench as specified in Section 31 23 16 – Utility Trenching.

C. Curb Stop Assemblies

1. Set curb stops on solid bearing and compacted soil.
2. Boxes

   a. Center and plumb curb boxes over curb stops.
   b. Set box cover flush with finished grade.

D. Hot Tap Process

1. Tapping for water service connections shall be performed using Corporation Stops threaded on double strap bronze Service Saddles. No direct threaded connection of Corporation Stops on pipe shall be permitted regardless of the type of mainline pipe material.
2. Minimum distances required when tapping are 18 inch between taps (staggered at 45 degrees) 24 inch from back of bell and 24 inch from spigot insertion line or per manufacturer recommendations, whichever is greater. Contractor shall consult the City's Inspector on these critical distance situations, and shall not backfill without inspection. Contractor shall submit the tapping bit to the City's Inspector/Engineer for approval, before starting the tapping work.

E. Service Saddles and Service connections

1. Service saddles shall have a bearing area of sufficient width along the axis of the pipe, so that the pipe will not be distorted when the saddle is made tight.
2. An internal shell cutter shall be used to drill through the corporation stop to minimize PVC shavings, retain the coupon, and reduce stress. Single fluted shell cutters or twist drills will not be allowed.

3. Lubricate the cutting and tapping edges of the tool with cutting lubricant. Make the cuts slowly and use the follower very lightly. Do not force cutter through pipe wall. Shell cutter shall have sufficient throat depth to handle the heavy wall PVC pipe.
4. Maximum outlet size permitted with service saddle is 2 inches.

F. Water Meters The Contractor shall follow the procedures below in conjunction with the City Standard Detail W-5.

1. The new procedure for installing permanent domestic water service is as follows
   a. Contractor to excavate and set meter box per City standard Detail W-5.
   b. Contractor is responsible for connecting the house line to the new meter, and flushing service line at resident's hose bib to remove any dirt and / or sediment prior to sign off.
   c. Contractor is responsible for disinfecting new and repaired water mains in accordance with AWWA Ansi/AWWA C651-1.
   d. Contractor to pay Contra Costa Water District Facility Reserve Fee to the Contra Costa Water District and provide copy of receipt to the Building Department.
   e. Contractor to pay the Building Department for the meter. Contractor to provide the box.
   f. Contractor to pay the Engineering Department for the City Water Facility Reserve charge.
   g. Once Building Department has confirmation of all fees paid, Building Division will notify the Public Works Department that the meter can be released. Public Works staff will install the water meter.

2. The procedure for obtaining temporary water service for construction is as follows (Picking up a Hydrant Meter)
   a. Obtain a Construction Water Permit – Hydrant Meter Form from the City of Pittsburg Water Payment Center Desk (first floor, Civic Center, 65 Civic Avenue).
   b. Submit this completed form and pay fees according to the table below at the Water Payment Center Desk.
   c. Take the completed form and payment receipt to the office of Public Works Corporation Yard, 357 E. 12th Street to pick up hydrant meter between the hours of 7 00 a.m. and 3 00 p.m.

3. Contractor's Responsibilities
   a. All water to be used for construction purposes and drawn from a fire hydrant M ST be metered.
   b. Contractor/Applicant is responsible to pay monthly fixed charges and a water usage charge which will be billed once a month, and after the meter is returned to the City of Pittsburg Public Works Department. If

account becomes delinquent, Public Works may request hydrant meter to be returned until account has been paid current.

c. Contractor/Applicant is responsible for reporting meter reading to the Finance Department during the third week of every month by faxing the monthly hydrant read request form and picture of read and meter number to (925) 252-6927 or by email eheiden pittsburgca.gov. If a meter reading is not provided by the 20 th of each month, a $34 verification meter reading fee will be charged to reimburse the city for the cost. If no read has been reported by the 25th Public Works will attempt to contact jobsite and other fees may apply.

d. If the meter readings are not verified in the field by city staff at least every three months, the contractor is responsible to bring the hydrant meter to the Public Works Corporation Yard to have it officially read. The reads will be verified to the monthly reads reported to the Finance Department. Also at this time, the condition of the meter will be checked to determine if repairs are needed.

e. Contractor/Applicant is responsible for any and all damage to the meter and is required to keep the meter and register clean and free of obstructions which may affect the operation of the meter while issued to them.

f. Meters shall not be moved to another job site or taken outside city limits. Meters must be accessible to Public Works at all times.

g. Lost, stolen or severely damaged hydrant meters may result in the loss of deposit and/or additional charges to the applicant. At any point Public Works could require the meter to be tested for accuracy.

h. Meters shall be kept inside vehicles when not in use. If register rolls backwards extra fees may apply.

G. Backflow Preventers Install backflow preventers as specified in Section 33 12 00 - Water Distribution Equipment.

H. Service Connections

1. Install water service according to City Standard details. All new water services shall be minimum of 1 inch in size.
2. Services shall be reconnected with an insulating and reducing coupling to the existing customer meters at all locations.
3. Install water meter and backflow preventer in concrete vault located outside of City right of way as specified in Section 33 05 17 - Precast Concrete Valve Vaults and Meter Boxes.
4. Install water service to the water meter and connect to building water service beyond the water meter.
5. Install water meter and backflow preventer.

I. Precast Concrete Vault

1. Construct valve vaults of precast concrete.
2. Seal vault joints watertight with preformed plastic joint sealant compound.
3. Apply asphalt waterproofing to exterior walls.
4. Seal annular space between pipe and wall sleeves as indicated on Drawings.
5. Install vault covers and frames and adjust to finished grade elevation.

. Disinfection of Water Piping System Flush and disinfect system as specified in Section 33 13 00 - Disinfecting of Water Distribution.

3.4 FIELD ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements Requirements for testing, adjusting, and balancing.

B. Pressure test water distribution system according to AWWA C600 and as specified in Section 33 11 13 – Water Distribution Piping.

C. Compaction Testing for Bedding Comply with ASTM D1557.

D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

E. Frequency of Compaction Tests Every 25 feet and minimum one test for each water services, whichever is greater.

END OF SECTION 33 12 13

SECTION 33 12 16 - WATER DISTRIBUTION VALVES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gates Valves and Butterfly Valves
2. Valve boxes.

B. Related Requirements:

1. Section 03 30 00 – Utility Cast-in-Place Concrete: Concrete for thrust restraints.
2. Section 33 11 13 - Water Distribution Piping: Piping trenching, backfilling, and compaction requirements.
3. Section 33 12 13 - Water Service Connections: Pipe materials, fittings, and service connection appurtenances and installation requirements.
4. Section 33 12 19 - Water Distribution Fire Hydrants: Execution requirements for fire hydrants.
5. Section 33 13 00 - Disinfecting of Water Distribution: Flushing and disinfection requirements.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Valves:

1. Basis of Measurement: By each.
2. Basis of Payment: Includes sawcut, excavation, including all utility trenching work as specified in Section 31 23 16 – Utility Trenching, water valve, valve box, riser, accessories, concrete collar, tests, backfill and surface restoration.

1.3 REFERENCE STANDARDS

A. American Water Works Association:

1. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
2. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
3. AWWA C550 - Protecting Interior Coatings for Valves and Hydrants.

4. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.

B. ASTM International

1. ASTM B 62 - Specification for Composition Bronze or Ounce Metal Castings.

C. NSF International

1. NSF 61 - Drinking Water System Components - Health Effects.
2. NSF 372 - Drinking Water System Components - Lead Content.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data Submit manufacturer's latest published literature. Include illustrations, installation and maintenance instructions, and parts lists.

C. Shop Drawings Submit description of proposed installation.

D. Manufacturer's Certificate Certify that products meet or exceed the City's requirements.

E. Submit 10-year warranty for valves.

F. Manufacturer Instructions Submit detailed instructions on installation requirements, including storage and handling procedures.

G. Field uality-Control Submittals Indicate results of Contractor-furnished tests and inspections.

H. ualifications Statements

1. Submit qualifications for manufacturer and installer.
2. Submit manufacturer's approval of installer.

1.5 CLOSEOT S BMITTALS

A. Section 01 78 00 - Closeout Submittals Requirements for submittals.

B. Project Record Documents Record actual locations of valves.

C. Operation and Maintenance Data Submit information for valves.

1.6 MAINTENANCE MATERIAL S□BMITTALS

A. Section 01 77 00 - Closeout Requirements□ Requirements for maintenance materials.

1.7 □□ALITY ASS□RANCE

A. Cast manufacturer's name, pressure rating, and year of fabrication into valve body.

B. Contractor shall submit the Hydrostatic and Leakage test report for the valves.

C. □nless otherwise specified, all interior bronze parts of valves shall conform to the requirements of ASTM B 62.

1.8 □□ALIFICATIONS

A. Manufacturer□Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Installer□Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Prepare valves and accessories for shipment according to applicable AWWA standards.

C. Seal valve and ends to prevent entry of foreign matter.

D. Inspection□Accept materials on Site in manufacturer's original packaging and inspect for damage. Care shall be taken in loading, transporting and unloading to prevent injury to the valves, appurtenances, or coatings. Equipment shall not be dropped. All valves and appurtenances shall be examined before installation and no piece shall be installed which is found to be defective. Any damage to the coatings shall be repaired as acceptable to the Project Manager.

E. Insofar as is practical, the equipment specified herein, shall be factory assembled. The parts and assemblies that are shipped unassembled, shall be packaged and tagged in a manner that will protect the equipment from damage and facilitate the final assembly in the field.

F. Storage□

1. Store materials in areas protected from weather, moisture, or other potential damage.
2. Do not store materials directly on ground.

G. Handle products carefully to prevent damage to interior or exterior surfaces.

H. Weight handling instruction shall be included with each shipment.

I. Special tools and the manufacturer's standard spare parts, if required for normal operation and maintenance, shall be supplied with the equipment.

PART 2 - PRODUCTS

2.1 VALVES

A. The CONTRACTOR shall furnish all valves, valve-operating units, stem extensions and other accessories. All valves shall be new and of current manufacturer.

B. Valve size shall be the same diameter as the largest adjacent pipe size.

C. Where buried, all valves shall be provided with valve boxes and covers.

D. All elastomers used in valves shall be made of EPDM synthetic polymers that are specifically developed for their chemical resistance. EPDM elastomers are to be used in both the gate valves and butterfly valves.

E. Except where otherwise specified, ferrous surfaces, exclusive of stainless steel surfaces, in the water passages of all valves, as well as the exterior surfaces of all valves shall be coated in accordance with AWWA.

F. All unburied manual operators shall have handwheels.

G. All valve operation shall be left-hand (counterclockwise) opening.

H. All buried valves shall have operating nuts, valve boxes and other features.

I. All nuts and bolts on valve flanges and supports shall be in accordance with Section 33 11 13 – Water Distribution Piping.

□. 5lb minimum anode required on all copper service lines 2” and less unless geotechnical report stipulates it is not necessary. Additional weight may be required between copper water lateral and water main if main is metallic.

2.2 RESILIENT WEDGE GATE VALVES

A. Manufacturers
   1. Mueller Co. (A-2360 & A-2361)
   2. Or approved equal.

B. Description
   1. Comply with AWWA C509/WWA C515, nderwriters Laboratory Inc., Certified to NSF 61 and approved by Factory Mutual Corporation.
   2. Materials Body is Ductile iron
   3. Seats Resilient seated with fully encapsulated disk and inside screw type. All elastomers used in valves shall be made of EPDM synthetic polymers that are specifically developed for their chemical resistance.
   4. Stem
      a. Type Non-rising stem with O-ring stuffing boxes.
      b. Material Bronze.
   5. Operation
      a. 2-inch Square operating nut.
      b. Open counterclockwise unless otherwise indicated.
   6. End Connections Flanged or Mechanical joint.
   7. Coatings
      a. Comply with AWWA C550.
      b. Interior and exterior.
      c. Bolt holes and body-to-bonnet flanges surfaces are fully epoxy coated.
   8. Maximum Working Pressure Rating 250 psig for 10” pipe diameter and smaller.

2.3 B TTERFLY VALVES

A. Manufacturers
   1. Mueller Co. (Mueller Lineseal XPII Class 250B)
   2. Or approved equal.

B. Description

   1. Comply with AWWA C504, nderwriters Laboratory Inc., Certified to NSF 61 and approved by Factory Mutual Corporation.
   2. All butterfly valves shall be of the rubber-seated, tight closing type.
   3. Materials All valve bodies and vanes shall be of high strength ductile iron to ASTM A536, Grade 65-45-12.
   4. Shafts Valve shafts shall be ASTM A564 Type 630 stainless steel. Each valve shaft shall be of a one-piece design for valves 10” and smaller and a two-piece design for valves 12” and larger. Valve shafts shall have a minimum diameter extending through the valve bearings and into the valve disc as specified in AWWA C504. All valve shafts must meet or exceed the minimum connection torque requirement set forth in AWWA C504.

5. Rubber valve seats shall be a full-circle 360 degree, seat not penetrated by the valve shaft. Valve seat shall be EPDM.
6. Stem

    a. Type Non-rising stem with O-ring stuffing boxes.
    b. Material Bronze.

7. Operation

    a. 2-inch Square operating nut. nless otherwise shown, all unburied manually-operated butterfly valves shall be equipped with a hand wheel and position indicator. All operators shall be side mounted.
    b. Open counterclockwise unless otherwise indicated.

8. End Connections Flanged or Mechanical joint.
9. Coatings

    a. Comply with AWWA C550.
    b. Interior and exterior.
    c. Bolt holes and body-to-bonnet flanges surfaces are fully epoxy coated.

10. Maximum Working Pressure Rating 250 psig for 12-inch Diameter and larger.

2.4 VALVE BOXES

A. Manufacturers
    1. Oldcastle Precast
        a. Christy G5T Box and G05CT Lid for all diameter valves
    2. Or approved equal.

B. Description

    1. Valves
        a. Style Flush
        b. Material Cast iron.
        c. Type Two-piece, screw.
        d. Lid Cast Iron Bolt down and Surface Skid Resistant
        e. Grade Ring Material Cast Iron
        f. Body Material Reinforced concrete with frame and Type 304 Stainless steel bolts – 10-3/8” diameter and 12” high
        g. Extension 12” Reinforced Concrete
        h. Performance H20 rated.

2.5 ACCESSORIES

A. Concrete for Thrust Restraints□Concrete type as specified in Section 03 30 00 – □tility Cast-in-Place Concrete.

B. Valve Box Aligner□High-strength plastic device designed to automatically center valve box base and to prevent it from shifting off center during backfilling.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Determine exact location and size of valves from Drawings.

B. Verify that invert elevations of existing work prior to excavation and installation of valves are as indicated on Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Conduct operations to not interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures, utilities, and landscape in immediate or adjacent areas.

C. Identify required lines, levels, contours, and datum locations.

D. Locate, identify, and protect from damage utilities to remain.

E. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.

1. Notify Project Manager not less than two (2) working days in advance of proposed utility interruption.
2. Do not proceed without written permission from Project Manager.

3.3 INSTALLATION

A. Perform trench excavation, backfilling, and compaction as specified in Section 33 11 13 - Water Distribution Piping.

B. Install valves in conjunction with pipe laying. All valves shall be handled in a manner to prevent any injury or damage to any part of the valve. All joints shall be thoroughly cleaned and prepared prior to installation

C. Set valves plumb. Support valves firmly to avoid undue stresses on the pipe during installation.

D. Provide buried valves with valve boxes installed flush with finished grade.

E. All exposed valves shall be installed to provide easy access for operation, removal and maintenance and to avoid conflicts between valve operators, structural members, or piping

F. All gate and butterfly valves, operating nuts, valve boxes and accessories shall be installed in accordance with AWWA Standards and the manufacturer's printed recommendations.

G. All buried butterfly valves shall be oriented so that the operating nuts are on the side of the water main closest to the curb.

H. Where flanged butterfly valves are connected to a "Tee" or "Cross" fitting, a minimum 12-inch long ductile iron pipe flange spool shall be installed between the fitting and the valve. An adaptor (FLGxM□) is required between the valve and the pipe when PVC C-900 DR14 and PVC C905 DR14 pipe are used.

I. Where flanged butterfly valves are installed with PVC C-900 DR14 and PVC C905 DR14 pipe, an adaptor (FLGxM□) is required on both sides of the valve.

□. All exposed butterfly valves shall be installed with a coupling that can be used in removing the complete valve assembly without dismantling the valve or operator.

□. Disinfection of Water Piping System□

1. Flush and disinfect system as specified in Section 33 13 00 - Disinfecting of Water Distribution.

3.4 FIELD □□ALITY CONTROL

A. Pressure test system according to AWWA C600 and following□

1. Perform pressure testing on water distribution system according to Section 33 11 13 - Water Distribution Piping.

END OF SECTION 33 12 16

SECTION 33 12 19 - WATER DISTRIBUTION FIRE H□DRANTS

PART 1 - GENERAL

1.1 S□MMARY

A. Section Includes□

1. Fire hydrants.

B. Related Requirements□

1. Section 03 30 00 – □tility Cast-in-Place Concrete□Concrete for thrust restraints.
2. Section 31 05 16 – Clearing & Grubbing, Excavation and Earthwork□ Excavation for hydrant.
3. Section 31 23 16 – □tility Trenching□Trenching, backfilling, and compaction requirements.
4. Section 33 13 00 - Disinfecting of Water Distribution□ Flushing and disinfection requirements.

1.2 □NIT PRICE - MEAS□REMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures□ Contract Sum/Price modification procedures.

B. Fire Hydrants□

1. Basis of Measurement□By each.
2. Basis of Payment□Includes sawcut, excavation, all utility trenching work as specified in Section 31 23 16 – □tility Trenching, install fire hydrant, bury, fire hydrant lateral, accessories, testing, and backfilling.

1.3 REFERENCE STANDARDS

A. American Water Works Association□

1. AWWA C503 - Wet-Barrel Fire Hydrants.
2. AWWA C550 - Protective Interior Coatings for Valves and Hydrants.
3. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.

B. National Fire Protection Association□

1. NFPA 291 - Recommended Practice for Fire Flow Testing and Marking of Hydrants.

1.4 COORDINATION

A. Contractor shall coordinate with City's Public Works Department for any temporary shutdowns for existing fire hydrants.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit manufacturer's latest published literature, including illustrations, installation and maintenance instructions, and parts lists.

C. Shop Drawings: Submit description of proposed installation.

D. Manufacturer's Certificate: Certify that products meet or exceed the AWWA Standards and project requirements.

E. Testing: Fire Hydrants shall be subjected to a hydrostatic pressure of 400 psi with the whole interior of the hydrant under pressure.

F. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.

G. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

H. Qualifications Statements:

1. Submit qualifications for manufacturer and installer.
2. Submit manufacturer's approval of installer.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 78 00 - Closeout Submittals: Requirements for submittals.

B. Project Record Documents: Record actual locations of fire hydrants and service valves.

C. Operation and Maintenance Data: Submit data for hydrants.

1.7 □□ALITY ASS□RANCE

A. Perform Work according to AWWA standards and City Fire Department requirements.

B. Submit test results indicating that fire hydrants are tested to 400 psig.

C. Submit 10-year warranty for the Fire Hydrants.

1.8 □□ALIFICATIONS

A. Manufacturer□Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Installer□Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Prepare hydrants and accessories for shipment according to AWWA standards and seal hydrant and ends to prevent entry of foreign matter.

C. Inspection□Accept materials on Site in manufacturer's original packaging and inspect for damage.

D. Storage□

1. Store materials in areas protected from weather, moisture, or potential damage.
2. Do not store materials directly on ground.

E. Handle materials in a way that prevents damage to interior and exterior surfaces.

PART 2 - PRODUCTS

2.1 FIRE HYDRANTS

A. Manufacturers□
1. Clow Valve Company (950-residential or 960-commercial & industrial)

B. Wet-Barrel Type Fire Hydrants□

1. Comply with AWWA standards, tested and approved by nderwriters Laboratories (L) or equivalent.
2. Body Ductile Iron ASTM A536 Grade 65-45-12
3. Valve Openings Individual for pumper and hose nozzles.
4. End Connections Mechanical joint
5. Bolts and Nuts Type 304 Stainless steel ASTM A193 (Grade B8-Class 2) and ASTM A194 (Grade 8).
6. Interior Coating Comply with AWWA C550 and NSF 61.
7. Direction of Opening Counterclockwise unless otherwise indicated.
8. Hydrant inlet shall be six (6) inches in diameter.
9. Minimum Working Pressure 200 psig.
10. Hydrants shall be set using breakoff risers, flanged bury and suitable thrust blocks. Riser, bury and ferrous parts of hydrant shall be epoxy coated.
11. A six (6) inch gate valve shall be installed between the main and bury.
12. Where placed in unpaved areas, all hydrants shall have a 2' square slab of concrete 4-inch in thickness constructed to the same standards required for sidewalks in these Specifications. The top flange of the hydrant shall be 3-inches above finished grade
13. The hydrant valve shall be located next to the Tee on the hydrant lateral pipe.

C. Hose Connections
1. One pumper-4-1/2", one hose nozzle – 2-1/2" threaded outlets for residential areas.
2. One pumper-4-1/2", two hose nozzles – 2-1/2" threaded outlets for commercial and industrial areas.
3. Obtain thread type and size from local fire department. Hose connection threads shall be American National Fire Hose Threads.
4. Attach nozzle caps by separate zinc coated steel chains having links made from stock not less than one-eight inch (1/8") in diameter. Caps shall be Cast Iron ASTM A126 Class B.

D. Blue Markers Fire Hydrant blue reflective markers shall be provided. The reflective marker shall be located per CA M TCD (latest edition) figure 3B-102.

E. Bollards Bollards shall be provided where the fire hydrant is subject to vehicular damage as determined and shall conform to the California Fire Code. Bollards shall be set in concrete, set vertically and plumbed. Each bollard shall be professionally cleaned and painted with one coat of primer and one finish coat of yellow exterior grade latex paint.

F. Finishes Fire hydrant and exposed breakoff spool shall be painted with DuPont 30-10 white enamel primer, followed with a finish coat of no. 612-00 white fuller O'Brien heavy duty, high gloss paint.

2.2 ACCESSORIES

A. Concrete for Thrust Restraints□Concrete type as specified in Section 03 30 00 – □tility Cast-in-Place Concrete.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify exact location and size of hydrants from Drawings.

B. Obtain clarification and directions from Project Manager prior to execution of Work.

C. Verify that invert elevations of existing work are as indicated on Drawings prior to excavation and installation of fire hydrants.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures, utilities, and landscape in immediate or adjacent areas.

C. Identify required lines, levels, contours, and datum locations.

D. Locate, identify, and protect from damage utilities to remain.

E. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.

1. Notify Project Manager not less than two (2) workings days in advance of proposed utility interruption.
2. Do not proceed without written permission from Project Manager.

3.3 INSTALLATION

A. Perform trench excavation, backfilling, and compaction as specified in Section 31 23 16 – □tility Trenching.

B. Provide support blocking and drainage gravel while installing fire hydrants□do not block drain hole.

C. Set fire hydrants plumb with pumper nozzle facing roadway.

D. Set fire hydrants with centerline of pumper nozzle 18 inches above finished grade, and with safety flange not more than 6 inches nor less than 2 inches above grade.

E. Paint hydrants according to color scheme of local authorities having jurisdiction.

F. After hydrostatic testing, flush hydrants and check for proper drainage.

G. Disinfection of Water Piping System Flush and disinfect system as specified in Section 33 13 00 - Disinfecting of Water Distribution.

H. Remove and dispose of unsuitable materials and debris.

3.4 FIELD ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements Requirements for testing, adjusting, and balancing.

B. Pressure test water distribution system according to AWWA C600.

END OF SECTION 33 12 19

SECTION 33 13 00 - DISINFECTING OF WATER DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Disinfection of potable water distribution and transmission systems.
2. Testing and reporting of results.

B. Related Requirements:

1. Section 33 11 13 - Water Distribution Piping: Product and execution requirements for installation and testing of site domestic water distribution piping.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Disinfection:

1. Basis of Measurement: Not a measured item.
2. Basis of Payment: Incidental to the price paid for linear foot of pipe and includes preparing, disinfecting, testing, and reporting.

1.3 REFERENCE STANDARDS

A. American Water Works Association:

1. AWWA B300 - Hypochlorites.
2. AWWA C651 - Disinfecting Water Mains (Please see section 1.6 QUALITY ASSURANCE A.1)

B. California Codes:

1. Titles 17 and 22 California Code of Regulations - Chapter 16 – California Waterworks Standards – Article 5. Disinfection Requirements - 64580 – Disinfection of New or Repaired Mains.
2. Titles 17 and 22 California Code of Regulations - Chapter 16 – California Waterworks Standards – Article 5. Disinfection Requirements - 64590 – Direct Additives.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. A testing schedule, include proposed plans for water conveyance, fill location, bleed location(s), control, disposal, and disinfection shall be submitted to the Project Manager for review a minimum of 72 hours before testing is to start.

C. Submit plan for disinfection of pipelines, appurtenances, and any portion of the existing connecting system that might become contaminated during construction activities. The plan must outline how disinfection will be applied and implemented, the method used shall be the continuous feed method using sodium hypochlorite of no less than 12.0 strength, preventative and corrective measures to prevent contamination during construction, method of capping pipes, flushing plan, and bacteriological sampling plan. The plan must be in strict accordance with AWWA Standard C651-05. Other disinfection methods may be approved at the City's discretion.

D. Product Data: Submit procedures, proposed chemicals, and treatment levels.

E. Manufacturer's Certificate: Certify that products meet or exceed project requirements.

F. Certify that cleanliness of water distribution system meets or exceeds the project requirements.

G. Certify that water conforms or fails to conform to bacterial standards of the jurisdiction.

H. Certify that water conforms to quality standards of the jurisdiction.

I. Test and Evaluation Reports: Indicate testing results comparative to specified requirements.

. Field uality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

. ualifications Statements

1. Submit qualifications for water treatment firm and testing firm.

1.5 CLOSEOT S BMITTALS

A. Section 01 77 00 - Closeout Requirements: Requirements for submittals.

B. Disinfection Report

1. Type and form of disinfectant used.
2. Date and time of disinfectant injection start and time of completion.
3. Test locations.
4. Name of person collecting samples.
5. Initial and 24-hour disinfectant residuals in treated water in ppm for each outlet tested.
6. Date and time of flushing start and completion.
7. Disinfectant residual after flushing in ppm for each outlet tested.

C. Bacteriological Report□

1. Date issued, project name, and testing laboratory name, address, and telephone number.
2. Time and date of water sample collection.
3. Name of person collecting samples.
4. Test locations.
5. Initial and 24-hour disinfectant residuals in ppm for each outlet tested.
6. Coliform bacteria test results for each outlet tested.
7. Submit bacteriologist's signature and authority associated with testing.

1.6 □□ALITY ASS□RANCE

A. Perform Work according to AWWA C651 with exception of the following□
1. The rest period for taking 1st and 2nd samples shall be 24 hours apart. (16-hour rest period is not an option□)

1.7 □□ALIFICATIONS

A. Water Treatment Firm□ Company specializing in disinfecting potable water systems specified in this Section with minimum three (3) years' documented experience.

PART 2 - PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Chemicals□

1. Hypochlorite□Comply with AWWA B300.
2. Chlorine for disinfection shall be in the form of sodium hypochlorite solution, or calcium hypochlorite granules or tablets.
3. The Contractor shall only use NSF approved chemicals in accordance with California Code of Regulations Title 22, Article 7. Section □64590.

4. The concentration dosage of chlorine for disinfecting water mains shall be as defined in AWWA Standard C651-05.

2.2 TEST E□ □IPMENT

A. All test equipment, temporary valves or assemblies, strainers, calibrated pressure gages, pumps, bulkheads, or other water control equipment and materials shall be furnished by the Contractor subject to the Project Manager's review. No materials shall be used which would be injurious to the piping system or its proposed function.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution□Requirements for installation examination.

B. Verify that piping system has been cleaned, inspected, and pressure tested.

C. Perform scheduling and disinfecting activity with startup, water pressure testing, adjusting and balancing, and demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

A. Provide and attach required equipment to perform Work of this Section.

B. After completion of the hydrostatic test as specified in Section 33 11 13 - Water Distribution Piping, the mains shall be thoroughly flushed with a minimum pipe velocity of 2.5 fps until the receiving water is free of visible dirt and impurities.

C. Filling the system□Fill entire test system with the chlorine solution at a rate not to exceed 1 foot per second. Open all taps and valves and leave open until a strong odor of chlorine is noticeable in the water coming from the outlets, after which close the taps and valves. The chlorine residual must be verified by field sampling and be above 100 PPM at all points of the disinfected pipeline and at designated services.

D. Testing Period□Allow chlorinated water to remain in the system a minimum of 24-hours, and then thoroughly flush the system. During retention period, operate all valves, stops, and other appurtenances to assist the disinfection process. After 24 hours, the minimum chlorine residual shall be verified by field sampling and not be less than 10 PPM at all points of the disinfected pipeline and at designated services.

E. Post Disinfection Flushing Flush, circulate, and clean until required cleanliness is achieved using municipal domestic water. Clean all pipelines by flushing with water or other means to remove all dirt, stones, pieces of wood, or other material which may have entered the pipes during the construction period. Debris cleaned from the lines shall be removed from the low end of the pipeline. If after this cleaning, obstructions remain, they shall be removed. Flush the potable water system to remove all super chlorinated water. Continue flushing until the receiving water is field verified and the chlorine residual is no higher than 3 PPM and is consistent with the City source water.

F. Bacteriological Examination After the system has been thoroughly flushed, the City requires that the new main and services test negative for total coliform and **Escherichia coli**. Two consecutive sets of samples and one sample from each dead end taken at least 24-hours apart every 600 feet shall be collected by the Contractor at locations approved by the City. At any time that a sample test positive, the disinfection process will restart from the beginning. The Contractor shall sample and perform bacteriological testing for the first two consecutive rounds of sampling, if the samples are all negative for total coliform and Escherichia coli. Contractor shall in writing notify the City 24-hours in advance of any sampling plan changes or results.

G. Samples shall be taken no sooner than 24 hours after final flushing. umpers and/or plates shall be pulled within 14 days of the notification of a successful test, or new bacteria samples will have to be taken. Follow-up bacteriological testing shall take place after tie-ins have been made, and shall meet the same passing requirements as the initial tests.

H. Should the initial disinfectant fail to produce satisfactory bacteriological test results, the disinfection procedure shall be repeated until acceptable results are obtained at the Contractor's cost if the first time fails (The first round of taking samples are free of charge). All lab costs for the bacteriological testing including staff hours (City of Pittsburg Master Fee Schedule) shall be borne by the Contractor. All costs for water used for flushing, and re-filling of the pipelines shall also be borne by the Contractor. The Contractor shall notify the City in writing a minimum of 7-days prior to commencing the disinfection of any pipe segment.

I. Testing Documentation In order to pass the disinfection process, the Contractor shall submit a written report verifying the initial chlorine dose of above 100 PPM, the chlorine residual after the 24-hour test period of above 10 PPM, and the chlorine residual for post disinfection flushing. The Contractor will be responsible for the bacteriological results for the two sets of consecutive samples. The Contractor shall be responsible for providing all required reports conducted in order to pass the disinfection process.

. Failure in following any portion of this section and American Water Works Standards C651-05, is in direct violation of the State of California Code of Regulations Article 5. Disinfection Requirements 64580. Disinfection of New or Repaired Mains.

. Disposal of Chlorinated Water Dispose of chlorinated water in accordance with local agency, Delta Diablo Sanitation District (DDSD), state and federal regulations so that no water having chlorine residual reaches a surface stream. Contractor shall receive a permit from all above agencies including the City prior to any flushing operation.

L. Final Flushing After completion of successful disinfection process and connection to existing system, flush entire system to achieve velocities on the order of 3 feet per second. Continue flushing until water is free of dirt and impurities.

M. After the pipelines are cleaned and if the groundwater level is above the pipe or following a heavy rain, the Project Manager will examine the pipes for leaks. If any further defective pipes or joints are discovered, the Contractor shall repair them. Finished paving shall not be installed prior to completion of all cleaning and testing.

N. Replace permanent system devices that were removed for disinfection.

O. After the samples have passed the bacteriological testing, the Contractor will be notified and arrangements can be made to make tie-ins and connections to house services

3.3 FIELD ALITY CONTROL

A. Section 01 77 00 - Closeout Requirements Requirements for testing, adjusting, and balancing.

B. Disinfection, Flushing, and Sampling

1. Disinfect pipeline installation according to AWWA C651.
2. se of liquid chlorine is not permitted.
3. Taps for chlorination and sampling shall be installed by the Contractor.
4. pon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use.
5. Disposal
   a. Legally dispose of chlorinated water.
   b. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.

c. No discharge of chlorinated water to any storm sewer or natural water course will be allowed.
d. All costs for water disposal shall be borne by the Contractor.

6. After final flushing and before pipeline is connected to existing system or placed in service, employ an approved independent testing laboratory to sample, test, and certify that water quality meets quality standards of the jurisdiction.

7. Disinfection of tie-ins shall be performed by the Contractor by swabbing with chlorine or by other approved methods in the presence of Project Manager. Following a tie-in, the area affected by the tie-in shall be thoroughly flushed and bacteriological samples will be taken by the City as deemed necessary.

END OF SECTION 33 13 00

SECTION 33 31 13 - SANITAR SEWER PIPING

PART 1 - GENERAL

1.1 SMMARY

A. The CONTRACTOR shall provide all materials, equipment, and labor necessary to furnish and install sanitary sewerage pipe, joints and fittings, pipe markers, connection to existing sewer manholes, wye branches and tees, sanitary sewer laterals.

B. ointing of pipe dissimilar in size and/or material shall be accomplished either by use of special adapters or couplings as specified on the plans or approved by the Project Manager for such use.

C. All field cut pipe shall be accomplished with equipment recommended by the pipe manufacturer. No hammer or chisel cuts will be permitted.

D. Related Requirements
1. Section 01 29 00 - Payment Procedures
2. Section 01 77 00 - Closeout Requirements
3. Section 03 30 00 – tility Cast-In-Place Concrete
4. Section 03 60 00 - Grouting
5. Section 31 23 16 - tility Trenching
6. Section 33 05 13 - Manholes and Structures
7. Section 33 05 26 - tility Identification
8. Section 33 11 13 - Water Distribution Piping.

1.2 NIT PRICE - MEAS REMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures Contract Sum/Price modification procedures.

B. Pipe and Fittings

1. Measurement Sanitary Sewer pipes are measured by linear foot of pipe installed measured along the top centerline of the pipe from inside of a structure to structure. Sanitary Sewer cleanouts and rodding inlets shall be measured on a per unit basis.
2. Payment
   a. The contract price paid per linear foot for Sanitary Sewer pipe shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing Sanitary Sewer Pipes, complete in place

including all utility trenching work as specified in Section 31 23 16 – □tility Trenching, pipe installation with warning tape, pipe connection, connection to manholes, fittings, aggregate base for subgrade, compaction, restoration of T-trench, testing, CCTV inspections and disposing of materials outside the Right-of-Way and connection to existing or new sewer mains and manholes.

b. The contract unit price paid per Sanitary Sewer Lateral shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing Sanitary Sewer lateral pipe, complete in place including all utility trenching work as specified in Section 31 23 16 – □tility Trenching, pipe installation with warning tape, pipe connection, connection to manholes, fittings, aggregate base for subgrade, compaction, restoration of T-trench, testing, CCTV inspections and disposing of materials outside the Right-of-Way and connection to existing or new sewer mains and manholes.

c. The contract unit price paid for Sanitary Sewer Cleanout shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing Two-way Sanitary Sewer Cleanouts, complete in place including all utility trenching work as specified in Section 31 23 16 – □tility Trenching, riser pipe installation, pipe connection, fittings, aggregate base for subgrade, compaction, restoration of trench, testing, CCTV inspections and disposing of materials outside the Right-of-Way and connection to existing or new sewer mains.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials□

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils □sing a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International□

1. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
2. ASTM C923M - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
3. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil □sing Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).
4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
5. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.

6. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for oining Plastic Pipe.
7. ASTM D 638 Test Method for Tensile Properties of Plastics
8. ASTM D 696 Test Method for Coefficient of Linear Thermal Expansion of Plastics
9. ASTM D 746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
10. ASTM D 1238 Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer
11. ASTM D 1248 Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
12. ASTM D 1505 Test Method for Density of Plastics by the Density- Gradient Technique
13. ASTM D 1525 Test Method for Vicat Softening Temperature of Plastics
14. ASTM D 1693 Test Method for Environmental Stress-Cracking of Ethylene Plastics
15. ASTM D 2240 Test Method for Rubber Property – Durometer Hardness
16. ASTM D 2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
17. ASTM D 3350 Specification for Polyethylene Plastics Pipe and Fittings Materials
18. ASTM F 585 Practice for Insertion of Flexible Polyethylene Pipe into Existing Sewers
19. ASTM F 714 Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter
20. PLASTICS PIPE Renewing Sewers with Polyolefin Pipe Industry (PPI)

C. American Water Works Association
1. AWWA C906-07 - Polyethylene (PE) Pressure Pipe and Fittings, 4 In. Through 63 In. for Water Distribution and Transmission

1.4 COORDINATION

A. Notify affected property owners at least 72 hours prior to construction. All notifications shall be in English and Spanish and shall require prior approval from City. A detail letter regarding the construction work shall be prepared and mailed to any affected property owners a week ahead of starting the construction by the Contractor. No parking sign barricades shall be installed 72 hours prior to the work by the Contractor.

1.5 PREINSTALLATION MEETINGS

A. Attendance Roster Include affected utility companies and appropriate City officials.

1.6 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. **Certificates of Compliance:** Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.

C. Product Data□Submit manufacturer catalog cuts, other information indicating proposed materials, accessories, details, and construction information. Test and Evaluation Reports□ Submit reports indicating field tests made and results obtained.

D. Manufacturer's Certificate□ Certify that products meet or exceed specified requirements.

E. Manufacturer Instructions□

1. Indicate special procedures required to install specified products.
2. Submit detailed description of procedures for connecting new sewer or existing sewer line and directional drilling installation.

1.7 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Project Record Documents□Record invert elevations and actual locations of pipe runs, connections, manholes and cleanouts.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

D. Field □uality-Control Submittals□Indicate results of Contractor-furnished tests and inspections.

E. As-built drawings shall be provided as part of the closeout submittals.

1.8 □□ALITY ASS□RANCE

A. Testing at Manufacturer’s Plant: All pipe shall be subject to a hydrostatic pressure test and a 3-edge bearing test at the manufacturer’s plant. The Project Manager may select at random and test as specified one length of pipe for each 1000 feet or fraction thereof to be installed for the test as specified in ASTM C 301. The cost of pipe and the test shall be borne by the Contractor. Pipe will be acceptable under the test requirements specified herein when all test specimens conform to the test requirements. Should any of the test specimens fail to meet the test requirements, the manufacturer will be allowed to retest 2 additional

specimens for each specimen that failed, and the pipe shall be acceptable only when all the retest specimens meet the strength requirements.

B. Inspection of Materials—All pipe and fittings shall be true, circular, and concentric with the barrel of the pipe, cut off on a plane at right angles to the longitudinal axis of the pipe. At no point shall the thickness of the shell of the extreme outer end of the spigot be less in thickness than the shell of the main body of the pipe. Socket ends shall be square with the longitudinal axis and shall be true, circular, and concentric with the barrel of the pipe. All pipe shall be subject to inspection at the place of manufacture. The Contractor shall notify the Project Manager, in writing, of the manufacturing starting date not less than 14 days prior to the start of any phase of the pipe manufacture.

C. All pipe and fittings shall have smooth interiors and shall be free from injurious cracks, checks, blisters, broken extremities, or other imperfections.

D. The following imperfections in the barrel or socket of a pipe or fitting will be considered injurious and cause for rejection—
1. A single crack in the barrel of the pipe or fitting regardless of the length and depth of such crack.
2. Lumps, blisters, pits, or flakes on the interior surface of a pipe or fitting.
3. When spigot or bell of the pipe varies from a true circle more than 3 percent (3—) of its nominal diameter.
4. Any piece broken from the spigot end which extends through the barrel.
5. Tramp clays, grog, or other foreign matter which is fused permanently to the exterior or interior surface of the pipe or fittings.

1.9 ——ALIFICATIONS

A. Manufacturer—Company specializing in manufacturing products specified in this Section that are included in the contract shall have minimum three years of documented experience.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements—Requirements for transporting, handling, storing, and protecting products.

B. Inspection—Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Storage—Store materials according to manufacturer instructions.

D. Protection—

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Block individual and stockpiled pipe lengths to prevent moving.
3. Provide any additional protection according to manufacturer instructions.

1.11 EXISTING CONDITIONS

A. Field Measurements

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 SANITARY SEWERAGE PIPE AND FITTINGS

A. Plastic Pipe

1. Material Polyvinyl chloride (PVC).
2. Comply with ASTM D3034, SDR-26
3. Inside Nominal Diameter 4 inches through 15 inches.
4. End Connections Bell and spigot style, with rubber-ring-sealed gasket joint.
5. Fittings PVC.
   i. All fittings for PVC pipe shall conform to the requirements of ASTM D 2241. The ring groove and gasket ring shall be compatible with PVC pipe ends.
   ii. The strength class of fittings shall be no less than the strength class of any adjoining pipe, unless the adjoining pipe is an existing pipe.
   iii. PVC fittings shall, at a minimum, conform to the requirements of ASTM D3034 as they apply to type SDR-26 PVC Sewer Pipe using an elastomeric gasket joint in a bell and spigot assembly system. Rubber sealing gaskets shall meet the requirements of ASTM F477.
   iv. All PVC pipe entering or leaving a concrete structure shall have a rubber sealing gasket, as supplied by the pipe manufacturer, firmly seated perpendicular to the pipe axis, around the pipe banded and cast into the structure base or near the structure wall center as a water stop. Said water stop may also consist of a manhole coupling with rubber sealing rings cast into the structure base.
6. oints oints shall be Elastomeric gaskets complying with ASTM F477.

B. High Density Polyethylene (HDPE) Pipe

1. The HDPE pipe and fittings specified herein shall be used only in association with pipe bursting methods and directional drilling construction methods unless otherwise approved by City.
2. Pipe and fittings shall be high density, high molecular weight polyethylene with a cell classification of PE445574E, as defined in ASTM D 3350 and shall be colored white or light gray. In addition, the material shall be listed by the Plastic Pipe Institute with a designation of PE 3408 and shall be classified as a Type III, Class C, Category 5, Grade P34 material, as defined in ASTM D 1248.
3. All HDPE pipes to be used shall not be black or any dark color on the interior or orange, red, magenta, or blue color on the exterior of the pipe.
4. Fittings shall be of the same material and class as the pipe. Identification of pipe and fittings shall be in accordance with ASTM D 3350. Pipe and fittings shall be made from virgin material. No rework compound, except that obtained from the manufacturers own production of the same formulation, shall be used. Pipe and fittings shall be homogeneous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
5. Dimensions of pipe and fittings shall be in accordance with ASTM F 714. Pipe and fittings shall be at minimum SDR 17 with cast iron/ ductile iron outside diameter and have a minimum pressure rating of one hundred (100) psi at seventy-three and four-tenth degrees Fahrenheit (73.4 F).
6. The physical properties of the pipe and fittings material shall be as follows

PROPERT	**TEST METHOD**	**VALUE**
Density	ASTM D 1505	0.950 gms/cm^3 (gray)
Melt Index	ASTM D 1238	0.08 gms/10 min.
Hydrostatic Design Basis 73 F (23 C)	ASTM D2837	1,600 psi
Hydrostatic Design Basis 140 F (60 C)	ASTM D2837	1,000 psi
Color V Stabilizer	ASTM D3350 E	Gray, V Stabilized
Flexural Modulus	ASTM D 7900	120,000 psi
Tensile Strength, Yield	ASTM D638, Type IV	3,500 psi
Elongation at Break, 2 in./min., Type IV Bar	ASTM D638	800 percent
Environmental Stress-Cracking Resistance	ASTM D1693	5,000 hr 800 hr
Elastic Modulus	ASTM D638	175,000 psi
Hardness	ASTM D 2240	62 Shore D
PENT	ASTM F1473	500 hrs

Vicat Softening Temperature	ASTM D1525	256□F
Brittleness Temperature	ASTM D 746	□ -103□F
Thermal Expansion	ASTM D 696	$1.0x10^{-4}$ in./in./□F

6. □oints□□oints in HDPE pipe shall be made using thermal butt-fusion welding equipment designed for the specific purpose of permanently connecting HDPE pipes. This equipment shall be capable of squarely facing the pipe ends to be joined, properly heating each pipe end to the temperature range specified by the pipe manufacturer, and applying and sustaining the appropriate pressure, as recommended by the pipe manufacturer. Test joints may be requested at the Project Manager's discretion to ensure the quality of the joints.
7. For main sewer installation, the butt-fusion welding machine shall be outfitted with a measuring and recording unit that documents the conditions existing during the fusion of each individual weld. A printout that includes the date and time each joint was made, the joint number, the initials of the machine operator, the platen temperature at the time of mating, the pressure during the heating cycle, the time period for the heating cycle, the pressure during the soak cycle, and the time period of the soak cycle shall be machine-generated and delivered to City at the end of each work shift. The recording unit shall be a DataLogger, as manufactured by McElroy Manufacturing, Inc., or approved equal
8. Fusion equipment shall be operated by technicians who have been certified by the pipe manufacturer. A copy of the technician's certification shall be provided to City seven (7) working days prior to the start of the work. Furthermore, all technicians performing butt-fusion welding on this project shall have a minimum of three (3) years' experience operating the same equipment used hereon.
9. Butt-fusion welding equipment shall be as follows, or approved equal□
   a. McElroy No. 412 Hydraulic Fusion Machine, McElroy Manufacturing, Tulsa, Oklahoma.
   b. Proweld Field 12 (315)-R, Asahi/America, Malden, Massachusetts.
10. Fittings□The Contractor shall provide fabricated fittings where required. Fabricated fittings shall be of the same material as, and shall have a minimum pressure rating equal to, the pipeline material. If the fitting is in-line with the pipeline (i.e., a flange adapter), then the I.D. of the fitting shall be the same as the pipe. If the fitting is off-line (i.e., a wye), then the fitting shall have an I.D. in accordance with the plans. □nless otherwise required, all fittings shall be butt-fusion welded or flanged.
11. Terminations to pipe or fittings made of other pipe materials shall be made by using flanges. Flanges shall consist of flange adapters butt-fusion welded to the HDPE pipe end, ductile iron back-up rings with a pressure rating of at least one-hundred and fifty (150) pounds per square inch (psi), Type 316 stainless steel bolts, nuts and washers, and one eighth (1/8) inch thick, black-reinforced rubber gaskets. In no case shall threaded fittings or adapters be used to connect HDPE materials.

12. Forced main shall be HDPE SDR 11 pipe and joined by electro-fusion couplings.

2.2 FLEXIBLE CO□PLINGS

A. Description□Flexible couplings used for repairs, alterations and connections of dissimilar materials shall be rubber, full-circle, clamp-on type conforming with ASTM C 425, resilient chemical-resistant elastomeric polyvinyl chloride (PVC) coupling and provided with four (4) stainless steel band screw-clamps to secure the coupling tightly to entering and exiting pipes. All screw-clamp hardware shall be Type 304 or Type 316 stainless steel. Rubber material shall be suitable for use on sewage systems. All flexible couplings shall be approved by the City Engineer prior to its installation.

B. Manufacturers□Fernco□, Mission□, Husky□ or approved equal

C. Furnish materials according to ASTM C 425.

2.3 TWO WAY SEWER CLEANO□TS

A. Cleanouts shall be provided in the side sewer system at the following locations□
   1. At the property line
   2. At any single bend greater than forty-five degrees (45□).
   3. At intervals along the side sewer system where the cumulative total of deflection from the point of connection to the main sewer or from another cleanout equals or exceeds ninety degrees (90□).
   4. At intervals not to exceed one hundred (100) feet.
   5. Cast iron two-way cleanout fittings are not preferred.

2.4 RODDING INLETS

A. Rodding inlets are considered temporary terminal structures and may only be used when□1) future main sewer extensions are possible beyond the proposed upstream end of the □ob□and 2) a future sewer main sewer extension would not require a manhole at the proposed upstream end of the current □ob.

2.5 OVERFLOW PROTECTION DEVICES□

A. Overflow protection devices are required when the lowest building finish floor elevation is one foot lower than the rim elevation of the nearest upstream sanitary sewer manhole. This overflow protection device is to prevent backflow of sewage into the building.

B. No side sewer shall be constructed, altered or repaired without confirming that an approved overflow protection device has been properly installed on the side sewer.

C. Where reasonably possible, overflow protection devices shall be located in areas away from vehicular and foot traffic. If an overflow protection device must be located in an area which will have concrete or asphalt paving, such as a driveway or sidewalk, the device shall be installed in an approved reinforced concrete utility box fitted with a metal grate.

D. Where the sewage cannot overflow on the area surrounding of an overflow protection device without damage to property, a City-approved overflow protection device shall be installed.

E. Manufacturers
1. nlimited Home Solutions, LLC or approved equal (Sewer Relief Cap)
2. Genplex – elly Backwater Device (No-Hub & IPS) or approved equal (Mushroom type OPD)
3. Sewer Popper™ by Stephens Corp. or approved equal (Sewer Pop up)
4. Mainline Backflow Products Rector Seal or approved equal (Extendable Backwater Valve)

2.6 MANHOLES

A. Description As specified in Section 33 05 13 - Manholes and Structures.

2.7 MIXES

A. Grout As specified in Section 03 60 00 - Grouting.

2.8 FINISHES

A. Galvanizing

1. Hot-dip galvanize after fabrication.
2. Comply with ASTM A123.

2.9 ACCESSORIES

A. Pipe Supports

1. Metal for pipe support brackets Galvanized structural steel, thoroughly coated with bituminous paint.

B. Pipe Markers As specified in Section 33 05 26 - tility Identification.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that trench cut is ready to receive Work.

B. Verify that excavations, dimensions, and elevations are as indicated on the drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Remove large stones or other hard materials that could damage pipe or impede consistent backfilling or compaction.

C. Protect and support existing sewer lines, utilities, and appurtenances.

D. □tilities□

1. Maintain profiles of utilities.
2. Coordinate with other utilities to eliminate interference.
3. Notify Project Manager if crossing conflicts occur.

3.3 INSTALLATION

A. Bedding□

1. Excavate pipe trench as specified in Section 31 23 16 - □tility Trenching.
2. Excavate to lines and grades as indicated on Drawings, or as required to accommodate installation of encasement.
3. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.
4. Provide sheeting and shoring as specified in Section 31 23 16 - □tility Trenching.
5. Placement□
   a. Place bedding material at trench bottom as specified in Section 31 23 16 - □tility Trenching.
   b. Level materials in continuous layer not exceeding lifts as specified in Section 31 23 16 - □tility Trenching.
   c. Compact to percentage of maximum density as specified in Section 31 23 16 - □tility Trenching.

B. Piping□

1. Sewer pipe shall be laid to the line and grade as indicated on the Drawings. A string line shall be set and maintained by the Contractor by measuring

from three (3) consecutive points shown on the same rate of grade or slope, in order to detect any variation from a straight grade, and in any case such discrepancy is not reported to the Project Manager, the Contractor shall be responsible for any error in the finished work.

2. Maximum Variation from Indicated Slope□1/8 inch in 10 feet.
3. Begin at downstream end and progress upstream.
4. Assemble and handle pipe according to manufacturer's instructions, except as may be modified on Drawings.
5. □eep pipe and fittings clean until Work has been completed and accepted by Project Manager.
6. Cap open ends during periods of Work stoppage.
7. Lay bell and spigot pipe with bells upstream.
8. Each length of pipe shall be laid on a firm bed and shall have a true bearing for the entire length between bell holes. No wedging or blocking up of the pipe will be permitted. Pipe found to be damaged must be replaced by new sections, repair clamps will not be allowed.
9. When, for any reason, pipe laying is interrupted, the open end of all lines shall be closed with a close-fitting stopper.
10. All necessary precautions shall be taken to prevent uplift or floating of the pipe prior to the completion of the backfilling operation. The Contractor shall assume full responsibility for any damage due to this cause and shall restore and replace the pipe to its specified condition and grade if it is displaced due to floating including caused by groundwater, weather, or construction activity.
11. □oints shall not be deflected.
12. Install Plastic PVC SDR-26 pipe, fittings, and accessories according to ASTM D2321, and seal joints watertight.
13. Each pipe compression type joint shall be joined with a lock-in rubber ring and a ring groove that is designed to resist displacement during pipe insertion.
14. The ring and the ring seat inside the bell shall be wiped clean before the gasket is inserted. A thin film of lubricant shall be applied to the exposed surface of the ring and to the outside of the clean pipe end. Lubricant other than that furnished with the pipe shall not be used.
15. Backfill and compact as specified in Section 31 23 16 - □tility Trenching
16. Do not displace or damage pipe when compacting.
17. Pipes entering and leaving manholes or other structures shall have two (2) standard joints within three (3) feet of the manhole base. One (1) joint shall be incorporated in the manhole base or installed immediately adjacent to the manhole base and there shall not be less than twelve (12) inches between the two (2) joints.
18. Pipe Markers□As specified in Section 33 05 26 - □tility Identification.
19. HDPE Pipe□
    a. The Contractor shall inspect each pipe and fitting prior to butt-fusion welding and again prior to installation. Any damaged pipe or fittings shall be replaced by the Contractor.

b. Prior to butt-fusion welding or installation, each pipe or fitting shall be thoroughly cleaned and shall be kept clean. The material used to clean the pipe and fittings shall be as recommended by the pipe manufacturer.
c. Butt-fusion welds shall be performed in accordance with manufacturer's instructions. The butt-fusion welding procedures are summarized below□
   i. Clean each pipe end with a clean cotton cloth to remove dirt, oil, grease and other foreign materials.
   ii. Square (face) the mating surfaces of each of the pipes to be fused.
   iii. Bring the two (2) pipe ends together and adjust the pipe locations to ensure proper alignment.
   iv. Verify that the surface temperature of the heater plate is between three hundred seventy-five degrees Fahrenheit (375□F) to four hundred degrees Fahrenheit (400□F) and then clean the heater surface with a clean cotton cloth.
   v. Insert the heater plate between the pipe ends, bring the end into firm contact with the heater plate without applying pressure and achieve a proper melt pattern.
   vi. After achieving the proper melt bead, remove the heater plate and quickly examine the pipe ends for complete melt.
   vii. Once complete melt has been accomplished, rapidly bring the pip ends together and apply pressure as recommended by the pipe manufacturer.
   viii. Hold the pressure constant and at the proper level throughout the cooling period, for the minimum time period recommended by the pipe manufacturer or as necessary to achieve proper cooling
d. For main sewer installations, the Contractor shall mark each joint with the individual joint number, corresponding to the joint identification number appearing on the printout of the data logger attached to the butt-fusion welding machine. The printout shall be attached to the pipe near the joint for collection by City.
e. For main sewer installations, the Contractor shall remove the internal melt bead from the welded joint. Bead removal shall be accomplished in a manner that does not score or gouge the pipe.
f. The Contractor shall insert and retrieve the pipe through properly prepared insertion and receiving pits, in accordance with the requirements of ASTM F 585.
g. All pipe bursting and directional drilling procedures that require the use of HDPE pipe, shall be executed as specified on the Drawings and Technical Specifications.
h. For side sewer installations, a maximum of ten (10) joints per one hundred foot (100) length of laid pipe shall be achieved, unless all joints are debeaded.
i. Fittings/joints that are to be assembled after pipe bursting or directional drilling has been completed shall be butt fused where accessible. Electrofusion couplings like Friatec□ Frialen or approved equal shall be used on inaccessible locations.

j. Saddles used for taps shall be per thermal fused saddles for HDPE pipe.

C. Connection to Existing Manholes

1. Connections to existing manholes shall be made by core drilling a clean opening into the existing manhole wall. Insert end of the pipe through the opening to flush with the inside wall, installing a watertight neoprene gasket around the pipe and seal with non-shrink concrete grout to form a water-tight connection. The grout shall be trowelled smooth and flush with the interior surface of the manhole. Channelizing of the flow through the manhole shall conform to the details shown on the drawings for new manholes. Use of pneumatic hammers, chipping guns, sledge hammers are not permitted to make the opening in the manhole walls.
2. The Contractor shall notify the Project Manager twenty-four hours in advance before any connection is made to existing structures. He shall schedule his work so that there is no interruption of flow.
3. Encasement
   a. Concrete encase new sewer pipe minimum of 24 inches to the nearest pipe joint.
   b. Use epoxy binder between new and existing concrete.
4. Prevent construction debris from entering existing sewer line when making connection.
5. Where required, an exterior drop connection shall be constructed whenever any sewer enters a manhole more than four (4) feet above the flow line of the manhole, in accordance with the drawings, and may include a connection to either an existing manhole or a new manhole.
6. All drop manholes shall be outside drop manholes.
7. Care shall be taken that the riser portion is vertical, and that the elbow is firmly supported by the concrete.

D. Connections to existing sewers

1. Existing sewers are shown on the plans at the locations where new sewers are to be connected. It is the responsibility of the Contractor to determine the exact location and depth of the existing sewers prior to the installation of any sewer pipe. New pipe shall be plugged with mechanical plugs until further connection is necessary.
2. Connection of new main and/or trunk sewers to existing lines up to and including forty-eight (48) inches in diameter shall be made at existing manholes or by constructing a new manhole over the point of connection or by removing an existing rodding inlet or plug and extending new pipe of the same diameter, material and class from the point of connection.
   a. Where the connection is to be made into an existing manhole, it shall be done as specified above.
   b. Where the connection is to be made by constructing a new manhole on an existing sewer, the manhole and new connection shall conform to the details shown on the Drawings. The existing sewer shall be kept intact until immediately before the cleaning and flushing operation for the new sewer is to begin.

c. Where the connection is to be made at a removed rodding inlet or plug, the existing piping shall be cut square and ends properly prepared for the connection shown and an air tight fitting shall be installed at the connection of new and existing pipelines.
d. All new pipe shall be plugged with an approved mechanical plug or brick/mortar until the line is completed and ready for testing.

3. Side Sewer Connections to Main Sewers
   a. Side sewer connections shall be made with fittings or adapters recommended by the manufacturer for use with the particular pipe as shown on the Drawings
   b. Side sewers equal in size to the main sewer shall be connected by installing a wye branch or tee fitting.
   c. Connection and side sewer details shall conform to the drawings.
   d. Side sewer connections where wyes, laterals were not installed during main sewer construction, shall be made by installing a mainline tap as listed below, installing a main sewer repair spool (replacement pipe section) below including a new wye branch fitting. Installation of taps shall comply with the following requirements
      1) Before commencing excavation for tap installation, the Contractor shall have sufficient bedding and backfill material at the site to properly re-bed the main and lateral sewers, and backfill the excavation.
      1) The excavation for the tapping work shall be a minimum of two (2) feet in width, give enough length for work space, without under-cut sides and shall be properly shored. A minimum clearance of three (3) inches below, six (6) inches on each side and twelve (12) inches each way along the main from the point of connection shall be provided for tap installation.
   e. If the main sewer is damaged during excavation for or during installation of the tap, the Contractor shall install a main sewer repair spool (replacement pipe section) including a new wye branch fitting.
   f. The outer surface of the main in this exposed area shall be thoroughly cleaned prior to tapping.

E. Manholes

1. Install sanitary sewer manholes as specified in Section 33 05 13 - Manholes and Structures.

F. Wye Branches

1. Concurrent with pipe-laying operations, install wye branches at locations indicated on Drawings.
2. se standard fittings of same material and joint type as sewer main.
3. Maintain minimum five (5) feet separation distance between wye connection and manhole.

4. Sewer lateral bends shall be made with sewer Combination Wye and (1/8) Bends and not with sanitary tees
5. □se saddle wye with stainless-steel clamps for taps into existing piping.
6. Mount saddles with gasket and secure with stainless steel bands.
7. Lay out holes with template, and cut holes with mechanical cutter.
8. Saddles shall be Sealtite Type “S” Saddle or approved equal with four (4) band coupling for PVC and VCP pipes.
9. All fittings and coupling to be part of the low-pressure air test.

G. Sanitary Laterals□

1. Construct laterals from wye branch to terminal point at the right-of-way of a two-way sanitary sewer cleanout and as shown on the drawings.
2. Where depth of main pipeline warrants, construct riser-type laterals from wye branch.
3. Minimum Depth of Cover over Piping□Three (3) feet minimum.
4. Minimum Separation Distance between Laterals□Five (5) feet minimum.
5. Install watertight plug, braced to withstand pipeline test pressure thrust, at termination of lateral.

H. Backfilling□

1. Backfill around sides and to top of pipe as specified in Section 31 23 16 – □tility Trenching.
2. Maintain optimum moisture content of bedding material as required to attain specified compaction density.

3.4 FIELD □□ALITY CONTROL

A. Section 01 45 00 – □uality Control□Requirements for testing, adjusting, and balancing.

B. Request inspection by Project Manager prior to and immediately after placing bedding.

C. Testing□

1. Pipe Testing□Low pressure air test, infiltration test, manhole leakage testing, tv inspections and mandrel deflection test shall be per Section 33 01 30 - Testing for Sanitary Sewer, Storm Drainage - Piping and Manholes

2. Compaction Testing□Comply with Section 31 23 16 - □tility Trenching

3.5 PROTECTION

A. Section 01 77 00 - Closeout Requirements□Requirements for protecting finished Work.

B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

END OF SECTION 33 31 13

SECTION 33 41 13 - STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes all materials, equipment, and labor necessary to furnish and install all storm drainage piping, piping accessories, drainage structures, bedding and cover materials, concrete encasement and cradles, and all appurtenant work, complete and operable, including all connections as shown on the Drawings and as specified herein.

B. Related Requirements:
1. Section 03 30 00 - Utility Cast-in-Place Concrete
2. Section 03 60 00 - Grouting
3. Section 31 05 13 - Clearing & Grubbing, Excavation, and Earthwork
4. Section 31 23 16 - Utility Trenching
5. Section 33 01 30 - Testing for Sanitary Sewer, Storm Drainage – Piping and Manholes
6. Section 33 05 13 - Manholes and Structures
7. Section 33 05 26 - Utility Identification

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 29 00 - Payment Procedures: Contract Sum/Price modification procedures.

B. Pipe and Fittings:

1. Basis of Measurement: Storm Drainage Piping shall be measured by linear foot of pipe installed, measured from edge of structure to edge of structure for various pipe materials and various sizes irrespective of the depth of pipes.

2. Basis of Payment: The contract price paid per linear foot for Storm Drainage piping shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing Storm Drainage Piping, complete in place including bends, elbows or other pipe fittings, saw cut, excavating to required elevations, all utility trenching work as specified in Section 31 23 16 – Utility Trenching, removing excavated materials, dewatering, bedding, cradles, backfill and backfill material, pipe installation with warning tape, restoration and disposing of materials outside the Right-of-Way and connections to existing or new storm drainage mains and manholes.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials□

1. AASHTO M170 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
2. AASHTO M206 - Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe.
3. AASHTO M207 - Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe.
4. AASHTO M 252 - Standard Specification for Corrugated Polyethylene Drainage Pipe 3”-10”.
5. AASHTO M 294 - Standard Specification for Corrugated Polyethylene Pipe, 12”-60”.

B. ASTM International□

1. ASTM A123 - Standard Specification for □inc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
2. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
3. ASTM C443 - Standard Specification for □oints for Concrete Pipe and Manholes, □sing Rubber Gaskets.
4. ASTM C506 - Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe.
5. ASTM C969 - Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
6. ASTM C1103 - Standard Practice for □oint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
7. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil □sing Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).
8. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil □sing Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
9. ASTM D1784 – Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
10. ASTM D2321 - Standard Practice for □nderground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
11. ASTM D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
12. ASTM D2564 - Standard Specification for Solvent Cements for Polyvinyl Chloride (PVC) Plastic Piping Systems.
13. ASTM D2855 - Standard Practice for Making Solvent-Cemented □oints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.

14. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
15. ASTM D3212 – Standard Specification for □oints for Drain and Sewer Plastic Pipes □sing Flexible Elastomeric Seals.
16. ASTM D 3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
17. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
18. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for □oining Plastic Pipe.
19. ASTM F679 – Standard Specification for Poly Vinyl Chloride (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings.
20. ASTM F2306 - Standard Specification for 12 to 60 in. Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications.
21. ASTM F2648 - Standard Specification for 2 to 60 in. Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications

1.4 S□BMITTALS

A. Section 01 33 00 - Submittal Procedures□Requirements for submittals.

B. Product Data□Submit data indicating pipe, pipe accessories and gaskets

C. Manufacturer's Certificate□ Certify that products meet or exceed specified requirements.

D. Manufacturer Instructions□ Submit detailed instructions on installation requirements, including storage and handling procedures.

1.5 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. Project Record Documents□Record actual locations of pipe installed and top of pipe elevations and invert of pipe at all structures.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

D. As-built drawings shall be provided as part of the closeout submittals.

1.6 □□ALITY ASS□RANCE

A. Perform Work according to City Standard Specification.

B. Maintain one (1) copy of each standard affecting Work of this Section on Site.

1.7 □□ALIFICATIONS

A. Manufacturer□Company specializing in manufacturing products specified in this Section with minimum three (3) years of documented experience.

B. Installer□Company specializing in performing Work of this Section with minimum three (3) years of documented experience and approved by the Manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Requirements for transporting, handling, storing, and protecting products.

B. Inspection□Accept materials on Site in manufacturer's original packaging and inspect for damage. It is the responsibility of the Contractor to check quantities and note any missing or damaged items.

C. Storage□

1. Store materials according to manufacturer instructions.
2. Block individual and stockpiled pipe lengths to prevent moving.
3. Stack it on reasonably level ground.
4. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
5. Do not place pipe flat on ground□cradle to prevent point stress.
6. Don’t stack the pipes next to heat sources such as boilers, steam lines, electrical equipment or engine exhausts.
7. Gaskets should also be protected from heat, oil and grease.

D. Protection□

1. □eep □V-sensitive materials out of direct sunlight.
2. Provide additional protection according to manufacturer instructions.

PART 2 - PROD□CTS

2.1 STORM DRAINAGE PIPING

A. Reinforced Concrete Piping□

1. Pipe

   a. Comply with ASTM C76, AASHTO M170, ASTM C506, AASHTO M206, AASHTO M207, Class III or Class V, with Wall Type “B” or Wall “C” as specified in ASTM C76, however Wall “A” will not be allowed.

   b. The minimum allowable class of RCP shall be class III for pipe cover from three (3) feet to fifteen (15) feet defined as the distance from the inside top of pipe to the top of finished grade. RCP pipe cover less than three (3) feet from finished grade shall be Class V. Pipe covers more than fifteen (15) feet deep shall require structural loading calculations.
   c. Reinforcement Circular reinforcing bars.
   d. Inside Nominal Diameter 12 inches through 144 inches
   e. Ends Bell and spigot.

2. Fittings Reinforced concrete.
3. oints

   a. Comply with ASTM C443.
   b. Gaskets O-Ring Rubber compression gaskets retained in a groove on the spigot end.
4. Manufacturers
   a. Oldcastle Precast
   b. ensen Precast
   c. Cook Concrete Products, Inc.
   d. Or approved equal.

B. Plastic Piping

1. Pipe

   a. Material PVC.
   b. Comply with ASTM D3034, ASTM F79 - SDR 35 (Pipe Stiffness of 46psi) and SDR 26 (Pipe Stiffness of 115 psi)
   c. PVC SDR-35 pipe shall be used for perforated pipes only.
   d. The perforations shall be two rows of 1/2" diameter holes or openings at the bottom of the pipe 120 apart and five (5) inches on center.
   e. Color Green
   f. Inside Nominal Diameter Four (4) inches through Fifteen (15) inches per ASTM D3034 and Eighteen (18) inches through Forty-eight (48) inches per ASTM F679.
   g. Style Bell and spigot with rubber-ring sealed gasket joint.

2. Fittings PVC.
3. oints

   a. Comply with ASTM F477.

b. Gaskets Elastomeric.

4. Manufacturers
   a. M Eagle
   b. North American Pipe Corporation
   c. Or approved equal

C. Corrugated High Density Polyethylene Pipe (CHDPE)

1. Pipe & Fittings

   a. Material Corrugated PVC pipe with smooth interior must be manufactured from PVC virgin compounds, except clean, reworked, recycled PVC materials generated from the manufacturer's pipe or fitting fabrication may be reused.
   b. Corrugated PVC pipe and fabricated fittings shall be manufactured using High Density Polyethylene (HDPE) as defined and described in ASTM D3350 meeting the minimum requirements of cell classification of
      1) 424420C for 4"-10" pipe diameters and
      2) 435400C for 12"-60" pipe diameters,
      except the carbon black content should not exceed 4 .
   c. Size
      1) 4-inch through 10-inch Comply with AASHTO M252, Type S and ASTM F2648
      2) 12-inch through 60-incch Comply with AASHTO M294, Type S ASTM F2306 and ASTM F2648
   d. Manning's n value: 0.012
   e. Minimum pipe stiffness when tested under ASTMD2412 shall conform to the following Table

Nominal ID (inches)	Min Pipe Stiffness at 5 Deflection (psi)
4	50
6	50
8	50
10	50
12	50
15	42
18	40
24	34
30	28
36	22
42	20
48	18
60	14

f. Minimum Pipe cover 24-inches to finish grade.
g. Color Black
h. Style Watertight Bell and spigot with rubber-ring sealed gasket joint meeting AASHTO M252, M294 or ASTM F2306. The integral joints shall be watertight according to ASTM D3212.
i. oints oint shall provide a minimum pull-apart strength of 400lbs. The bell shall be an integral part of the pipe. oints shall remain silt-tight when subjected to a 1.5 axial misalignment.
j. Elastomeric gaskets must comply with ASTM F477. Install joints so that the elastomeric gasket will be compressed radially between the pipe bell and spigot to form a tight seal when assembled.
k. Wyes, tees, reducers, elbows, coupling, laterals, and other fittings must be molded or fabricated meeting the requirements of AASHTO M252, M294 or ASTM F2306.
l. Lubricant shall be applied to the bell and gasket during installation and must comply with pipe manufacturer's instructions.

2. Manufacturers
   a. N-12 WT as manufactured by Advanced Drainage Systems, Inc.
   b. Prinsco Goldflo WT Pipe
   c. Hancor, Inc. – Blue Seal WT IB pipe
   d. Contech Eagle Corr PE™ (Dual Wall)
   e. Or approved equal

2.2 DRAINAGE STR CT RES

A. Description As specified in Section 33 05 13 - Manholes and Structures.

2.3 CONCRETE ENCASEMENT AND CRADLES

A. Concrete

1. Description Reinforced concrete, as specified in Section 03 30 00 – tility Cast-in-Place Concrete.
2. Compressive Strength 4,000 psi at 28 days, reinforced concrete, air-entrained rough-troweled finish.

B. Reinforcement As specified in Section 03 30 00 - tility Cast-in-Place Concrete.

2.4 MATERIALS

A. Bedding and Backfill

1. Bedding & Backfill□Bedding and Backfill shall be as specified in Section 31 23 16 - □tility Trenching

2.5 MIXES

A. Grout□As specified in Section 03 60 00 – Grouting

B. Concrete Encasements and Cradles□

1. Class A concrete, as specified in Section 03 30 00 – □tility Cast-in-Place Concrete.

2.6 ACCESSORIES

A. Pipe Support Brackets□Galvanized structural steel coated with bituminous paint.

B. Pipe Markers□As specified in Section 33 05 26 - □tility Identification.

C. Drainage Structures□

1. Catch Basins, Inlets, Manholes and other Drainage Structures□As specified in Section 33 05 13 - Manholes and Structures.

PART 3 - E□ECUTION

3.1 EXAMINATION

A. Verify that trench cut is ready to receive Work.

B. Verify that excavations, dimensions, and elevations are as indicated on drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution□Requirements for installation preparation.

B. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.

C. Protect and support existing sewer lines, utilities, and appurtenances.

D. □tilities□
1. Maintain profiles of utilities.
2. Coordinate with other utilities to eliminate interference.
3. Notify Project Manager if crossing conflicts occur.

3.3 INSTALLATION

A. Excavation and Bedding

1. Excavate pipe trench and providing sheeting and shoring as specified in Section 31 23 16 – tility Trenching.
2. Hand trim excavation for accurate placement of piping to indicated elevations.
3. Dewater excavations to maintain dry conditions to preserve final grades at bottom of excavation.
4. Level materials, maintaining optimum moisture content of bedding material, compacting subgrade shall conform to Section 31 23 16 – tility Trenching.
5. Cradle bottom 20 percent of diameter to avoid point load.

B. Piping

1. Install pipe, fittings, and accessories according to ASTM D2321.
2. Install pipes in prepared trenches starting at the lowest point, with the spigot ends pointing in the direction of flow.
3. Seal joints watertight.
4. Place pipe on bedding meeting bedding requirements as specified in Section 31 23 16 – tility Trenching.
5. nless otherwise required, all pipe shall be laid straight between the changes in alignment and at uniform grade between changes in grade.
6. The rubber gasket joint shall be made by properly lubricating the rubber gasket with a suitable vegetable compound soap before it is placed in the groove at the spigot end. The gasket shall be stretched over the spigot end of the pipe and carefully seated in the groove, with care taken to equalize the stress in the gasket around the circumference of the joint. The gasket shall not be twisted, rolled, cut, crimped, or otherwise injured or forced out of position during the closure of the joint. A feeler gauge shall be used to check the position of the rubber gasket after the joint has been assembled. Where a joint placement is found to be improper, the tested pipe section shall be removed, the gasket checked for damage, a new gasket installed, if necessary, the pipe re-laid and the gasket placement rechecked.
7. Pointing and bonding mortar at pipe connections to structures shall be plastic and of such consistency that it will readily adhere to the pipe and structure.
8. Install backfill at sides and over top of pipe
9. Compact to percent maximum density as specified in Section 31 23 16 – tility Trenching.
10. Install water stop at all pipe entry into structures.
11. Backfilling and Compaction

    a. As specified in Section 31 23 16 – tility Trenching.
    b. Do not displace or damage pipe while compacting.

12. Pipe Markers As specified in Section 33 05 26 - tility Identification.

C. Drainage Structures

1. Catch Basins, Inlets, Manholes, and Other Drainage Structures As specified in Section 33 05 13 - Manholes and Structures.

3.4 TOLERANCES

A. Section 01 45 00 - uality Control Requirements for tolerances.

B. Maximum Variation from indicated Pipe Slope 1/8 inch in 10 feet.

3.5 FIELD ALITY CONTROL

A. Section 01 45 00 - uality Control Requirements for testing, adjusting, and balancing.

B. Request inspection by Project Manager prior to backfill in pipe zone and immediately after placing aggregate base over pipe in the pipe zone.

C. Testing

1. If tests indicate that Work does not meet specified requirements, remove Work, replace, and retest.

2. Compaction Tests
   a. Comply with ASTM D1557, ASTM D698, AASHTO T180, and ASTM D6938.

3. Low-Pressure Air Test
   a. As specified in Section 33 01 30 – Testing for Sanitary Sewer, Storm Drainage - Piping and Manholes.

4. Deflection Tests and CCTV Inspections
   a. As specified in Section 33 01 30 – Testing for Sanitary Sewer, Storm Drainage - Piping and Manholes

3.6 PROTECTION

A. Section 01 77 00 - Closeout Requirements Requirements for protecting finished Work.

B. Protect pipe and aggregate base from damage or displacement until backfilling operation is in progress.

END OF SECTION 33 41 13

SECTION 34 41 00 - TRAFFIC SIGNALS AND LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Work under this section shall consist of furnishing and installing, modifying or removing one or more electrical systems, all as shown on the plans and as specified in these specifications and the Department of Transportation Standard Provisions. Any deviation from the contract documents shall be approved by the Project Manager.

B. All signals and lighting materials shall conform to the applicable provisions of the standards specified in Division X "Electrical Work" of the Department of Transportation Standard Specifications and these specifications.

C. All materials furnished and used shall be new, except materials specified to be reused.

D. All incidental parts which are not shown on the plans, or specified herein or in the Technical Specifications, and which are necessary to complete or modify the systems, shall be furnished and installed as though such parts were shown on the Plans or specified herein. All systems shall be in satisfactory operation at the time of completion of the work. All work end materials shall conform with the appropriate utility agency standards at Contractor’s cost.

1.2 REFERENCES

A. Caltrans Standard Specifications (Department of Transportation)

B. California Manual on Uniform Traffic Control Devices (CA MUTCD)

C. California Vehicle Code (CVC)

D. National Electrical Manufacturers Association (NEMA)

E. Underwriters' Laboratories Inc. (UL)

F. Electronic Industries Association (EIA)

G. National Electrical Code (Code)

H. California Administrative Code, Title 8, Subchapter 5, Electrical Safety Orders

I. Rules for Overhead Electrical Line Construction, General Order No. 95 and Rules' For Construction of nderground Electric Supply & Communication Systems, General Order No. 128 of the Public tilities Commission

. Standards of the American Society for Testing and Materials (ASTM)

. National Standards Institute (ANSI)

1.3 SBMITTALS

A. Section 01 33 00 - Submittal Procedures Submittal procedures.

B. Contractor shall submit a schedule of values for all lump sum contract items in accordance with the Section 01 33 00 - Submittal Procedures

C. nless otherwise authorized in writing by the Project Manager, the Contractor shall, in accordance with the Section 01 33 00 - Submittal Procedures, submit to the Project Manager for approval of list of equipment and materials which the Contractor proposes to install. The list shall be complete as to name of manufacturer, size and identifying number of each item.

D. In addition, the Contractor shall submit detailed drawings and wiring diagrams for all electrical equipment to be used. The City will not be liable for any material purchased, labor performed, or delay to the work prior to review of documents required above.

E. A certificate of compliance with these specifications shall be submitted to the City by the manufacturer with all 5,000-volt series lighting conductors.

F. Product Data Provide manufacturers specification, literature, and shop drawings for all products in this Section including but not limited to the following items

a. Traffic signal controller, cabinets, and network equipment. The cabinet diagram shall include all details and dimensions of the cabinet enclosure, door, shelves, and internal features.

b. Conduit (GRS, PVC, and HDPE), pull boxes, conductors, vehicle signal heads, pedestrian signal heads, signal mounting assemblies (framework and mounting hardware), poles, mast arms, push buttons, loop sealants, conduit, pull tape, pull boxes, conduit/duct plugs and caps, LED signal modules, video detection system, battery backup system, and paint.

c. Concrete mix design for foundation concrete.

G. If ordered by the Project Manager, the Contractor shall submit for review sample articles of the material proposed for use. After review, said sample articles will be returned to the Contractor. Inspection or sampling of certain materials may be

made at the factory or warehouse prior to delivery to the jobsite, when required by the Project Manager.

H. The Contractor shall submit a Sign Inventory Form to be used as the official sign inventory record. The form is to be submitted by the Contractor as part of the Traffic Control Plan prior to the start of any contract field work. The Sign Inventory Form is included in this Project Manual as Appendix A to this Section. Sign Inventory Forms are required for each intersection corner that included any pole or traffic signal work. Sign Inventory Forms shall accurately reflect all existing traffic control, street name, and other City signs at the required corners including approximately 25' along each sidewalk approaching the corner.

I. If directed by the Project Manager, submit a scaled shop drawing or full scale mock-up for any sign that does not comply with the CA M□TCD.

□. If directed by the Project Manager, or as one or more of the following conditions exist, a Short Circuit Coordination study/Arc Flash study shall be required.
1. Voltage ratings above 208 VAC to 15,000 VAC
2. Bolted Fault between 700 Amps – 106,000 Amps Short Circuit Current
3. Arcing Fault based on circuit breaker clearing time
4. XFMR Impedance characteristics above 125 □VA
5. Systems of 50 & 60 Hz
6. Both Grounded and □ngrounded systems

1.4 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

B. □pon completion of the work, the Contractor shall submit one complete set of "as-built" or corrected plans showing in detail all construction changes, within 30 days of project completion

C. Prior to acceptance of the work, the Contractor shall furnish 5 sets of traffic signal controller cabinet schematic wiring diagrams which shall have the same phase designations required or as shown on the plans for the intersection. The diagrams shall show the location of the installation and shall list all equipment installed in each cabinet.

D. For each signal installation, the Contractor shall furnish an intersection sketch showing standards, detectors and phasing. One copy of the controller cabinet diagram and the intersection and phase diagram, as reviewed by the City, shall be placed in a heavy-duty plastic envelope and attached to the inside of the door of each controller cabinet.

1.5 □□ALITY ASS□RANCE

A. All equipment and work shall be performed in accordance with the regulations and codes as follows□NEMA, the □L, or the EIA, wherever applicable. In addition to the requirements of the plans, these specifications, and the Technical Specifications, all materials shall conform where applicable to the requirements of the Code□California Administrative Code, Title 8, Subchapter 5, Electrical Safety Orders□Rules for Overhead Electrical Line Construction, General Order No. 95 and Rules' For Construction of □nderground Electric Supply & Communication Systems, General Order No. 128 of the Public □tilities Commission□ASTM□ANSI□ any local ordinances which may apply□and the applicable provisions of the Caltrans Standard Specifications, CA M□TCD, and CVC.

B. Manufacturers' warranties and guarantees furnished for materials used in the work and instruction sheets and parts lists supplied with materials shall be delivered to the City prior to acceptance of the project. The duration of the warranty or guarantee shall be the standard of the industry with minimum of one year from the date of acceptance of the work.

C. The controller/cabinet vendor shall provide phone technical support with a response time of 2 hours or less during vendor’s normal business hours. This technical support shall be at no additional cost during the life of the contract or warranty period. The technical support shall be provided by qualified personnel with extensive knowledge of the firmware and hardware characteristics of the controllers and cabinets provided in this contract. The vendor shall provide technical assistance with the programming of all controllers provided in this contract.

D. If necessary, the controller/cabinet vendor shall provide field activation assistance by qualified personnel for all controllers supplied in this contract during the warranty period.

E. The controller and cabinet, including cabinet wiring and related hardware, shall be guaranteed against defective materials or workmanship for a 24-month period (from date of delivery). The vendor shall be responsible for reimbursing City forces for any time and material utilized to make necessary field trouble calls due to defective controllers and/or related hardware peripherals during the warranty period. □nits that are identified as being defective before the warranty has expired shall be replaced within 14 calendar days. The vendor shall be responsible for all costs, including shipping, incurred by the City for all units that are installed at an intersection and fail as a result of warranty covered failure within the warranty period.

F. Prior to delivery, the controller and/or cabinet assembly shall be tested by the controller and/or cabinet manufacturer or authorized local distributor to ensure proper component integration and operation. All inputs and outputs shall be

tested. The controller manufacturer shall provide certification that the controller has met all CALTRANS quality assurance tests. The cabinet manufacturer shall provide certification that the cabinet assembly has met all NEMA quality assurance tests.

G. The video detection system must be warranted to be free of defects in material and workmanship for a period of 3 years from date of shipment from the supplier's facility. During the warranty period, the supplier must repair with new or refurbished materials, or replace at no charge, any product containing a warranty defect provided the product is returned FOB to the supplier's factory or authorized repair site. Return product repair or replaced under warranty by the supplier with transportation prepaid. This warranty does not apply to products damaged by accident, improperly operated, abused, serviced by unauthorized personnel or unauthorized modification.

Ongoing software support by the supplier must include updates of the Video Image Vehicle Detection System (VIVDS) PROCESSOR and supervisor software (if a field setup computer is required for set up). Provide these updates free of charge during the warranty period.

The supplier must maintain a program for technical support and software updates following expiration of the warranty period.

H. The Battery Backup System (BBS) Manufacturer shall provide a two (2) year factory-repair warranty for parts and labor on the BBS from date of acceptance but more than six (6) months from ship date. Batteries shall be warranted for full replacement for five (5) years from date of purchase with an additional 1- year added when a battery balancer is installed at time of initial installation. A battery shall be considered bad should it not deliver 80□ of its original capability within the stated warranty period.

The warranty shall be included in the total bid price of the BBS.

I. Each BBS shall be manufactured in accordance with a manufacturer □uality Assurance (□A) program. The □A program shall include two □uality Assurance procedures□(1) Design □A and (2) Production □A. The Production □A shall include statistically controlled routine tests to ensure minimum performance levels of BBS units built to meet this specification and a documented process of how problems are to be resolved. The manufacturer, or an independent testing lab hired by the manufacturer, shall perform Design □ualification Testing on new BBS system(s) offered, and when any major design change has been implemented on an existing design. A major design change is defined as any modification, either material, electrical, physical or theoretical, that changes any performance characteristics of the system, or results in a different circuit configuration.

Production □uality Control tests shall be performed on each new system prior to shipment. Failure to meet this requirements shall be cause for rejection. Each system shall be visually inspected for any exterior physical damage or assembly anomalies. Any defects shall be cause for rejection.

1.6 □□ALIFICATIONS

A. The Contractor or its listed subcontractor or its key team members performing electrical work for this contract shall have a current and active class A General Engineering Contractor or C-10 Electrical Specialty license, and have satisfactorily completed projects with work that is similar in size and complexity to that of the Contract with the following minimum requirements□

1. The City considers the proper classification for employees who perform all electrical work associated with the installation of underground fed traffic signals to be that of Electrician□Inside Wireman.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□ Product transportation, storage, handling, and protection requirements.

B. Protect, transport, and store all electrical items specified herein in accordance with manufacturer's instructions.

C. Contractor shall deliver controller to the City of Pittsburg's Corporation Yard, 357 E. 12th Street, Pittsburg, CA 94565, for testing at least two weeks prior to installation at the Project Site

1.8 MAINTENANCE/EXTRA MATERIALS

A. Section 01 78 00 - Closeout Submittals□ Extra materials and maintenance products.

PART 2 - PRODUCTS

2.1 VEHICLE SIGNAL HEADS

A. Vehicle signal faces shall conform to Section 86-1.02R, "Signal Heads," of the Caltrans Standard Specifications.

B. All traffic signal heads shall have 12-inch indications and be LED.

C. All new vehicle signal heads installed at any one intersection shall be of the same style and from the same manufacturer, except for programmed visibility heads.

2.2 LO□VERS AND VISORS

A. All louvers and visors shall conform to Section 86-1.02R(4)(c) "Visors and Directional Louvers," of the Caltrans Standard Specifications. Visors for signal faces shall be aluminum.

B. Where shown on the plans or standard drawings, louvers shall be furnished and installed in the visors of the signal head sections designated. Louvers shall be Directional Louvers as per Caltrans Standard Plan ES-4C.

C. Visors shall be attached to signal heads with “universal” clips. The contractor shall apply an anti-seize compound (brand name “Never-Seeze” or equal) to the threads of the screws used to secure visors to signal heads.

D. □nless indicated otherwise on the plans, angle visors shall be dimensioned as follows□

1. 12-inch heads 12”x12”x27”

2.3 PEDESTRIAN SIGNALS

A. Pedestrian signals shall conform to Section 86-1.02S, "Pedestrian Signal Heads," of the Caltrans Standard Specifications.

B. All pedestrian signal heads shall have solid "man" and solid "hand" indications and be LED.

C. All pedestrian heads shall have a device approved by the City to reduce sun glare.

2.4 PEDESTRIAN P□SH B□TTON POST

A. Pedestrian push button posts shall be in accordance with Caltrans Standard Plan ES-7A.

2.5 ACCESSIBLE PEDESTRIAN SIGNALS

A. Accessible pedestrian signals shall conform to Section 86-1.02T "Accessible Pedestrian Signals," of the Caltrans Standard Specifications.

B. Accessible pedestrian signals shall be Polara Navigator, or approved equal.

C. Accessible pedestrian signals shall be in accordance with Caltrans Standard Plan ES-5C.

D. Accessible pedestrian signals shall be installed on the crosswalk side of the standard unless otherwise specified.

E. Accessible pedestrian signals shall be installed near transit stations, or as directed by the City, with Braille signage.

2.6 SIGNAL MO□NTING ASSEMBLIES

A. Signal mounting shall be as per applicable details shown on Caltrans Standard Plan ES-4A, ES-4B, ES-4C, ES-4D, and ES-4E. Heads shall be supported by assemblies of 1-1/2-inch Standard steel pipes with malleable iron or bronze fittings. All assemblies shall be installed plumb or level, as applicable, shall be symmetrically arranged, and securely tightened.

B. Top horizontal members shall be approximately 12 inches in length.

C. Construction shall be such that all conductors are concealed within standards or pipe assemblies.

D. Each □-bolt type pole clamp shall consist of a cast bronze pole plate drilled and tapped for 1-1/2-inch pipe thread, a hot-dip galvanized 1/2-inch □-bolt to fit the perimeter of the pole and oversized galvanized nuts and SAE washers. Portions of the pole plate shall be hinged for adapting the plate to various pole contours and shall be equipped with bolt openings through which the ends of the □-bolt shall be installed. □-bolt threads shall extend beyond the face of the nut at least □ inch and no more than 1-1/2 inches.

E. All set screws and back plate attachment screws shall be stainless steel. Plumbizer thru bolts, nuts, and washers shall be galvanized. Setscrews in slip fitters shall have square heads.

F. □nless otherwise specified herein or on the plans, heads shall be installed with terminal compartment mountings. For top mounting of a one-way head and mast arm mountings, a slip-fitter without a terminal compartment shall be used. Clamp-type mounting may be used for installation of heads on existing concrete standards if inserts for terminal compartment mounting have not been provided. The terminal compartment shall be mounted and the standard on the side away from traffic and parallel with the prolongation of the nearest curb face. Terminal compartment door screws shall be stainless steel and be □ inch in length.

2.7 TRAFFIC SIGNAL STANDARDS, PEDESTALS, AND POSTS

A. Standards for traffic signals and flashing beacons, pedestals for cabinets, and posts for pedestrian push buttons shall conform to Section 56-3 of the Caltrans Standard Specifications, and with Caltrans Standard Plans ES-7A through ES-7O.

B. Anchor bolts shall be of the type and size as shown on the plans. Anchor bolts shall conform to the specifications of ASTM A307, and shall be provided with 2 nuts and 2 washers each. Anchor bolts shall extend no less than □ inch and no greater than 1-□ inch beyond the face on the nut. Anchor bolts shall not be cut.

C. Anchor bolts, nuts, and washers shall be galvanized by the hot-dipped process conforming to ASTM AI53, or cadmium plated with Type NS coating conforming to ASTM AI65.

D. All nuts shall be symmetrically formed with the hole centered and at right angles to the face, tapped to fit a corresponding thread so that nut can be run the entire length of the thread by the fingers without undue forcing, and without noticeable play or rocking.

2.8 FO□NDATIONS

A. All concrete work related to traffic signal work shall be cast in place.

B. Concrete for foundations shall conform to Section 90-2 of the Caltrans Standard Specifications, “Minor Concrete,” and the Technical Specifications. Concrete shall contain not less than 564 pounds of cement per cubic yard, unless noted otherwise on contract drawings.

C. The Contractor is advised that existing pole foundations vary in size and shape. They may be as deep as 9 ft and as wide as 5 ft. There may be existing conduits embedded in the foundation. If the pole removal is specified, the Contractor shall remove pole foundation to 5 ft or deeper as required to accommodate the new pole foundation and fill the cavity with slurry.

D. In unpaved areas, a 4-inch-thick Portland cement concrete slab shall be constructed in front of each controller cabinet. The slab shall extend the full width of the cabinet foundation and extend out 3 feet from the face of said foundation.

2.9 TRAFFIC CONTROLLER □NIT

A. The traffic controller unit shall be Naztec Type TS-2, or approved equal.

B. Each controller furnished in this contract shall be in compliance with the March 12, 2009 TEES. □nits provided in this contract shall meet Caltrans standards.

2.10 TRAFFIC SIGNAL CABINET

A. Controller to be Cubic Trafficware TS2 TYPE 2 980 or 980ATC (approval by City Engineer).

B. Conflict monitor to be Cubic Trafficware NM512-E123.

C. Cabinet to be Cubic Trafficware Standard NEMA TS1 cabinet.

1. Controller cabinet shall be City Standard Type P 44 or Stretch P depending on location and/or design conforming to the requirements of Section 86-1.02□, “Cabinets” of the State Standard Specifications and shall have two exhaust fans with two thermostats wired parallel to non-□PS breaker. A baffle bracket shall be provided to interrupt and prevent reverse air flow between the fans.

2. Controller cabinet shall as per applicable details shown on Caltrans Standard Plan ES-3A, except the following□

a. Cabinet and doors shall be fabricated of 0.125-inch minimum thickness aluminum with continuously welded exterior seams. The door shall be latched using a three (3) point latching mechanism, using rods with a roller-style design and bearings. The cabinet door shall be fitted with a Number 2 Corbin lock (#2 key) and a stainless-steel handle with a flat profile.

b. Cabinet shelves shall provide spaces with minimum dimensions of 12 in. x 19 in. x 12 in.

c. Cabinet shall be Anodized Aluminum.

d. All equipment and modules shall be secured when properly installed. Vibration and minor shaking of the cabinet shall not cause any equipment or module to become dislodged from its proper position nor its operation to fail.

e. All cabinet shelves shall be perforated.

f. Cabinet riser 18”, Anodized Aluminum to be provided with the signal cabinet. Installation per city engineer based on location.

D. Cabinet Wiring - Wiring shall conform to the requirements of Sections 87-1.03□ “Cabinets”, of the State Standard Specifications and the following□

1. All wires terminating on a terminal strip shall be neatly dressed with adequate service loop.

2. All solid conductors installed in the cabinet (such as component pigtails), when a crimp connector is applied, shall be soldered.

3. No more than three wires shall be attached to the rear of each terminal of a feed-through type terminal block, and it shall be possible to alter or interrupt any and all equipment and terminal interconnections at the front of aforementioned terminal block(s). Jumpers shall be allowed on the rear of terminals in order to bus logic power, logic grounds, and other signals for multiple distributions to front mounted terminations.

4. Cabinet to be wired for 40 detects.

E. Cabinet Accessories - The following accessories or features shall be provided and included as part of the controller cabinet assembly

1. A two position “Stop Time Auto-Manual” switch shall be provided stop time of the controller unit when the police panel “Flash-Auto” switch is placed into the "Flash" position. When placed in the “Manual” position, the controller unit will be stop timed. The “Stop Time Auto-Manual” switch shall not have an off position.

2. An “Equipment Power On-Off” switch shall be provided on the control panel to disconnect power to all equipment in the cabinet except the vehicle flasher circuit, which shall remain operable.

3. The cabinet lighting fixture shall be an LED type, composed of two modules with each module having an output of 300 lumens. The light fixture shall be mounted on the fan/light control panel. A third LED module shall be mounted under the document drawer. A door switch shall be provided to shut off the cabinet light when the door is closed.

4. The maintenance panel shall be silkscreened and not use engraved labels.

5. Signal interconnect terminal strip to be installed.

F. Auxiliary Equipment - The following equipment shall be provided

1. The load bay shall be fastened with hinges near the bottom rear of its point of attachment to the cabinet. It shall be possible, by removing no more than two (2) fasteners at the top of the rack, to swing the rack downward and gain access to the rear of the rack and its wiring.

2. 16 MOV modules shall be supplied with every cabinet, having 12x modules with MOV protection only and 4x modules with MOV protection and a loading capacitor on the YELLOW channel only for pedestrian channels. Load switches shall be PDC #SSS-86I/O.

3. The back panel shall be constructed from one solid piece of 5052H32 black anodized brushed aluminum of 0.090 inches minimum thickness and formed so as to minimize any flexing when plugin components are installed. Back panels that are riveted together from multiple pieces of aluminum will not be acceptable.

4. All load switch outputs shall be wired to the field terminal blocks. All load switch field terminals shall be labeled with colored labels (RED, YELLOW, GREEN) that correspond to the appropriate signal indication color.

5. The load bay shall provide sixteen (16) load switch channels, one (1) flasher, and eight (6) flash transfer relays. Load switches and flasher shall be securely supported by a well braced metal bar or shelf located underneath the load.

6. Switch convection cooling or with full utilization of the load switch handle to facilitate the insertion and removal. The front portion of the support shall contain the phase/function label(s) for the load switches. The labels shall be visible while either standing or kneeling in front of the cabinet. All load switches shall be of solid state design and shall be provided with LED indicators of the input and output status

7. Conflict monitors shall conform to Section 3 of NEMA Publication TS 2-2003 v02.06, Type 2 Controller Unit and the following

    a. TS1 monitor with twelve (12) fully programmable input channels shall be used

    b. The monitor shall have the capability to detect the absence of phase color, switch failure, no lamp load conditions and more than one color (R, Y, or G) being on at the same time for each channel. It shall also be capable to detect short clearance intervals for each phase. The minimum interval shall be fixed at 2.5 seconds or shall be adjustable between 2.5 seconds and 2.8 seconds

    c. Conflict monitors are required to monitor voltage levels per NEMA standards regardless of sensed voltage phase shift with respect to cabinet voltage. This shall include 180 degree out of phase shift with respect to cabinet voltage

    d. Conflict monitors shall not latch upon the failure of the Controller Voltage Monitor (NEMA CVM) output however, conflict monitors shall latch upon failure of either 24 volt monitor circuit

e. The conflict monitor shall monitor both the controller 24 VDC power supply and the auxiliary power supply. The 24 volt monitor shall operate as follows□

1) If the monitoring device places the signals into flashing operation because of activation of either □24 VDC monitoring circuit, the flashing operation shall lock-in and shall release only upon operation of a reset switch and restoration of the proper □24 VDC levels. If a complete power failure to the controller assembly occurs after the monitoring device has placed the signals into flashing operation because of activation of either □24 VDC monitoring circuit, the flashing operation may release if proper □24 VDC levels exist when power is restored.

2) Circuitry to provide this feature shall be fully contained within the conflict monitor unit.

3) In no case shall a complete power failure to the controller assembly, which was functioning properly and in normal or "automatic" mode prior to the power failure, cause the signals to be in flashing operation, due to false or erratic operations of the aforementioned circuitry, after restoration of power.

4) All conflict monitor wiring for channel assignments to field indications shall be connected only to the field terminal block(s), not to the rear of load switch sockets.

5) The conflict monitor logic power shall be furnished by the controller power switch. The power to the conflict monitor relay shall be furnished from the unswitched main power.

f. One duplex convenience outlet with □SB charging ports shall be provided in each cabinet. One six outlet power strip to be provided in each cabinet.

g. A convenience outlet shall be provided in each cabinet, conforming to the following□

1) Devices plugged into the convenience outlet shall not be damaged or interfered by the cabinet door movement.

2) It shall be equipped with ground fault circuit interrupter (GFCI) protection.

h. All isolators, interfaces, cables, and related equipment for pedestrian circuitry, telemetry, and preemption systems shall be provided

regardless of whether those systems will be provided. The optical discrimination module shall only be provided when specified.

G. Detector Card Rack

1. Each controller cabinet shall be provided with two TS1 rack-mount card racks, capable of providing 32 channels of loop detection. EVP rack to provide 2 dual channel detector cards. First slot for channel A & B, Second slot for channel C & D. Opticom phase selectors to be GTT 762.

2. Detector card racks shall have a rigid aluminum frame and shall have slots set in a modular fashion such that the PCB edge connectors shall plug into the rear while sliding between top and bottom card guides for each module. Mounting flanges shall be provided and be turned outward for ease of access. Detector card racks shall be bolted to and unbolted from the cabinet shelf using simple tools.

3. Card rack slots shall be numbered 1 to 16 from left to right when viewed from the front of the rack. A flange shall be provided on the top and the bottom of the rack to label each individual channel.

4. Detector card racks shall be powered by an external DC power supply.

5. Rack chassis ground shall be bussed to a common point and wired to the detector panel.

6. Rack logic ground shall be bussed to both the controller logic ground and the external logic ground at a common point and wired to the detector panel.

7. Provide 16 (sixteen) LCD “EDI” Oracle 2E 2-channel detector cards with beep tone for maintenance purposes.

H. Detector Termination Panel - The controller cabinet shall be provided with a loop detector termination panel mounted in the interior left side of the cabinet. The detector panel shall meet the following□

1. Detector termination panel shall provide for all connections between detector loops installed in the street and detector amplifiers.

2. Detector termination panel shall be constructed of 3.2 mm / (1/8 in.) thick aluminum.

3. Detector termination panel shall contain a 76 mm (3 inches) horizontal slot in each corner to accommodate 6 mm (1/4 inch) mounting bolts.

4. All inputs from the loops shall be brought through posted 10/32 inch X 5/16 inch binder screw terminals or 8/32 inch X 5/16 inch binder screw terminals.

5. Each loop pair shall be protected by lightning surge suppressor. The suppressors shall be mounted to the back of the panel using feed-through screw terminals.

6. Detector terminals shall each have a test switch such that when the switch is closed, a call is placed upon that detector input. The test switch shall be on momentarily.

7. A chassis ground bus bar shall be provided on the panel and connected to the cabinet by an insulated braided copper ground strap. The strap shall be bonded to the cabinet.

8. The detector termination panel shall provide connection points for external 24 V power supply, loop inputs, logic ground, and chassis ground bus.

I. Power Panel

1. Cabinet power panel shall have a plugin type (HE1750) AC Surge Protector, Modular, and a HESCO/RLS model LF60, 60-amp 125 VAC radio interference line filter.

2. Separate breakers for convenience outlet, fan and light to a terminal block to service power.

3. Separate breaker for signal power to a terminal block for □PS.

4. A Crydom A-2475 solid state contactor shall be used instead of a mercury contactor.

2.11 VEHICLE DETECTION SYSTEMS

A. Vehicle detectors shall be of the type or types shown on the plans. The location of each detector shall be as shown on the plan or as directed by the City.

B. A minimum of at least one sensor unit shall be provided for each approach for each separately controlled phase of operation unless otherwise specified. Sensor units shall be housed in the controller cabinet unless otherwise specified.

C. Inductive loops - Detector loops shall conform to the following□

1. Detector loops, and their leads to the nearest pull box, shall be formed from continuous conductor of No. 12 AWG solid or seven-strand minimum tinned copper wire, having 600-volt type □SF cross-linked polyethylene insulation with a minimum thickness or 3/6” inch.

D. Video Detection System - Video Detection System shall consist of the Aldis GridSmart vehicle tracking, detection, and data collection system, or approved equal, and shall conform to the following□

1. Description.

   Install a Video Imaging Vehicle Detection System (VIVDS) that monitors vehicles on a roadway via processing of video images and provides detector outputs to a traffic controller or similar device.

   A VIVDS configuration for a single intersection will consist of either 1 or 2 fixed focal length omnidirectional view cameras and the VIVDS PROCESSOR.

   The system is composed of these principal items□the camera(s), the field communications link consisting of a single CAT5e cable between each camera and the VIVDS Processor, and the VIVDS PROCESSOR along with a PC, video monitor or associated equipment required to setup the VIVDS PROCESSOR and software to communicate to the VIVDS PROCESSOR.

   The VIVDS PROCESSOR must be either NEMA TS 2 TYPE 1 or TYPE 2. TYPE 2 must have RS 485 SDLC. The VIVDS PROCESSOR must have at least four (4) processing cores of 2.8GHz or greater, a minimum of 3GB random access memory (RAM), and at least 32GB of onboard storage.

2. Definitions.

   a. VIVDS PROCESSOR. The electronic unit that converts the video image provided by the cameras, generates vehicle detections for defined zones and collects vehicular data as specified.

   b. Central Control. A remotely located control center, which communicates with the VIVDS PROCESSOR. The VIVDS operator at the central control has the ability to monitor the operation and modify detector placement and configuration parameters. The equipment that constitutes central control is comprised of a workstation microcomputer along with the associated peripherals as described in this special specification.

   c. Field Setup Computer. A portable microcomputer used to set up and monitor the operation of the VIVDS PROCESSOR. If required to interface with the VIVDS processor unit, the field setup computer with the associated peripherals described in this special specification and a video monitor, also described in this special specification, must be supplied as part of the VIVDS.

d. Field Communications Link. The communications connection between the camera(s) and the VIVDS PROCESSOR. This link will consist of one CAT5e cable for each omnidirectional camera.

e. Remote Communications Link. The communications connection between the VIVDS PROCESSOR and the central control.

f. Camera Assembly. The complete camera or optical device assembly used to collect the visual image. The camera assembly consists of a CMOS camera, environmental enclosure, temperature control mechanism, and all necessary mounting hardware.

g. Occlusion. The phenomenon when a vehicle passes through the detection zone but the view from the sensor is obstructed by another vehicle. This type of occlusion results in the vehicle not being detected by the sensor.

or

h. When a vehicle in one lane passes through the detection zone of an adjacent lane. This type of occlusion can result in the same vehicle being counted in more than one lane detection zone. The detection zone is an area selected through the VIVDS PROCESSOR that when occupied by a vehicle, sends a vehicle detection to the traffic controller or freeway management system.

i. Detection Accuracy. The measure of the basic operation of a detection system (shows detection when a vehicle is in the detection zone and shows no detection when there is not a vehicle in the detection zone).

j. Live Video. Video being viewed or processed at 5 to 10 frames per second.

k. Lux. The measure of light intensity at which a camera may operate. A unit of illumination equal to one lumen per square meter or to the illumination of a surface uniformly one meter distant from a point source of one candle.

3. Functional Capabilities.

The system software must be able to detect either approaching or departing vehicles in multiple traffic lanes. A minimum of 24 detector outputs per VIVDS PROCESSOR. Each zone and output must be user definable through interactive graphics by drawing arbitrarily shaped polygons using the Field Setup Computer or Central Control. The user must be able to redefine previously defined detection zones.

The VIVDS PROCESSOR must provide real time vehicle detection (within 500 milliseconds (ms) of vehicle arrival).

The system must be able to detect the presence of vehicles in up to 64 detection zones per camera.

Detection zones must be provided that are sensitive to the direction of vehicle travel. The direction to be detected by each detection zone must be user programmable. The VIVDS PROCESSOR unit must compensate for minor camera movement (up to 2□ of the field of view at 400 ft.) without falsely detecting vehicles. The camera movement must be measured on the unprocessed video input to the VIVDS PROCESSOR.

The camera must operate while directly connected to VIVDS Processor □nit.

Once the detector configuration has been downloaded or saved into the VIVDS PROCESSOR, the video detection system must operate with the monitoring equipment (monitor and/or laptop) disconnected or on-line.

When the monitoring equipment is directly connected to the VIVDS PROCESSOR, it must be possible to view vehicle detections in real time as they occur on the field setup computer's color VGA display or the video monitor.

The VIVDS PROCESSOR must support 1 or 2 omnidirectional view cameras. If equipped with 1 omnidirectional view camera, the VIVDS processor must also be capable of simultaneously supporting up to four (4) more traditional view cameras for special needs such as advance detection or underpass detection.

4. Vehicle Detection.

   a. Detection □one Placement. The video detection system must provide flexible detection zone placement anywhere within the combined field of view of the image sensors. Preferred presence detector configurations shall be arbitrarily shaped polygons, including simple boxes, drawn across lanes of traffic or placed in line with lanes of traffic. A single detector must be able to replace one or more conventional detector loops.

   b. Detection □one Programming. Placement of detection zones must be by means of a graphical interface using the video image of the roadway. The monitor must show images of the detection zones superimposed on the video image of traffic while the VIVDS PROCESSOR is running. The displayed zones, when operating, must be able to be displayed outlined or filled, with a visible change indicating detection.

The detection zones must be created by using the mouse or keypad to draw detection zones on the monitor. The detection zones must be capable of being sized and shaped to provide optimal road coverage and detection. It must be possible to upload detector configurations to the VIVDS PROCESSOR and to retrieve the detector configuration that is currently running in the VIVDS PROCESSOR.

The mouse or keypad may be used to edit previously defined detector configurations so as to fine tune the detection zone placement size and shape. Once a detection configuration has been created, the system must provide a graphic display of the new configuration on its monitor. While this fine-tuning is being done, the detection must continue to operate from the detector configuration that is currently called.

When a vehicle occupies a detection zone, the detection zone on the live video must indicate the presence of a vehicle, thereby verifying proper operation of the detection system. With the absence of video, the VIVDS PROCESSOR must have a display that will indicate proper operation of the detection zones.

Detection zones must be provided that are sensitive to the direction of vehicle travel. The direction to be detected by each detection zone must be user programmable. The vehicle detection zone should not activate if a vehicle traveling any direction other than the one specified for detection occupies the detection zone. Cross-street and wrong way traffic should not cause a detection.

Detection zones must have the option for the user to define that calls can be made with a side entrance (90□or less angled entrance).

c. Design Field of View. The video detection system must reliably detect vehicle presence in the design field of view. The design field of view must be defined as the sensor view when the image sensor is mounted 30 ft. or higher above the roadway, when the camera is adjacent (within 15 ft.) to the edge of the nearest vehicle travel lane, and when the length of the detection area is not greater than 5 times the mounting height of the image sensor. Within this design field of view, the VIVDS PROCESSOR unit must be capable of setting up a single detection zone for point detection (equivalent to the operation of a 6 ft. by 6 ft. inductive loop). A single camera, placed at the proper mounting height, must be able to monitor up to and including 5 traffic lanes simultaneously. A single omnidirectional camera, placed at the proper mounting height, must be able to monitor detection zones in at least intersection approaches.

d. Detection Performance. Detection accuracy of the video detection system must be comparable to properly operating inductive loops. Detection accuracy must include the presence of any vehicle in the defined detection zone regardless of the lane, which the vehicle is occupying. Occlusion produced by vehicles in the same or adjacent lanes must not be considered a failure of the VIVDS PROCESSOR, but a limitation of the camera placement. Detection accuracy (a minimum of 95□) must be enforced for the entire design field of view on a lane by lane and on a time period basis. When specified in the plans, furnish up to 24 continuous hours of recorded video of all installed intersection cameras within the 30 day test period for verification of proper camera placement, field of view, focus, detection zone placement, processor setup and operation. The video from each camera must show vehicle detections for all zones.

e. Equipment failure, either camera or VIVDS PROCESSOR, must result in constant vehicle detection on affected detection zones.

5. VIVDS Processor

f. Cabinet Mounting- The VIVDS PROCESSOR is shelf mountable.

g. Environmental Requirements - The VIVDS PROCESSOR must be designed to operate reliably in the adverse environment found in the typical roadside traffic cabinet. It must meet the environmental requirements set forth by the latest NEMA (National Electrical Manufacturers Association) TS1 and TS2 standards as well as the environmental requirements for Type 170, Type 179 and 2070 controllers. Operating temperature must be from -30□F to □165□F at 0□ to 95□ relative humidity, non-condensing.

h. Electrical - The VIVDS PROCESSOR must have a modular electrical design. The VIVDS PROCESSOR must operate within a range of 89 to 135 VAC, 60 Hz single phase. Power to the VIVDS PROCESSOR must be from the transient protected side of the AC power distribution system in the traffic control cabinet in which the VIVDS PROCESSOR is installed. Communications to the field setup computer must be through an Ethernet port. This port must be able to download the real time detection information needed to show detector actuations.

The VIVDS PROCESSOR must have an Ethernet connection on the front of the unit for the connection to the 1st camera. If a second camera is installed at the intersection, the camera will connect with the VIVDS PROCESSOR through a connector mounted on the side of the PROCESSOR.

The unit must be equipped with a single VGA video output. This output must be capable of displaying the operation and detections of the VIVDS PROCESSOR. The change log for all Software upgrades and/or changes M□ST be presented on a readily assessable internet site with unencumbered public access.

The unit software and the supervisor software must include diagnostic software to allow testing the VIVDS functions. This must include the capability to set and clear individual detector outputs and display the status of inputs to enable setup and troubleshooting in the field.

6. Camera Assembly

i. Camera. The video detection system must use high resolution, color image sensors as the video source for real time vehicle detection. The cameras must be approved for use with the VIVDS PROCESSOR unit by the supplier of the VIVDS. As a minimum, each camera must provide the following capabilities□

i. Images must be produced with a CMOS sensing element with horizontal resolution of at least 2580 lines and vertical resolution of at least 1920 lines. Images must be output in digital format as M□PEG image.

ii. □seable video and resolvable features in the video image must be produced when those features have luminance levels as low 1.0 lux for color, for night use.

iii. □seable video and resolvable features in the video image must be produced when those features have luminance levels as high as 10,000 lux during the day.

iv. The camera must include an electronic shutter control based upon average scene luminance and must be equipped with fixed field of view and fixed focus lens which does not require opening the camera enclosure. The fixed focus lens must be always in focus without any required end-user adjustments.

j. Camera and Lens Assembly. The camera and lens assembly must be housed in an environmental enclosure that provides the following capabilities□

i. The enclosure must be waterproof and dust tight to the latest NEMA 4 specifications.

ii. The enclosure must allow the camera to operate satisfactorily over an ambient temperature range from -30□F

to □165□F while exposed to precipitation as well as direct sunlight.

iii. The enclosure must include a provision for connection of the CAT5e cable. Input power to the environmental enclosure must be included in the Ethernet interface.

iv. A thermostatically controlled heater must be at the front of the enclosure to prevent the formation of ice and condensation. The heater must not interfere with the operation of the camera electronics, and it must not cause interference with the video signal.

v. The enclosure must be light colored or unfinished and must be designed to minimize solar heating. Any plastics used in the enclosure must include ultra violet inhibitors.

vi. The total weight of the image sensor in the environmental enclosure must be less than 10 lb.

□se waterproof, quick disconnect connectors to the camera for the CAT5e connection.

A camera interface panel capable of being mounted to sidewalls of a controller cabinet must be provided for protection of the VIVDS PROCESSOR, camera CAT5e connection. The panel must consist of, as a minimum, 2 CAT5e cable surge protection connections.

When the connection between the camera and the VIVDS PROCESSOR is CAT5e cable, the cable used must be suited for outdoor installation. Camera mounting hardware must allow for vertical or horizontal mounting to the camera enclosure.

7. Field Communications Link

The field communications link must be a two way communications connection from the camera to the VIVDS PROCESSOR. The primary communications link media must be burial grade CAT5e cable.

The following requirements must govern for the various types of field communications link media described on the plans□

k. CAT5e Cable. In locations where the plans indicate CAT5e cable is required as the primary communications link, this cable must be burial grade as well as suitable for above ground applications.

All connection cables must be continuous from the equipment cabinet to the camera connector. Install lightning and transient surge suppression

devices on the processor side of the field communications link to protect the peripheral devices. The suppression devices must be all solid state. The devices must present high impedance to, and must not interfere with, the communications lines during normal operation. The suppression devices must not allow the peak voltage on any line to exceed 300□ of the normal operating peak voltage at any time. The response time of the devices must not exceed 5 nanoseconds.

8. VIVDS Set-up System

   The minimum VIVDS set-up system, as needed for detector setup and viewing of vehicle detections, must consist of a field setup computer and Windows based interface software (if required) or a video monitor with interface software built-in to the VIVDS PROCESSOR. Live video (5 frames per second) must be available on the field setup computer to determine proper operation of detectors. The field set-up computer as a minimum, must have a network connection.

   If a field setup computer is required for system set-up, it must be supplied by the supplier of the VIVDS PROCESSOR.

   The field setup computer must include all necessary cabling and a Windows based program to interface with the VIVDS PROCESSOR. This software must provide an easy to use graphical user interface and support all models/versions of the supplied VIVDS.

   Live video with the detection overlaid is required for field verification of the system.

9. Temporary □se and Retesting

   When shown on the plans, the VIVDS equipment must be used to provide vehicle detection on a temporary basis. When the permanent vehicle detection system and related equipment are installed and made operational, the VIVDS equipment must be carefully removed and delivered to the location shown on the plans.

10. Operations from Central Control

    The central control must transmit and receive all information needed for detector setup, monitor the vehicle detection, view the vehicle traffic flow and interrogate all required stored data. The remote communications link between the VIVDS PROCESSOR and central control may be dial-up (telephone or ISDN lines) or dedicated twisted wire pair communications cable which may be accompanied with coaxial cable or fiber-optic cable, as shown on the plans. Communications with the central control must not interfere with the on-street detection of the VIVDS PROCESSOR.

2.12 BATTERY BAC□□P SYSTEM (BBS)

A. Battery Backup Systems shall be mounted shown on the plans. The location of each shall be as shown on the plan or as directed by the City.

B. Battery Backup Systems to provide backup to the Controller and Traffic Signal Control shall be installed by one of the following methods□

1. Pole Mounted□ The BBS Enclosure shall be capable of being Pole Mounted. The enclosure will house the batteries, □PS and bypass switches. The cabinet must meet the requirements for NEMA 3R enclosures. The housing must have the structure and bracket options to be easily attached to wooden, steel or concrete pole. Dimensions of the enclosure shall not exceed 27”H x 22” W x 18” D.

   The complete enclosure and door must be made from .125” thick, 5052 aluminum. All external seams must be continuously welded. The door opening must have a double flange for weather sealing purposes.

2. Pad Mounted□The BBS Enclosure shall be capable of being Pad Mounted. The enclosure will house the batteries, □PS and bypass switches. The cabinet must meet the requirements for NEMA 3R enclosures. Dimensions of the enclosure shall not exceed 50”H x 17” W x 17” D. An eight (8) inch Riser shall be available for Stand-Alone Pad Mount installations.

   The complete enclosure and door must be made from .125” thick, 5052 aluminum. All external seams must be continuously welded. The door opening must have a double flange for weather sealing purposes.

3. Side Mounted□The BBS configuration shall have the □PS Power Module installed into the existing traffic control cabinet along with the bypass manual/automatic transfer switch. The batteries shall be installed into its own side mounted battery compartment. The side mounted battery compartment will house the batteries, battery balancer and compartment fan. The cabinet must meet the requirements for NEMA 3R enclosures. The housing must have the dimensions so that it may easily be attached the side of a M, P or 332 Type cabinet. Dimensions of the enclosure shall not exceed 48”H x 20” W x 10” D. The side mounted battery compartment must not interfere with the opening of the traffic cabinet door.

   The complete enclosure and door must be made from .125” thick, 5052 aluminum. All external seams must be continuously welded. The door opening must have a double flange for weather sealing purposes.

   The battery side mount compartment will be mounted to the traffic control cabinet with six 8 hex head bolts, ¼” x 20”. All holes will be field drilled by the Contractor to accommodate the specific situation. A grommet must be supplied to protect the cable in a field drilled 1.5” to 2” hole for cable

connection to the existing traffic controller. The Contractor will supply all the mounting hardware, bolts, washers, nuts, gaskets, bushings, grommets, caulking, etc., necessary to install the cabinet in a safe and weatherproof manner.

C. Battery Backup System shall consist of a complete Alpha Technologies BBS, or approved equal, and shall conform to the following.

1. Description.

   Furnish an Outdoor Hardened Battery Backup System with a battery enclosure mounted as noted.

2. Materials.

   Furnish, assemble, fabricate, or install new corrosion resistant materials in accordance with these specifications. Supply a “rack mounted” UPS unit, including a front panel with indicators and control switches, as shown on the plans.

3. Functional Requirements.

   The following are the minimum requirements for a complete emergency battery backup system for use with Light Emitting Diode Traffic Signal Modules at intersections with NEMA, 170 or 2070 cabinets. The Battery Backup System (BBS) shall include, but not be limited to the following Inverter/Charger, Batteries, a separate automatic and manually operated Bypass Switch and all necessary hardware and interconnect wiring. The BBS shall be capable of providing power for full run-time operation for an “LED –only” intersection (all colors: red, yellow, green and pedestrian heads) or flashing mode operation and intersection Red LED’s. The BBS shall be designed for outdoor applications.

4. Enclosure Construction.

   a. Door. The cabinet must have a door to provide access to the complete cabinet interior. The door must include a continuous piano hinge made of 14-gauge stainless steel and a .120” diameter stainless steel hinge pin. The hinge must be attached to the enclosure and the door with close end pop rivets. The door must have a three (3) point locking mechanism with rollers at the ends for the latch rods. The key lock must be a Corbin cylinder lock with a #2 key. When the door is opened it must have stops at 90, and 130 degrees. A continuous neoprene gasket must be used to weatherproof the enclosure when the door is closed.

   b. Ventilation Fan. A fan must be mounted in the air baffle at the top of the cabinet with an air outlet built into the overhang. The fan must be

thermostatically controlled. The bottom of the door must be louvered to allow airflow. A removable dust filter must be located behind the vent.

c. Finish. The enclosure shall be a natural aluminum or painted ASA 61 Gray.

d. Features. An “On Battery” factory installed high impact red light option shall be available for the enclosure. The “On Battery” LED shall operate off of the DC voltage of the PS to notify that the PS is on batteries without opening of the door. The lamp will be wired to and controlled by the PS power module. The enclosure shall be designed to rack mount the PS and Fail Safe ATS transfer switch. When the PS is mounted into the enclosure it must be mounted to accommodate straight-on horizontal viewing of the LCD screen on the PS.

e. Generator Connection. An optional factory installed flush mount generator compartment with neoprene gaskets for weatherproofing shall be available for the enclosure. The generator compartment shall include a locking 30 amp plug, L5-30FI, for connecting of a portable AC generator. A manual transfer switch shall be mounted within the generator compartment to allow for transferring from utility power to generator power. The generator door will provide a cable slot to allow for closing of the door when the generator is plugged in and to lock the cable inside of the compartment. The door will include a Corbin Type 2 lock.

5. Battery System.

a. Individual batteries shall be

• Voltage rating: 12V type

• Amp-hour rating 100 amp-hour minimum

• Group size: 31

• Batteries shall be easily replaced and commercially available off the shelf.

b. Batteries used for BBS shall consist of 4 batteries. All batteries must meet their specifications out of the box immediately after the initial 24-hour top off charge. Batteries that require cycling to meet the AH rating specifications are not acceptable.

c. Batteries shall be deep discharge, sealed prismatic lead-calcium based GEL/VRLA Gelled Electrolyte/ Valve Regulated Lead Acid).

Batteries designed for Cycle applications, such as Solar, are not acceptable. The battery must be designed for Standby Applications.

d. Batteries shall have a discharge operating temperature range of – 40 □C to □71 □C.

e. Batteries shall have a Manufactures Warranty of 4 Years Full Replacement plus 1 additional year when a battery balancer is used. The warranty shall cover any battery that does not meet 80□ of its original reserve capability during the warranty period.

f. The batteries shall be provided with appropriate interconnect wiring for the cabinet into which they will be installed.

g. Batteries shall indicate maximum recharge data and recharging cycles.

h. Battery Harness

1. Battery interconnect wiring shall be via two-part modular harness.

2. Part I shall be equipped with red (□) and black (-) 30.48 cm (12”) cabling that can be permanently connected to the positive and negative posts of each battery. Each red and black pair shall be terminated into an Anderson style Power Pole connector or equivalent.

3. Part II shall be equipped with the mating Power Pole style connector for the batteries and a single, insulated Power Pole style connection to the inverter/charger unit. Harness shall be fully insulated and constructed to allow batteries to be quickly and easily connected in any order to ensure proper polarity and circuit configuration.

4. Power Pole connectors may be either one-piece or two-piece. If a two-piece connector is used, a locking pin shall be used to prevent the connectors from separating.

5. All battery interconnect harness wiring shall be □L Style 1015 CSA TEW or Welding Style Cable or equivalent, all of proper gauge with respect to design current and with sufficient strand count for flexibility and ease of handling.

6. Battery terminals shall be covered and insulated with molded boots so as to prevent accidental shorting.

i. Battery Balancer□ The battery balancer shall be provided that automatically balances the battery charge voltage on all batteries in

the string to within □100mV between any two batteries. The Balancer shall allow for any single 12V battery within the battery string to be replaced at any time throughout the warranty period and not require the purchase of new batteries, to install the battery covered under the warranty.

6. BBS Operation.

   a. The BBS shall provide a minimum four (4) hours of full run-time operation at 500 watts with an additional nine (9) hours of Red Flash operation at 125 watts. Typical values for a “LED-only” intersection. The inverter, when on batteries, shall operate with a minimum efficiency of 84□ with a load ranging from 25□ to 90□ of the BBS total output rating. The BBS shall operate at 98□ or higher when operating under normal condition (utility power is available).

   b. The BBS, for safety and efficiency shall operate with a nominal 48 VDC buss. A DC level higher than 56 VDC shall be considered unsafe and not acceptable.

   c. The maximum transfer time allowed, from disruption of normal utility line voltage to stabilized inverter line voltage from batteries, shall be 5 milliseconds. 5 milliseconds maximum allowable transfer time shall also apply when switching from inverter line voltage to utility line voltage.

   d. The BBS shall include a rack mounted Fail Safe Automatic/Manual Bypass Switch for bypassing the □PS for maintenance. The FS-ATS bypass switch will be a 3-stage configuration, □PS Normal mode, bypass □PS on and bypass □PS off. The FS-ATS Bypass Switch shall mount in a 19” rack inside of the BBS side mount enclosure.

   e. The BBS shall provide the user with 6-sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) individually programmable dry relay contact closures, available on a front panel-mounted terminal block, rated at a minimum 120V/1A, and labeled so as to identify each contact.

      1. One set of NO and NC contact closures shall be energized whenever the unit switches to battery power. Contact shall be labeled or marked “On Batt.”

      2. A second and third set of NO and NC contact closures shall be energized whenever the battery approaches approximately 40□ of remaining useful capacity. Contact shall be labeled or marked “Low Batt.” This setting must be adjustable from 10% to 90% via the RS232 connection.

3. A fourth set of NO and NC contact closures shall be energized two hours after the unit switches to battery power. Contact shall be labeled or marked “Timer.” This setting must be adjustable from 1 Min. to 8 Hours via the RS232 connection.

4. A fifth set of NO and NC contact closures shall be energized in the event that an Alarm condition occurs. Contact shall be labeled “Alarm”.

5. A 48 VDC output shall be provided for operating an external fan. This output can also be factory configured as a dry contact

6. Relay contact activation shall be annunciated on the front panel via a visual indication. This can be either discreet LED, or part of LCD screen, etc.

f. The BBS shall have two (2) independently programmable timers 0 to 8 hours with two (2) times-of-day restrictions on each timer, providing dry contacts to provide Red Flash operation at user definable times of day.

g. The BBS shall provide 3 user inputs to support Intrusion Alarm, Emergency Power Off (EPO) and external Self Test (Battery Test).

h. Operating temperature for both the inverter/charger, and manual bypass switch shall be –40 □C to □74 □C with a load of 850 watts.

i. The Fail Safe ATS Bypass Switch shall be rated at 240VAC/30 amps, minimum

j. The BBS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 2.5 – 6.0 mV/ □C per cell. The temperature sensor shall be external to the inverter/charger unit. The temperature sensor shall come with 3 meters (9’10”) of wire. .

k. Batteries shall not be recharged when battery temperature exceeds 50 □C □ 3 □C.

l. BBS shall bypass the utility line power whenever the utility line voltage is outside of the following voltage range□85VAC to 175VAC (□ 2VAC). During a utility input from 85 VAC to 175 VAC the □PS shall utilize its internal double buck, double boost regulation to maintain a 108 to 131 VAC output to the controller cabinet, without the use of the batteries. The BBS shall go into Boost Mode 1 when the AC Line voltage reaches below 110 VAC, □/- 2volts. When the AC line drops below 96 VAC, □/- 2 volts the BBS shall go into Boost Mode 2. When the AC line voltage reaches 131volts, □/- 2volts the BBS shall go into Buck Mode 1. When

the AC Line voltage reaches 150 volts the BBS shall go into Boost Mode 2.

m. When utilizing battery power, the BBS output voltage shall be between 110 VAC and 128 VAC, pure sine wave output, ≤ 3% THD, 60Hz ± 3Hz.

n. BBS shall be compatible with NEMA, 170 or 2170 Controllers, and cabinet components for full time operation. All loads to the maximum rating of the BBS shall be powered through the BBS system to utilize the □PS internal Buck/Boost regulation.

o. In cases of low (below 85VAC) or absent utility line power, when the utility line power has been restored to normal for more than 3 seconds, the BBS shall transfer from the Boost Regulation Mode or the battery backed inverter mode back to utility line mode.

p. In cases of high utility line power (above 175VAC), when the utility line power has been restored to normal for more than 3 seconds, the BBS shall transfer from the Buck Regulation Mode or battery backed inverter mode back to utility line mode.

q. BBS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service. For conformation the UPS module must be UL/CSA approved and labeled. “Tested to” or “Built to” UL/CSA is not acceptable.

r. In the event of inverter/charger failure, battery failure or complete battery discharge, the Fail Safe Transfer Switch shall revert to the NC (and de-energized) state, where utility line power or generator power, if available, is connected to the cabinet.

s. Recharge time for the battery, from “protective low-cutoff” to 90% or more of full battery charge capacity, shall not exceed eight (8) hours, unless limited by the Temperature Regulated charger due to excessive battery heat that could damage the integrity of the battery string.

t. Batteries shall be Deep Discharge Gel Type Valve Regulated Lead Acid Battery and compatible with the Battery charger.

7. Maintenance, Displays, Controls and Diagnostics.

a. The BBS shall include a display and /or meter to indicate current battery charge status and conditions.

1. The BBS shall provide voltmeter standard probe input-jacks (□) and (-) to read the exact battery voltage drop at the inverter input.

b. The BBS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.

c. The BBS shall be equipped with an integral system to prevent battery from destructive discharge and overcharge.

d. The BBS and batteries shall be easily replaced with all needed hardware and shall not require any special tools for installation.

e. The BBS shall display via an LCD panel to indicate the number of times the BBS was activated and the total number of hours the unit has operated on battery power. The LCD display shall show the □PS mode, Alarm status, Input and output voltages, Output current, Battery voltage, battery charger current and last event. It shall allow for programming of the battery charger from 3, 6 and 10 amp charger setting.

f. The BBS shall include two separate communication ports on the front panel of the □PS, a factory installed internal Ethernet port for SNMP/WEB communications along with an RS 232 port for local communications.

g. The BBS shall include a Microsoft Windows□ Graphical □ser Interface for programming and monitoring the BBS. This must be provided in addition to the use of Hyper Terminal and provided at no cost.

h. Manufacturer shall include a set of operator's manuals with each BBS.

i. The BBS shall provide the ability to manage daylight savings time automatically.

j. The BBS temperature reporting shall be selectable, Celsius or Fahrenheit.

k. The BBS shall have the ability to update the firmware via the Web Pages.

l. The BBS shall be capable of reporting the date in either number or text format in any order of day, month and year.

m. The BBS shall have battery runtime reporting integration based on the current rate of consumption via a selectable collection of common batteries and via generic configuration with editable Peukert's number.

n. The BBS shall display the MAC address locally and remotely.

o. The BBS shall display the unit serial number locally and remotely.

p. The BBS shall display the record the power consumed by the load. (□W)

q. The BBS shall have a user input selectable alarm. An alarm shall be sent via SNMP when activated.

r. The BBS shall have a remote shutdown / reboot via SNMP feature.

s. The BBS shall have up to 255 COM ports available on the RS-232.

2.13 STANDARD STREET LIGHTING

A. Standards for lighting shall be in accordance with Section 56-3 of the Caltrans Standard Specifications, and with Caltrans Standard Plans ES-6A through ES-6G.

B. All pole hardware nuts, bolts, and screws shall be stainless steel. Mounting bolts, nuts, and screws shall be galvanized.

C. A No 5 pullbox shall be installed at each light pole, Pullbox lid shall have "LIGHTING" stamped in lid.

D. A photo cell shall be installed on each fixture.

E. Each light fixture shall have a fuse

F. Street lighting conduit shall have a minimum coverage of 24 inches.

G. □se 8-foot luminaire arm for roadways less than 40 feet in width, and 15-foot luminaire arm for roadways 40 feet or more in width.

H. A photocell shall be installed in each fixture for un-metered electrical service installations.

I. A photocell shall be installed in service assembly for metered electrical service installations.

□. City of Pittsburg Approved "Cobra Head" Fixtures
1. “CREE” (RSW SERIES, MEDIUM) RSWL – A – HT – 3ME – 14L – 40□7 – □L – GY – N - □

□. In general, the approved above fixtures shall be used on the following roadway classifications (IESNA RP-8 Report). The specific fixture selected shall be used in a photometric analysis and approved by the City.
1. Local residential streets.
2. Local commercial and collector residential streets (up to 40 feet wide).
3. Collector commercial streets (up to 40 feet wide).
4. All major streets (over 40 feet wide).

5. All expressway streets (over 40 feet wide).

L. Single Fixture Street Light Pole shall be "HAPCO" Drawing Number B101150, or approved equal (see table for arm length)

2.14 DECORATIVE STREET LIGHTING

A. Standards for lighting shall be in accordance with Section 56-3 of the Caltrans Standard Specifications, and with Caltrans Standard Plans ES-6A through ES-6G.

B. All pole hardware nuts, bolts, and screws shall be stainless steel. Foundation mounting bolts, nuts, and screws shall be galvanized.

C. A No 5 pullbox shall be installed at each light pole, Pullbox lid shall have "LIGHTING" stamped in lid.

D. A twist lock photo cell shall be installed on each fixture for un-metered electrical service installations

E. A twist lock photo cell shall be installed in service assembly for metered electrical service installations.

F. Each light fixture shall be fused.

G. Steel tenon base anchorage shall be used in twin-fixture decorative lighting pole with pole height greater than 10’ and/or with banner attached.

H. "Old Town" boundary includes all streets (both sides) within the perimeter of and including Black Diamond Street, East Third Street, Cumberland Street, and East Tenth Street.

I. City of Pittsburg Approved "LED" Decorative ("Acorn") Post Top Light Fixture (Single or Double)
   1. "Cyclone Lighting" Catalog # CYT13T4 – VS3ARP – 5 – 50W – 4□ – 120 – EV1 – DCP – F2AP – PTDR – S□ – CP1 – B□ - TX(For installations outside of "Old Town" boundary)
   2. "Cyclone Lighting" Catalog # CYT13T4 – VS3ARP – 5 – 50W – 3□ – 120 – EV1 – DCP – F2AP – PTDR – S□ – CP1 – B□ - TX (For installations within "Old Town" boundary)

□. City of Pittsburg Approved Decorative Luminaire Pole
   1. "Cyclone Lighting" Catalog # PD12-□GFIC2-B□-TX (single head)
   2. "Cyclone Lighting" Catalog # PD12-□T12-GFIC2-B-TX (double head)
   3. "□" - Pole height to be determined by the Engineer

□. City of Pittsburg Approved Decorative Bracket

1. "Cyclone Lighting" Catalog # CP2408-C2-T12-B□-TX (double head)
2. "Cyclone Lighting" Catalog # BA2-4-24-A-P-D2-B□-TX (pole banner)

L. City of Pittsburg Approved Park/Pathway Luminaire Pole, Fixture, and Base Cover
1. "Cyclone Lighting" Catalog “CREE” (EDGE SERIES) ARE-EDR-5M-R6-06-E-□L-B□-40□-525-P ("LED" Light Fixture)
2. "Cyclone Lighting" Catalog # PA40-12-TN32-B□-TX-R30 (Luminaire Pole)
3. “Cyclone Lighting” BD11-B□-TX (Base Cover)

2.15 P□LL BOXES

A. Pull boxes shall be in accordance with Section 86-1.02C “Pull Boxes,” of the Caltrans Standard Specifications and Caltrans Standard Plan ES-8A and ES-8B.

B. Pull boxes shall be installed at the locations shown on the plans or, in long runs, they shall be spaced at not over 200 feet. It shall be the option of the Contractor, at its expense and subject to the approval of the City, to install additional pull boxes that he may desire to facilitate the work.

C. Where practical, pull boxes shown in the vicinity of curbs shall be placed adjacent and level with the beck of curb. Pull boxes shall be installed with the long side parallel to the curb. Pull boxes shall not be installed in any part of a driveway or other traveled way unless otherwise specified.

D. The bottom of the pull box shall rest firmly on a 12-inch-thick bed of 1-inch max crushed rock extending 6 inches beyond the outside edges of the pull box.

E. Concrete pull box covers to be installed in street lighting systems shall be inscribed "STREET LIGHTING" “HIGH VOLTAGE" for circuits over 600 volts. For 120 volt or 80 volt circuits, cover shall be inscribed with the applicable voltage.

F. Concrete pull box covers to be installed in signal systems, or combined signal and low voltage lighting systems, shall be inscribed "TRAFFIC SIGNALS." Concrete pull box covers for underground service points, where both traffic signals and street lighting jointly occupy the same box, shall be inscribed "TS-SL."

2.16 COND□IT

A. All conductors shall be run in conduit except where they are inside standards, or for overhead and temporary installations or otherwise specified.

B. Conduits shall be of the size indicated on the plans. It shall be the option of the Contractor to use larger conduit than that specified, provided that where such

substitution is made, it shall be for the entire length of the conduit run. No reducing fittings will be permitted.

C. Detector or street lighting conduit shall be 1-inch nominal size. Direct interconnect or utility service conduit shall be 1-1/2 inches nominal size. Traffic signal conduit shall be 2 inches nominal size minimum, except conduit from the standard to an adjacent pull box may be 1-1/2 inches unless otherwise specified.

D. All conduit shall be the rigid galvanized steel type unless otherwise specified. Where non-metallic conduit is specified, it shall be Schedule 40 PVC when concrete-encased or Schedule 80 PVC when direct buried.

E. Conduit and conduit fittings shall be galvanized by the hot-dip, electrodepositing, or metallizing process. Galvanized conduit shall conform to standards for rigid steel conduit as specified by □nderwriters' Laboratories, Inc., and shall bear the □nderwriters' label on each length.

F. The ends of the conduit shall be free of burrs and rough edges. Ends of conduit shall be properly coupled. Running threads, threadless connectors or threadless couplings will not be permitted.

G. The maximum bend of a conduit shall be 90□and the minimum radius of a factory bend shall be 12 inches (305mm).

2.17 COND□CTOR AND WIRE

A. Copper wire shall conform to the applicable portions of ASTM B3 and B8. Wire sizes shall be based on American Wire Gauge (AWG).

B. Conductors for series street lighting systems shall be No. 8 AWG solid copper wire insulated with 0.110-inch thickness Polyethylene insulation. Standard S-61-402 of Insulated Power Cable City Association, and designated for operation at 5,000 volts.

C. Where isolating transformers or ballasts are used, the secondary conductors from transformer to luminaire shall be insulated NO. 10 AWG solid copper wire. Multiple circuit conductors shall be of a size indicated on the plans. Insulation for such conductors shall be rated and □L approved for 600-volt operation, and shall be standard THHN Type. Grounding conductors shall be stranded soft drawn bare copper of the size indicated on the drawings. Insulated ground wires shall be permitted in raceways and shall be THHN Type with green insulating jacket.

2.18 SERVICE

A. The Contractor shall furnish and install all material and equipment necessary to complete the electrical connection between the terminating point of the serving utility and the electrical system as shown on the plans or otherwise required.

B. Service equipment and enclosures shall be in accordance with Caltrans Standard Plans ES-2A through ES-2G.

C. For series street lighting systems served from overhead circuits, a switch of 5,000-volt rating shall be connected to control each circuit. The switch shall be enclosed in a NEMA Type 3R, 18-inch by 24-inch by 6-inch terminal box. The terminal box shall be fitted with a cover permanently inscribed "DANGER - HIGH VOLTAGE." The cover shall be attached to the box to form a rain-tight plate and shall require tools for removal. The terminal box shall be installed not less than 10 feet above the ground.

PART 3 - E□ECUTION

3.1 MAINTAINING EXISTING AND TEMPORARY ELECTRICAL SYSTEMS

A. Existing electrical systems, or temporary replacements thereof, shall be maintained in effective operation by the Contractor during the progress of the work. The Contractor shall notify the Project Manager at least two working days prior to performing work on existing systems.

B. Before commencing the work, the Contractor shall submit in writing to the Project Manager a description and detailed schedule of the intended operations relative to keeping the traffic signals, traffic signal interconnect, and street lights in operation.

C. The Contractor shall furnish and install whatever temporary or permanent conduit, overhead and other wiring and equipment as necessary, shall make all connections and do other work necessary to maintain normal signal and street lighting operation and at the conclusion of the need therefore, shall remove all temporary facilities from the site.

D. Temporary wiring as described herein shall not apply to circuits exceeding 150 volts to ground.

E. Temporary wiring may be either overhead or underground conductors. All temporary overhead conductors shall be slack-spanned with 20-foot minimum overhead clearance across thoroughfares and 12-foot minimum clearance above sidewalk areas. No temporary conductor may run on top of the ground or across any sidewalk area unless adequately protected in an electrical raceway. Overhead conductors shall be multi-conductor cable or single conductors,

securely tied or taped at intervals not to exceed 5 feet. No spare conductors are required. All splices within 10 feet above ground level shall be enclosed in metal junction boxes. Splices made at ground level shall be enclosed in pull boxes.

F. Temporary traffic signal heads shall provide a minimum of 2 clearly visible signal faces for traffic from each direction, one being adjacent to the left side of the traveled way and one being adjacent at the right side of the traveled way. The exact location and any additional signal faces shall be determined by the City. All temporary signals shall be securely mounted at approximately a 10-foot height and wood poles, platform standards, or semi-permanent structures. Mast arms, where required, shall provide a minimum clearance of 17 feet from the traveled way to the bottom of the signal. All primary and mast arm signals shall have back-plates. All mast arm signals and arrow indications shall be 12-inch size.

G. When traffic signal shutdown is permitted by the City, it will be for a two-hour period between 9 a.m. and 2 p.m. Work necessitating longer periods of time may be authorized by the Project Manager. Preliminary work associated with the shutdown shall be done prior to the actual shutdown in order to minimize the amount of time necessary for the completion of the work. Sufficient manpower and equipment shall be employed by the Contractor to minimize the shutdown period. Once a shutdown is in effect, all work shall be diligently pursued without interruption until the signals are back in normal operation. Delays in effecting the shutdown by the City shall not constitute shutdown time for the Contractor.

H. In all cases, shutdown flashing operation, and turn-on must be requested at least 24 hours in advance and must be approved by the City.

I. Contractor shall provide flagmen where necessary to handle traffic safely.

. The Contractor shall temporarily relocate existing City-owned equipment if the present location of equipment conflicts with an installation of this contract.

. The Contractor shall be completely responsible for the maintenance and continuity of operation of any temporary electrical facility installed by the Contractor.

L. Disconnection of any existing or temporary streetlights shall not be permitted until the new equipment has been tested and properly adjusted.

M. Lamps (LEDS) in traffic signal heads installed or relocated by the Contractor that burn out during the life of the contract shall be replaced by the Contractor with new approved traffic signal rated lamps.

N. Lamps in street light luminaires installed, relocated or worked on by the Contractor that burn out during the life of the contract shall be replaced by the Contractor with new, equal lamps.

O. The cost of electrical energy for any temporary facility will be borne by the City but the Contractor shall bear all costs of any temporary service connections.

P. All work and expenses for maintenance of existing traffic signal and streetlights in operation shall be done as incidental work to traffic signal work of this contract.

3.2 REMOVING, REINSTALLING OR SALVAGING ELECTRICAL E□□IPMENT

A. Removing, reinstalling or salvaging electrical equipment shall be in accordance with Section 87-21 “Existing Electrical Systems,” of the Caltrans Standard Specifications and the Technical Specifications.

B. □nless otherwise specified, conductors, standards, electrical equipment, and foundations not to be reused shall become the property of the Contractor and shall be removed from the jobsite. Any salvage value shall be reflected in the Schedule of Values. All conduit abandoned in place shall be terminated at least 12 inches below the finished grade.

C. Care shall be exercised in removing equipment to be reused or salvaged so that it will remain in the condition existing prior to its removal. The Contractor will be required to replace, at its expense, any equipment which has been damaged or destroyed by its operations.

D. All salvaged equipment shall be coordinated and delivered to the City of Pittsburg's Corporation Yard, 357 E. 12th Street, Pittsburg, CA 94565. Contractor responsible for equipment to load, haul and offload materials as directed by the City at the Corporation Yard.

3.3 EXCAVATION AND BAC□FILL

A. The excavations required for the installation of conduit, foundations and other equipment shall be performed in such a manner as to cause the least possible damage to the streets, sidewalks and other improvements. The trenches shall not be excavated wider than necessary for the proper installation of the electrical equipment or foundations. Excavating shall not be performed until just prior to installation of equipment. The material from the excavation, shall be shall be placed in a location to cause the least obstruction to surface drainage and vehicular and pedestrian traffic. Refer to Section 31 23 16 – □tility Trenching.

B. Where excavations are required in parkways and lawns, existing sod shall be removed and preserved by the Contractor. After backfilling, the sod shall be replaced and the entire area restored to original grade and condition or better.

C. Where excavations are required in concrete sidewalk, cuts and joints shall conform with the applicable provisions regarding concrete.

D. After backfilling, excavations shall be kept well filled and maintained in a smooth and well-drained condition until permanent repairs are completed.

E. At the end of each day, and at all other times when construction operations are suspended, all equipment, material and debris shall be removed from that portion of the right of way open for vehicular and pedestrian traffic. Barricades shall be erected at all excavations not backfilled or finished to final grade. Such shall conform with OSHA requirements.

F. All excavations, including those resulting from removal of existing equipment as specified or on the plans, shall be backfilled and the surface restored to match existing improvements in conformance with the applicable requirements concerning such work. The work in the street or highway shall be performed in such a manner that not more than one lane of traffic is restricted in either direction at any time, unless approved by the City.

3.4 FO□NDATION CONSTR□CTION

A. All work shall conform to line elevation and grade as shown on the plans required by the utility or as established by the City.

B. The foundations shall be constructed in a single placement of concrete of the class specified. The bottom of the foundations shall rest securely on firm, undisturbed ground. When a firm footing cannot be obtained at the depth shown on the plans, or where the foundation cannot be constructed to standard dimensions because of an obstruction, the foundation shall be installed as directed by the City.

C. Where forms are required because of soil conditions or grade, they shall be true to line and grade, firmly braced and secured in place, and shall not be removed until the concrete has set.

D. Foundations shall cure for 7 days before installing any equipment.

E. Wherever the edge of a concrete foundation extends within 18 inches of any existing concrete improvement, a concrete slab with a minimum thickness of 4 inches shall be extended to meet such improvement.

F. The foundation cap shall be of similar color, finish and material as the adjacent sidewalk. It shall be a minimum of 4 inches thick and shall be placed after the standard is set in final position.

G. All anchor bolts, nuts and washers, including those required for existing standards to be relocated, shall be furnished by the Contractor.

3.5 TRAFFIC SIGNAL POLE INSTALLATION

A. Standards, poles, pedestals, and posts shall be installed in accordance with Caltrans Standard Specification 87-1.03□.

B. Plumbing of standards shall be accomplished by adjusting the nuts and the anchor bolts before the foundation cap is placed. Shims or other similar devices for plumbing or raking will not be permitted. After plumbing the standard, anchor bolts shall be cut off 1/4 inch above the nuts and the exposed surfaces shall be repaired with cold galvanizing paint.

C. Holes left in the shafts of existing standards due to removal of equipment, shall be repaired by either welding a suitable disc, grinding smooth, and painting as provided for repairing damaged galvanized surfaces elsewhere specified or grouting to match existing texture and color.

3.6 SIGNAL HEAD INSTALLATION

A. Install as per manufacturer’s instructions.

B. Signal heads shall not be installed at any intersection until all other signal equipment, including the controller, is in place and ready for operation at that intersection, except that signal heads may be mounted if the faces are turned away from traffic or are covered.

C. Signal heads shall be located and aimed as shown on the plans or as directed by the City. Mounting location and standards shall be as shown or as directed by the City.

D. After installation, prior to signal operation, all signal heads shall be "bagged". Plastic sheeting and duct tape are not allowed.

3.7 COND□IT INSTALLATION

A. All threads shall be treated with approved joint compound before fittings are placed thereon. Where the galvanized coating of conduit or fittings has been injured in handling or installing, such damaged areas shall be thoroughly painted with a rust preventive paint.

B. Conduit shall be installed in accordance with Caltrans Standard Specification 87-1.03B "Conduit Installation".

C. In any case where a different depth is required to meet the controlling utility agency

D. requirements, Contractor shall comply with said utility specifications at no additional cost to the City.

E. Conduit laid in open trench shall not be covered nor shall any trench or inspection hole be backfilled until the installation has been approved by the City.

F. Conduit shall be placed under existing pavement by jacking or drilling methods. Pavement shall not be disturbed without permission from the City. □acking or drilling pits shall be kept 2 feet clear of the edge of any type of pavement wherever possible.

1. Excessive use of water, such that pavement might be undermined, or softened, will not be permitted.

2. □acking pits adjacent to railroad tracks shall be constructed not less than 12 feet from the center line of track or as otherwise required by the railroad agency concerned.

3. When the jacking pit is left overnight, it shall be covered with substantial planking.

3.8 WIRING

A. Wiring shall be done in conformance with all applicable Regulations and Codes and the requirements herein.

B. Wiring shall be installed in accordance with Caltrans Standard Specification 87-1.03F 'Conductors and Cable Installation".

C. The Contractor shall investigate and conform the installation connections to any utility services, shall meet the specifications of the utility agency involved. In case of conflict, the utility specifications shall control and the Contractor shall comply in all respects at no additional cost to the City.

D. Connectors and terminals for use with aluminum utility power service conductors shall be aluminum and shall be greased with an approved inhibitor.

E. Where low-voltage conductors are run in standards containing high-voltage conductors, either the low-voltage or the high-voltage conductors shall be encased in flexible or rigid metallic conduit, to a point where the two types of conductors are no longer in the same raceway.

F. Conductors shall be pulled by hand. Winches or other power-actuated pulling equipment shall not be used. Only approved lubricants may be used in placing conductors in conduit.

G. Splices, where allowed, shall be made only in pull boxes and standard bases. Conductors shall be joined by the use of a connector approved by the City. The splice shall be capable of satisfactory operation under continuous submersion in water.

H. Conductor insulation shall be well penciled, trimmed to conical shape, and roughened before applying splice insulation. Splice insulation shall consist of layers of vinyl chloride electrical insulating type, conforming to ASTM D2301, Type I, applied to a thickness equal to and well lapped over the original insulation.

I. Small permanent identification bands shall be marked as specified. The bands shall be securely attached to conductors in pull boxes and near the termination of each conductor. Where circuit and phase are clearly indicated by conductor insulation, bands need not be used. Permanent identification bands shall be embossed, 6 mil oil resistant polyvinyl chloride tape with pressure-sensitive backing. Tape shall be of a type such that symbols contrast with the background color.

3.9 BONDING AND GRO□NDING

A. Metallic cable sheaths, metallic conduit, non-metallic conduit grounding wire, ballast and transformer cases, service equipment, sign switches, anchor bolts, end metal standards that form a continuous system shall be effectively grounded. Bonding and grounding jumpers shall be copper wire or copper strap of the same cross-sectional area as No. 8 AWG for all systems, except where noted herein.

B. Grounding of metallic conduit, service equipment and neutral conductor at service points shall be accomplished as required by the applicable Code and the serving utility, except that grounding conductors shall be No. 6 AWG copper wire.

C. For bonding purposes in all non-metallic type conduit, a bare No. 8 AWG copper wire shall be run continuously in all circuits.

D. Bonding of standards shall be accomplished by means of a No. 8 AWG bonding wire attached from a grounding bushing to a foundation bolt or to a 3/16 inch, or larger, brass or bronze belt installed in the lower portion of the standard.

E. Bonding of metallic conduit in non-metallic pull boxes shall be by means of copper strap or galvanized grounding bushings and bonding jumpers.

F. The metallic conduit or bonding conductor system shall be securely grounded, at intervals not to exceed 500 feet, to one of the following□

1. A 1-inch galvanized pipe driven to a depth of 8 feet and having its upper end not more than 3 inches above the conduit, or

2. A minimum l/2-inch by 8-foot copper weld rod driven to a depth of 7 feet 9 inches. On wood poles, all equipment mounted less than 10 feet above ground surface shall be grounded.

3.10 IND□CTIVE LOOP INSTALLATION

A. The 2 leads for each loop shall be installed as a pair in a common saw slot. The detector loop leads may share a common saw slot with leads from other detector loops. However, the detector loop leads shall not cross any loops and shall not be installed within 20 inches of any other lead. The lead in cable shall consist of No. 21 AWG-□F twisted pair and be continuous from the pull box where connections are made to the inductive detector loops to the cabinet containing the sensor units for the loops.

B. The Contractor shall make continuity and insulation resistance tests after installation on both inductive detector leaps and lead-in cables. The measurement shall be made using the conduit system as ground and with the shield (if any) of the lead-in grounded.

C. Slots □-inch minimum width shall be cut in the pavement, blown clean and dried before installing inductive loop detectors. 18-inch corner cutoffs shall be provided on all loops.

D. After conductors are installed in the slots cut in the pavement, the slots shall be filled with epoxy sealant, "Epoxy Sealant for Inductive Loops (Caltrans Standard Specification 80/40-01E-06,") to within 1/8 inch of the pavement surface. The sealant shall be at least 1/2 inch (13mm) thick above the top conductor in the saw cut. Before setting, surplus sealant shall be removed from the adjacent road surfaces without the use of solvents.

E. The loops shall be joined in the pull box in combination of series and parallel so that optimum sensitivity is obtained at the sensor unit. Final splices between loops and lead-in cable shall not be made until the operation of the loops under actual traffic conditions is approved by the City.

3.11 VIDEO DETECTION SYSTEM INSTALLATION AND TRAINING

A. The supplier of the video detection system must supervise the installation and testing of the video and computer equipment. .

B. Instruction personnel are required to be certified by the equipment manufacturer. The □ser's Guide is not an adequate substitute for practical, classroom training and formal certification by an approved agency.

C. Formal levels of factory authorized training are required for installers, contractors and system operators. All training must be certified by the manufacturer.

D. The sensing elements shall be placed in the bottom of the holes, in a vertical position, and the holes shall be filled with clean dry sand to approximately 3 inches below the pavement surface.

E. The epoxy sealant for the slots and holes shall be Caltrans Standard Specification 8040-O1E-06 and the holes shall be filled with the epoxy sealant.

3.12 TRAFFIC SIGNAL CONTROLLERS AND CABINET ASSEMBLIES

A. Prior to delivery, each controller and cabinet assembly shall be assembled and tested by the controller manufacturer or authorized local distributor to ensure proper component integration and operation. The vendor shall provide certification that the cabinet and controller assembly has met all applicable Caltrans quality assurance tests. Approval certificates for each controller and cabinet assembly shall be delivered at the time the controller units and related components are delivered.

B. The City reserves the right to reject an entire shipment of controller/cabinet assemblies if ten percent or more of the total number (sample included) prove to be defective within a thirty (30) day period after installation, or fail any performance test.

C. The Contractor shall install each cabinet directly to a controller foundation in the field. The Contractor shall perform the final signal wire terminations by connecting the field wires to the appropriate terminal locations in the controller cabinet as required preparatory work prior to activation. All field wires shall be labeled per this Section as part of the preparatory work.

D. Installing New Anchor Bolts into Existing Foundations□The Contractor shall drill new holes for anchor bolts and install anchor bolts with approved materials (see Part 2 for approved bolt and anchor material). The bolts should extend above the concrete by 1.5" (2" max). The depth below the surface of the concrete should be 10-10.5" for epoxy or 6.5 to 7" for the mechanical anchor.

3.13 CABINET E□□IPMENT INSTALLATION

A. The Contractor shall install interior cabinet equipment per the Plans, and as further directed by the Project Manager. The equipment shall be securely fastened to a shelf, wall or rail, i.e. it shall not be left free-standing unless otherwise noted or directed by the Project Manager. The Contractor shall provide training on the setup, configuration, and operation of all equipment.

3.14 PAINTING OF WOR□ F□RNISHED AND INSTALLED OR WOR□ED ON □NDER THIS CONTRACT

A. All electrical equipment furnished and installed by the Contractor shall not be painted unless otherwise noted on the plans or in these specifications. If electrical equipment is specified to be painted in the plans or in these specifications, the equipment shall be factory painted.

B. All painted equipment which has been relocated shall be repainted as directed by the City. All paint used on the job site shall be provided in the original container identifying the grade, trade name, number and manufacturer, and shall conform to the requirements of specifications on painting, or as directed by the City.

C. All paint shall be applied evenly and smoothly by skilled craftsmen by either hand brushing or approved spraying equipment, allowing no surplus to accumulate, except that no spraying shall be done at the job site. The work shall be done in a neat and workmanlike manner, and the use of brushes for the application of paint shall be required when paint spraying proves to be unsatisfactory or otherwise objectionable.

D. The thickness of each paint coat (two required) shall be limited to that which will result in uniform drying throughout the paint film. Skips, holes, thin areas, or other deficiencies in any one coat of paint shall be corrected before the succeeding coat is applied.

E. The final coat of paint shall present a sags or excessive brush rnarks, smooth surface, uniform in color, free of runs.

3.15 MAINTENANCE, RELOCATION, AND REMOVAL OF EXISTING TRAFFIC CONTROL, STREET NAME, AND OTHER CITY SIGNS

A. Before commencing any work, the contractor shall submit completed Sign Inventory Forms as part of the Traffic Control Plan submittal.

B. The Contractor shall temporarily relocate all traffic control, street name, and other City signs, as required for the prosecution of the work and to prevent interference with traffic signal installations, and shall satisfactorily maintain such signs in place at all times. The contractor shall similarly relocate, or remove and salvage as City property, the standards for such signs. The contractor shall salvage standards in their entirety, and remove any concrete therefrom.

C. The temporary relocation of each STOP or other traffic regulatory sign shall be done immediately upon its removal, and to a locations as close as possible to the original position of such sign, or where directed by the City. The contractor shall remove, and salvage as City property, existing “STOP” or other signs superseded by traffic signals installed by the contractor, immediately upon being notified by the City that such signals will remain in operation.

3.16 SERVICE CONNECTION

A. The Contractor shall coordinate with PG&E through the City to provide all new service connections. The Contractor shall complete the foundation work and secure service connection dates in a timely manner. Service connection shall be completed no later than 72 hours in advance of the scheduled signal switchover or turn-on otherwise, the switchover or turn-on will be canceled.

B. The Contractor shall provide temporary service protection at the controller foundation prior to switchover or turn-on.

3.17 INSPECTION/TESTING

A. Prior to acceptance to the completed work, the Contractor shall cause the following tests to be made on all electrical circuits, in the presence of the City.

1. Each circuit shall be tested for continuity.

2. Each circuit shall be tested for unintentional ground.

3. A megger test at 500 volts DC shall be made an each circuit between the circuit and a ground. The insulation resistance shall be not less than 10-megohms on all circuits, except for inductive loop detector circuits which shall have an insulation resistance value of not less than 100 megohms.

4. A functional test shall be made in which it is demonstrated that each and every part of the system functions as specified or intended. The test may commence only with the approval and in the presence of the City. If unsatisfactory performance of the systems develops the condition shall be corrected and the test shall be repeated until satisfactory operation are obtained. Functional tests shall not start nor turn-ons be made on a Friday, or on the day preceding a legal holiday.

Any material revealed by these tests to be faulty in any part of the installation shall be replaced or corrected by the Contractor at his expense in a manner permitted by the City, and the same test shall be repeated until no fault is evident.

B. Section 01 77 00 - Closeout Requirements Final cleaning.

C. Clean finishes and touch up damage.

3.18 PROTECTION OF FINISHED WOR

A. Section 01 77 00 - Closeout Requirements Protecting finished work.

END OF SECTION 34 41 00

SECTION 34 41 05 - TRAFFIC SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Work under this section shall consist of any permanent traffic control sign as required on the plans or in the specifications in accordance with the provisions of Section 82 "Signs and Markers" of the Department of Transportation Standard Specifications and the California Manual on Uniform Traffic Control Devices (CA MUTCD), and the following provisions.

1.2 REFERENCES

A. Caltrans Standard Specifications (Department of Transportation)

B. California Manual on Uniform Traffic Control Devices (CA MUTCD)

C. California Vehicle Code (CVC)

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Submittal procedures.

B. Certificates of Compliance Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.

1. Sign Panels. Submit a certificate of compliance for

a. Aluminum sheeting

b. Retroreflective sheeting - Vendors shall present proof that the type of reflective sheeting they intend to use in the manufacture of the signs has been used on highway signs located on California highways for a period of at least two (2) years and has proven entirely satisfactory.

c. Screened-process colors

d. Nonreflective, opaque, black film

e. Protective-overlay film

C. Product Data□Provide manufacturers specification and literature for materials furnished.

D. If directed by Project Manager, submit a scaled shop drawing or full-scale mock-up for any sign that does not comply with the M□TCD.

E. □pon request, submit test samples of sign panels and materials at various stages of production. Sign panel samples must be at least 12 by 12 inches in size and include background material and legend.

F. □pon request, within 15 days before starting sign fabrication, submit at least 3 copies of your quality control plan for sign panels. Allow 10 days for the Department's review. Do not start fabricating sign panels until the City accepts the quality control plan. The quality control plan must include□

1. Identification of the person responsible for sign quality control
2. Basis of acceptance for incoming raw materials at the fabrication plant
3. Type, method, and frequency of quality control testing at the fabrication plant
4. Types and brand names of retroreflective sheeting
5. List of the retroreflective sheeting manufacturer's approved process colors, protective overlay film, and black nonreflective film, including the manufacturer's name and product name for each item
6. Retroreflective sheeting manufacturer's installation and splicing instructions
7. Recommended cleaning procedure for each product
8. Method of packaging, transporting, and storing signs

G. Do not submit a quality control plan for construction area signs

1.4 CLOSEO□T S□BMITTALS

A. Section 01 78 00 - Closeout Submittals□Requirements for submittals.

1.5 □□ALITY ASS□RANCE

A. Perform work in accordance with the plans, Technical Specifications and as specified herein, in conformance with the applicable provisions of the Caltrans Standard Specifications, CA M□TCD, and CVC.

1.6 □□ALIFICATIONS

A. Sign manufacturer shall have experience in the type of work required and a reputation for producing satisfactory work on time.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements□Product transportation, storage, handling, and protection requirements.

B. Protect, transport, and store sign panels fabricated with screened-process colors under the retroreflective sheeting manufacturer's instructions.

C. Transport sign panels so that the face of the panels are protected from damage and weather. Ship the panels on pallets, in crates, or in tier racks. Ship the panels vertically on edge. Do not stack the panels horizontally. Place padding and protective materials between the panels as necessary. □eep the panels dry during transit.

D. Store sign panels in a dry environment at all times. Store the panels vertically on edge whether indoors or outdoors. Do not store the panels directly on the ground. Do not let the panels get wet during storage. In areas of high heat and humidity, store the panels in enclosed, climate-controlled trailers or containers. Store the panels indoors whenever the storage duration will exceed 30 days.

1.8 ENVIRONMENTAL RE□□IREMENTS

A. Section 01 60 00 - Product Requirements□Environmental conditions affecting products on site.

1.9 MAINTENANCE/EXTRA MATERIALS

A. Section 01 77 00 - Closeout Requirements□Extra materials and maintenance products.

PART 2 - PRODUCTS

2.1 AL□MIN□M SHEETING

A. The base metal of permanent traffic control signs shall be new sheet aluminum of alloys conforming to Caltrans Standard Specifications Section 82 "Signs and Markers". material shall be subject to inspection prior to month of installation.

B. Aluminum sheeting for road signs shall be stamped or "etched" on the back of sign with date, month/year numerically (XX/XXXX), of installation. Except on back to back sheeted signs.

C. The alloy and temper of aluminum sheeting must comply with ASTM B209 for the designation specified.

D. Aluminum sheeting must be pretreated for corrosion resistance under ASTM B449. The surface of the aluminum sheeting must be cleaned, deoxidized, and coated with a light, tightly adherent chromate conversion coating free of powdery residue. The conversion coating must be Class 2 with a weight from 10 milligrams per square foot to 35 milligrams per square foot and an average weight of 25 milligrams per square foot. After the cleaning and coating process, protect the aluminum sheeting from exposure to grease, oils, dust, and contaminants.

E. Metal panels shall be cut to size and shape and shall be free of buckles, warp, dents, cockles, burrs, sharp edges and any other defects resulting from fabrication.

F. The base plate for standard route markers must be die cut.

2.2 RETROREFLECTIVE SHEETING

A. Retroreflective sheeting shall be 3M Diamond Grade or equal unless otherwise indicated on the plans. Sheeting shall meet Table 2A-3, "Minimum Maintained Retroreflectivity Levels", of the CA M□TCD

B. The surface of the reflective sheeting shall be of a flexible, transparent plastic material and shall be smooth. The backing medium shall be of synthetic sheet resin or other suitable non-cellulosic material. The bonding adhesive shall have no staining effect and shall be mildew resistant. The sheeting shall permit cutting and color processing at temperatures of 60 to 100□ F. and relative humidities of twenty (20) to eighty (80) percent. The sheeting shall be heat resistant, and permit force curing of unapplied sheeting at temperatures up to IS0□F., and up to 200□F. on applied sheeting. The sheeting surface shall be solvent resistant to gasoline, naphtha, mineral spirits, turpentine and methanol.

C. Retroreflective sheeting used for background and legend must comply with ASTM D4956 and must be on the Authorized Material List for signing and delineation materials.

D. Type II, III, IV, VIII, IX, and XI retroreflective sheeting must have Class 1, 3, or 4 adhesive backing except Type II retroreflective sheeting may have Class 2 adhesive backing. The adhesive backing must be pressure sensitive and fungus resistant.

2.3 PROCESS COLORS AND FILM

A. The type of material used for screened-process colors, nonreflective, opaque, black film, and protective-overlay film must be the type recommended by the retroreflective sheeting manufacturer.

B. The fabricator must perform all patterns, layouts, and set-ups necessary for the screening process.

C. The completed surface of the applied screened-process color must be flat and smooth.

D. Colored retroreflective sheeting must be used for the background. Reverse-screened-process color on white retroreflective sheeting for signs with green, red, blue, and brown backgrounds may be substituted for the background color.

E. The coefficient of retroreflection for reverse-screened-process colors used on white retroreflective sheeting must be not less than 70 percent of the coefficient of retroreflection specified in ASTM D4956 for the corresponding colored retroreflective sheeting.

F. The legend must be black, screened-process color or nonreflective, opaque, black film.

G. Screened-process colors and nonreflective, opaque, black film must have equivalent outdoor weatherability characteristics as the retroreflective sheeting specified in ASTM D4956. Nonreflective, opaque, black film must be vinyl or acrylic material.

H. Cured, screened-process colors must be able to withstand removal when tested by applying the 3M Company's Scotch brand cellophane tape no. 600 or equivalent tape over the color and removing it with a single, quick motion at a 90 degree angle normal to the surface of the sign's face.

2.4 ROADSIDE SIGN POSTS

A. Except as shown on the plans, all traffic signs shall be mounted on two (2) inches inside diameter, galvanized steel pipe at a mounting height meeting Caltrans Standard Specification and traffic code standards and as shown on the plans.

B. Road signs placed within landscaped medians may be installed on wood posts.

C. Mountings for roadside signs to be installed on barriers or railings must be fabricated from (1) welded or seamless steel pipe under ASTM A53/A53M, Grade B, and (2) structural steel complying with ASTM A36/A36M.

D. Bolted connections and concrete anchorage devices must comply with Section 82-3, "Roadside Signs", of the Caltrans Standard Specifications.

E. All metal parts for mounting roadside signs must be galvanized after fabrication.

F. Temporary road signs may be placed on wooden posts.

2.5 ROADSIDE SIGN FASTENING HARDWARE

A. Frame assemblies for multiple sign installations must be fabricated from structural steel complying with ASTM A36/A36M or aluminum alloy as shown. Frames fabricated from structural steel must be hot-dip galvanized after fabrication.

B. Back braces for signs must be commercial quality, mild steel, and hot-dip galvanized after fabrication.

C. Straps and saddle brackets for mounting sign panels on electroliers, sign structure posts, and traffic signal standards must be stainless steel under ASTM A167, Type 302 or 304. Where shown, theft-proof bolts must be stainless steel with a chromium content of at least 16 percent and a nickel content of at least 8 percent.

D. Except for theft-proof bolts, the lag screws, bolts, metal washers, and nuts must be commercial quality steel and hot-dip galvanized after fabrication. Fiber washers must be commercial quality.

E. The exposed portion of the mounting hardware on the sign face, including rivets used to attach sheeting to framing members, must have a factory, or field-applied finish that matches closely the color of the background and legend where it is placed.

PART 3 - E□ECUTION

3.1 REMOVAL AND RELOCATION OF EXISTING SIGNS

A. Traffic control signs are to be removed or relocated as shown on the plans.

B. Remove foundations to a minimum of six (6) inches below the ground line, and backfill.

C. Existing mountings may be used□however, the Contractor shall furnish, at his expense, additional mountings necessary to complete the reinstallation, and meet current standards.

D. Any damage to the existing traffic control sign during removal and reinstallation shall be repaired by the Contractor at his expense.

3.2 AL□MIN□M SHEETING FABRICATION/PREPARATION

A. The fabrication of all signs shall be accomplished in a uniform and workmanlike manner. The sign panels are to be cut as shown and the sign specification sheets. The dimensional tolerance of the panels shall be plus or minus one-sixteenth (1/16”) inch.

B. All possible fabrication, including shearing, cutting and punching of holes, shall be completed prior to cleaning and anodization of aluminum.

C. The aluminum base metal shall be thoroughly cleaned and anodized as per Caltrans Standard Specifications.

3.3 RETROREFLECTIVE SHEETING APPLICATION

A. The reflective sheeting shall be applied to the face of the sign by an approved vacuum applicator using a combination of vacuum and heat, as recommended by the reflective sheeting manufacturer. After aging for forty-eight (48) hours, the adhesive shall produce a durable bond equal to or greater than the strength of the reflective sheeting. No air pocket or bubbles shall exist between the sheeting and the base material.

B. Repairs to damaged reflective sheeting due to poor workmanship or defective material will not be allowed, items must be replaced.

C. Reflective sheeting screening coats shall be oven cured as recommended by the reflective sheeting manufacturer.

D. The legend shall be of high intensity cutout reflective sheeting applied in the same manner as the reflective sheeting specified herein. The orientation of the legend must comply with the retroreflective sheeting manufacturer's instructions.

E. For signs composed of multiple panels, the legend must be placed across joints in a way that does not affect the size, shape, spacing, and appearance of the legend on the assembled sign.

F. There shall be no splices in the reflective sheeting on panels with a minor dimension of forty-eight (48) inches or less. On all rectangular signs with a minor dimension of more than forty-eight (48) inches, the splice shall be horizontal. No finished sign shall have more than one splice and no splice shall fall within two (2) inches of the sign edge.

G. Unless the retroreflective sheeting manufacturer's instructions require a different method, splices in the retroreflective sheeting must overlap by a minimum of 1 inch. The retroreflective sheeting on either side of a splice must not exhibit a color difference under incident and reflected light.

H. For formed panel signs, the retroreflective sheeting for the background and legend must be wrapped around the interior vertical edges of each panel as shown to prevent delamination.

I. The edges of each completed reflective sheeting sign face and of all cutout letters, numbers, arrows, symbols and borders shall be sealed in a manner and with a sealing solution as recommended by the manufacturer of the reflective sheeting.

J. All letters and designs shall be clearly cut and sharply defined, meeting Caltrans Standard Specifications.

K. The manufacturer's identification shall be according to the Caltrans Standard Specifications unless otherwise directed by the City.

L. Where shown, a sign with protective-overlay film must be marked at the fabrication plant with a 3/8-inch diameter dot. The dot must be placed on the lower border of the sign before applying the protective-overlay film. The fabricator must determine the application method and exact location of the dot except the dot must not be placed on the legend or near bolt holes. The dot must be black if placed on a white border and white if placed on a black border.

M. The finished sign shall be flat within a ratio of 0.04 inches per linear foot when measured across the plane of each panel from the opposite corners, or at any location on the panel. All finished signs shall have smooth flat surfaces without defects or objectionable marks of any kind on either the front or back faces.

3.4 ROADSIDE SIGN INSTALLATION

A. Do not reverse screen sign larger than 7 square feet/color.

B. Do not remove a sign that is being replaced until the new sign is placed and uncovered.

C. Establish proper elevation and orientation of all signs and structures and determine proper sign post lengths as dictated by construction slopes. Refer to Caltrans S Series Standard Drawings.

D. Cover signs that require temporary covering with an opaque material. Secure at the rear of the sign so that the sign is not damaged. Maintain covering until covering or sign is removed.

E. All posts shall be set in concrete a minimum of two (2) feet below existing grade level. Minimum diameter of concrete footing for posts installed outside of sidewalk shall be ten (10) inches.

F. Signs to be located in existing sidewalk area may be placed by drilling a hole in the sidewalk one (1) inch larger than the diameter of the pole, a minimum of two (2) feet deep, fill the hole with mortar and place the pale in the hole in a plumb position. Top of pipe post should be fitted a screw cap unless a sign or other device will cap said past.

3.5 INSPECTION

A. All materials and finished signs are subject to inspection by the City.

B. The finished signs shall be clean and free from all router chatter marks, burrs, sharp edges, loose rivets, delaminated reflective sheeting and aluminum marks. Signs with any defects or damage that would affect their appearance or serviceability will not be acceptable.

C. No repairs shall be made to the face sheet without the approval of the City.

D. All signs not conforming in all respects to the requirements of these specifications will be rejected and replaced at Contractor's cost.

3.6 CLEANING

A. Section 01 77 00 - Closeout Requirements Final cleaning.

B. Clean finishes and touch up damage.

3.7 PROTECTION OF FINISHED WOR

A. Section 01 77 00 - Closeout Requirements Protecting finished work.

END OF SECTION 34 41 05

STANDARD DETAILS

CITY OF PITTSBURG

ENGINEERING DEPARTMENT
65 CIVIC AVE
PITTSBURG, CA 94565
(925) 252-4930

Adopted January 1983
Revised July 2022

STANDARD DETAILS

Revised July 2022

This book contains standard details prepared by the City of Pittsburg and a list of details prepared by other agencies and approved for use within the City of Pittsburg. Some of the details approved for use within the City of Pittsburg are not contained in this book but may be obtained from Contra Costa County Public Works Department, Contra Costa County Flood Control District, Central Contra Costa Sanitary District, or the State of California, Division of the State Architect (Title 24). See Caltrans Manuals for road and traffic related design, including superelevations, vertical curves and other related design details.

The City has adopted the details prepared by the Central Contra Costa Sanitary District, except for the sewer lateral detail for use on all sewer facilities constructed within the City of Pittsburg. City Detail S-2 applies for all sewer laterals within the City of Pittsburg.

The City has adopted the Access Compliance Reference Manual prepared by the State of California, Division of the State Architect, for all improvements required to conform to Title 24 regulations for access.

The user is warned that these details are updated from time to time. When revisions are made to these details they will be posted on the City website with the date of the revision listed on the detail. The most current details should be utilized for any work performed and can be found at the address listed below.

http://www.ci.pittsburg.ca.us

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A	Area
AB	Aggregate Base
Aban	Abandon
Aban'd	Abandoned
Ac	Acre
AC	Asphalt Concrete Alternating Current
ACB	Asphalt Concrete Base
ACP	Asbestos Cement Pipe
ADA	Americans with Disabilities Act
Amp	Ampere
ASB	Aggregate Subbase Asbestos Pipe (archaic)
Ave	Avenue
AWG	American Wire Gauge
B	Bell
BC	Begin Curve
BCR	Beginning of Curb Return
BCW	Bare Copper Wire
BF	Backfill
Bldg	Building
Blk	Block
Blvd	Boulevard
BM	Benchmark
BO	Blowoff (valve)
Br	Brass
BVC	Begin Vertical Curve
C	Conduit
C&G	Concrete Curb & Gutter
CAP	Corrugated Aluminum Pipe
Cap	Capacity
CB	Catch Basin
CC	Center to Center
CF	Cubic Foot Curb Face
CFM	Cubic Feet per Minute
CFS	Cubic Feet per Second
Ch V	Check Valve
CI	Cast Iron
CIP	Cast Iron Pipe
CIPP	Cast-in-Place Pipe
Circ	Circumference
Ckt	Circuit
CL, ℄	Centerline
CLF	Chain Link Fence
Clkg	Caulking
CMP	Corrugated Metal Pipe
CO	Cleanout
Conc	Concrete
Concen	Concentric
Conn	Connect
Const	Construct
Cont	Continue
Cop	Copper
Cor	Corner
Corp	Corporation
Cov	Cover
CP	Concrete Pipe (Non-Reinforced)

Csg	Casing
CT	Court
Cu	Cubic
Culv	Culvert
CY	Cubic Yards
D	Drain Diameter of Pipe Height of Semi-Elliptical Conduit
D.I.	Ductile Iron
D/W	Driveway
DC	Direct Current
Deg	Degree
Det	Detail
DF	Douglas Fir
Dia	Diameter
DIP	Ductile Iron Pipe
DMH	Drop Manhole
Dr	Drive
Dwg	Drawing
e	External Distance (Vertical Curves)
E	East
Ea	Each
EBMUD	East Bay Municipal Utility District
EC	End Curve
Ecc	Eccentric
ECR	End of Curb Return
EF	Each Face
Elev	Elevation
Ell	Elbow (Pipe)
Emb	Embankment
Enc	Encase
Engr	Engineer
EP	Edge of Pavement
Eq	Equation
ES	Edge of Shoulder
ETW	Edge of Travelled Way
EVC	End of Vertical Curve
EW	Each Way
EX/Exist	Existing
Exc	Excavate
Exp Jt	Expansion Joint
F	Flange
F/C	Face of Curb
FB	Field Book
FG	Finished Grade
Fin	Finish
FIPT	Female Iron Pipe Thread
Fl	Floor
Fldg	Flanged
Flg	Flange Joint
FM	Force Main
Fnd	Foundation
Ft	Foot, Feet
Ftg	Footing
Furn	Furnish

G	Grate
Ga	Gauge
Gal	Gallon
Galv	Galvanized
GB	Grade Break
GI	Galvanized Iron
GIP	Galvanized Iron Pipe
Gnd	Ground
GPM	Gallons per Minute
Gr	Grade
GV	Gas Valve
H	Height Hub
H&T	Hub and Tack
Hdr	Header
HE	Hub End
Hor	Horizontal
HP	High Point
HW	Headwall
Hyd	Hydraulic
ID	Inside Diameter
IMS	Imported Material Subbase
In	Inch, Inches
Inst	Install
Inv	Invert
IP	Iron Pipe
IPS	Iron Pipe Size
JB	Junction Box
JC	Junction Chamber
JP	Joint Pole
JS	Junction Structure
Jt	Joint
JT	Joint Trench
KW	Kilowatt
L	Length
Lb	Pound, #
LCB	Lean Concrete Base
Ld	Lead
LF	Linear Foot
Lin	Linear
LN	Lane
Long	Longitudinal
LS	Lump Sum
Lt	Left
M.J.	Mechanical Joint
Matl	Material
Max	Maximum
Meas	Measurement
Mfbm	Thousand Feet Board Measure
Mfr	Manufacturer
MG	Million Gallons
Mgal	Thousand Gallons
MGD	Million Gallons per Day
MH	Manhole

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

ABBREVIATIONS & TERMS

SHEET 1 OF 2

A-1

MH F&C	Manhole Frame and Cover
Mi	Mile
Min	Minimum Minute
MIPT	Male Iron Pipe Thread
Miyd	Mile Yard
MK	Mark
Mod	Model Modify
Mon	Monument Monolithic
MSL	Mean Sea Level Datum
N	North Neutral (electrical)
N&S	Nail and Shiner
NIC	Not Included
Nip	Nipple
No	Number
Nom	Nominal
NRS	Non–Rising Stem
NTS	Not to Scale
NWS	Normal Water Surface
OCB	Oil Circuit Breaker
OD	Outside Diameter
OR	Official Records (County)
OS&Y	Outside Yoke and Rising Stem (Outside Screw and Yoke)
Oz	Ounce
P/L, ℄	Property Line
PACP	Perforated Asbestos Cement Pipe
Pc	Piece
PCC	Portland Cement Concrete Point of Compound Curve
PCP	Porous Concrete Pipe
Ped	Pedestrian
Pg	Page
PG&E	Pacific Gas & Electric Company
PI	Point of Intersection
PMP	Perforated Metal Pipe
PMS	Plant–Mixed Surfacing
POC	Point of Curve
POT	Point on Tangent
PP	Power Pole
PRC	Point of Reversed Curve
Proj	Project
Prop	Property Proposed
Psf	Pounds per Square Foot
Psi	Pounds per Square Inch
PT&T	Pacific Telephone & Telegraph Company
PVC	Point on Vertical Curve Polyvinyl Chloride
PVCP	Perforated Vitrified Clay Pipe
Pvmt	Pavement
R	Radius

Rad	Radial
RC	Reinforced Concrete
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
Rd	Road
Rdwd	Redwood
Rdwy	Roadway
Red	Reducer
Reinf	Reinforce
Reqd	Required
Rev	Revised
RI	Rodding Inlet
RPM	Reinforced Plastic Mortar Revolutions per Minute
S	Slope South Spigot
S.O	Side Opening
S/W	Sidewalk
S4S	Surfaced Four Sides
San	Sanitary
SCP	Steel Cylinder Pipe
SD	Storm Drain
Sdl	Saddle
Sec	Second
Sect	Section
Serv	Service
Sew	Sewer
Sht	Sheet
Spec	Special Specification
SPT CO	Southern Pacific Transportation Company
SQ	Square
Sq Ft	Square Foot
Sq Yd	Square Yard
SS	Sanitary Sewer
ST	Street
St	Storm
Sta	Station
Sta Yd	Station Yard
Std	Standard
Stm	Steamer
Str	Structure
Subgr	Subgrade
SVC	Service
SWI	Storm Water Inlet
T	Tangent Distance Thickness
T&G	Tongue and Groove
Tab	Table
Tap	Tapping
TBM	Temporary Bench Mark
TC	Top of Curb
Temp	Temperature Temporary
Terr	Terrace
TMI	Ton Mile
TP	Telephone Pole Top of Pavement Top of Pipe
TPM	Treated Permeable Material

Tr	Tract
Trans	Transition
Tub	Tubing
TYP	Typical
UB	Untreated Base
USC&GS	United States Coast & Geodetic Survey
USGS	United States Geological Survey
V	Velocity of Flow Volt Volume
Var	Varies
VC	Vertical Curve
VCP	Vitrified Clay Pipe
Vert	Vertical
W	Water Watt West Width
WH	Weephole
WIP	Wrought Iron Pipe
WM	Water Meter
WS	Water Surface
WSP	Welded Steel Pipe
Wt	Weight
WV	Water Valve
Yd	Yard

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

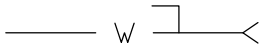
DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

ABBREVIATIONS & TERMS

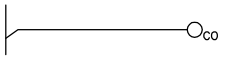
SHEET 2 OF 2

A–1



WATER LINE, ARV, BO

SEWER LINE, MH



SS LATERAL WITH CLEANOUT

STORM DRAIN LINE, CB, MH

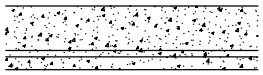
ELECTROLIER / STREET LIGHT

FIRE HYDRANT

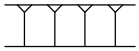
WATER METER

POLE WITH SIGN

DIRECTION OF FLOW



CURB, GUTTER AND SIDEWALK



SLOPE BANK

SET STD. MONUMENT

FOUND STD. MONUMENT

SET IRON PIPE

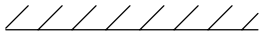
FOUND IRON PIPE

SET RR SPIKE

FOUND RR SPIKE

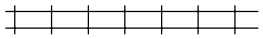
FOUND NAIL AND SHINER

BRACKETS INDICATE RECORDED DATA PER DEED OR MAP



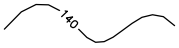
RELINQUISHMENT OF ABUTTERS RIGHTS

TRANSMISSION TOWER

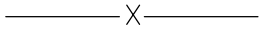


RR TRACKS

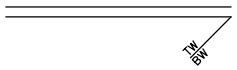
EXISTING CONTOUR



PROPOSED CONTOUR



FENCE



RETAINING WALL

APPROVED _____ DATE _____

DRAFT

	NO.	DATE	REVISION			
CITY OF PITTSBURG				DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	DRAFTING SYMBOLS	A-2
				DATE: 2019-01-11		
				SCALE: NONE		

BOARDING PROCEDURES (COMMERCIAL)

Owners shall have the responsibility for maintaining all commercial buildings and accessory buildings in a locked or closed condition so that they cannot be entered without an unlawful break–in. The City Manager or his/her designee may order owners to board a structure.

Property owners shall contact the City in compliance with the "Maintenance of Boarded and Vacant Buildings Ordinance" prior to boarding of a structure.

Property owners who have been notified by the City because of existing vacant buildings shall pay all program fees at the time of enrollment as well as any outstanding citations or fines relating to the property.

In conjunction with boarding the owner is required to complete the following:

- Disconnect all utilities at the street. (Water, Gas, and Electricity) Exceptions may be allowed for the continuation of security lighting or alarms.
- Remove all upholstered furniture, combustible materials, flammables, and trash from the building including the basement and attic.
- Remove trash, trash containers, and combustible materials from exterior stairwells, porches, accessory structures, garages, and yard areas.
- Remove all weeds and overgrown shrubbery which could support a fire.

Boarding of a structure shall be required for all doors and windows. Boarding may also be required of all underfloor and/or attic access points if so determined necessary by the City Manager or his/her designee.

The owner of a boarded structure shall be required, upon notification, to provide entry to the structure to the City Manager or his/her designee to assure compliance. At least one door at grade level shall be maintained with locks and hinges to permit entry for inspection purposes.

If, after a reasonable notice, the owner fails to properly board the structure the City Manager or his/her designee may request the Department of Public Works either by City personnel or by contract to correct the situation and charge the cost thereof upon the tax rolls of the property. At this point all available means will be utilized to obtain compliance.

Screening or alternate methods of boarding may be permitted when approved by the City Manager or his/her designee.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 2
				CHECKED BY: MK		
				DATE: 2019–01–11	BOARD UP – COMMERCIAL	B–1
				SCALE: NONE		

SPECIFICATIONS

Basement windows out of public view (Double Hung):

1/2" plywood or OSB, recessed into the jambs, secured by placing two (2) 2x4's on the inside of the opening and attached to the plywood with two 1/2" diameter carriage bolts with a large diameter washer (fender washer) on the inside and outside with the nut on the inside. Paint to match trim or siding color.

Basement windows out of public view (Casement, Slider or Fixed):

3/4" plywood or OSB, recessed into the jambs, placed from the outside, attached with 2–1/2" long tamperproof screws 6" to 8" on center. Paint to match trim or siding color.

Rear or side door out of public view:

3/4" plywood or OSB, recessed into the jambs, placed from the outside, attached with 2–1/2" long tamperproof screws 6" to 8" on center. Paint to match trim or siding color.

Front door at grade with existing door in good condition:

Place 3/8" plywood or OSB behind all glass and secure with 1–5/8" tamperproof screws 8" to 10" on center into door frame. The door shall then be locked by the use of a quality pad lock inserted through eyebolts. One eyebolt shall be through bolted into the door and the second shall be lagged into the door jamb and the framing. Paint plywood to match trim or siding color.

Front door at grade with existing door in poor condition:

See City Standard Detail B–3.

First floor windows at the front in good condition:

3/8" plywood or OSB cut to fit the outside dimensions of interior molding or casing and attached by using 2–1/4" long tamperproof screws 8" to 10" on center. Cut in a minimum of four (4) 3" holes spaced evenly across each opening at a height above 6'–0". Paint to match trim or siding color.

First floor windows at the front, second story and rear with faulty frame:

1/2" plywood or OSB, recessed into the jambs, secured by placing two (2) 2x4's on the inside of the opening and attached to the plywood with two 1/2" diameter carriage bolts with a large diameter washer (fender washer) on the inside and outside with the nut on the inside. Paint to match trim or siding color

Street side recessed vestibule including door at grade and display windows:

(Door) Place 3/8" plywood or OSB behind all glass and secure with 1–5/8" tamperproof screws 8" to 10" on center into door frame. The door shall then be locked by the use of a quality pad lock inserted through eyebolts. One eyebolt shall be through bolted into the door and the second shall be lagged into the door jamb and the framing. Paint plywood to match trim or siding color.

(Display Windows) Display area to be clean of loose debris and failing finishes. Install braced 3/4" plywood or OSB wall in line with front entry. Wall to be positively connected to the subfloor and ceiling by the use of minimum 3/8" lag bolts secured directly to the ceiling and floor joists. Walls to have a minimum four (4) 3" holes spaced evenly across each opening at a minimum height of 6'0". Paint to match trim or siding color.

Note: Many commercial properties fall within the boundaries of "Old Town Pittsburg" and as a result must adhere to the "Old Town Pittsburg Design Guidelines and Principles". Owners of these specific properties must follow these specific requirements when doing <u>any and all work</u> within this area.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 2 OF 2
				CHECKED BY: MK	BOARD UP – COMMERCIAL	B–1
				DATE: 2019–01–11		
				SCALE: NONE		

BOARDING PROCEDURES (RESIDENTIAL)

Owners shall have the responsibility for maintaining all vacant dwelling units, dwellings, structures, principal buildings and accessory buildings in a locked or closed condition so that they cannot be entered without an unlawful break–in. The City Manager or his/her designee may order owners to board a structure.

Property owners shall contact the City in compliance with the "Maintenance of Boarded and Vacant Buildings Ordinance" prior to boarding of a structure.

Property owners who have been notified by the City because of existing vacant buildings shall pay all program fees at the time of enrollment as well as any outstanding citations or fines relating to the property.

In conjunction with boarding the owner is required to complete the following:

- Disconnect all utilities at the street. (Water, Gas, and Electricity)
- Remove all upholstered furniture, combustible materials, flammables, and trash from the building including the basement and attic.
- Remove trash, trash containers, and combustible materials from exterior stairwells, porches, accessory structures, garages, and yard areas.
- Remove all weeds and overgrown shrubbery which could support a fire.

Boarding of a structure shall be required for all doors and windows. Boarding may also be required of all underfloor and/or attic access points if so determined necessary by the City Manager or his/her designee.

The owner of a boarded structure shall be required, upon notification, to provide entry to the structure to the City Manager or his/her designee to assure compliance. At least one door at grade level shall be maintained with locks and hinges to permit entry for inspection purposes.

If, after a reasonable notice, the owner fails to properly board the structure the City Manager or his/her designee may request the Department of Public Works either by City personnel or by contract to correct the situation and charge the cost thereof upon the tax rolls of the property. At this point all available means will be utilized to obtain compliance.

Screening or alternate methods of boarding may be permitted when approved by the City Manager or his/her designee.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 2
				CHECKED BY: MK	BOARD UP – RESIDENTIAL	B–2
				DATE: 2019–01–11		
				SCALE: NONE		

SPECIFICATIONS

Basement windows with a solid frame:

3/8" plywood or OSB, recessed into the jamb opening secured with 1–5/8" long tamperproof screws placed 8" to 10" on center. Paint to match trim or siding color.

Basement windows with a faulty frame:

1/2" plywood or OSB, recessed into the jambs, secured by placing two (2) 2x4's on the inside of the opening and attached to the plywood with two 1/2" diameter carriage bolts with a large diameter washer (fender washer) on the inside and outside with the nut on the inside. Paint to match trim or siding color.

Rear or side door at grade:

3/4" plywood or OSB, recessed into the jambs, placed from the outside, attached with 2–1/2" long tamperproof screws 6" to 8" on center. Paint to match trim or siding color.

Front door at grade with existing door in good condition:

Place 3/8" plywood or OSB over any glass and secured with 1–5/8" tamperproof screws 8" to 10" on center. The door shall then be locked by the use of a quality pad lock inserted through eyebolts. One eyebolt shall be through bolted into the door and the second shall be lagged into the door jamb and the framing. Paint to match trim or siding color.

Front door at grade with existing door in poor condition:

See City Standard Detail B–3.

First floor windows at the front, second story and rear with solid frame:

3/8" plywood or OSB cut to fit the outside dimensions of the brick molding or casing and attached by using 1–5/8" long tamperproof screws 8" to 10" on center. Paint to match trim or siding color.

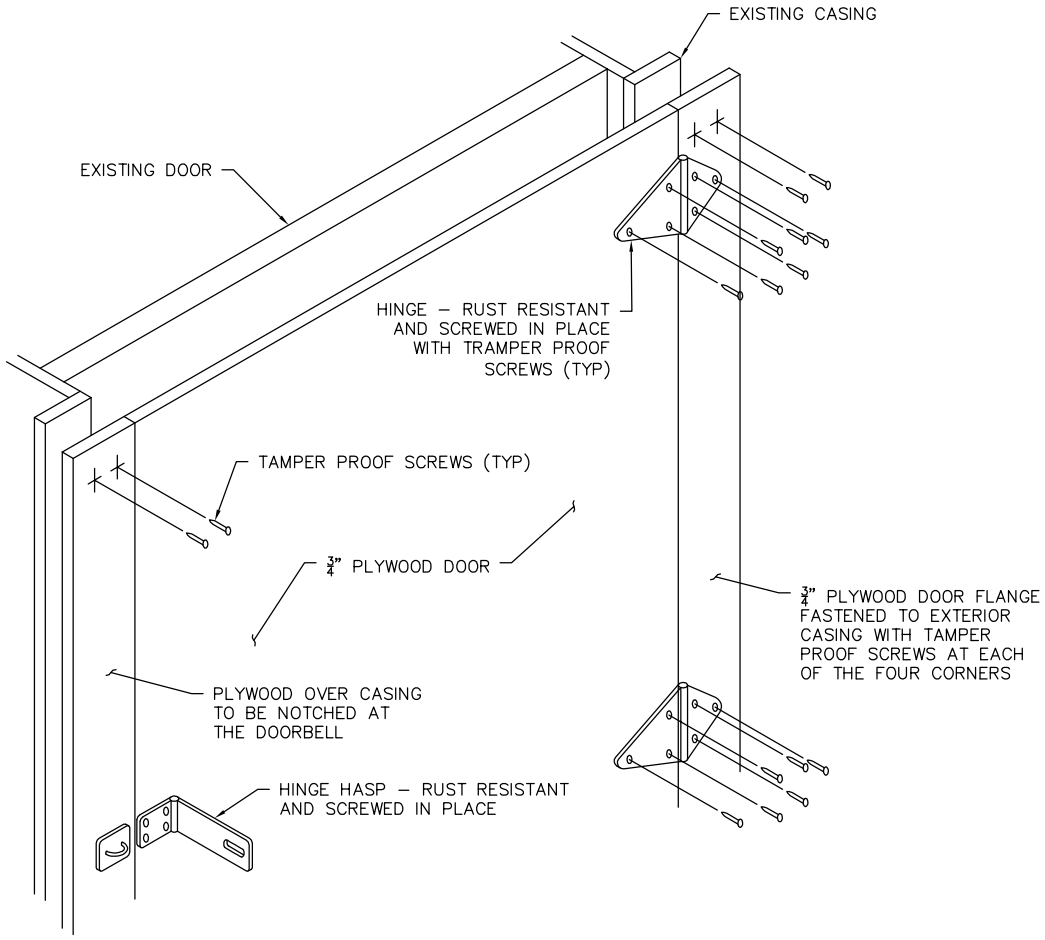
First floor windows at the front, second story and rear with faulty frame:

1/2" plywood or OSB, recessed into the jambs, secured by placing two (2) 2x4's on the inside of the opening and attached to the plywood with two 1/2" diameter carriage bolts with a large diameter washer (fender washer) on the inside and outside with the nut on the inside. Paint to match trim or siding color.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 2 OF 2
				CHECKED BY: MK	BOARD UP – RESIDENTIAL	B–2
				DATE: 2019–01–11		
				SCALE: NONE		



FRONT DOOR AT GRADE

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AW	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK		
				DATE: 2019-01-11	FRONT DOOR AT GRADE	B-3
				SCALE: NTS		

WATER NOTES

1. SEE THE FOLLOWING DETAILS FOR WATER LINE CRITERIA: "CALIFORNIA REGULATIONS RELATED TO DRINKING WATER", TITLE 22, SECTION 64570

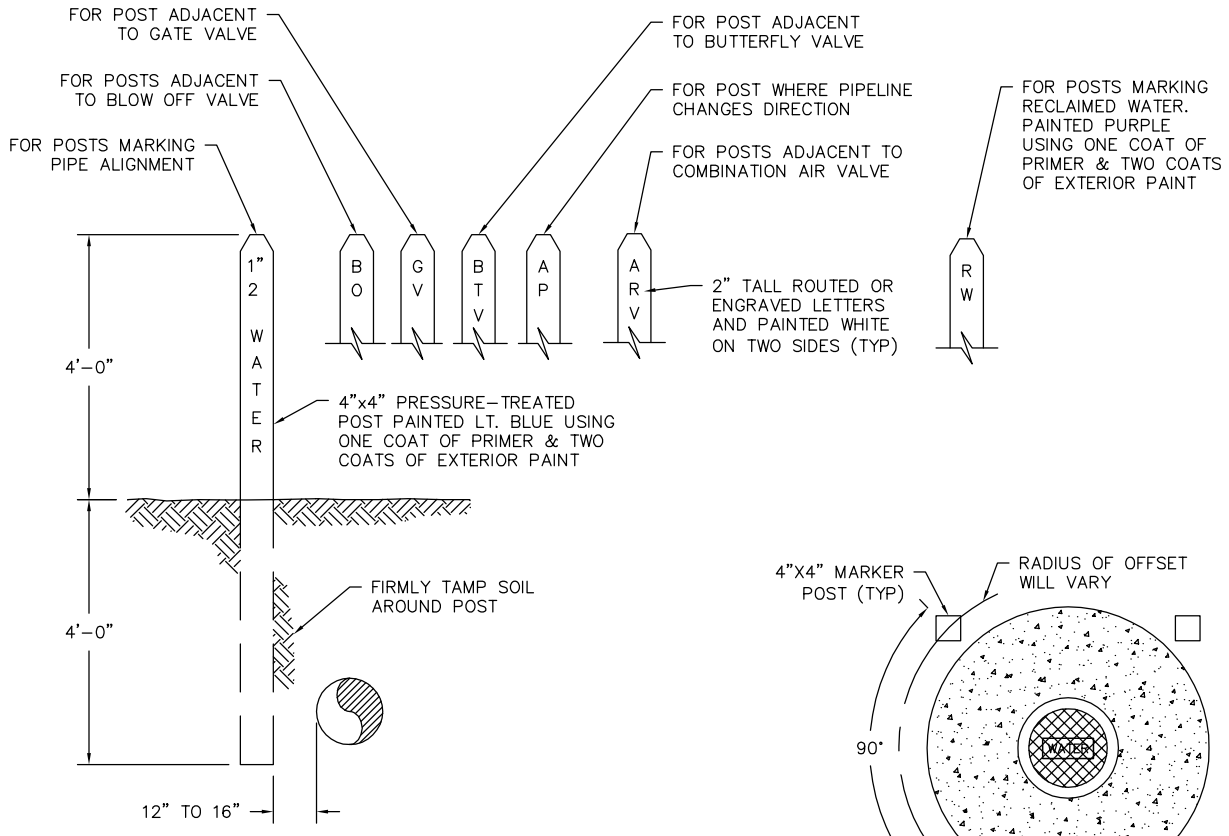
2. CRITERIA FOR THE SEPARATION OF WATER MAINS AND GRAVITY SANITARY SEWERS ARE PER THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH SERVICES STANDARDS.

3. THE "CALIFORNIA WATERWORKS STANDARDS" IS AVAILABLE ONLINE AT: WWW.WATERBOARDS.CA.GOV

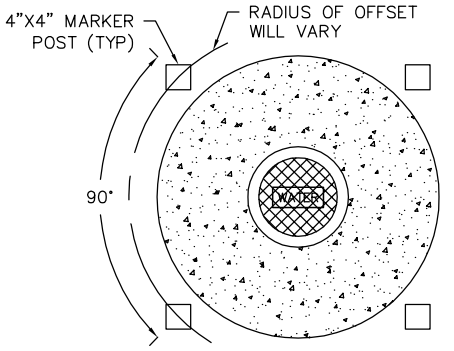
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
	1	2019-01-11	NOTE 3	CHECKED BY: MK	WATER NOTES	W-1
				DATE: 2019-01-11		
				SCALE: NONE		



SECTION VIEW
SCALE: NTS



MARKER PLACEMENT
SCALE: NTS

NOTES

1. WHERE THE NEW PIPELINE IS LOCATED OUTSIDE OF AN EXISTING STREET:

   A. FOUR MARKER POSTS SHALL BE INSTALLED AT EACH APPURTENANCE (I.E. VALVE, BLOW OFF, ARV, ETC.). THE MARKER POSTS SHALL BE UNIFORMLY SPACED ON THE ARC OF A CIRCLE ABOUT THE APPURTENANCE.

   B. A SINGLE MARKER POST SHALL BE INSTALLED AT 500' INTERVALS OR AT EACH POINT WHERE THERE IS A CHANGE IN HORIZONTAL DIRECTION.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

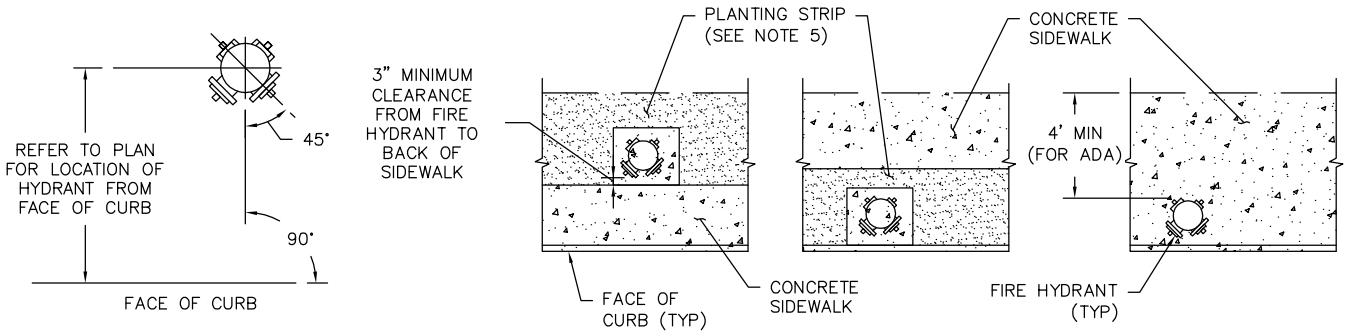
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

MARKER POSTS

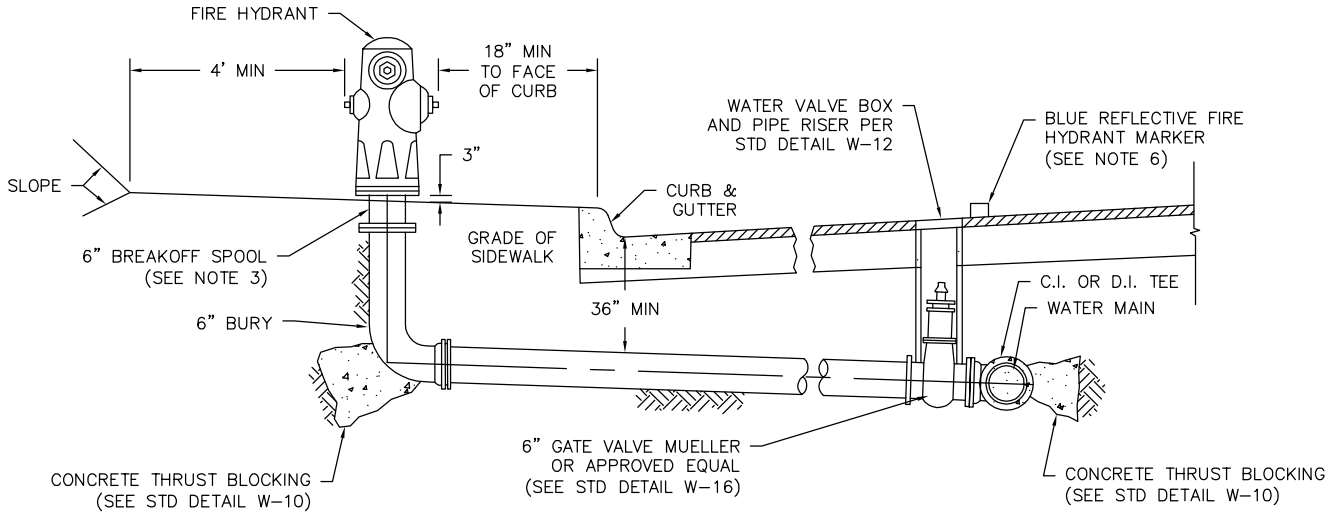
SHEET 1 OF 1

W-2



TYPICAL PLANS

SCALE: NTS



SECTION VIEW

SCALE: NTS

HOSE OUTLETS: (1) 2-½" NOZZLE (1) 4-½" NOZZLE	
MAKE	MODEL
CLOW	950
OR APPROVED EQUAL	

NOTES

1. ALL HOSE OUTLET CAPS SHALL BE ATTACHED TO HYDRANT BY CHAIN.
2. HYDRANT SHALL BE IN ACCORDANCE WITH AWWA STANDARDS, TESTED AND APPROVED BY UNDERWRITERS LABORATORIES, OR EQUIVALENT.
3. FIRE HYDRANT AND EXPOSED BREAKOFF SPOOL SHALL BE PAINTED WITH DUPONT 30-10 WHITE ENAMEL PRIMER, FOLLOWED WITH A FINISH COAT OF NO. 612-00 WHITE FULLER O'BRIEN HEAVY DUTY, HIGH GLOSS PAINT.
4. ALL FIRE HYDRANTS TO BE SAME MAKE THROUGHOUT SUBDIVISION.
5. HYDRANTS SHALL BE CENTERED ON 2' SQUARE, 4" THICK CONCRETE PAD WHEN PLACED IN LANDSCAPE OR PLANTING STRIP.
6. BLUE REFLECTIVE FIRE HYDRANT MARKER SHALL BE LOCATED PER CA MUTCD (LATEST EDITION) FIGURE 3B-102 (CA).

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	NOTES 5&6

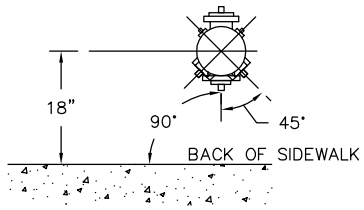
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

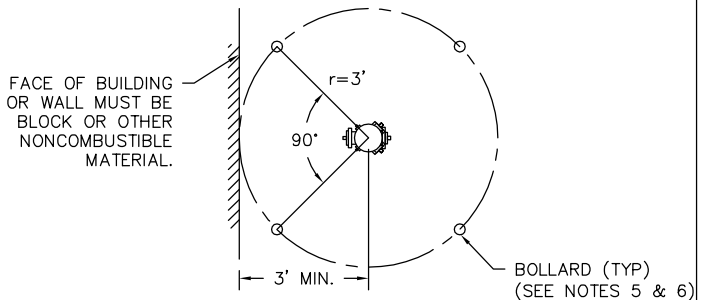
HYDRANT INSTALLATION - RESIDENTIAL

SHEET 1 OF 2

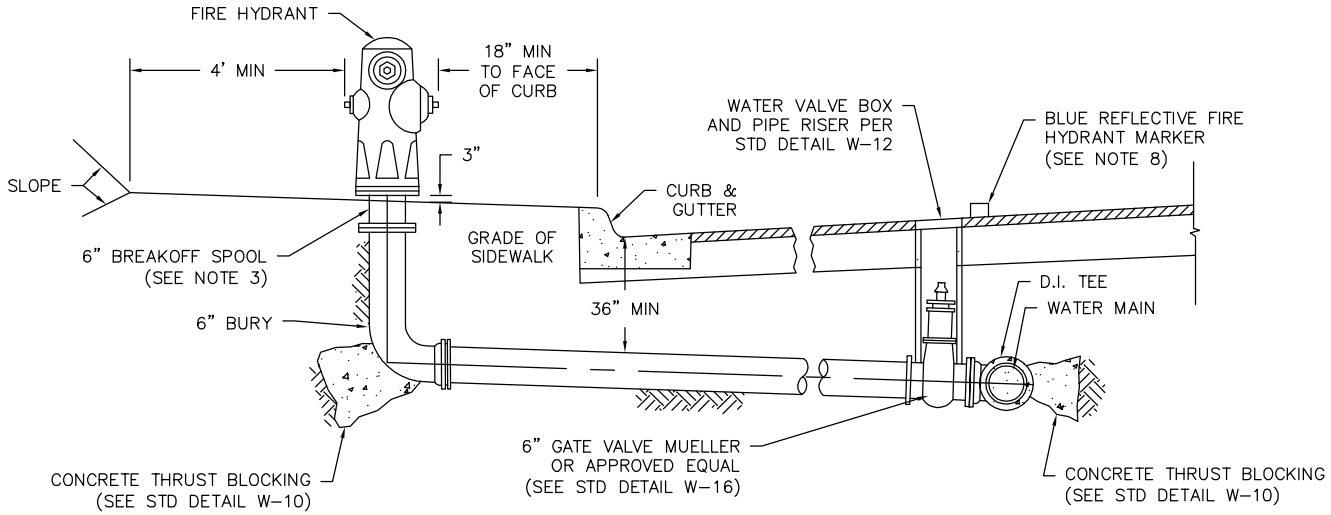
W-4



PLAN VIEW
SCALE: NTS



BOLLARD PLACEMENT
SCALE: NTS



SECTION VIEW
SCALE: NTS

NOTES

1. ALL HOSE OUTLET CAPS SHALL BE ATTACHED TO HYDRANT BY CHAIN.
2. HYDRANT SHALL BE IN ACCORDANCE WITH AWWA STANDARDS, TESTED AND APPROVED BY UNDERWRITERS LABORATORIES, OR EQUIVALENT.
3. FIRE HYDRANT AND EXPOSED BREAKOFF SPOOL SHALL BE PAINTED WITH DUPONT 30-10 WHITE ENAMEL PRIMER, FOLLOWED WITH A FINISH COAT OF NO. 612-00 WHITE FULLER O'BRIEN HEAVY DUTY, HIGH GLOSS PAINT.
4. HYDRANTS LOCATED IN PAVED OR TRAVELED WAY SHALL BE PROTECTED BY FOUR BOLLARDS AS SHOWN IN BOLLARD PLACEMENT DETAIL.
5. EACH BOLLARD SHALL BE PROFESSIONALLY CLEANED AND PAINTED WITH ONE COAT OF PRIMER AND ONE FINISH COAT OF YELLOW EXTERIOR GRADE LATEX PAINT.
6. BOLLARDS SHALL BE SET IN CONCRETE, SET VERTICALLY AND PLUMBED. SEE STD DETAIL L-8 FOR BOLLARD DETAILS.
7. HYDRANTS SHALL BE CENTERED ON 2' SQUARE, 4" THICK CONCRETE PAD WHEN PLACED IN LANDSCAPE OR PLANTING STRIP.
8. BLUE REFLECTIVE FIRE HYDRANT MARKER SHALL BE LOCATED PER CA MUTCD (LATEST EDITION) FIGURE 3B-102 (CA).

HOSE OUTLETS: (2) 2-½" NOZZLES (1) 4-½" NOZZLE	
MAKE	MODEL
CLOW	960
OR APPROVED EQUAL	

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	NOTES 7&8, HYDRANT MODELS, BOLLARDS

CITY OF PITTSBURG

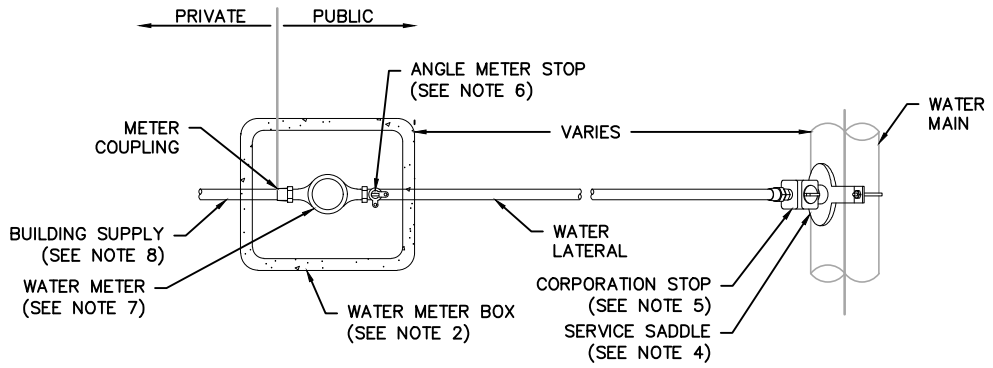
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

HYDRANT INSTALLATION - COMMERCIAL AND INDUSTRIAL

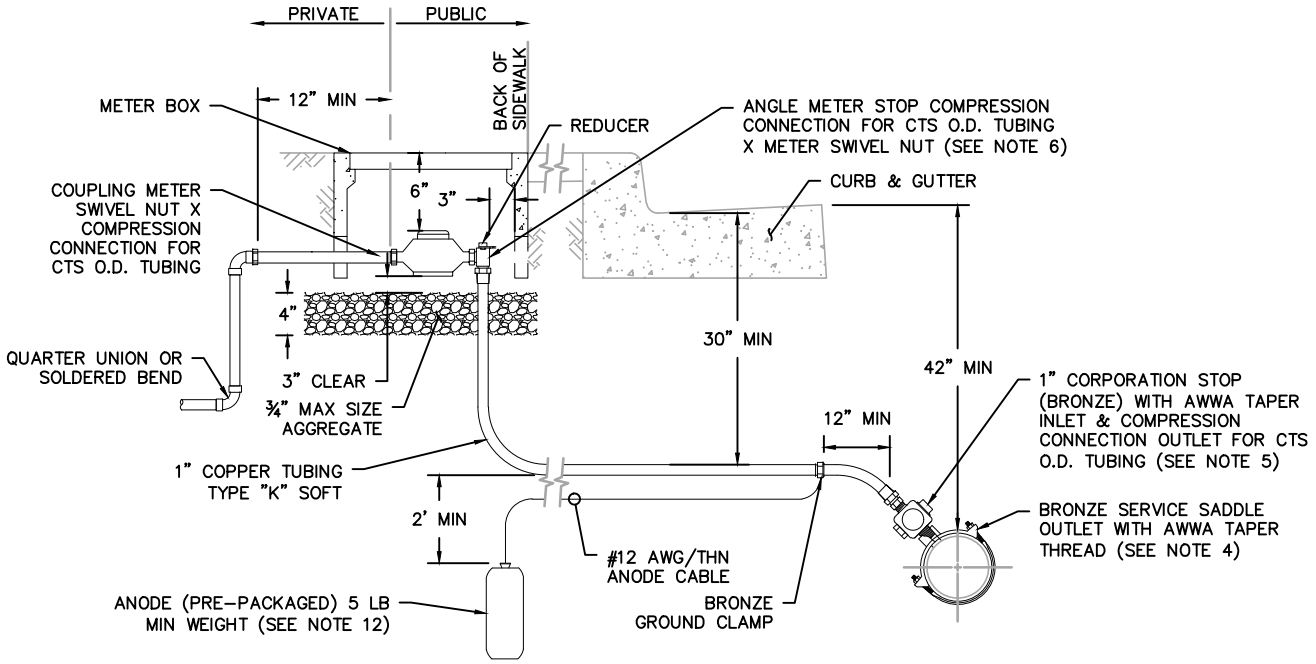
SHEET 2 OF 2

W-4



PLAN VIEW

SCALE: NTS



SECTION VIEW

SCALE: NTS

NOTES

1. AFTER PAYMENT OF FEES, WATER METER SHALL BE FURNISHED AND INSTALLED BY THE CITY FOR NEW SERVICES.
2. METER BOX SHALL BE CHRISTY B9X WITH FL9X LID FOR ¾-INCH AND SMALLER METERS, CHRISTY B16 WITH FL16D LID FOR 1-INCH METERS (OR APPROVED EQUALS).
3. WHERE METER BOX IS TO BE LOCATED IN AN AREA SUBJECT TO VEHICULAR TRAFFIC LOADING, THE PERMITTEE SHALL FURNISH A REGULAR BOX. TRAFFIC BOX COVER SHALL BE FL12BOX WITH FL12D LID FOR ⅝" X ¾" THROUGH 1-INCH METERS (OR APPROVED EQUAL).
4. FOR PIPES UP TO 12" IN DIAMETER, THE SERVICE SADDLE SHALL BE MUELLER H-13000 SERIES (OR APPROVED EQUAL). FOR PIPES LARGER THAN 12" IN DIAMETER, THE SERVICE SADDLE SHALL BE MUELLER BR2B OR BR2S SERIES (OR APPROVED EQUAL). SADDLES FOR PVC PIPE SHALL BE DOUBLE OR WIDE STRAP DESIGN.
5. CORPORATION STOP SHALL BE MUELLER B-25008N (OR APPROVED EQUAL).
6. ANGLE METER STOP SHALL BE MUELLER B-24258N (OR APPROVED EQUAL).
7. WATER METER SHALL BE LOCATED IN THE CENTER OF WATER METER BOX.
8. WATER LATERAL TO BE SIZED PER THE REQUIREMENTS OF THE LATEST VERSION OF CALIFORNIA PLUMBING CODE.
9. ALL WATER SERVICE FITTINGS SHALL BE LEAD-FREE.
10. WHERE THE MATERIAL FOR SERVICE FITTINGS IS SPECIFIED TO BE BRONZE, BRASS FITTINGS MAY BE USED.
11. 1" X ¾" BRASS REDUCER SHALL BE USED FOR ⅝" X ¾" METER.
12. 5 LB MINIMUM ANODE REQUIRED ON ALL COPPER SERVICE LINES 2" AND SMALLER UNLESS GEOTECHNICAL REPORT STIPULATES IT IS NOT NECESSARY. ADDITIONAL WEIGHT MAY BE REQUIRED BY GEOTECHNICAL REPORT. INSULATING COUPLING REQUIRED BETWEEN COPPER WATER LATERAL AND WATER MAIN IF MAIN IS METALLIC.

APPROVED _____ DATE _____

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	ADDED ANODE

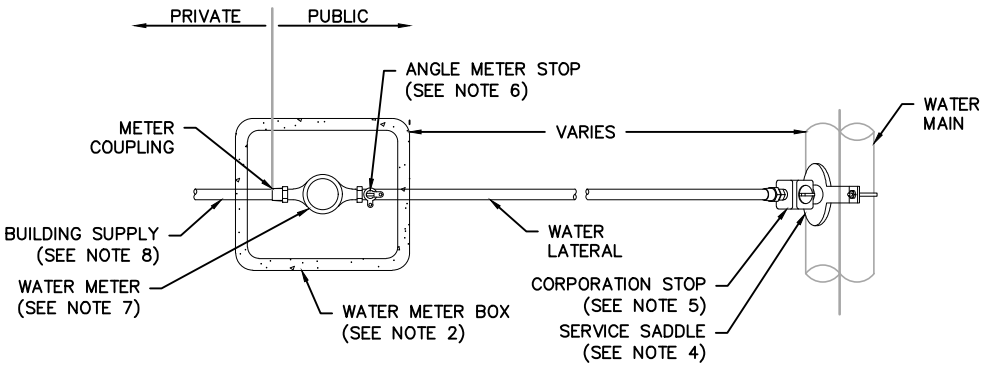
DRAWN BY:	BJR
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	780 NTS

STANDARD DETAIL

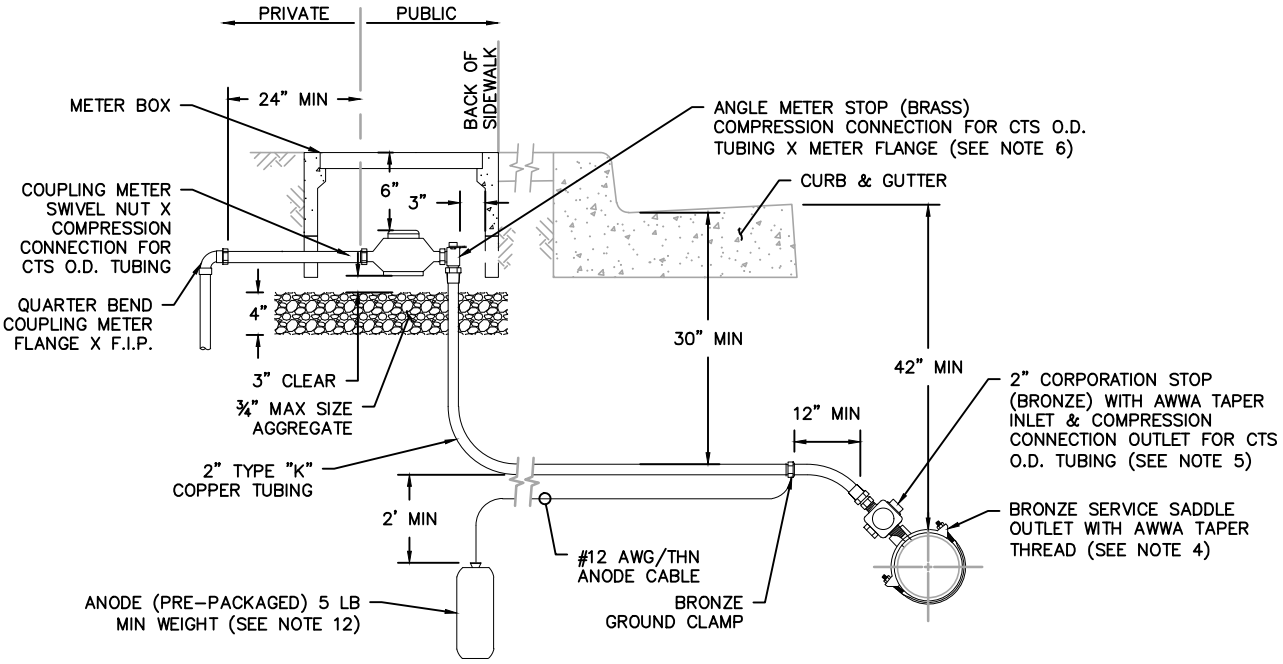
1" COPPER WATER SERVICE FOR 5/8"X3/4" & 1" WATER METERS

SHEET 1 OF 5

W-5



PLAN VIEW
SCALE: NTS



SECTION VIEW
SCALE: NTS

NOTES

1. AFTER PAYMENT OF FEES, WATER METER SHALL BE FURNISHED AND INSTALLED BY THE CITY FOR NEW SERVICES.
2. METER BOX SHALL BE CHRISTY B36 (17¼" x 30") WITH FL36E LID (OR APPROVED EQUAL).
3. WHERE METER BOX IS TO BE LOCATED IN AN AREA SUBJECT TO VEHICULAR TRAFFIC LOADING, THE PERMITTEE SHALL FURNISH A TRAFFIC BOX FOR H/20 LOADING. TRAFFIC BOX SHALL BE CHRISTY B10" X17" WITH B36-616 LID (OR APPROVED EQUAL).
4. FOR PIPES UP TO 12" IN DIAMETER, THE SERVICE SADDLE SHALL BE MUELLER H-13000 SERIES CC TAPERED THREAD (OR APPROVED EQUAL). FOR PIPES LARGER THAN 12" IN DIAMETER, THE SERVICE SADDLE SHALL BE MUELLER BR2B OR BR2S SERIES (OR APPROVED EQUAL). SADDLES FOR PVC PIPE SHALL BE DOUBLE OR WIDE STRAP DESIGN
5. CORPORATION STOP SHALL BE 2" MUELLER B-25008N (OR APPROVED EQUAL).
6. ANGLE METER STOP SHALL BE 2" MUELLER B-24276N (OR APPROVED EQUAL).
7. WATER METER SHALL BE LOCATED IN THE CENTER OF WATER METER BOX.
8. MINIMUM COVER OVER BUILDING SUPPLY (YARD PIPING) SHALL NOT BE LESS THAN THAT SPECIFIED IN THE UNIFORM PLUMBING CODE.
9. WATER SERVICES TO BE SIZED PER THE REQUIREMENTS OF THE LATEST VERSION OF CALIFORNIA PLUMBING CODE.
10. ALL WATER SERVICE FITTINGS SHALL BE LEAD-FREE.
11. THE METER BOX FOR A 1-½-IN TURBINE METER SHALL BE A CHRISTY B-30 BOX WITH B-30E LID (OR B-30-61G LID FOR TRAFFIC AREAS), OR APPROVED EQUALS. THE METER BOX FOR A 2-IN TURBINE METER SHALL BE A CHRISTY B-36 BOX WITH B-36E LID (OR B-36-61G LID FOR TRAFFIC AREAS), OR APPROVED EQUALS.
12. 5 LB MINIMUM ANODE REQUIRED ON ALL COPPER SERVICE LINES 2" AND LESS UNLESS GEOTECHNICAL REPORT STIPULATES IT IS NOT NECESSARY. ADDITIONAL WEIGHT MAY BE REQUIRED BY GEOTECHNICAL REPORT. INSULATING COUPLING REQUIRED BETWEEN COPPER WATER LATERAL AND WATER MAIN IF MAIN IS METALLIC.

APPROVED _____ DATE _____

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	ADDED ANODE

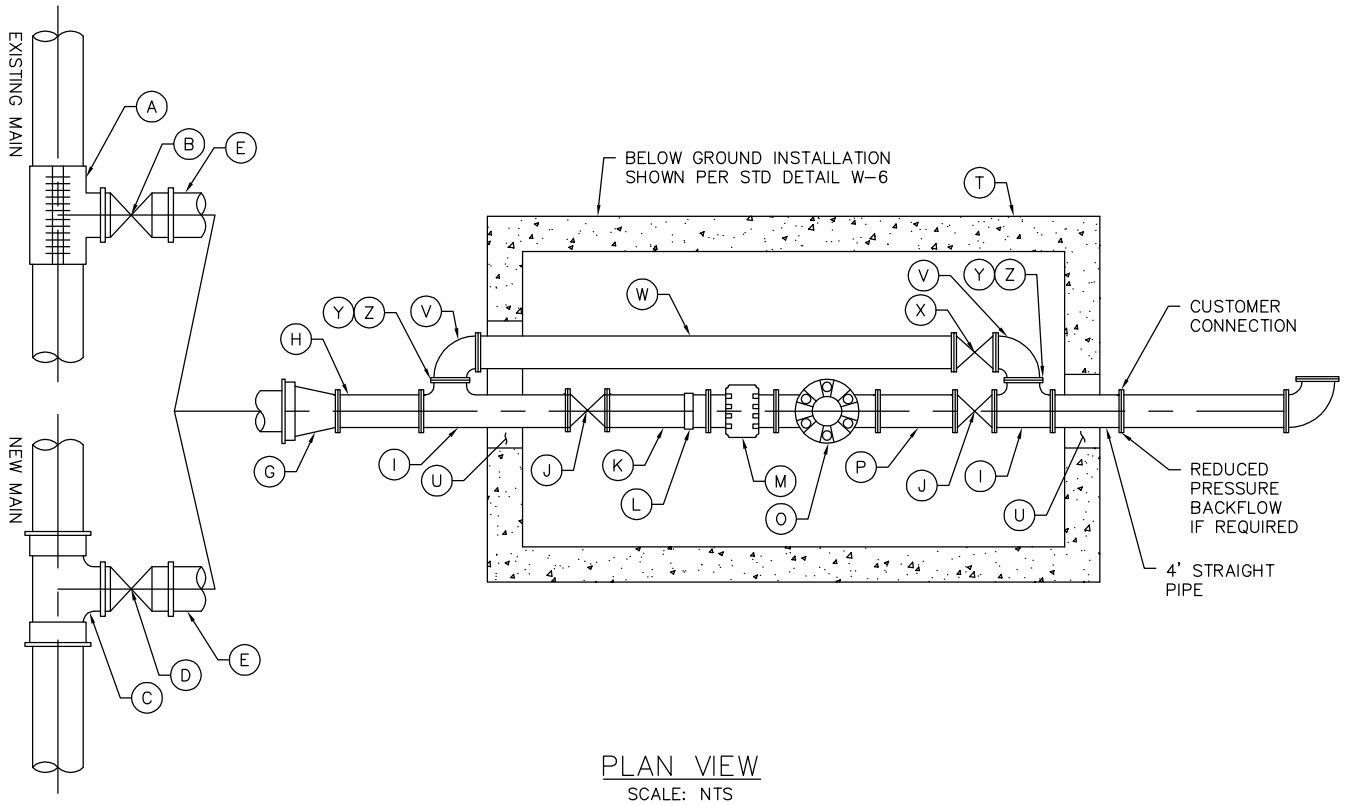
DRAWN BY:	BJR
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	781 NTS

STANDARD DETAIL

2" COPPER WATER SERVICE FOR 1-1/2" & 2" WATER METERS

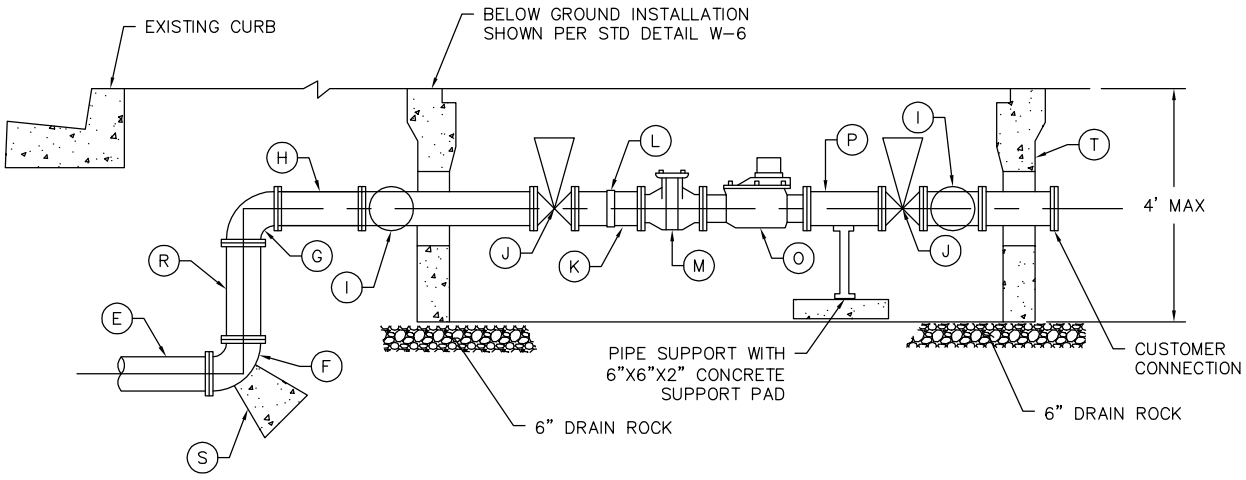
SHEET 2 OF 5

W-5



PLAN VIEW

SCALE: NTS



SECTION VIEW

SCALE: NTS

NOTES

1. SEE SHEET 5 FOR NOTES AND MATERIALS.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	REVISED MATERIALS

CITY OF PITTSBURG

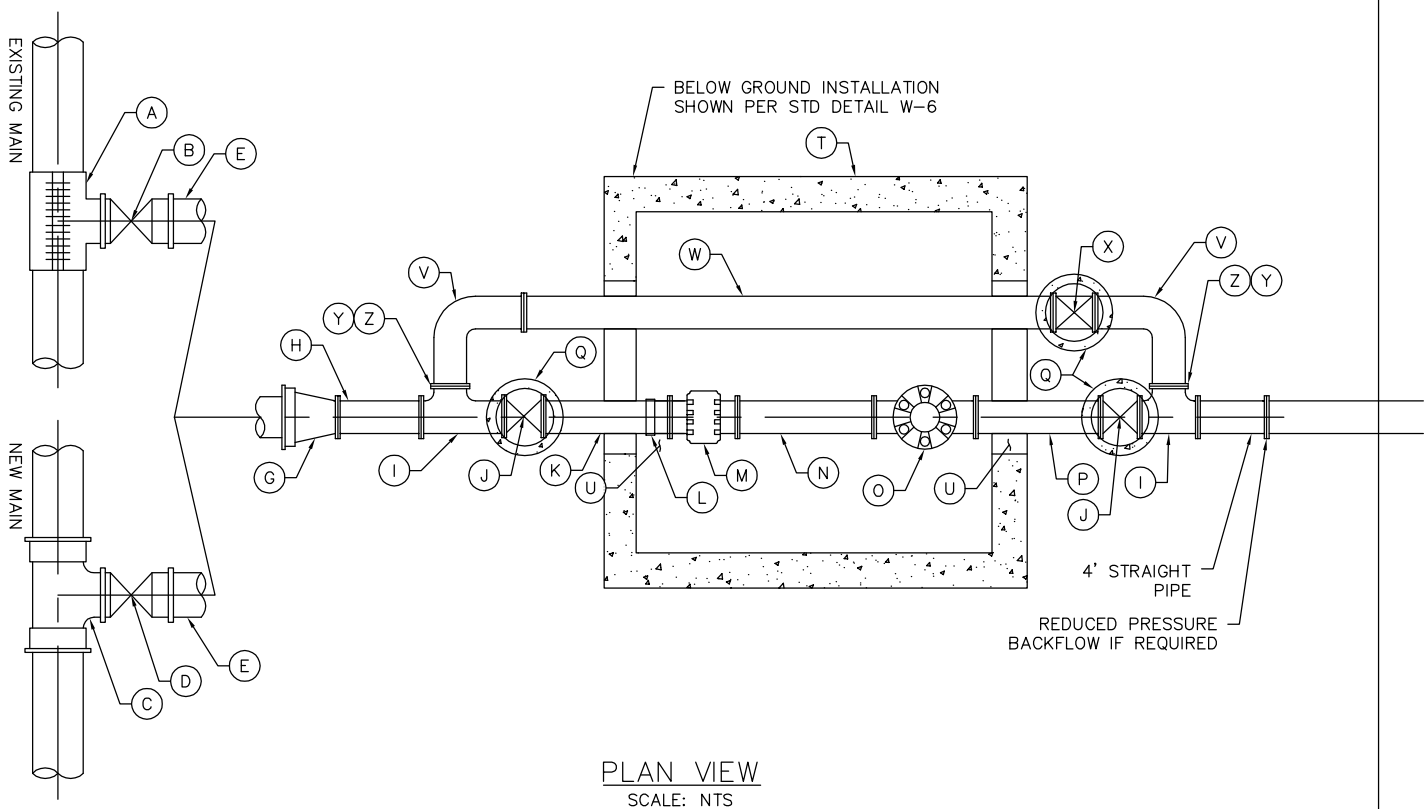
DRAWN BY:	BJR
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

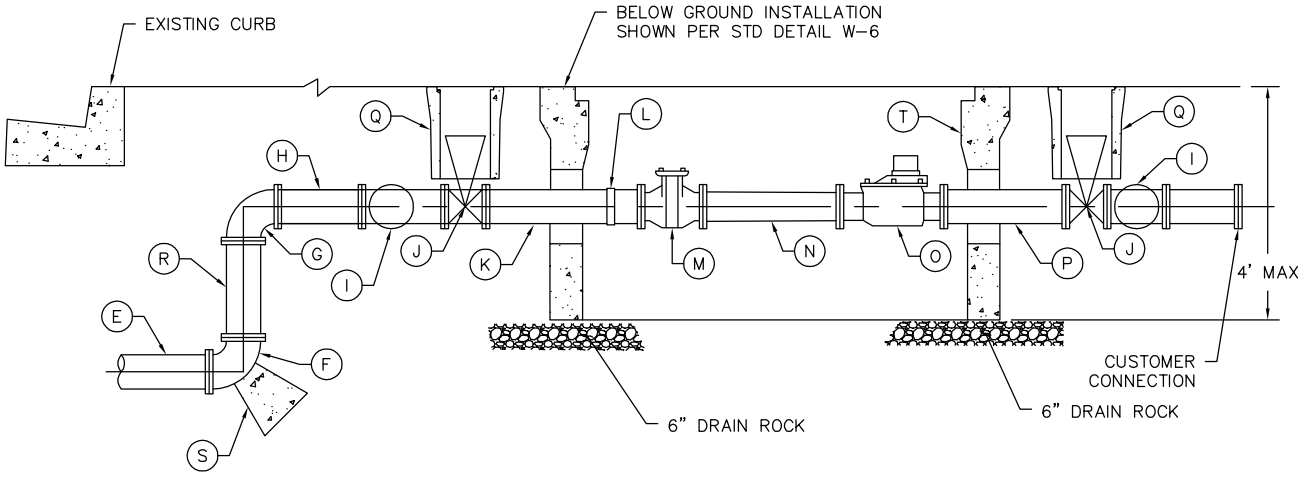
WATER SERVICE FOR 3" & 4" WATER METERS

SHEET 3 OF 5

W-5



PLAN VIEW
SCALE: NTS



SECTION VIEW
SCALE: NTS

NOTES

1. SEE SHEET 5 FOR NOTES AND MATERIALS.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	REVISED MATERIALS

DRAWN BY: AW
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

WATER SERVICE FOR 6" WATER METERS

SHEET 4 OF 5

W-5

LIST OF MATERIALS				
ITEM	DESCRIPTION	3" METER	4" METER	6" METER
A	bolted tapping sleeve	Main size x 4"	Main size x 4"	Main size x 6"
B	Flg x M.J. tapping valve	4"	4"	6"
C	M.J. x M.J. x Flg tee	Main size x 4"	Main size x 4"	Main size x 6"
D	Flg x M.J. gate valve and box	4"	4"	6"
E	Class 52 D.I. pipe	4"	4"	6"
F	M.J. x Flg elbow	4"	4"	6"
G	M.J. x Flg reducer elbow	4" x 3"	---	---
	M.J. x Flg elbow	---	4"	6"
H	Flg D.I. spool (12" length min)	3"	4"	6"
I	Flg x Flg x Flg tee	3"	4"	6"
J	Flg gate valve	3"	4"	6"
K	Flg x Flg nipple (cut in half)	3" x 15"	4" x 20"	6" x 30"
L	flex coupling (Mueller or approved equal)	3"	4"	6"
M	water strainer (provided by City)	Badger Meter Recordall Turbo Series Meter, Model 450 with integral strainer**	Badger Meter Recordall Turbo Series Meter, Model 1000 with integral strainer**	Badger Meter 6" plate strainer**
N	Flg D.I. spool			6" x 30"
O	water meter (provided by City)			Badger Meter Recordall Turbo Series Meter, Model 2000**
P	Flg D.I. spool	3" x 12"	4" x 16"	6" x 24"
Q	valve box	---	---	Christy G05T box**
	valve lid	---	---	Christy G05CT lid**
R	Flg D.I. spool	4"	4"	6"
S	thrust block	See City Standard Detail W-10 for Concrete Thrust Blocking		
T	meter box	Christy R37 P36 Pit**	Christy R37 P36 Pit**	Christy R37 P36 Pit**
	meter lid (torsion-assisted, ADA-rated, steel-hinged, double leaf)	Christy R37-52HT**	Christy R37-52HT**	Christy R37-52HT**
U	8" opening and grout	---	---	---
	By-Pass	2"	2"	4"
V	MIPT x P.J. elbow	2"	2"	4"
W	Type K copper	2"	2"	4"
X	ball valve, MIPT x FIPT with locking ears	2"	2"	4"
Y	nylon bushing	2-1/2" x 2"	2-1/2" x 2"	4-1/2" x 4"
Z	FIPT reducing flange	3" x 2-1/2"	4" x 2-1/2"	6" x 4-1/2"
** or approved equal				

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	REVISED MATERIALS

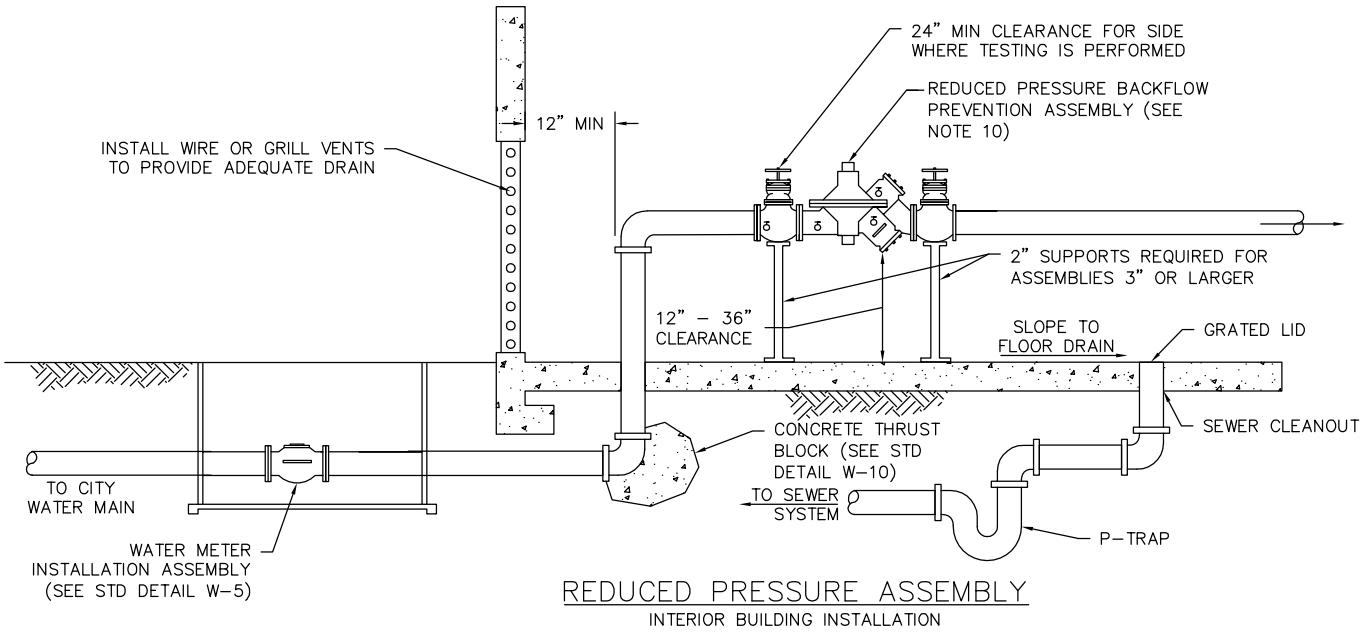
DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

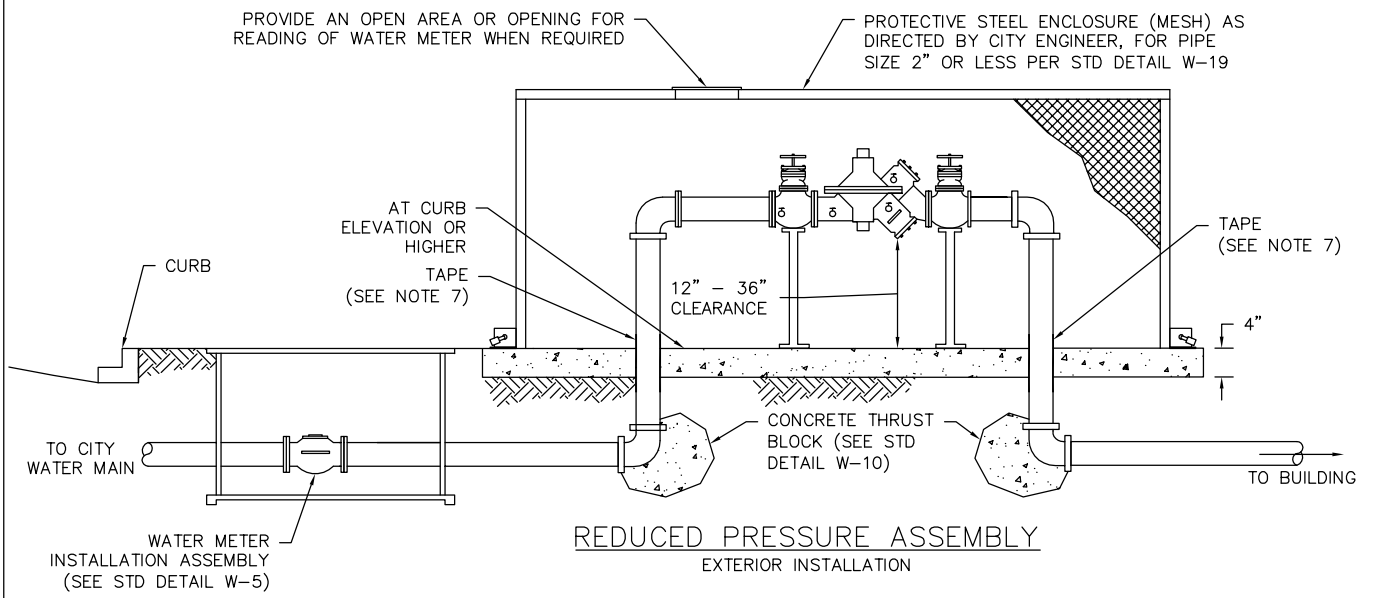
WATER SERVICE FOR 3" THRU 6" WATER METERS - NOTES AND MATERIALS

SHEET 5 OF 5

W-5



REDUCED PRESSURE ASSEMBLY
INTERIOR BUILDING INSTALLATION



REDUCED PRESSURE ASSEMBLY
EXTERIOR INSTALLATION

NOTES

1. POINT OF SERVICE:
   A. POINT OF SERVICE IS AT THE BACK OF CURB FOR ALL CITY STREETS WITH PLANTER STRIPS.
   B. POINT OF SERVICE IS AT THE BACK OF SIDEWALK FOR STREETS WITH COMBINED CURB AND SIDEWALK.
   C. POINT OF SERVICE IS AT THE RIGHT–OF–WAY LINE ON ALL UNIMPROVED STREETS AND ALLEYS.
2. LISTS OF APPROVED (BY STATE & CITY) BACKFLOW PREVENTION ASSEMBLIES AND CERTIFIED BACKFLOW PREVENTION ASSEMBLY TESTERS ARE AVAILABLE AT CITY OF PITTSBURG, PUBLIC WORKS DEPT. AT 357 E. 12TH ST. AND/OR AT THE ENGINEERING DEPARTMENT AT 65 CIVIC AVE.
3. THE BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED ABOVE GROUND, IN A HORIZONTAL AND LEVEL POSITION UNLESS OTHERWISE APPROVED BY THE ENGINEERING DEPARTMENT OR PUBLIC WORKS DEPARTMENT.
4. NO ADDITIONAL CONNECTIONS (OUTLET, TAP OR TEE) ARE PERMITTED BETWEEN THE WATER MAIN AND BACKFLOW PREVENTION ASSEMBLY.
5. BACKFLOW ASSEMBLIES SHALL NOT BE INSTALLED IN BASEMENTS OR VAULTS.
6. DETAILS OF METER SCHEMATIC ONLY. REFER TO W–5 FOR SPECIFIC LAYOUT REQUIRED.
7. PROVIDE 20 MIL TAPE BETWEEN COPPER SUPPLY LINE AND CONCRETE PAD 4" ABOVE AND BELOW CONCRETE.
8. ALL VISIBLE PORTIONS OF THE ASSEMBLY (LARGER THAN 2") SHALL BE PAINTED TO MATCH THE BUILDING AS APPROVED BY THE CITY ENGINEER.
9. PROVIDE A 2" MINIMUM BYPASS ON ALL BFDS (SEE STD DETAIL W–5, SHEET 3). PROVIDE A REDUCED PRESSURE BACKFLOW PREVENTION DETECTOR ON THE BYPASS 3" AND UP.
10. REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY PER UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH'S LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019–01–11	NOTES 6–10, ADDED FLOOR DRAIN

CITY OF PITTSBURG

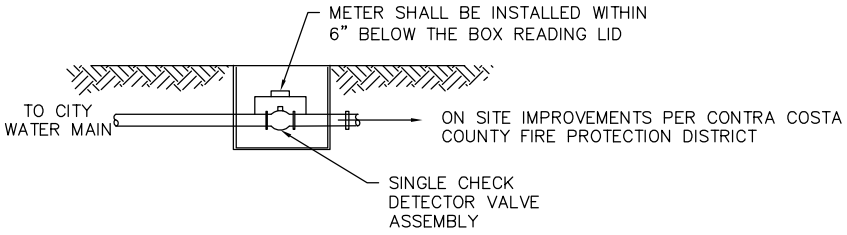
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLIES

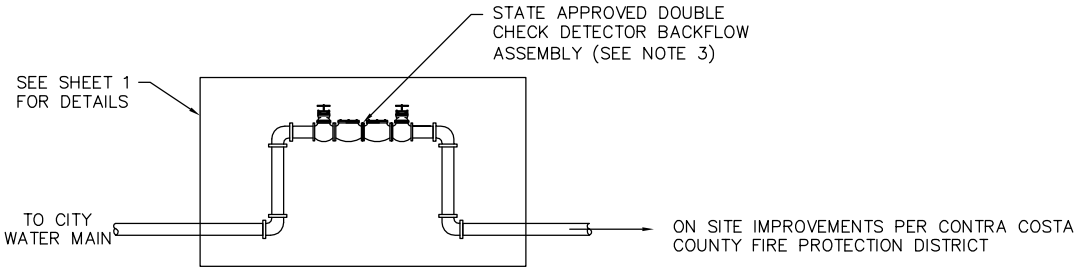
SHEET 1 OF 2

W–6



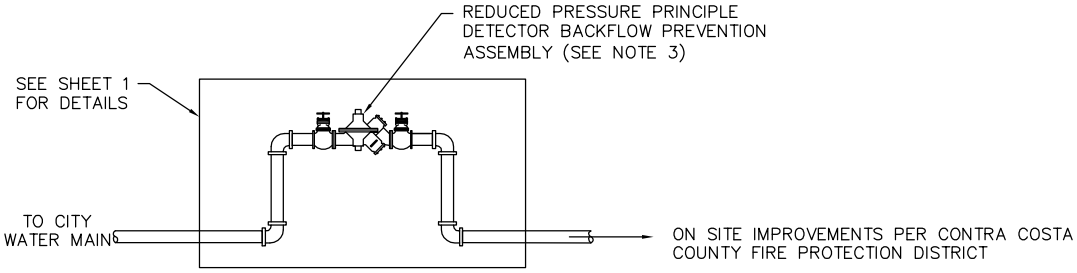
CLASS I & II FIRE PROTECTION SYSTEM

(NO HAZARD CONDITION)



CLASS III FIRE PROTECTION SYSTEM

(LOW HAZARD CONDITION)



CLASS IV & V FIRE PROTECTION SYSTEM

(LOW / HIGH HAZARD CONDITION)

NOTES

1. FIRE PROTECTION SYSTEMS

   CLASS I & II: DIRECT CONNECTIONS FROM PUBLIC WATER MAINS ONLY, NO PHYSICAL CONNECTION FROM OTHER WATER SUPPLIES (TANKS, RESERVOIRS) AND ALL SPRINKLER DRAINS DISCHARGE TO THE ATMOSPHERE OR OTHER SAFE OUTLETS. CLASS II SAME AS CLASS I EXCEPT THAT BOOSTER PUMPS MAY BE INSTALLED.

   CLASS III (LOW HAZARD): DIRECT CONNECTION FROM PUBLIC WATER SUPPLY MAIN PLUS ONE OR MORE OF THE FOLLOWING: ELEVATED STORAGE TANKS, FIRE PUMPS TAKING SUCTION FROM ABOVE GROUND, COVERED RESERVOIRS OR TANKS

   CLASS IV (LOW HAZARD): SIMILAR TO CLASS I & II BUT WHICH USES OR HAS AVAILABLE FOR USE AN UNAPPROVED AUXILIARY WATER SUPPLY.

   CLASS V (HIGH HAZARD): SUPPLIED FROM PUBLIC MAINS AND INTERCONNECTED WITH AN UNAPPROVED AUXILIARY WATER EXPOSED TO CONTAMINATION (HARBORS, RIVERS, PONDS, WELLS OR INDUSTRIAL FLUIDS). THE APPROPRIATE BACKFLOW PREVENTION ASSEMBLY SHALL BE DETERMINED AFTER THE FIRE MARSHAL AND THE ENGINEERING DEPARTMENT HAVE MADE A COMPLETE SURVEY OF THE FIRE PROTECTION REQUIREMENTS OF THE PREMISES.

2. ALL FIRE PROTECTION SYSTEMS HAVE DETECTOR METERS ONLY AND DO NOT REQUIRE SERVICE METERS.

3. REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY PER UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH'S LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	NOTES 2&3

CITY OF PITTSBURG

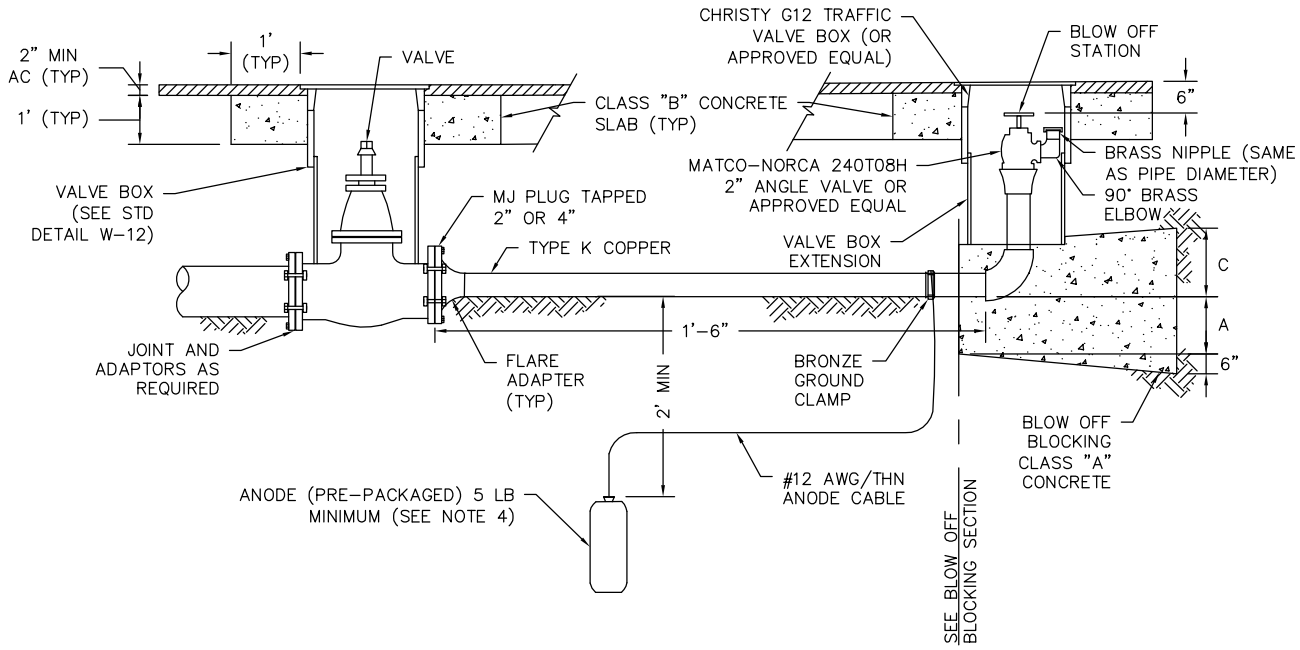
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

BACKFLOW PREVENTION ASSEMBLIES FOR FIRE PREVENTION SYSTEMS

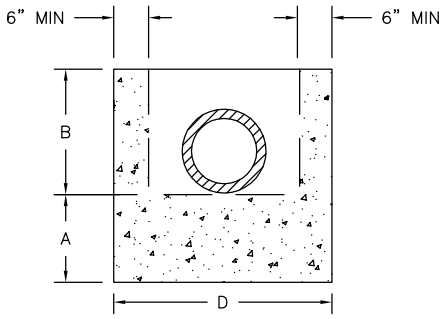
SHEET 2 OF 2

W-6



SECTION VIEW

SCALE: NTS



BLOW OFF BLOCKING

SECTION VIEW

NOTES

1. THE BLOW OFFS FOR FUTURE EXTENSION STUB SHALL BE PRESSURE TESTED AND CHLORINATED WITH THE REST OF THE MAIN BLOW OFF STATION. BACTERIOLOGICAL SAMPLING SHALL BE PERFORMED BY THE CITY.
2. BLOW OFF SHALL BE 2" PIPE (6" & 8" MAIN) OR 4" PIPE (10" & 12" MAIN),
3. REFER TO STD DETAIL W-12 FOR VALVE BOX INSTALLATION ASSEMBLY.
4. 5 LB MINIMUM ANODE REQUIRED ON ALL COPPER SERVICE LINES 2" AND LESS UNLESS GEOTECHNICAL REPORT STIPULATES IT IS NOT NECESSARY. ADDITIONAL WEIGHT MAY BE REQUIRED BY GEOTECHNICAL REPORT. INSULATING COUPLING REQUIRED BETWEEN COPPER WATER LATERAL AND WATER MAIN IF MAIN IS METALLIC.

TABLE 1: MINIMUM DIMENSIONS FOR THRUST BLOCKS				
MAIN SIZE	A	B	C	D
6"	1'-0"	1'-0"	2'-0"	2'-0"
8"	1'-4"	1'-2"	2'-0"	2'-0"
10"	1'-9"	1'-6"	3'-0"	3'-0"
12"	2'-0"	1'-8"	3'-0"	3'-0"

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	ADDED ANODE

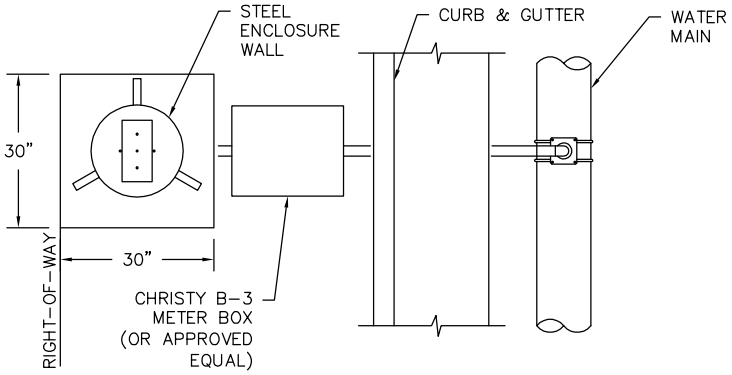
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

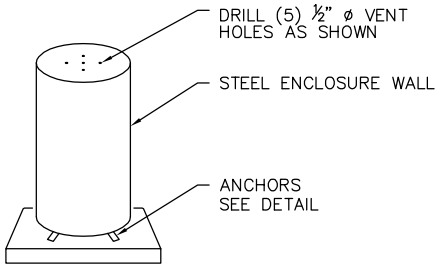
BLOW OFF

SHEET 1 OF 1

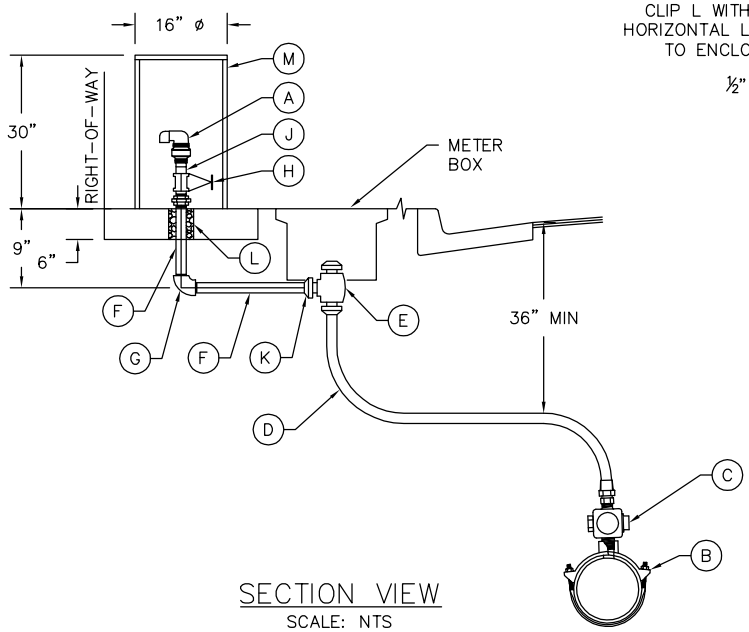
W-8



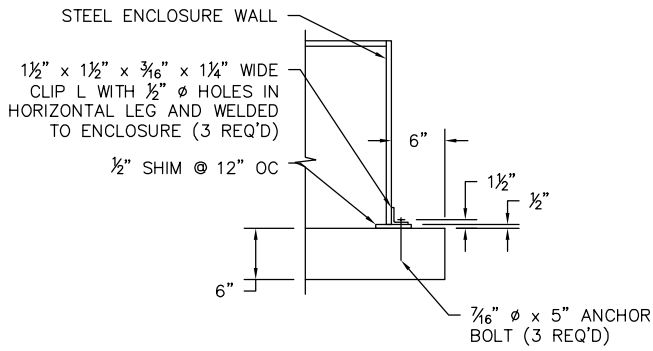
PLAN VIEW
SCALE: NTS



STEEL ENCLOSURE



SECTION VIEW
SCALE: NTS



ANCHOR DETAIL
SECTION VIEW

NOTES

1. WHERE SIDEWALKS ARE ADJACENT TO CURBS, PIPE COVERS SHALL BE CENTERED IN 2'-6" SQUARE CONCRETE PAD (4" THICK) AT BACK OF RIGHT-OF-WAY LINE. IF SIDEWALK IS NOT ADJACENT TO CURB, LOCATE 2'-6" CONCRETE PAD WITHIN PARKWAY BETWEEN SIDEWALK AND CURB FACE. FOR ASSEMBLY OUTSIDE OF AN EXIST STREET, LOCATE CENTER OF AIR VAC 5 FEET FROM CENTERLINE OF WATER MAIN.
2. ALL PIPE, FITTINGS AND VALVES SHALL BE RATED AT PRESSURE CLASS OF WATER MAIN.
3. INSTALL FOUR (4) MARKER POST PER STD DETAIL W-2 AT EACH AIR VAC ASSEMBLY OUTSIDE OF AN EXIST STREET.

LIST OF MATERIALS	
ITEM	DESCRIPTION
A	2" COMBINATION AIR AND VACUUM CAV RELEASE VALVE – A.R.I. D-040**
B	2" BRONZE STRAP SERVICE SADDLE – MUELLER H-13000 SERIES**
C	2" BRONZE CORPORATION STOP – MUELLER B-25008N** W/ DIELECTRIC INSULATING FITTING
D	2" TYPE "K" COPPER TUBING
E	2" BRONZE ANGLE METER VALVE – MUELLER B-24276N**
F	2" BRASS NIPPLE
G	2" 90° BRASS ELBOW
H	2" GATE VALVE WITH BRONZE HANDWHEEL – JONES J-372, CLOW R/W, MUELLER A-2360**
J	2" BRASS SHORT NIPPLE
K	BRONZE WATER METER FLANGE x FIP.
L	8" PVC SLEEVE – PACK WITH GRAVEL.
M	ENCLOSURE – 16" ø HOT DIP 10 GAUGE STEEL GALVANIZED, 30" TALL – PIPELINE VC-216**
** or approved equal	

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	REVISED MATERIALS

DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

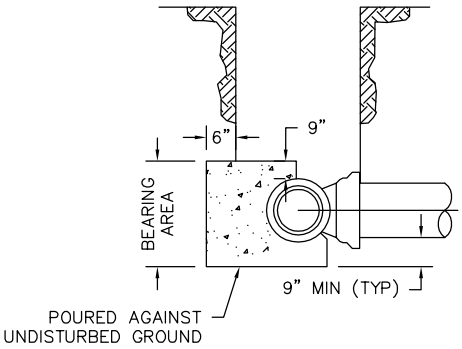
COMBINATION AIR VALVE ASSEMBLY

SHEET 1 OF 1

W-9

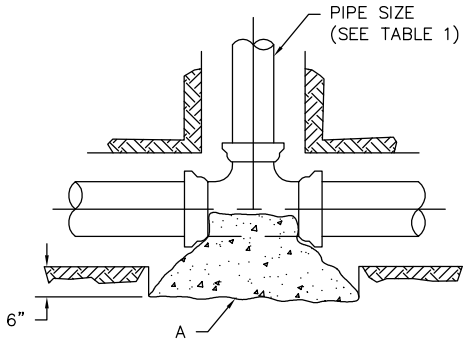
NOTES

1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4,000 PSI @ MIN 28–DAYS.
2. THRUST BLOCKS SHALL BE PLACED SYMMETRICALLY ABOUT THE FITTING.
3. ALL CONCRETE BLOCKS TO BE KEPT CLEAR OF BALLS, LUGS AND BOLTS.
4. UNSUPPORTED SURFACES TO BE FORMED.
5. BASED ON 200 PSI TOTAL TEST, 2000 PSF SOIL BEARING, AND SAFETY FACTOR 1.0.
6. INCREASE ALL BEARING AREAS FOR SOFT MATERIALS, AS APPROVED BY THE CITY ENGINEER.
7. ALL FITTINGS AND VALVES SHALL BE COATED WITH MASTIC PRIOR TO POURING OF THRUST BLOCKS.
8. C1=11¼° DEFLECTION. C2=22½° DEFLECTION. C3=45° DEFLECTION. A=TEE / PLUGGED TEE / PLUGGED END / PLUGGED CROSS / PLUGGED WYE.
9. SEE SHEET 3 FOR UPWARD FORCE VERTICAL BENDS.

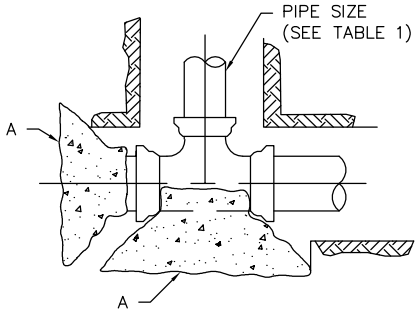


TYPICAL SECTION

TABLE 1: CONCRETE THRUST BLOCKS						
MINIMUM REQUIRED BEARING AREAS (SQUARE FEET)						
		DEFLECTION				
		A (TEE/PLUGGED)	B (90°)	C1 (11¼°)	C2 (22½°)	C3 (45°)
PIPE SIZE	4"	1.81	2.56	0.36	0.71	1.39
	6"	3.74	5.29	0.73	1.46	2.86
	8"	6.43	9.10	1.26	2.51	4.92
	10"	9.68	13.69	1.90	3.78	7.41
	12"	13.69	19.35	2.68	5.34	10.47



TEE
PLAN VIEW



PLUGGED TEE
PLAN VIEW

APPROVED _____ DATE _____

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NO.	DATE	REVISION

CITY OF PITTSBURG

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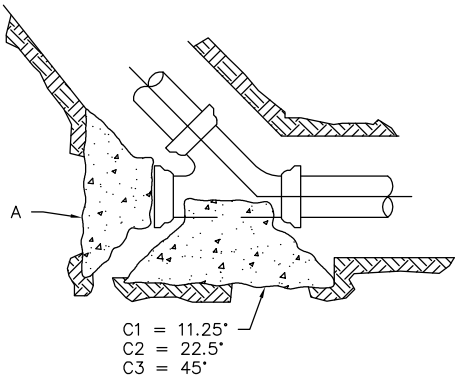
SCALE:	NTS

STANDARD DETAIL

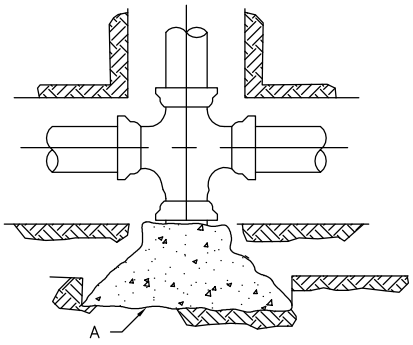
CONCRETE THRUST BLOCKING

SHEET 1 OF 3

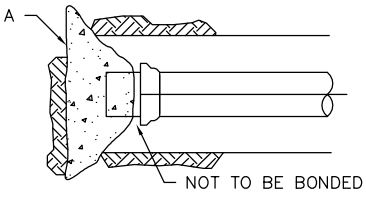
W–10



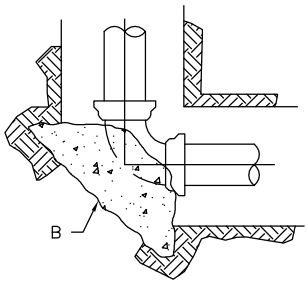
PLUGGED WYE
PLAN VIEW



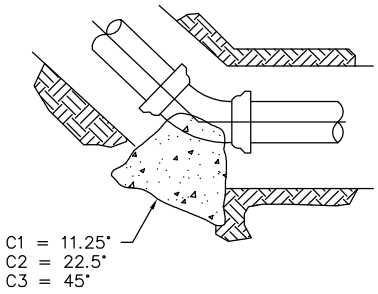
PLUGGED CROSS
PLAN VIEW



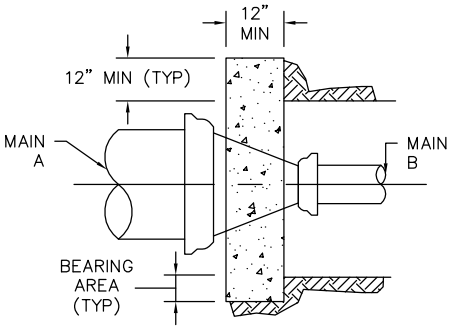
PLUGGED END
PLAN VIEW



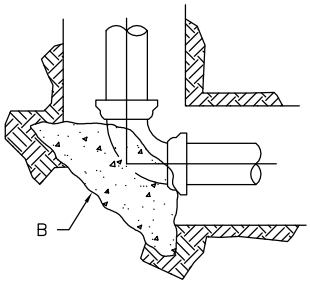
HORIZONTAL 90° (ELBOW)
PLAN VIEW



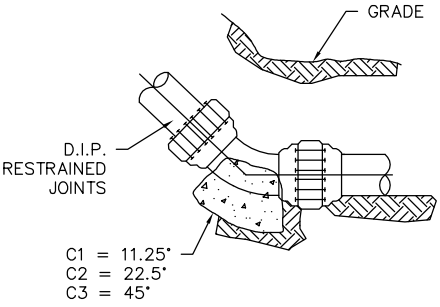
HORIZONTAL (ELBOW)
PLAN VIEW



REDUCER
PLAN VIEW



VERTICAL 90° (ELBOW)
PROFILE VIEW



VERTICAL UNDERBEND
PROFILE VIEW

NOTES

1. FOR GENERAL NOTES AND THRUST BLOCK TABLES, SEE SHEET 1.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

DRAWN BY:	BJR
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DATE:	2019-01-11
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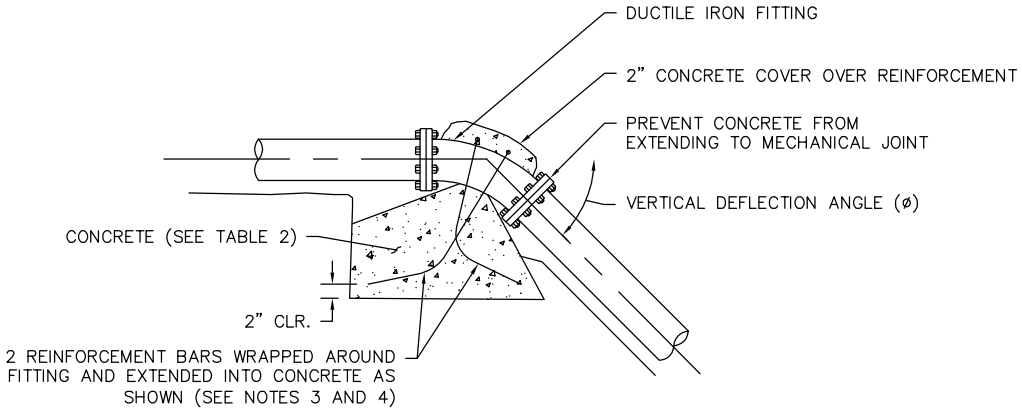
STANDARD DETAIL

CONCRETE THRUST BLOCKING

SHEET 2 OF 3

W-10



UPWARD FORCE VERTICAL BEND

PROFILE VIEW

TABLE 2: TOTAL VOLUME OF THRUST BLOCKS (C.Y.)				
PIPE SIZE	VERTICAL DEFLECTION ANGLE (ø)			
	11¼°	22½°	45°	90°
6"	0.31	0.60	1.11	1.57
8"	0.54	1.07	1.97	2.79
12"	1.23	2.40	4.44	6.28
VOLUMES GIVEN ARE FOR A MAXIMUM TEST PRESSURE OF 150 PSI. VOLUMES SHOULD BE ADJUSTED FOR HIGHER PRESSURES SUBJECT TO APPROVAL OF THE DIRECTOR OF PUBLIC WORKS.				

NOTES

1. THRUST BLOCKS TO BE POURED AGAINST UNDISTURBED SOIL.

2. VOLUME OF THRUST BLOCKS IN TABLE 2 FROM FORMULA:

$$V = \frac{1.5\ PA\ (SIN\ \phi)}{4050}$$

WHERE: P = 150 PSI
A = CROSS SECTIONAL AREA (SQUARE INCHES) OF THE PIPE USING THE OUTSIDE DIAMETER OF THE PIPE

3. REINFORCEMENT BAR SIZE SHALL BE:
#4 FOR VOLUME OF THRUST BLOCK < 2.4 C.Y.
#5 FOR VOLUME OF THRUST BLOCK BETWEEN 2.4 & 4.4 C.Y.
#6 FOR VOLUME OF THRUST BLOCK BETWEEN 4.4 & 6.8 C.Y.

4. REINFORCEMENT BARS SHALL BE PLACED TO HAVE A 2" CLEARANCE FROM OUTSIDE EDGE OF CONCRETE.

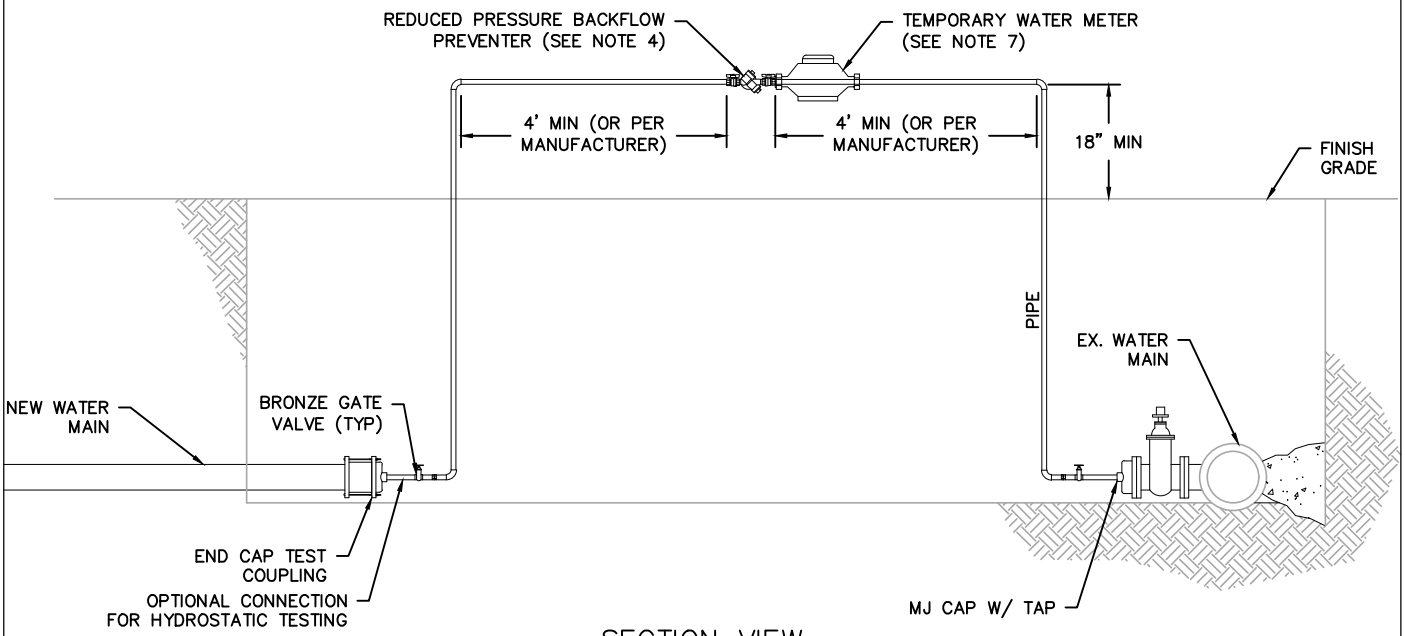
5. THRUST BLOCKS SHALL BE ELIMINATED IF A RESTRAINED JOINT DESIGN IS INCLUDED FOR THE PIPING, JOINTS, AND FITTINGS.

6. CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH A MINIMUM STRENGTH OF 4,000 PSI.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: BJR	STANDARD DETAIL	SHEET 3 OF 3
				CHECKED BY: MK	CONCRETE THRUST BLOCKING FOR UPWARD FORCE VERTICAL WATER LINE BENDS	W–10
				DATE: 2019–01–11		
				SCALE: NTS		



SECTION VIEW

SCALE: NTS

NOTES:

1. THE TEMPORARY FLUSHING AND TESTING CONNECTION SHOWN HERE IS TO BE USED IN LIEU OF AWWA C-651, FIGURE 1. THE USE OF BACKFLOW PROTECTION IS MANDATORY. THE TEMPORARY CONNECTION SHALL BE ADEQUATELY SIZED TO PROVIDE THE REQUIRED FLOW PER AWWA C-651 TO FLUSH PIPE.
2. THE BACKFLOW PREVENTION DEVICE SHALL BE TESTED BY THE CITY OF PITTSBURG AFTER INSTALLATION AND PRIOR TO THE COMMENCING OF ANY FLUSHING OR TESTING OF THE NEW WATER MAIN.
3. THE NEW WATER MAIN SHALL BE KEPT ISOLATED FROM THE ACTIVE DISTRIBUTION SYSTEM UNTIL SATISFACTORY BACTERIOLOGICAL TESTING HAS BEEN COMPLETED AND DISINFECTANT WATER FLUSHED OUT.
4. WHEN BACKFLOW PREVENTER IS LOCATED IN THE ROADWAY, CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL; AS REQUIRED BY CITY, UNTIL COMPLETION OF ALL FLUSHING AND TESTING.
5. IF FOR ANY REASON, IT IS NECESSARY TO REMOVE THE TEMPORARY CONNECTION PRIOR TO THE SATISFACTORY COMPLETION OF FLUSHING AND TESTING, THEN PRIOR TO THE RESUMPTION OF FLUSHING AND TESTING THE CONNECTION ASSEMBLY SHALL BE DISINFECTED PER THE REQUIREMENTS OF AWWA C-651. CITY SHALL RETEST THE BACKFLOW PREVENTER.
6. PROTECT THE INSTALLATION OF THE BACKFLOW DEVICE TO PREVENT DAMAGE THAT MAY LEAD TO MALFUNCTION OF THE DEVICE. PROPER STORAGE AND HANDLING OF THE DEVICE WILL HELP PREVENT DIRT, ROCK OR OTHER DELETERIOUS MATERIAL FROM ENTERING OPEN ENDS OF THE BACKFLOW DEVICE.
7. CONTRACTOR SHALL INSTALL A TEMPORARY WATER METER UPSTREAM FROM THE BACKFLOW PREVENTION DEVICE. FOR SUBDIVISIONS, WATER METER SHALL BE ON BACKFLOW PREVENTION DEVICE. CITY TO PROVIDE WATER METER.
8. THE DESINFECTION OF A NEW POTABLE WATER PIPING SYSTEM SHALL BE AS SPECIFIED IN SECTION 33 13 00 – DISINFECTING OF WATER DISTRIBUTION, OF THE CITY OF PITTSBURG STANDARD SPECIFICATIONS.
9. NEW WATER MAINS AND NEW SUPPLY LINES SHALL NOT BE INSTALLED IN THE SAME TRENCH AS, AND SHALL BE AT LEAST 10 FEET HORIZONTALLY FROM AND ONE FOOT VERTICALLY ABOVE, ANY PARALLEL PIPELINE CONVEYING SANITARY SEWER RECYCLED WATER OR FUEL LINES
10. NEW WATER MAINS AND NEW SUPPLY LINES SHALL BE AT LEAST 4 FEET HORIZONTALLY FROM AND ONE FOOT VERTICALLY ABOVE, ANY PARALLEL PIPELINE CONVEYING STORM DRAINAGE AND DISINFECTED TERTIARY RECYCLED WATER
11. IF CROSSING A PIPELINE CONVEYING A FLUID LISTED IN SECTIONS 8 AND 9 ABOVE, A NEW WATER MAIN SHALL BE CONSTRUCTED NO LESS THAN 45-DEGREES TO AND AT LEAST ONE FOOT ABOVE THE PIPELINE.

APPROVED _____ DATE _____

CITY OF PITTSBURG

NO.	DATE	REVISION

DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019-01-11
SCALE: 792 NTS

STANDARD DETAIL

TEMPORARY FLUSHING AND TESTING CONNECTIONS

SHEET 1 OF 2

W-11

PRESSURE TEST SHALL BE IN ACCORDANCE WITH AWWA C600 AND THE FOLLOWING:

1. TEST PRESSURE: NOT LESS THAN 200 PSIG OR 50 PSI IN EXCESS OF MAXIMUM STATIC PRESSURE, WHICHEVER IS GREATER. THE TESTS SHALL BE PERFORMED AT AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED.

2. PREPARATION OF TEST:

    a. VENTS SHALL BE AT THE HIGH POINTS OF THE SYSTEM AND DRAINS PROVIDED WHERE MEANS OF VENTING OR DRAINING DO NOT EXIST.
    b. REMOVE OR BLOCK OFF, ALL RELIEF VALVES, RUPTURE DISCS, ALARMS, CONTROL INSTRUMENTS, ETC. THAT SHALL NOT BE SUBJECTED TO THE TEST PRESSURE. ALL GAGES USED IN THE SYSTEM SHALL BE CALIBRATED GAGES.
    c. ALL DISCS, BALLS, OR PISTONS FROM CHECK VALVES SHALL BE REMOVED IF THEY INTERFERE WITH FILLING THE SYSTEM. OPEN ALL VALVES BETWEEN INLET AND OUTLET OF THE SECTION TO BE TESTED.
    d. CONNECT PUMP AND PROVIDE TEMPORARY CLOSURES FOR ALL THE EXTERNAL OPENINGS IN THE SYSTEM. USE CAUTION TO INSURE THAT THE CLOSURES ARE PROPERLY DESIGNED AND STRONG ENOUGH TO WITHSTAND THE TEST PRESSURE.
    e. A JOINT PREVIOUSLY TESTED IN ACCORDANCE WITH THIS SPECIFICATION MAY BE COVERED OR INSULATED.
    f. EXPANSION JOINTS SHALL BE PROVIDED WITH TEMPORARY RESTRAINT FOR ADDITIONAL PRESSURE UNDER TEST OR SHALL BE ISOLATED FROM THE TEST.
    g. FLANGED JOINTS, WHERE BLANKS ARE INSERTED TO ISOLATE EQUIPMENT DURING THE TEST, NEED NOT BE TESTED.
    h. ALL CONCRETE BLOCK SHALL BE ALLOWED TO CURE A SUFFICIENT TIME TO DEVELOP THE MINIMUM COMPRESSIVE STRENGTH BEFORE TESTING.
    i. PRESSURE TESTS ON EXPOSED AND ABOVE GROUND PIPING SHALL BE CONDUCTED ONLY AFTER THE ENTIRE PIPING SYSTEMS HAS BEEN INSTALLED AND ATTACHED TO THE PIPE SUPPORTS, HANGERS OR ANCHORS OR AS SHOWN ON THE PLANS.
    j. ANY CONNECTION BETWEEN THE NEW PIPELINE BEING INSTALLED AND THE EXISTING WATER SYSTEM SHALL INCLUDE A STATE APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY INSTALLED TO PREVENT FLOW INTO THE EXISTING SYSTEM. THE BACKFLOW DEVICE ASSEMBLY SHALL BE REQUIRED UNTIL BACTERIOLOGICAL SAMPLING PROVES THE NEW PIPELINE IS PROPERLY DISINFECTED.
    k. CONTRACTOR SHALL DISCONNECT SYSTEM FROM THE PUMP PRIOR TO VERIFYING THE DROP IN PRESSURE.

3. THE CONTRACTOR SHALL PAY COSTS OF ALL WATER USED FOR CONSTRUCTION PURPOSES, INCLUDING FLUSHING AND TESTING. THE CITY, AT HIS EXPENSE, SHALL PROVIDE A METER APPROVED BY THE PROJECT MANAGER TO COMPLETE THE WORK.

4. THE CONTRACTOR SHALL FURNISH ALL REQUIRED EQUIPMENT, PUMPS, CALIBRATED GAGES AND MATERIALS, MAKE ALL CONNECTIONS AND PERFORM THE REQUIRED TESTS.

5. CONDUCT HYDROSTATIC TEST FOR AT LEAST TWO HOURS. APPLY THE HYDROSTATIC TEST PRESSURE IN INCREMENTS OF 25 PSIG, OR AS DIRECTED BY THE PROJECT MANAGER UNTIL THE MAXIMUM TEST PRESSURE IS REACHED. HOLD PRESSURE FOR 5 MINUTES AT EACH 25 PSIG INCREMENT AND INSPECT FOR LEAKS BEFORE ADDING MORE PRESSURE.

6. SLOWLY FILL SECTION TO BE TESTED WITH WATER; EXPEL AIR FROM PIPING AT HIGH POINTS USING THE VENTS. PRIOR TO BEGINNING HYDROSTATIC TESTING, THE PIPELINE SHALL HAVE BEEN FILLED WITH WATER AND ALLOWED TO STAND A MINIMUM OF FOUR (4) HOURS UNDER A SLIGHT PRESSURE. INSTALL CORPORATION COCKS AT HIGH POINTS. CLOSE AIR VENTS AND CORPORATION COCKS AFTER AIR IS EXPELLED. RAISE PRESSURE SLOWLY WITH THE PUMP TO SPECIFIED TEST PRESSURE.

7. MAINTAIN PRESSURE FOR FOUR (4) HOURS KEEPING PERSONNEL AT A SAFE DISTANCE.

8. OBSERVE JOINTS, FITTINGS, AND VALVES UNDER TEST. REMOVE AND RENEW CRACKED PIPES, JOINTS, FITTINGS, AND VALVES SHOWING VISIBLE LEAKAGE. RETEST.

9. CORRECT VISIBLE DEFICIENCIES BY RELEASING THE PRESSURE, DRAINING THE SYSTEM AND CONTINUE TESTING AT SAME TEST PRESSURE FOR ADDITIONAL TWO HOURS TO DETERMINE ANY LEAKAGE. MAINTAIN PRESSURE WITHIN PLUS OR MINUS 5 PSI OF TEST PRESSURE.

10. DURING HYDROSTATIC TESTING, THE CONTRACTOR SHALL PROVIDE FOR TEMPORARY BLOCKING OF THE PIPELINE AT THE TIE–IN POINTS OR AS DIRECTED BY THE PROJECT MANAGER. NO HYDROSTATIC TEST WILL BE ALLOWED AGAINST A CLOSED VALVE CONNECTED TO THE EXISTING SYSTEM EXCEPT UNDER SPECIFIC SUPERVISED CONDITIONS APPROVED BY THE PROJECT MANAGER.

11. NO LEAKAGE IS ALLOWED.

12. IF TEST OF PIPE INDICATES LEAKAGE, LOCATE SOURCE OF LEAKAGE, MAKE CORRECTIONS, AND RETEST UNTIL THERE IS NO LEAKAGE IN THE SYSTEM

13. AFTER HYDROSTATIC TEST IS COMPLETE, REMOVE THE PRESSURE WITH CAUTION TO AVOID ESCAPING FLUID AND DEBRIS.

APPROVED _____ DATE _____

CITY OF PITTSBURG

NO.	DATE	REVISION

DRAWN BY: BJR
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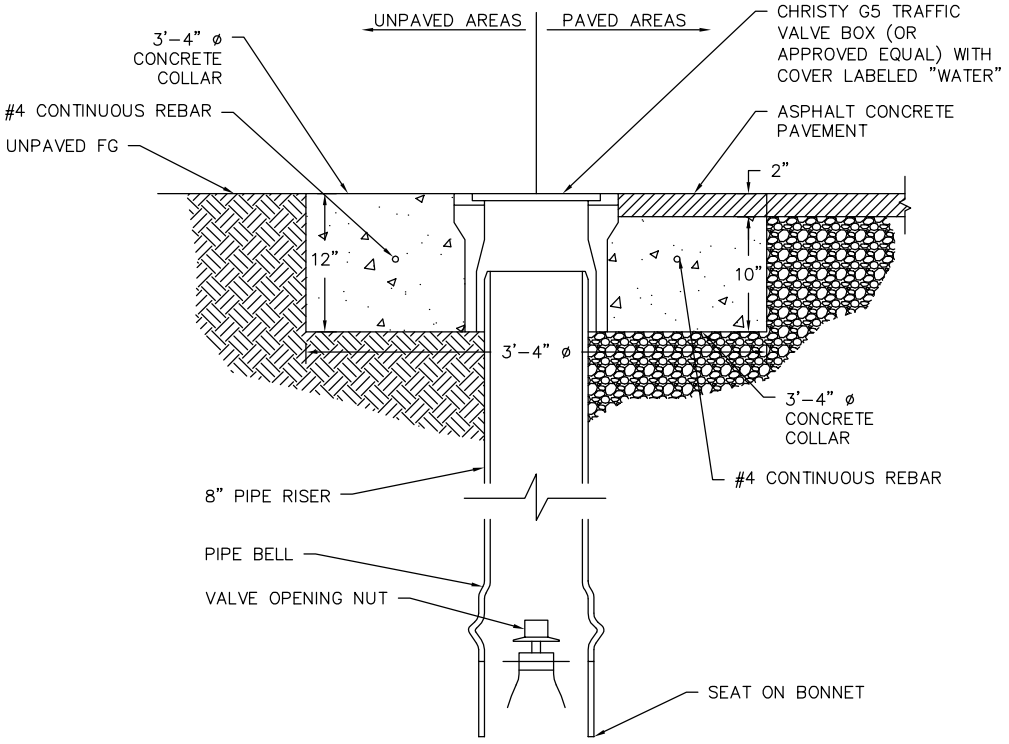
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

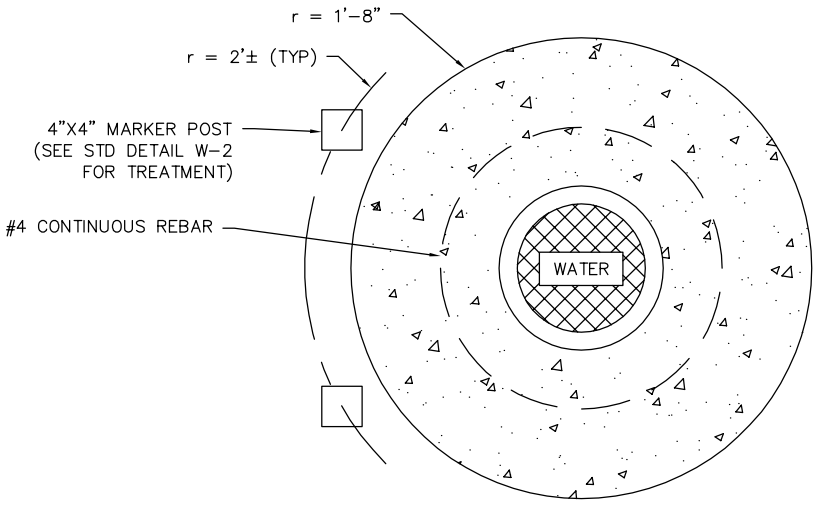
TEMPORARY FLUSHING AND TESTING CONNECTIONS

SHEET 2 OF 2

W–11



SECTION VIEW
SCALE: NTS



PLAN VIEW
SCALE: NTS

APPROVED _____ DATE

DRAFT

NO.	DATE	REVISION
1	2019-01-11	SEAT ON BONNET

CITY OF PITTSBURG

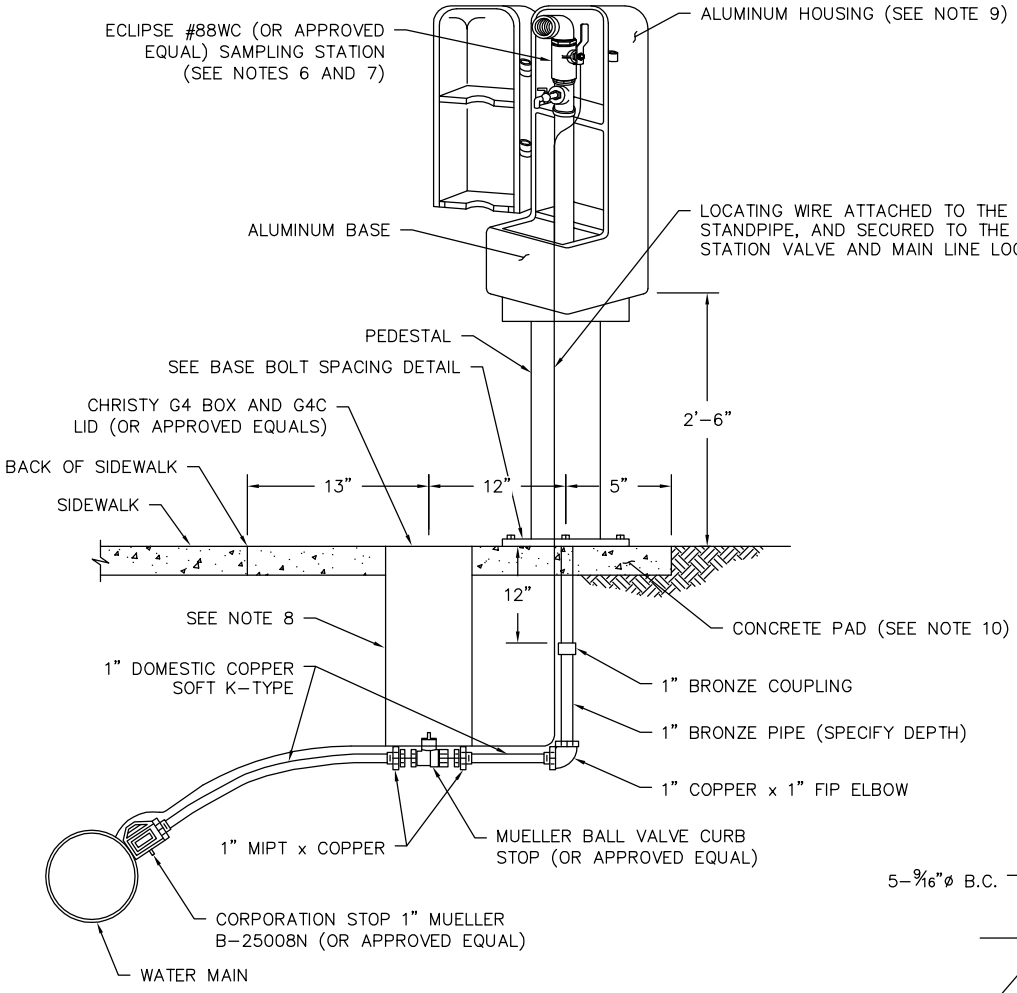
DRAWN BY:	BJR
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

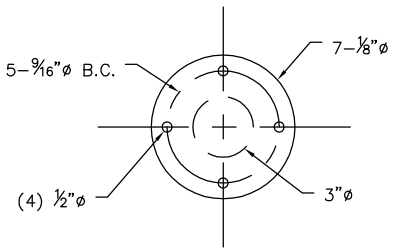
WATER VALVE BOX INSTALLATION

SHEET 1 OF 1

W-12



SECTION VIEW
SCALE: NTS



BASE BOLT SPACING
PLAN VIEW

NOTES

1. SAMPLING STATIONS SHALL BE 1' BURY, WITH A 1" MIP INLET, AND A 1" FIP DISCHARGE. A ¼" BENT-NOSE SAMPLING BIB SHALL BE LOCATED BEFORE THE DISCHARGE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NON-REMOVABLE, ALUMINUM-CAST HOUSING. HOUSING SHALL BE ON A 2'-6" PEDESTAL WITH A 7-⅛" MOUNTING FLANGE.
3. WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. ALL WORKING PARTS WILL BE OF BRONZE AND SERVICEABLE FROM ABOVE GROUND WITH NO DIGGING.
5. A 1" BALL VALVE WILL CONTROL THE WATER FLOW, AND BE LOCATED BEFORE (OR AFTER) THE SAMPLING BBB, AS MANUFACTURED BY KUPFERLE FOUNDRY, ST. LOUIS, MO 63102 (OR APPROVED EQUAL).
6. LOCATE SAMPLING STATION ASSEMBLY AT BACK OF SIDEWALK AND ALUMINUM HOUSING DOOR FACING THE SIDEWALK.
7. ECLIPSE #88WC SAMPLING STATION IS FROM KUPFERLE FOUNDRY, ST. LOUIS, MO. 63102 (OR APPROVED EQUAL).
8. NOTCH BOTTOM OF VALVE RISER MATERIAL TO ACCOMMODATE THE SERVICE LINE AND LOCATING WIRE.
9. CAST CITY OF PITTSBURG LOGO INTO SAMPLING STATION HOUSING DOOR.
10. PAD SHALL BE PORTLAND CEMENT CONCRETE, 4,000 PSI MINIMUM, 2'-6" x 2' x 4" THICK SLOPING AT ¼" PER FOOT TOWARDS SIDEWALK.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

DRAWN BY:	BJR
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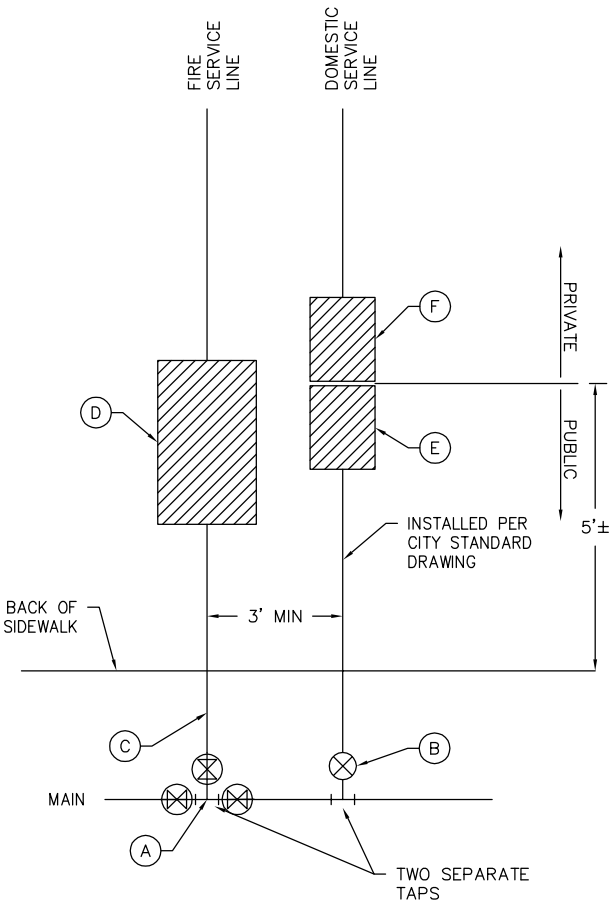
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

WATER QUALITY SAMPLING STATION

SHEET 1 OF 1

W-13



PLAN VIEW

SCALE: NTS

NOTES

1. ALL MATERIALS LISTED OR SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
2. DOUBLE CHECK DETECTOR VALVE ASSEMBLY AND WATER METER SHALL BE INSTALLED AS CLOSE TO BACK OF SIDEWALK AS POSSIBLE.
3. SEE CONTRA COSTA COUNTY FIRE DEPARTMENT FOR ADDITIONAL REQUIREMENTS. DESIGN AND INSTALLATION SUBJECT TO APPROVAL OF FIRE DEPARTMENT.

(A) STAINLESS STEEL TAPPING SLEEVE: MUELLER, JCM, ROMAC, SMITH–BLAIR OR FLANGED TEE WITH 3 FLANGED VALVES. THE REQUIREMENT FOR CUTTING IN A TEE WILL BE DETERMINED ON AN INDIVIDUAL BASIS. INSTALLATION OF ADDITIONAL MAIN LINE VALVES WILL BE DETERMINED BY THE CITY.

(B) MUELLER VALVE FLANGED BY MECHANICAL JOINT WITH OPERATING NUT (OR APPROVED EQUAL).

(C) PRESSURE CLASS 350 D.I.P. SIZE TO BE DETERMINED BY THE DESIGN ENGINEER FROM FIRE AND DOMESTIC REQUIREMENTS. THE SIZE SHALL BE DESIGNATED ON THE CONSTRUCTION PLANS FOR APPROVAL BY THE CITY.

(D) CITY APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLY. SEE APPLICABLE STANDARD DRAWINGS.

(E) WATER METER AND STRAINER FURNISHED AND MAINTAINED BY THE CITY.

(F) REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY. PRIVATELY MAINTAINED. SEE STD DETAIL W–6.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	NOTE 3

DRAWN BY: BJR
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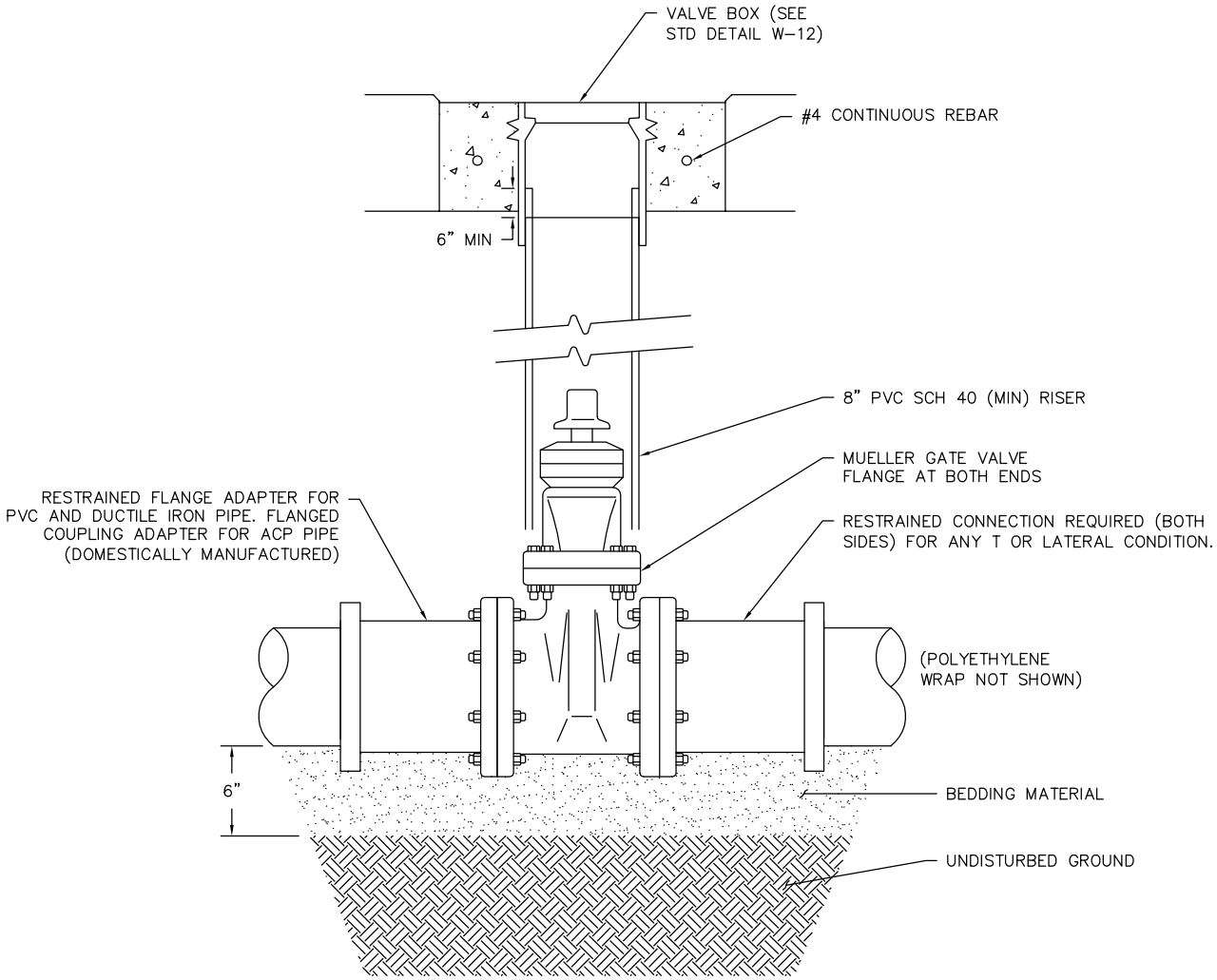
SCALE: NTS

STANDARD DETAIL

COMBINATION FIRE AND DOMESTIC WATER SERVICE

SHEET 1 OF 1

W–14



SECTION VIEW

SCALE: NTS

NOTES

1. GATE VALVES SHALL BE INSTALLED ON WATER MAINS OF 10" DIAMETER OR LESS. BUTTERFLY VALVES WILL BE INSTALLED ON WATER MAINS OF 12" OR LARGER.
2. INSTALL LOCATING WIRE AT THE VALVE LOCATION IN ACCORDANCE WITH STANDARD DETAIL W-17.
3. "CONCRETE" SHALL BE PORTLAND CEMENT CONCRETE WITH A MINIMUM STRENGTH OF 4,000 PSI.
4. ALL UNDERGROUND FLANGE BOLT ASSEMBLIES SHALL BE TYPE 316 STAINLESS STEEL WITH TEFLON ANTI-SEIZE COMPOUND.
5. MECHANICAL JOINT OKAY WITH MEGALUG.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	NOTE 5

CITY OF PITTSBURG

DRAWN BY:	BJR
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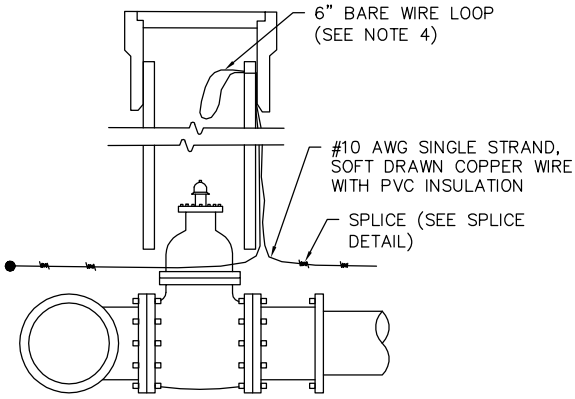
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

GATE WATER VALVE INSTALLATION

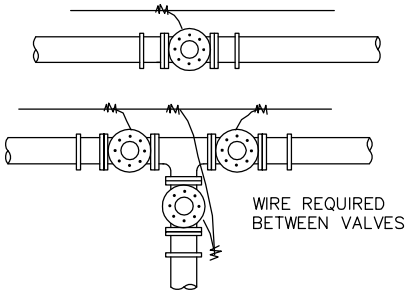
SHEET 1 OF 1

W-16



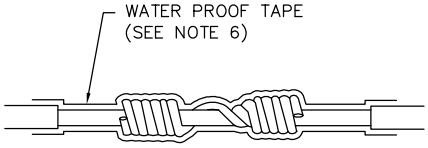
SECTION VIEW

SCALE: NTS



MAIN INTERSECTIONS

PLAN VIEW



SPLICE DETAIL

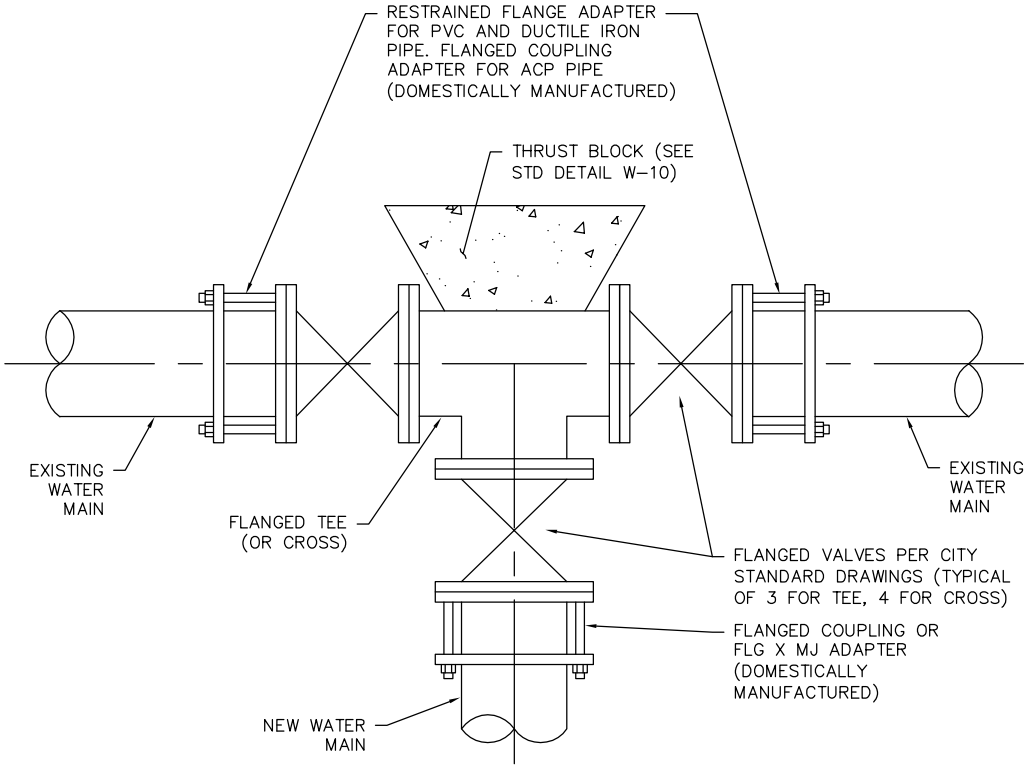
NOTES

1. WIRE SHALL BE CONTINUOUS BETWEEN VALVE BOXES ALONG THE MAIN LINE.
2. WIRE SHALL BE CONTINUOUS BETWEEN THE MAIN AND METER VALVE OR AIR RELEASE VALVE ON THE RELATED SERVICE LINE.
3. LOCATING WIRE TO BE LAID OVER TOP OF PIPE AND SECURED WITH TAPE AT EVERY 10' INTERVAL AND AT ELBOWS AND VALVES.
4. WIRE TO BE EXTENDED THROUGH NOTCH IN RISER AND WITHIN 6" MIN. OF VALVE BOX LID.
5. CONTRACTOR SHALL CONDUCT A CONTINUITY TEST ON ALL LOCATING WIRE SPLICES.
6. REMOVE INSULATION AT SPLICE. INSURE CONTINUITY. WRAP SPLICE WITH WATER–PROOF TAPE (SCOTCHKOTE ELECTRICAL COATING OR APPROVED EQUAL).

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: BJR	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	LOCATING WIRE INSTALLATION	W–17
				DATE: 2019–01–11		
				SCALE: NTS		



PLAN VIEW

SCALE: NTS

NOTES

1. EXISTING WATER MAIN MUST BE SHUT DOWN BY THE CITY AND DEWATERED BY THE CONTRACTOR. NOTIFICATION OF AFFECTED CUSTOMERS IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. A GATE VALVE (OR BUTTERFLY VALVE FOR VALVES 12" OR LARGER) MUST BE INSTALLED ON EACH BRANCH OR RUN OF NEW TEE OR CROSS.
3. LOCATE ALL BUTTERFLY VALVE OPERATORS ON NORTH OR EAST SIDE OF PIPE.
4. PROVIDE THRUST BLOCK RESTRAINT PER STD DETAIL W–10.
5. INSTALL LOCATING WIRE AT VALVE LOCATIONS IN ACCORDANCE WITH STD DETAIL W–17.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

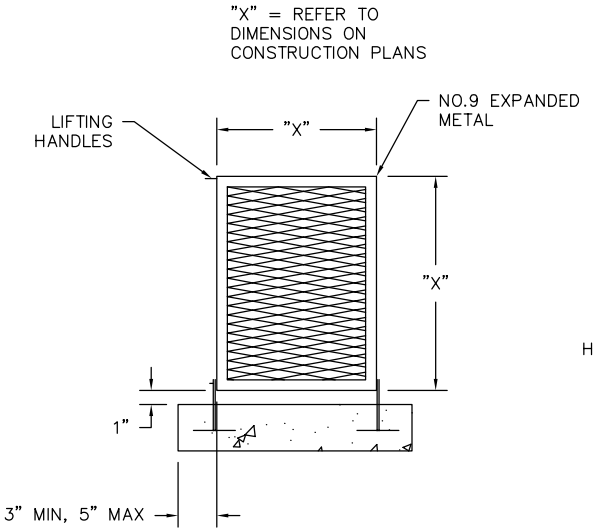
DRAWN BY: BJR
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

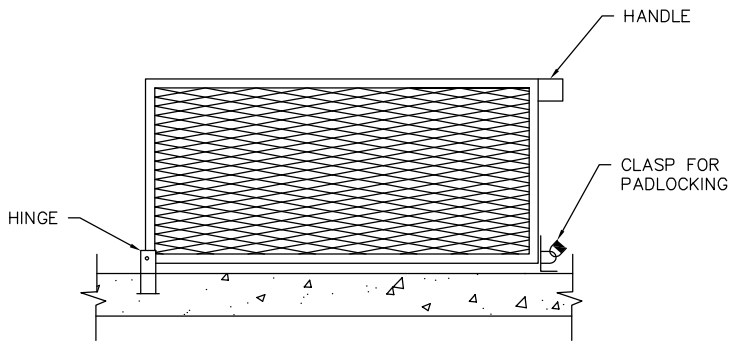
WATER MAIN CUT–IN

SHEET 1 OF 1

W–18



FRONT VIEW



SIDE VIEW
¾" TO 2" DEVICE

NOTES

1. REFER TO MANUFACTURER'S CATALOG FOR CORRECT DIMENSIONS TO FIT SIZE OF SPECIFIED BACKFLOW DEVICE.
2. CONCRETE FOUNDATION DIMENSIONS TO SUIT EACH INDIVIDUAL INSTALLATION, MINIMUM 4" THICK, OR AS PER MANUFACTURER'S RECOMMENDATION.
3. CONCRETE SHALL HAVE MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
4. PAINT ALL METAL SURFACES WITH RUST RESISTANT GLOSS ENAMEL PAINT (FOREST GREEN COLOR).

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION

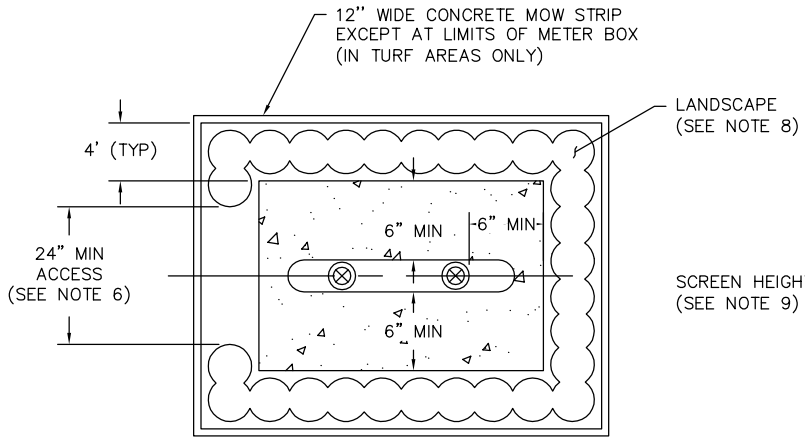
DRAWN BY:	BJR
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

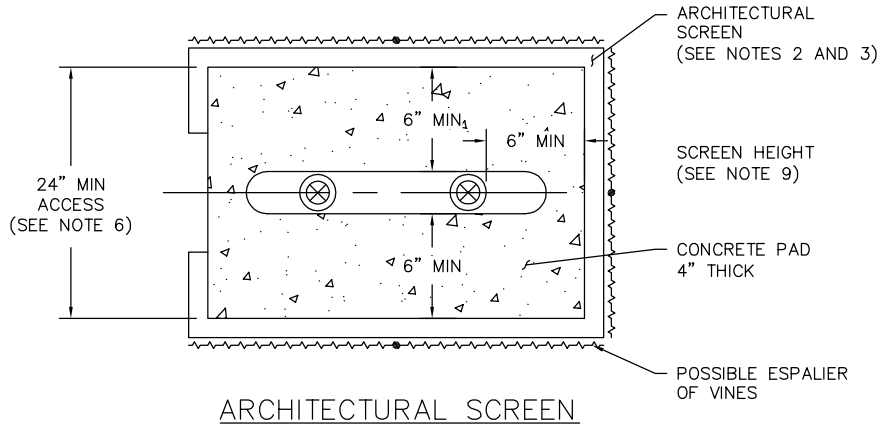
BACKFLOW ASSEMBLY CAGE

SHEET 1 OF 1

W–19



LANDSCAPE
PLAN VIEW



ARCHITECTURAL SCREEN
PLAN VIEW

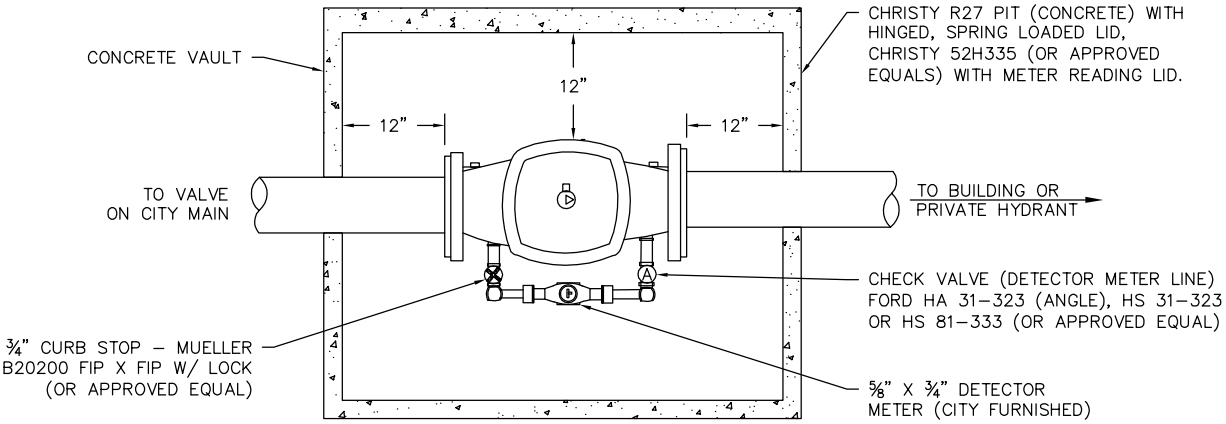
NOTES

1. LANDSCAPING IS THE PREFERRED METHOD FOR SCREENING. ARCHITECTURAL SCREENING MATERIAL MAY BE USED ONLY IF THERE IS NOT ADEQUATE ROOM FOR LANDSCAPING AND IRRIGATION.
2. ARCHITECTURAL SCREENING, IF USED, SHALL BE MASONRY OR WOOD, AND SHALL MATCH ADJACENT ARCHITECTURE DESIGN, MATERIALS AND COLOR SHALL BE SUBJECT TO CITY APPROVAL.
3. IF A RETAINING WALL IS REQUIRED IN ORDER TO MEET MINIMUM CLEARANCE REQUIREMENTS AROUND DEVICE, LANDSCAPE SCREENING SHALL BE INCORPORATED ADJACENT TO THE WALL.
4. SIGHT DISTANCE CRITERIA MUST BE MET. FOR CRITERIA, SEE STANDARD DRAWINGS FOR "INTERSECTION STOPPING SIGHT DISTANCE".
5. SCREEN MAINTENANCE IS THE RESPONSIBILITY OF THE PROPERTY OWNER.
6. PROVIDE 24" MINIMUM VISUAL ACCESS FROM STREET FOR INSPECTION.
7. SCREENING MATERIAL (LANDSCAPE/ARCHITECTURAL) SHALL MAINTAIN A MINIMUM 6" CLEARANCE FROM ANY PART OF THE DEVICE TO LANDSCAPE OR SCREENING.
8. PLANT MATERIAL SHALL BE SELECTED FROM THE CITY'S APPROVED PLANT LIST (STD DETAIL L-4) AND AS APPROVED BY THE CITY ENGINEER.
9. MAXIMUM SCREEN HEIGHT OF 4' UNLESS SIGHT DISTANCE CRITERIA SPECIFIES OTHERWISE.

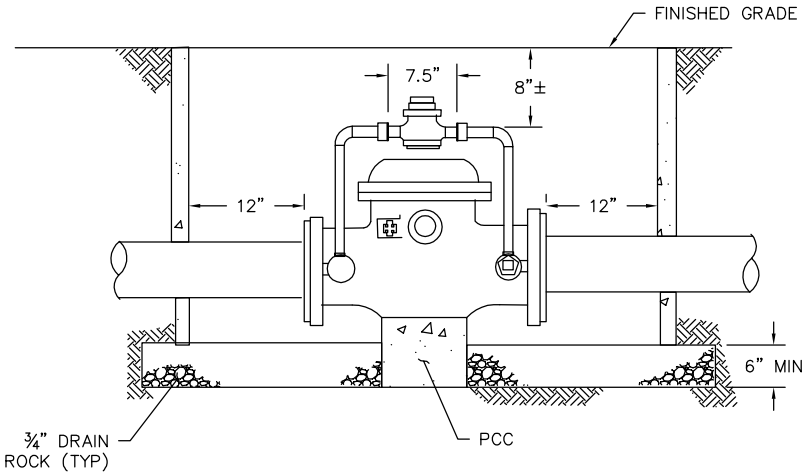
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: BJR	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	SCREENING OF BACKFLOW PREVENTER, DETECTOR CHECK VALVE, AND BACKFLOW DEVICES	W-20
				DATE: 2019-01-11		
				SCALE: NTS		



PLAN VIEW
SCALE: NTS



SECTION VIEW
SCALE: NTS

NOTES

1. SINGLE CHECK VALVE DETECTOR CHECK ASSEMBLY SHALL BE INSTALLED ON CLASS I AND II FIRE SERVICE AND PRIVATE FIRE HYDRANT LINE.
2. DETECTOR CHECK TO BE LOCATED WITHIN RIGHT OF WAY OR CITY EASEMENT.
3. VAULTS WILL NOT BE ALLOWED IN AREAS WHERE VAULT MIGHT BE SUBJECT TO VEHICULAR TRAFFIC.
4. DETECTOR METER, ONLY, TO BE FURNISHED BY CITY.
5. ALL TRIM MATERIALS TO BE BRASS/COPPER.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: BJR	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	SINGLE CHECK VALVE–DETECTOR CHECK ASSEMBLY – INDUSTRIAL & COMMERCIAL	W–22
				DATE: 2019–01–11		
				SCALE: NTS		

SANITARY SEWER NOTES

1. See City Ordinance and Central Contra Costa Sanitary District (CCCSD) Sections 1 – 15 for design criteria and details.

2. Use S–2 for sanitary sewer lateral details. When S–2 conflicts with CCCSD details or specifications, the S–2 detail shall prevail.

3. All other improvements shall be constructed per CCCSD details numbered DWG 1 through DWG 52, which is available online at http://centralsan.org/index.cfm?navId=920

   or may be purchased at the following location:

   CCCSD Offices
   5019 Imhoff Place
   Martinez, CA 94553
   (925) 229–3890

4. For trench width, use City Standard Detail R–5.

5. Wherever "the Engineer" or "County Engineer" is used, this refers to the City Engineer.

6. No steps in any structures (MH, vaults, etc.).

7. Sanitary sewer mains, sewer manholes, and sewer lateral services (side sewers) shall be constructed in accordance with the CCCSD Standard Specifications, Sections 18 through 23 and selected Standard Details, as modified by these City Standards. City of Pittsburg Standard Specifications shall not apply except where the CCCSD Standard Specifications are silent.

8. Where the CCCSD Standard Specifications and Standard Drawings make reference to "District", that term shall mean the City of Pittsburg. Except where modified by these City Standards, the Contractor shall furnish all materials and perform all construction operations and installations, television inspection, and testing of new facilities, regardless of contradictory language in the CCCSD standards stating that the work will be performed by the "District".

9. Grade rings are to be 12" maximum.

10. For motor court homes, manholes are to be located at least 30' from doors to avoid odor.

11. Sewer – check concrete apron around it.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	NOTES 9–11

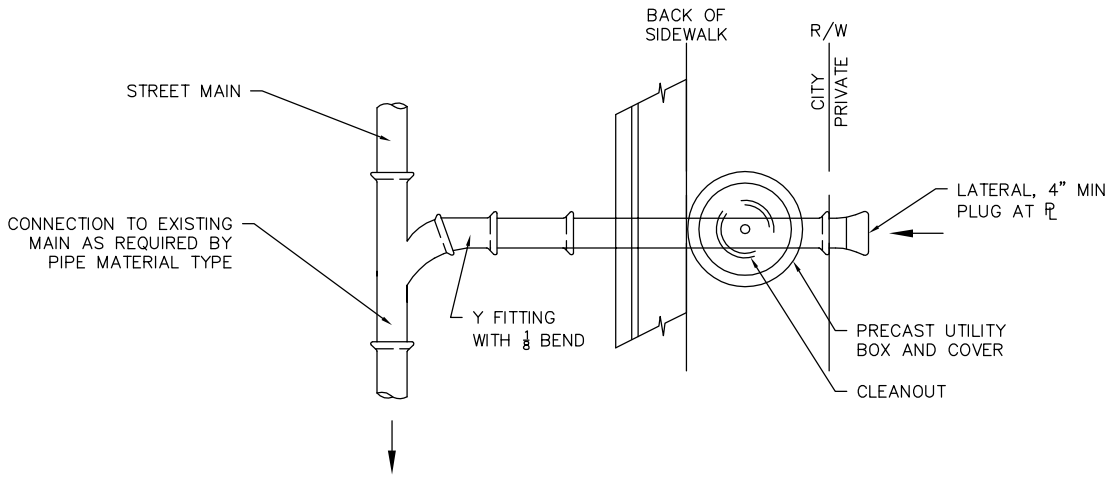
DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

SANITARY SEWER NOTES

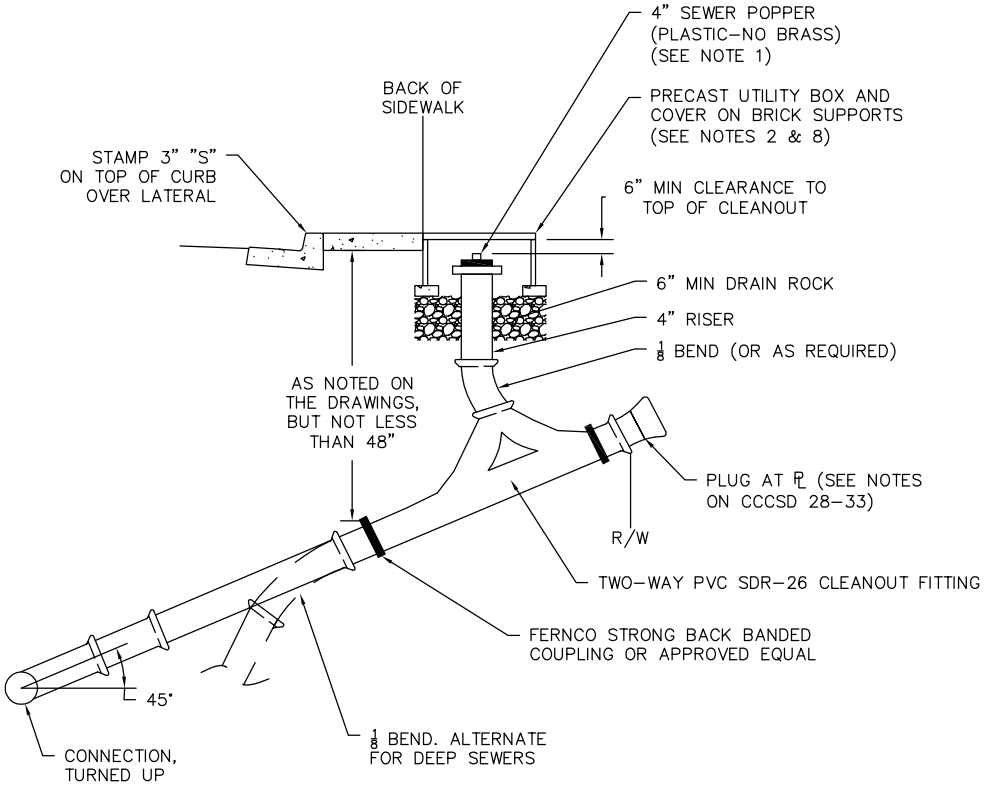
SHEET 1 OF 1

S–1



TYPICAL PLAN VIEW

SCALE: NTS



TYPICAL SECTION VIEW

SCALE: NTS

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: JL CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL SANITARY SEWER LATERAL CLEANOUT	SHEET 1 OF 2 S–2

SANITARY SEWER LATERAL CLEANOUT NOTES

1. Jones Stephens Corp., sewer pop–up cleanout and relief valve, (part no. S62–304) 3" x 4". No hub, or approved equal, where required. (No brass).

2. Christy F8 utility box and F8D reinforced concrete lid, or approved equal, labeled "SEWER".

3. On laterals 6" and larger, use two–way PVC SDR–26 cleanout.

4. Riser to be max. 6" diameter riser material to be the same as lateral.

5. The minimum lateral slope shall be ¼" per foot, for 4" diameter pipe, and 1/8" per foot for 6" diameter pipe.

6. All lateral piping and fittings shall be the same diameter.

7. Install sanitary sewer backwater overflow device when the pad elevation is less than 12" above nearest upstream sewer manhole rim or the finished floor (if known) is less than 12" above the nearest upstream sewer manhole rim.

8. Where utility box is to be located in an area subject to vehicular traffic loading, the permittee shall furnish a traffic box for H/20 loading. Traffic box shall be Christy G5T box with lid labeled "SEWER" or approved equal.

9. Sanitary sewer cleanouts are to be at least 3' clear of driveway flares and a minimum horizontal clearance of 5' from water lateral.

10. For laterals servicing two units or more, laterals shall be 6" PVC SDR–26.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION
	1	2019–01–11	NOTES 8&10

DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

SANITARY SEWER LATERAL CLEANOUT – NOTES

SHEET 2 OF 2

S–2

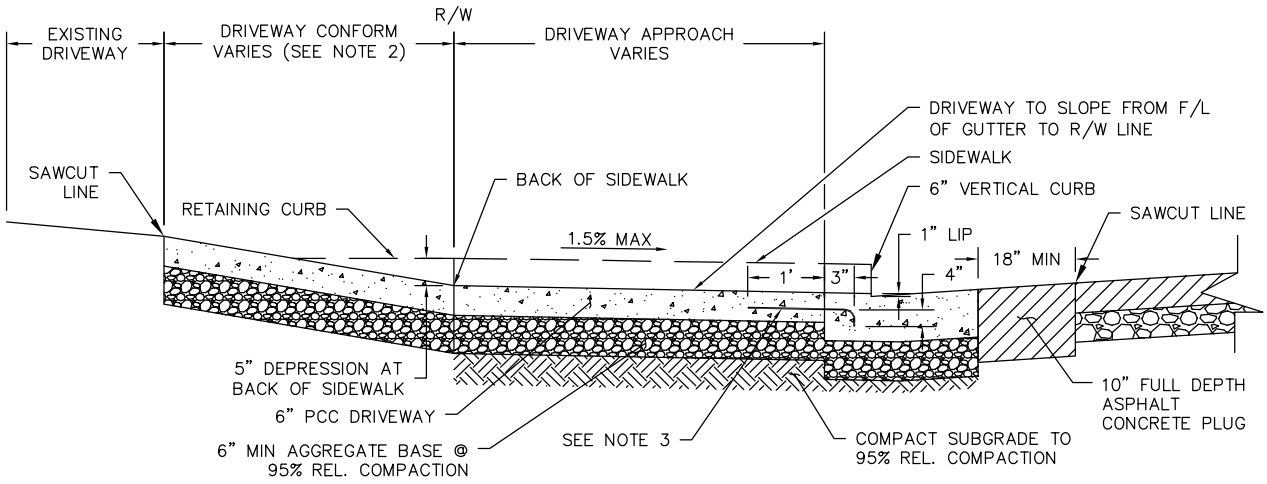
ROAD WORK NOTES

1. SEE CITY ORDINANCE FOR DESIGN CRITERIA.
2. MINIMUM 4" THICK AB UNDER SIDEWALKS
3. MINIMUM 5' WIDE SIDEWALKS
4. MINIMUM 6" THICK HIGH DIKES/AC CURBS
5. NO STEPS IN STRUCTURES. (MH, CB, VAULTS, ETC.).
6. USE BICYCLE PROOF GRATES.

APPROVED _____ DATE _____

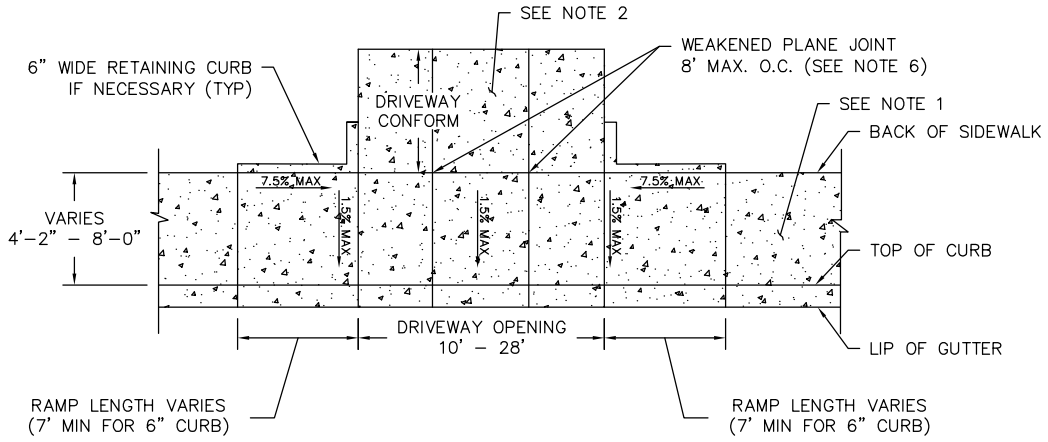
DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	ROAD WORK NOTES	R-1
				DATE: 2019-01-11		
				SCALE: NONE		



TYPICAL DRIVEWAY SECTION

SCALE: NTS



PLAN VIEW

SCALE: NTS

NOTES

1. IF DISTANCE BETWEEN RAMPS OF ADJACENT DRIVEWAYS IS LESS THAN 5', CONSTRUCT A COMMON DRIVEWAY INSTEAD.
2. CONFORM DRIVEWAY TO NEAREST WEAKENED PLANE JOINT OR SAWCUT TO SECTION OF DRIVEWAY SUCH THAT THE ALGEBRAIC DIFFERENCE BETWEEN THE FOLLOWING SLOPES DOES NOT EXCEED 10%:
   - DRIVEWAY APPROACH SLOPE AND DRIVEWAY CONFORM SLOPE
   - DRIVEWAY CONFORM SLOPE AND EXISTING DRIVEWAY SLOPE
3. #4(13) DOWELS AT 4'-0" REQUIRED IF CURB AND GUTTER ARE NOT MONOLITHICALLY POURED WITH DRIVEWAY APPROACH.
4. CONCRETE SHALL BE BROOM FINISH.
5. AGGREGATE BASE SHALL BE REQUIRED UNDER ALL RESIDENTIAL DRIVEWAYS. AGGREGATE BASE AND BASEMENT MATERIALS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
6. SEE STANDARD DETAIL CA 70i FOR LOCATION OF WEAKENED PLANE JOINTS AND SCORE LINES.
7. WHEN REPLACING EXISTING CURB, GUTTER AND SIDEWALK, THE EXISTING CONCRETE SHALL BE REMOVED TO THE NEAREST SCORE MARK, WEAKENED PLANE OR CONSTRUCTION JOINT OR AS APPROVED BY THE ENGINEER.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	MAX SLOPES

CITY OF PITTSBURG

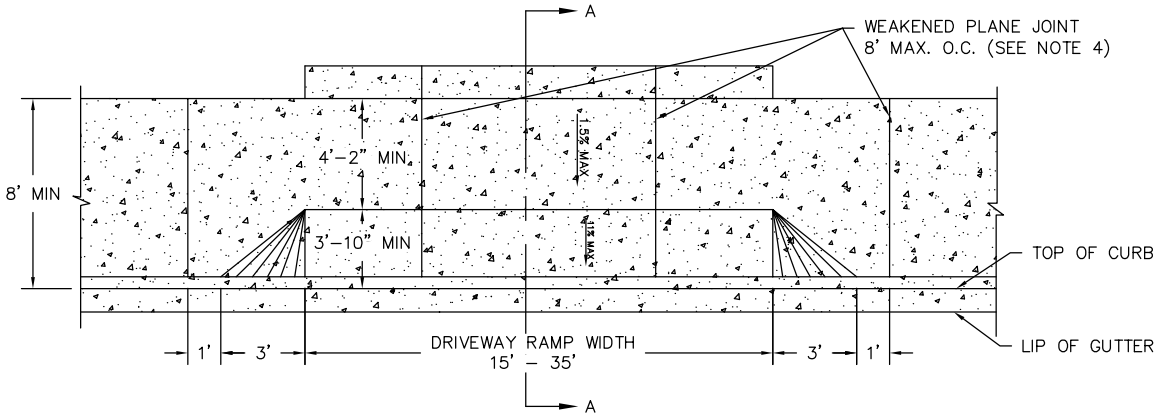
DRAWN BY: FY
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

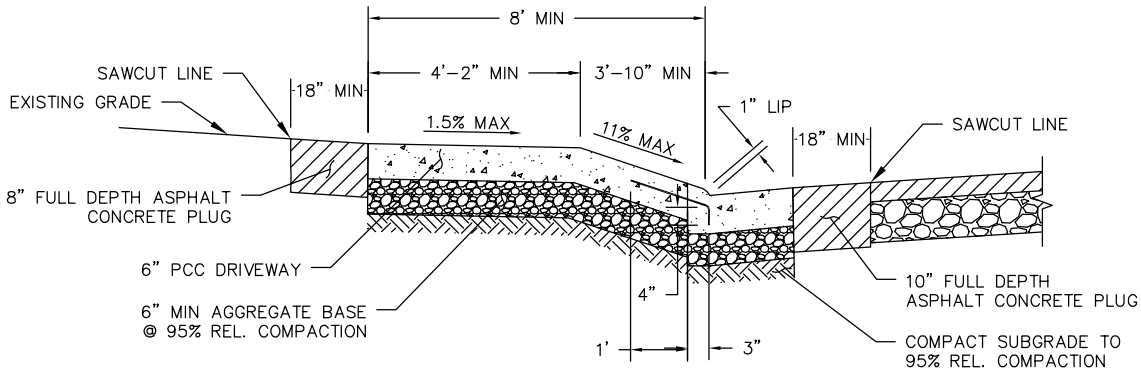
RESIDENTIAL DRIVEWAY APPROACH - SIDEWALK WIDTH LESS THAN 8'

SHEET 1 OF 2

R-2



PLAN VIEW
SCALE: NTS



SECTION A-A
SCALE: NTS

NOTES

1. #4(13) DOWELS AT 4'-0" REQUIRED IF CURB AND GUTTER ARE NOT MONOLITHICALLY POURED WITH DRIVEWAY APPROACH.
2. CONCRETE SHALL BE BROOM FINISH.
3. AGGREGATE BASE SHALL BE REQUIRED ON ALL RESIDENTIAL DRIVEWAYS. AGGREGATE BASE AND BASEMENT MATERIALS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
4. SEE STANDARD DETAIL CA 70i FOR LOCATION OF WEAKENED PLANE JOINTS AND SCORE LINES.
5. WHEN REPLACING EXISTING CURB, GUTTER AND SIDEWALK, THE EXISTING CONCRETE SHALL BE REMOVED TO THE NEAREST SCORE MARK, WEAKENED PLANE OR CONSTRUCTION JOINT OR AS APPROVED BY THE ENGINEER.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	MAX SLOPES

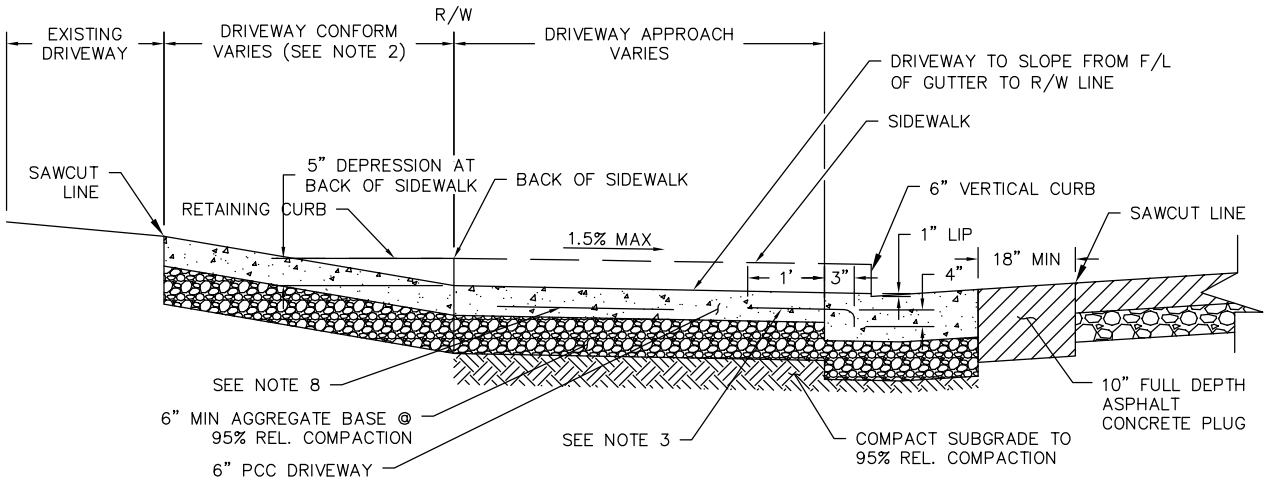
DRAWN BY: FY
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

RESIDENTIAL DRIVEWAY APPROACH - SIDEWALK WIDTH AT LEAST 8'

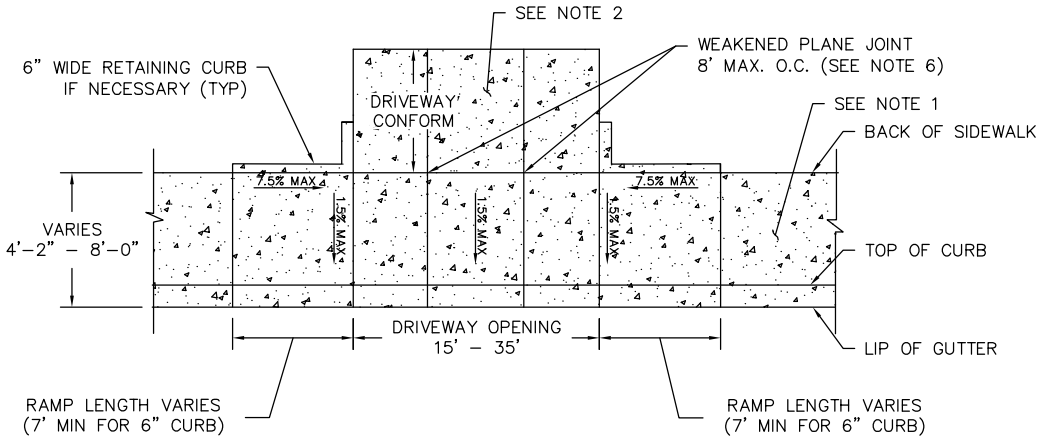
SHEET 2 OF 2

R-2



TYPICAL DRIVEWAY SECTION

SCALE: NTS



PLAN VIEW

SCALE: NTS

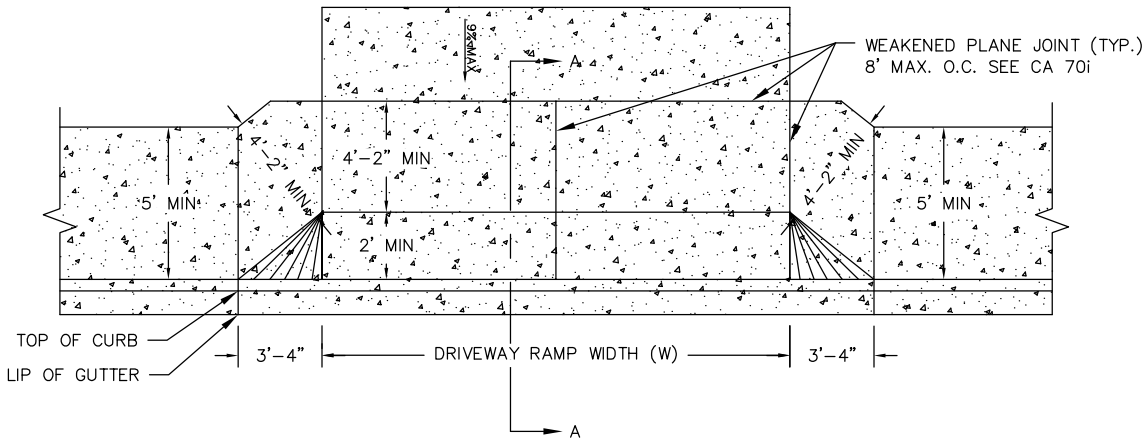
NOTES

1. IF DISTANCE BETWEEN RAMPS OF ADJACENT DRIVEWAYS IS LESS THAN 5', CONSTRUCT A COMMON DRIVEWAY INSTEAD.
2. CONFORM DRIVEWAY TO NEAREST WEAKENED PLANE JOINT OR SAWCUT TO SECTION OF DRIVEWAY SUCH THAT THE ALGEBRAIC DIFFERENCE BETWEEN THE FOLLOWING SLOPES DOES NOT EXCEED 10%:
   - DRIVEWAY APPROACH SLOPE AND DRIVEWAY CONFORM SLOPE
   - DRIVEWAY CONFORM SLOPE AND EXISTING DRIVEWAY SLOPE
3. #4(13) DOWELS AT 4'-0" REQUIRED IF CURB AND GUTTER ARE NOT MONOLITHICALLY POURED WITH DRIVEWAY APPROACH.
4. CONCRETE SHALL BE BROOM FINISH.
5. AGGREGATE BASE SHALL BE REQUIRED ON ALL RESIDENTIAL DRIVEWAYS. AGGREGATE BASE AND BASEMENT MATERIALS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
6. SEE STANDARD DETAIL CA 70i FOR LOCATION OF WEAKENED PLANE JOINTS AND SCORE LINES.
7. WHEN REPLACING EXISTING CURB, GUTTER AND SIDEWALK, THE EXISTING CONCRETE SHALL BE REMOVED TO THE NEAREST SCORE MARK, WEAKENED PLANE OR CONSTRUCTION JOINT OR AS APPROVED BY THE ENGINEER.
8. COMMERCIAL DRIVEWAYS SHALL HAVE #4 BARS AT 18" O.C. EACH WAY.

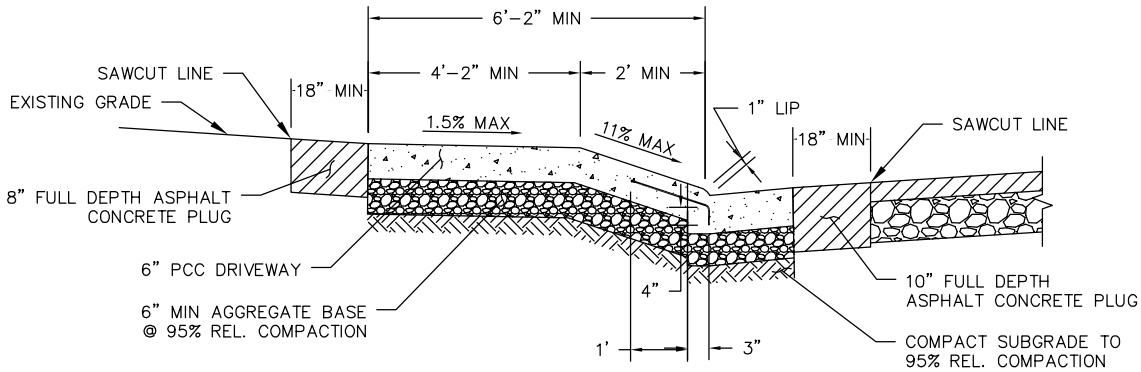
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: FY	STANDARD DETAIL	SHEET 1 OF 2
	1	2019-01-11	MAX SLOPES	CHECKED BY: MK	COMMERCIAL DRIVEWAY APPROACH - SIDEWALK WIDTH LESS THAN 8'	R-3
				DATE: 2019-01-11		
				SCALE: NTS		



PLAN VIEW
SCALE: NTS



SECTION A-A
SCALE: NTS

TABLE 1: DRIVEWAY DIMENSIONS		
DRIVEWAY RAMP WIDTH	COMMERCIAL, INDUSTRIAL, & APO DISTRICT	COMMERCIAL, INDUSTRIAL, & APO DISTRICT
W	25' MIN 30' MAX AT 25 MPH ZONE 40' MAX AT 35 MPH ZONE	12' FOR 1-CAR GARAGE 20' FOR 2-CAR GARAGE 26' MAX ON ARTERIAL

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

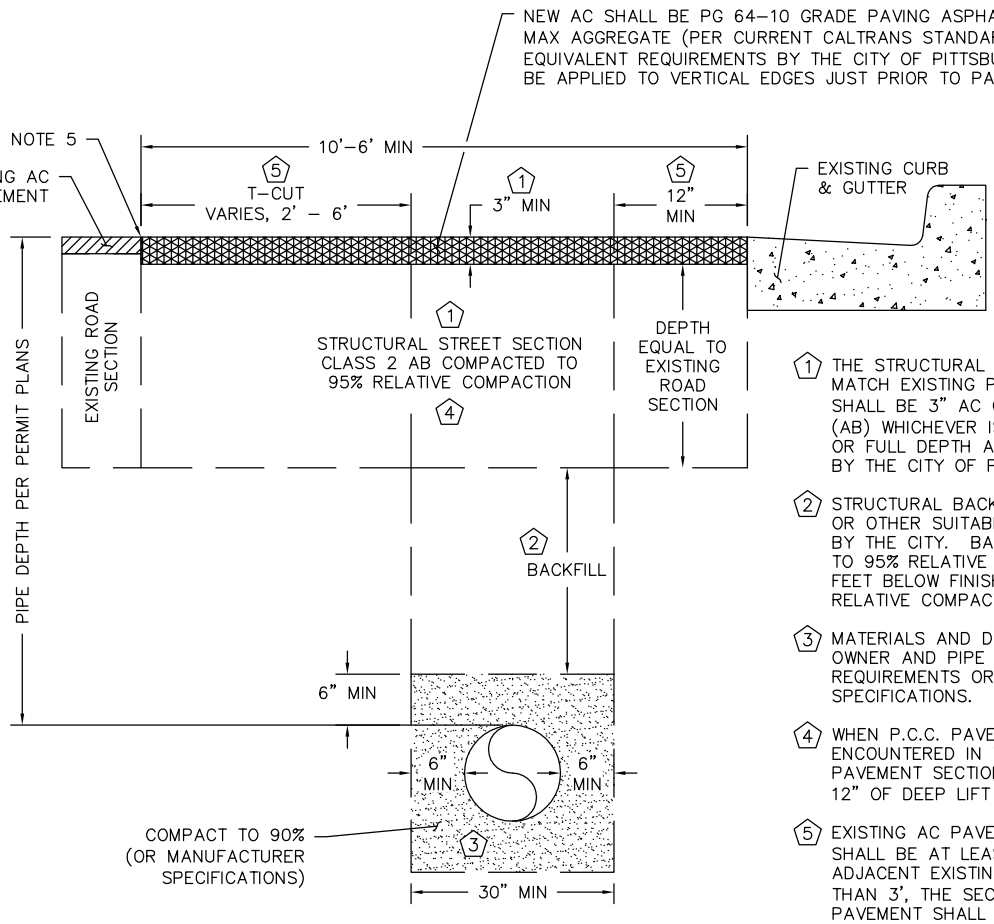
DRAWN BY: AW
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

COMMERCIAL DRIVEWAY APPROACH - SIDEWALK WIDTH AT LEAST 8'

SHEET 2 OF 2

R-3



SECTION VIEW

SCALE: NTS

1. THE STRUCTURAL STREET SECTION SHALL MATCH EXISTING PAVEMENT SECTION AC OR SHALL BE 3" AC ON 12" AGGREGATE BASE (AB) WHICHEVER IS GREATER. CONCRETE CAP OR FULL DEPTH AC TO BE USED AS DIRECTED BY THE CITY OF PITTSBURG.

2. STRUCTURAL BACKFILL SHALL BE CLASS 2 AB OR OTHER SUITABLE MATERIAL AS APPROVED BY THE CITY. BACKFILL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION TO A POINT 2.5 FEET BELOW FINISH GRADE AND TO 90% OF RELATIVE COMPACTION ELSEWHERE.

3. MATERIALS AND DIMENSIONS PER UTILITY OWNER AND PIPE MANUFACTURER REQUIREMENTS OR AS CONTAINED IN UTILITY SPECIFICATIONS.

4. WHEN P.C.C. PAVEMENT SECTION IS ENCOUNTERED IN THE TRENCH, THE P.C.C. PAVEMENT SECTION SHALL BE REPLACED WITH 12" OF DEEP LIFT ASPHALT.

5. EXISTING AC PAVEMENT ADJACENT TO T-CUT SHALL BE AT LEAST 3' WIDE. IF WIDTH OF ADJACENT EXISTING AC PAVEMENT IS LESS THAN 3', THE SECTION OF EXISTING AC PAVEMENT SHALL BE REMOVED AND REPLACED, OR AS DIRECTED BY ENGINEER.

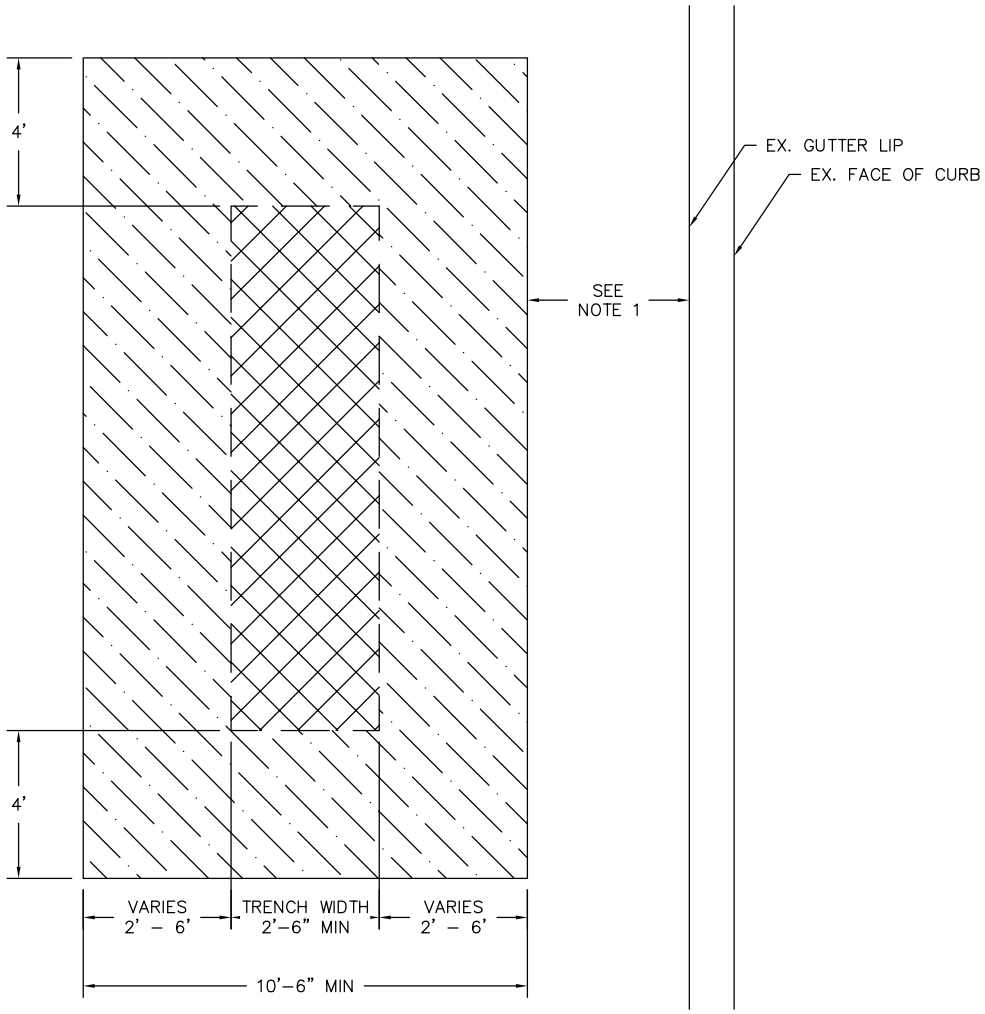
NOTES

1. A STREET ENCROACHMENT PERMIT IS REQUIRED FOR ALL WORK WITHIN THE PUBLIC RIGHT OF WAY.
2. ALL WORK TO BE DONE IN ACCORDANCE WITH THE CITY'S STANDARDS AND SPECIFICATIONS OR AS INDICATED IN THE STREET ENCROACHMENT PERMIT.
3. UNDERGROUND SERVICE ALERT (USA) 1-800-227-2600 SHALL BE NOTIFIED 48 HOURS PRIOR TO BEGINNING WORK.
4. ALL EXCAVATIONS SHALL CONFORM TO THE REQUIREMENTS OF CAL OSHA.
5. PRIOR TO FINISH OF PAVING, EXISTING ASPHALT SHALL BE CUT THROUGH THE FULL THICKNESS OF TO NEAT STRAIGHT LINES WITH A POWER DRIVEN SAW OR GRINDER AND REMOVED TO THE LINES OF THE T-CUT WITH THE ASPHALT REMOVED. THE EXISTING BASE MATERIAL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION BEFORE PLACING PAVING. THE REPLACEMENT ASPHALT THICKNESS SHALL BE A MINIMUM OF 3" OR SHALL MATCH THE THICKNESS OF THE EXISTING PAVEMENT SECTION.
6. TRENCH BACKFILL FOR EXCAVATIONS OUTSIDE OF THE PAVED AREA MAY CONSIST OF EXISTING MATERIAL OR OTHER SUITABLE BACKFILL MATERIAL AS APPROVED BY THE INSPECTOR TO THE FINISHED GRADE. THE BEDDING MATERIAL AND DIMENSIONS SHALL BE PER THE SPECIFICATION OF THE UTILITY INSTALLING THE FACILITY. THE TRENCH BACKFILL AND BEDDING MATERIAL SHALL HAVE A MINIMUM RELATIVE COMPACTION OF 90%.
7. IF COVER IS LESS THAT 2', SPECIAL DESIGN IS REQUIRED WITH APPROVAL BY THE CITY OF PITTSBURG.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: FY	STANDARD DETAIL	SHEET 1 OF 8
				CHECKED BY: MK	TRENCH DETAIL	R-5
				DATE: 2019-01-11		
				SCALE: NTS		



PLAN VIEW
SCALE: NTS

TRENCH CUT

T–CUT

NOTES

1. EXISTING AC PAVEMENT ADJACENT TO T–CUT SHALL BE AT LEAST 3' WIDE. IF WIDTH OF ADJACENT EXISTING AC PAVEMENT IS LESS THAN LEAST 3', THE SECTION OF EXISTING AC PAVEMENT SHALL BE REMOVED AND REPLACED, OR AS DIRECTED BY ENGINEER.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2008–01–10	4FT FROM TRENCH
2	2019–01–11	NOTE 1

DRAWN BY: FY
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

TRENCH DETAIL

SHEET 2 OF 8

R–5

UTILITY TRENCH MASTER PERMIT CONDITIONS

SECTION 1 - Preamble

These Utility Trench Master Permit Conditions are to be used as overall, universal conditions of approval for utility trench paving repairs in the public right-of-way of the local agencies, and are part of the Encroachment Permit conditions.

SECTION 2 - Definitions

Aggregate Base (AB) - Aggregate material as defined in Sections 26 of the Caltrans Standard Specifications used for trench backfill or pavement base.

Asphalt Concrete (AC) - Pavement material that conforms to the requirements of Section 39 of the Caltrans Standard Specifications.

Base - A layer of specified material of planned thickness placed immediately below the pavement or surfacing.

Blanket Permits - Permits issued for either a specific term, and/or region, or for a group of projects, rather than a single project on a specific location, which are issued at the discretion of the local agency.

Caltrans Standard Specifications - The current version, or the version of the State of California, Department of Transportation, Standard Specifications adopted by the local agency.

Capital Projects - Special or large projects that are contracted out and thus require project specific permit conditions from the respective local agency before advertisement for bid, and would reduce the level of service to major or arterial streets during the peak hour.

Coalition - An alliance comprised of utility companies bound together by a Memorandum of Understanding (MOU) or a similar instrument and organized to negotiate with the local agencies and respond to utility trench issues as provided for in the Agreement. It is comprised of Contra Costa Central Sanitary District, East Bay Municipal Utility District, Contra Costa Water District, Pacific Gas & Electric, Comcast, SBC, and others.

Coalition Representative - The person referred to in the Master Permit Conditions who shall represent the Utilities within the Coalition and respond to the local agency regarding failure of a utility trench and its adjacent areas plus areas damaged by a utility line or facility failure.

Coordination - An affirmative effort on the part of the utilities and local agencies to coordinate, when feasible, their various projects to prevent, or minimize, repetitious trench work with emphasis on scheduling trench work on streets before the implementation of scheduled preventative maintenance pavement rehabilitation work.

Coordination Meetings - Meetings held on a quarterly basis to coordinate the activities of the utilities and the local agencies on a three (3) year planning horizon.

Encroachment Permit - A permit issued by the local agency to which these Master Conditions are attached and which contains local requirements that may relate to inspection, traffic control, insurance requirements and the like.

Latent Defect - A right-of-way pavement failure due to utility work, trenching repair or facility failure that was not apparent during the trench repair work, and following completion of work.

Life of the Trench - The useful life of the utility trench envelope is defined as the length of time the utility is in service, but no greater than the useful life of the street as defined in the Pavement Life Performance Warranty.

Local Agencies - The Cities and County of Contra Costa County.

Major Projects - Special or large projects that are either contracted out because of their size, have a length of either 300 feet or one block, or would reduce collector or arterial level of service during the peak period.

Moratorium - Following surface treatment (slurry seal, cape seal, overlay, etc.) or rehabilitation (reconstruction) of a street, the period of time when trench cuts are prohibited except as approved by the local agency as set forth in these Master Permit Conditions.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 3 OF 8
				CHECKED BY: MK		
				DATE: 2019-01-11	TRENCH DETAIL	R-5
				SCALE: NONE		

UTILITY TRENCH MASTER PERMIT CONDITIONS (CONT'D)

Overlay - The placement of single or multiple layers of asphalt concrete on an existing street in accordance with Section 39 of the Caltrans Standard Specifications.

Pavement Condition Index (PCI) - The numerical evaluation of the condition of the pavement based on the Metropolitan Transportation Commission model, unless specifically stipulated otherwise by a jurisdiction, wherein the pavement is rated from 0 to 100 with 70 and above being good, 55 being fair condition, 40 being poor, 25 being very poor and 10 being failed.

Pavement Life Performance Warranty - The instrument that guarantees the condition of the street along the line of the trench and the street area adjacent to as set forth in the Master Permit Conditions.

Portland Cement Concrete (PCC) - The type of pavement material described in Section 90 of the Caltrans Standard Specifications.

Reconstruct - To replace a pavement structural section.

Routine Work - Regular maintenance of facilities, emergency repairs and installation of laterals.

Structural Section - That portion of the pavement from the pavement surface to the subgrade.

Subgrade - That portion of the roadbed on which pavement surfacing, base, subbase or a layer of any other material is placed.

Total Areas Damaged - All of the areas damaged resulting from the excavation of the utility trench and the failure of the utility facility or line.

Utility Contact - The person appointed by a utility to attend and represent that utility at the coordination meetings.

SECTION 3 - Contact

3.1 General -

All surface cut work within a local agency's right-of-way requires an encroachment permit. No work shall commence until after issuance of an encroachment permit except in case of emergency, where notice by facsimile is acceptable by the next business day when work is commenced during normal non-work hours. Before commencing work, the utility shall contact and inform the local agency of the anticipated start date, particularly in the case of blanket permits. For major or capital projects, a pre-construction meeting is required unless the local agency waives this requirement. Additionally, a written notification shall be made at least five (5) working days before work starts with notice of any schedule changes at least one (1) working day prior to the original scheduled start date. For all other projects in the local agency public-right-of-way, written notification (by facsimile) shall be made at least one (1) working day in advance of the work start. Utility shall inform the local agency of the anticipated completion date.

3.2 Applicant-

The applicant for the encroachment permit, whether a contractor for, employee of, or agent of the utility, obligates the utility to these conditions.

3.3 Utility Contact-

As provided for in the Master Permit Conditions, there shall be an established Utility Contact person at each utility to ensure that the proper people are notified within a utility for quarterly utility coordination meeting notices. Such meetings are for the general coordination of work. Where there is a longstanding working relationship between an individual in a local agency and a utility counterpart, the Utility Contact person shall be kept informed of the relationship and any agreements made or understandings arrived at.

3.4 Utility Coalition Representative-

3.4.a There shall be a Utility Coalition Representative who will be a single point of contact regarding any trench failure, pavement failure adjacent to the trench and for expediting trench repairs.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 4 OF 8
				CHECKED BY: MK	TRENCH DETAIL	R-5
				DATE: 2019-01-11		
				SCALE: NONE		

UTILITY TRENCH MASTER PERMIT CONDITIONS (CONT'D)

3.4.b The local agency will make good faith effort to assess the responsible party (e.g. through permits records), and through the use of a distribution list regularly provided to the local agency by the Utility Coalition Representative, will provide that information to the distribution and Utility Coalition Representative to expedite a response.

3.4.c In the event of dense utility alignments involving multiple utilities, the possibly impacted utilities agree to mark respective utilities, in a process similar to underground service alert, to assist the Utility Coalition Representative in locating the local agency source of problem(s).

3.5 Capital Projects -

There will be a separate meeting for capital projects between the particular utility and the local agency to discuss local agency requirements and coordination issues. This meeting is in addition to SECTION 4, Coordination, and is desirable to define bid requirements of the local agency for the utility capital project bid documents during design, prior to contract bidding. Such planning facilitates agency/utility project coordination and negotiations, as well as complete and clear contract documents.

SECTION 4 - Coordination

The purpose of the coordination meetings is to coordinate the local agencies' future street projects with the utilities' future maintenance and capital projects. The goal is to implement the utilities' projects ahead of the City street projects to preserve the integrity of street pavements. The planning horizon for projects to be coordinated is three (3) years. New service connections may not be identifiable in concert with long term program planning. This would include main extensions to accommodate new development. Utilities shall make developers aware of the repair requirements for cutting into any pavement. Accordingly, appropriate conditions will be imposed by the local agency on the applicant during the development review process.

Quarterly coordination meetings will be held. Coordination groups will be formed by region. The hosting local agency may chair the meeting, if necessary. The Contra Costa Transportation Authority (CCTA) Regional Transportation Planning Committee boundaries will be used. Each local agency may meet with the assembled utilities on a prearranged schedule. The regions are defined as follows:

Transplan	Oakley, Pittsburg, Antioch, Brentwood, Contra Costa County
Transpac	Concord, Walnut Creek, Pleasant Hill, Martinez, Contra Costa County
SWAT	San Ramon, Orinda, Moraga, Lafayette, Danville, Contra Costa County
WCCTAC	El Cerrito, San Pablo, Richmond, Pinole, Hercules, Contra Costa County

SECTION 5 - Final Repair Timing

5.1 Routine Work-

Routine work shall have trench plates and temporary plywood sidewalks removed within 72 hours of placing such plate or plywood. Temporary repair shall be by either hot mix A.C. or polymer enhanced cold asphalt cement material. The utility shall be responsible for maintaining temporary repairs. Final AC or PCC shall be placed no later than 30 days from the day the pavement is cut, and within 48 hours within the central business district unless otherwise approved by the local agency.

5.2 Major and Capital Projects-

Major and Capital projects shall be performed with due diligence and adequate forces on a continuous basis and without delay or schedule gap to completion in accordance with a schedule that is approved by the local agency. The schedule shall include the placement of final paving. When phasing is necessary, such phasing and the related schedule are subject to review and approval by the local agency.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 5 OF 8
				CHECKED BY: MK		
				DATE: 2019-01-11	TRENCH DETAIL	R-5
				SCALE: NONE		

UTILITY TRENCH MASTER PERMIT CONDITIONS (CONT'D)

SECTION 6 - Extent of Repair/Guarantee Process

6.1 General

The following provisions are presented as an alternative to repair of paving following utility trench construction. One of two possible trench repair alternatives may be used, as shown in Exhibits A and B. The utility will determine which trench repair alternative to use as cited below.

6.2 Repair Alternative 1: Standard Trench Detail

This trench repair shall be in accordance with Exhibit A, "Standard Trench Detail". This design requires the pavement and subgrade repair to extend one (1) foot beyond the trench, as shown.

If this alternative is used, the utility shall provide the attached Exhibit C, "Pavement Life Performance Warranty." The warranty shall be for the life of the trench or until the street is reconstructed. The useful life of the street and pavement condition shall be determined. The agreed practice is that pavement with a PCI < 35, excluding trenches, is in poor condition, needs reconstruction, and no longer has useable life. Such pavement shall not be subject to the warranty. Local agency pavement rating shall have current certification in accordance with the MTC Pavement Management System requirements.

Once a street has been reconstructed or overlaid, the street shall be deemed to be renewed, and all warranty obligations to repair trench affected pavement shall be ended for all trenches completed prior to the reconstruction.

6.3 Repair Alternative 2: Trench Cut Mitigation Detail

This trench repair shall be in accordance with the attached Exhibit B. "Trench Cut Mitigation Detail." This design requires the pavement and subgrade repair to include four (4) foot wide beyond all sides of the trench, as shown.

If Alternative 2 is used the "Pavement Life Performance Warranty" shall not be required.

6.4 Other Considerations

The PCI and pavement life cycle will be considered in post construction failures. On streets with a PCI of 35 or lower, excluding trenches, the Coalition will not have post trench repair failure responsibilities beyond the line of the trench.

6.5 Pavement Failure

In the event of a trench or adjacent pavement failure, the local agency will make a good faith effort to determine who the responsible utility is for the repair. Failing that, the local agency shall notify the Coalition Representative who shall be responsible to coordinate the repair and see to its completion. Identifying the responsible utility shall be in part through the requesting of USA markings at the failure site.

It is agreed that there will be a mutual, reasonable, and good faith effort between the responsible utility and the municipality to work together to identify total areas damaged by trench excavation or the failure of the utility facility or line. Latent defects shall be repaired by the responsible utility.

Nothing in the Master Permit Conditions precludes the Coalition from pro-actively inspecting the trench and adjacent areas and implementing repairs subject to issuance of an encroachment permit. The utilities shall work amongst themselves to allocate responsibility for the repair cost.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 6 OF 8
				CHECKED BY: MK	TRENCH DETAIL	R-5
				DATE: 2019-01-11		
				SCALE: NONE		

UTILITY TRENCH MASTER PERMIT CONDITIONS (CONT'D)

SECTION 7 - Moratorium / Additional Repairs for Moratorium Streets.

7.1 General

There shall be a moratorium on trenching in streets for non-emergency work that have been worked on as part of the local agency annual street maintenance program. For streets that have had a surface treatment such as a slurry seal or chip seal, the moratorium on utility cuts in the street is three (3) years. For overlaid or reconstructed streets the moratorium on utility cuts is five (5) years.

Non-emergency trench cuts on streets under the moratorium may be permitted under certain conditions, but will be subject to additional requirements as provided herein and subject to local agency approval.

7.2 Repair

When a trench cut is permitted in moratorium streets, the standard detail and the following shall apply.

7.2.a Surface treated streets shall have Type II Slurry Seal as follows:

For residential roads and streets, the entire width of the road for the length of the trench plus three feet on either end shall be slurry sealed. Specific conditions will be considered that could reasonably alter the extent required in order to achieve the end result.

For wide/multi-lane roads the slurry seal application shall be for the trench length plus three (3) for:

- the affected travel lane, or
- if multiple lanes are affected, those lanes, or
- if in the center of the street, both directions to the nearest lane line or curb to curb.

7.2.b For roads that have received an overlay or have been reconstructed, the trench length plus one (1) foot beyond the trench shall be repaired and the pavement will be ground down to accept 0.15 feet of ½ inch Type A asphalt concrete for:

- the affected lane, or
- if multiple lanes are affected, those lanes, or
- if in the center of the street has been affected, then both directions to the nearest lane line or curb to curb.

If new service connection work, including main extensions is required to service new development, the developer shall be advised that part of the utility cost will be pavement restoration in accordance with these conditions as part of the conditions of development. In the development application process, the local agency will make such repair a condition of development.

7.2.c At the option of the utility, subject to agreement by the local agency, the utility may elect to pay the equivalent value of the required slurry seal to be combined with City funds for future slurry sealing of the entire street.

SECTION 8 - Amendment of Conditions

These conditions may be amended from time to time as necessary after discussion and coordination with the utility contact.

SECTION 9 - Term of Master Permit Conditions and Extension

These Master Permit Conditions will become effective on October 1, 2005 through October 1, 2010, a five year period. 120 Days before the expiration date, the local agency will so notify the Utility Coalition, at which time the Utility Coalition may review permit conditions with the Contra Costa County City-County Engineering Advisory Committee prior to the local agency extending the Master Permit Conditions for another five year period.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 7 OF 8
				CHECKED BY: MK	TRENCH DETAIL	R-5
				DATE: 2019-01-11		
				SCALE: NONE		

EXHIBIT C
PAVEMENT LIFE PERFORMANCE WARRANTY

The utilities will make utility cuts, as needed, in city and County Streets for installing, maintaining, and replacing utility facilities. It is the intent of the Coalition and the Local Agencies not to trench or excavate streets within a certain period following the surface treatment or overlay or reconstruction of the streets as provided for on Section 7 of the UTILITY TRENCH MASTER PERMIT CONDITIONS, which provide a moratorium due to the following impacts:

Loss of uniformity of the monolithic structural section and the associated loss in pavement structural strength per the Study;

Disruption to businesses, residents, and traffic; and

Visual degradation resulting from the "patch effect" of trenching.

Under certain conditions, the local agency may allow utility trenches in a moratorium street if utility work is necessary before the term stated in SECTION 7, and if the street will receive the repairs required in SECTION 7.

Each utility will warrant the quality of its trench and pavement repair work in any street as described below.

1. **WARRANTY.** The utility shall repair, replace, and restore that portion of the street, including city-owned utilities such as water, sanitary sewer, and storm drainage, damaged, directly or indirectly, by an street cut made by the utility, or its agents, as closely as possible to the condition prior to the utility's street cut throughout the useful life of the street.

   The useful life of the street and pavement condition shall be determined. The agreed practice is that pavement with a PCI < 35, exclusive of trenches, is in poor condition, needs reconstruction, and no longer has useable life. Such pavement shall not be subject to the warranty. Local agency pavement rating shall have current certification in accordance with the MTC Pavement Management System requirements.

   Once a street has been reconstructed or overlaid, the street shall be deemed to be renewed, and all warranty obligations to repair trench affected pavement shall be ended for all trenches completed prior to the reconstruction.

2. **ACCEPTANCE OF WORK OR SERVICE.** The acceptance of work or services, or the payment for work or services, by the local agency shall not constitute a waiver of any provision of this Warranty.

3. **ASSIGNMENT.** Any party shall not assign this Warranty or any party substituted, without the prior written consent of all the parties.

4. **EXECUTION.** This warranty is effective upon execution. It is the product of negotiation and all parties are equally responsible for authorship of this Warranty. Section 1654 of the California Civil Code shall not apply to the interpretation of this Warranty.

5. **FORUM.** Any lawsuit pertaining to any matter arising under or growing out of this Warranty shall be instituted in a court of proper jurisdiction in the appropriate County of California.

6. **MERGER AND MODIFICATION.** This Warranty sets forth the entire agreement between the parties and supercedes all other oral or written representations. This Warranty may be modified only in a writing approved by an authorized agent and signed by all parties.

7. **NEGATION OF PARTNERSHIP.** The local agency shall not be considered a partner or joint venture with the utility or associate by the provisions of this Warranty. No employee, contractor, officer or agent of either party shall be deemed for any purpose an employee, officer or agency of the other by this Warranty.

8. **NON-INTEREST**. No officer or employees of the local agency shall hold any interest in this Warranty (California Government Code Section 1090).

9. **WAIVER OF DEFAULT.** The failure of any party to enforce against another a provision of this Warranty shall not constitute a waiver of that party's right to enforce such a provision at a later time, and shall not serve to vary the term of this Warranty.

Local Agency _____ Utility _____

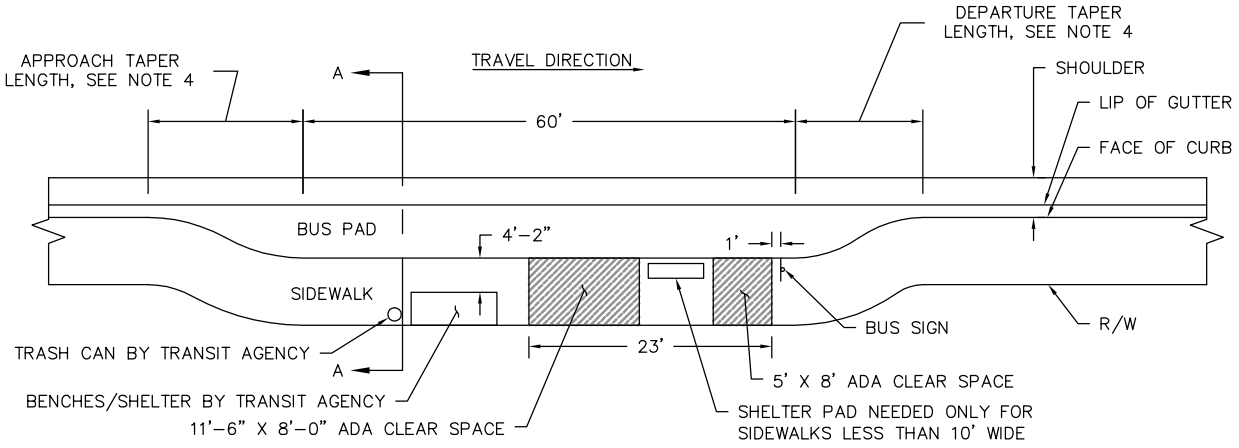
By: _____ By: _____

Title: _____ Title: _____

APPROVED _____ _____

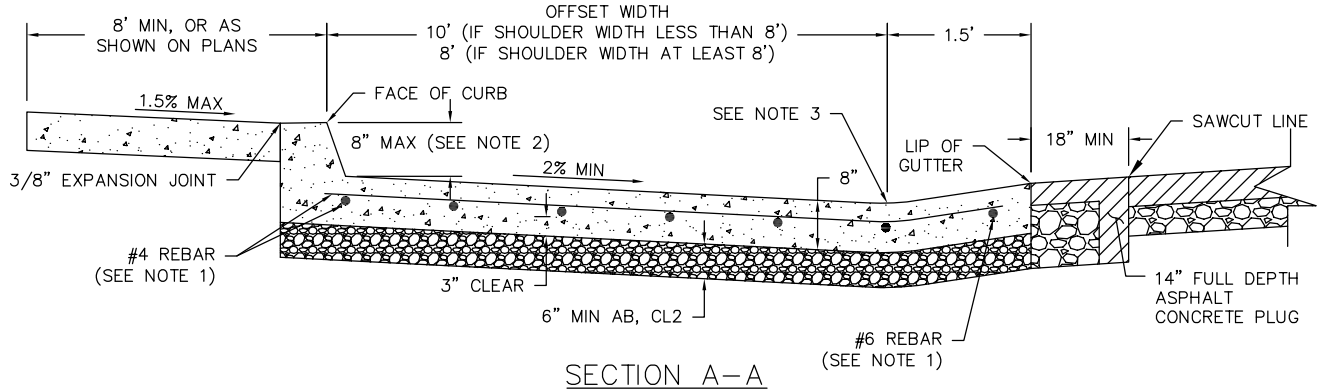
DRAFT DATE

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 8 OF 8
				CHECKED BY: MK	TRENCH DETAIL	R-5
				DATE: 2019-01-11		
				SCALE: NONE		



BUS TURNOUT PLAN VIEW

FOR BUSES 8'-6" WIDE AND 40' LONG



SECTION A-A

SCALE: NTS

NOTES

1. CONCRETE REINFORCED WITH #4 REBAR @ 18" O.C. (BOTH WAYS) REINFORCING. ALL FREE EDGES OF BUS PAD TO BE REINFORCED WITH #6 REBAR.
2. CURB HEIGHT 8" MAXIMUM DUE TO NEEDED CLEARANCE FOR WHEELCHAIR LIFT OPERATION.
3. MAINTAIN FLOW LINE DEPTH.
4. APPROACH AND DEPARTURE TAPER LENGTHS VARY ON STREET CLASSIFICATION. SEE TABLE 1 FOR DIMENSIONS. USE PARABOLIC TAPER.
5. FOR ARTICULATED BUSES OR MULTIPLE BUSES, SEE TRI DELTA DETAILS.

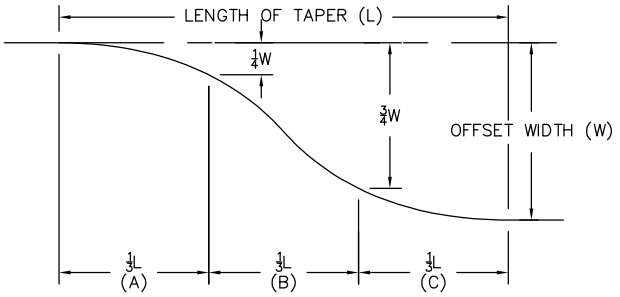


TABLE 1: LENGTH OF TAPERS		
STREET CLASSIFCATION	APPROACH TAPER LENGTH	DEPARTURE TAPER LENGTH
LOCAL STREET (1 – 20 MPH)	50' MIN	50' MIN
MAJOR COLLECTOR (20 – 30 MPH)	80' MIN	100' MIN
MAJOR ARTERIAL (30 – 40 MPH)	125' MIN	180' MIN

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	ADA CLEAR SPACE, REVISED TAPER DIMS

CITY OF PITTSBURG

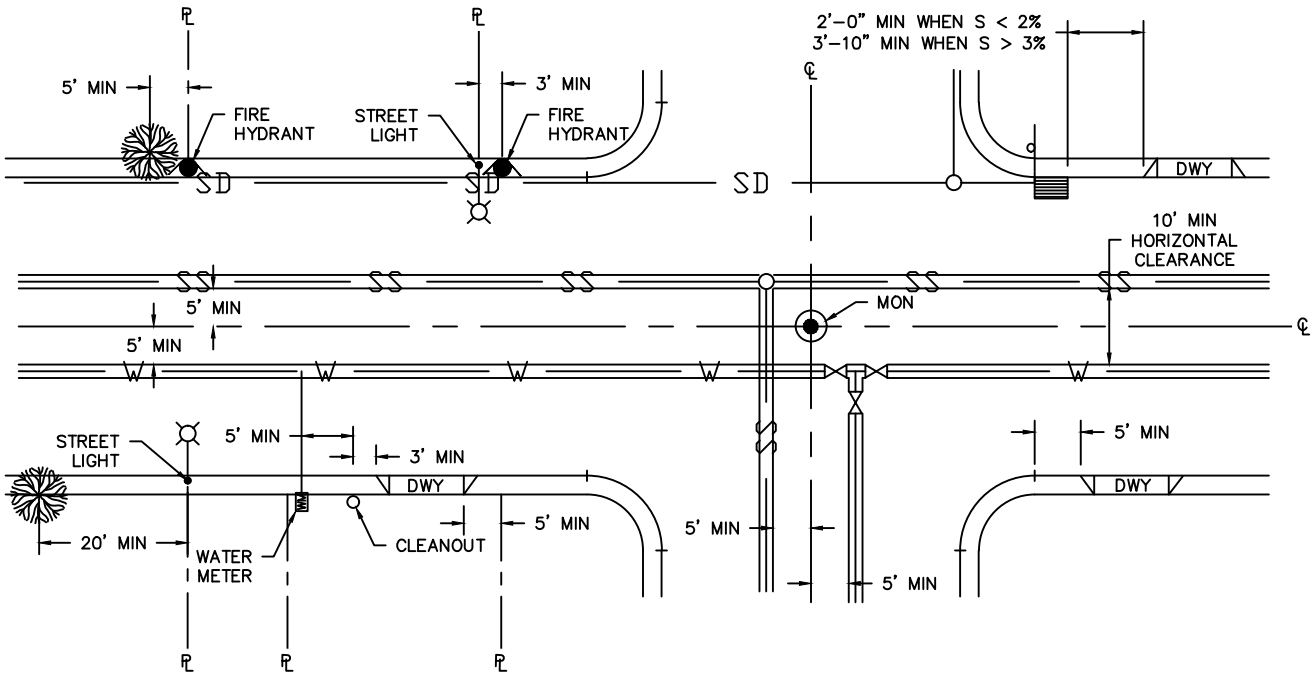
DRAWN BY: JL
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

CONCRETE BUS TURNOUT

SHEET 1 OF 1

R-6



PLAN VIEW

SCALE: NTS

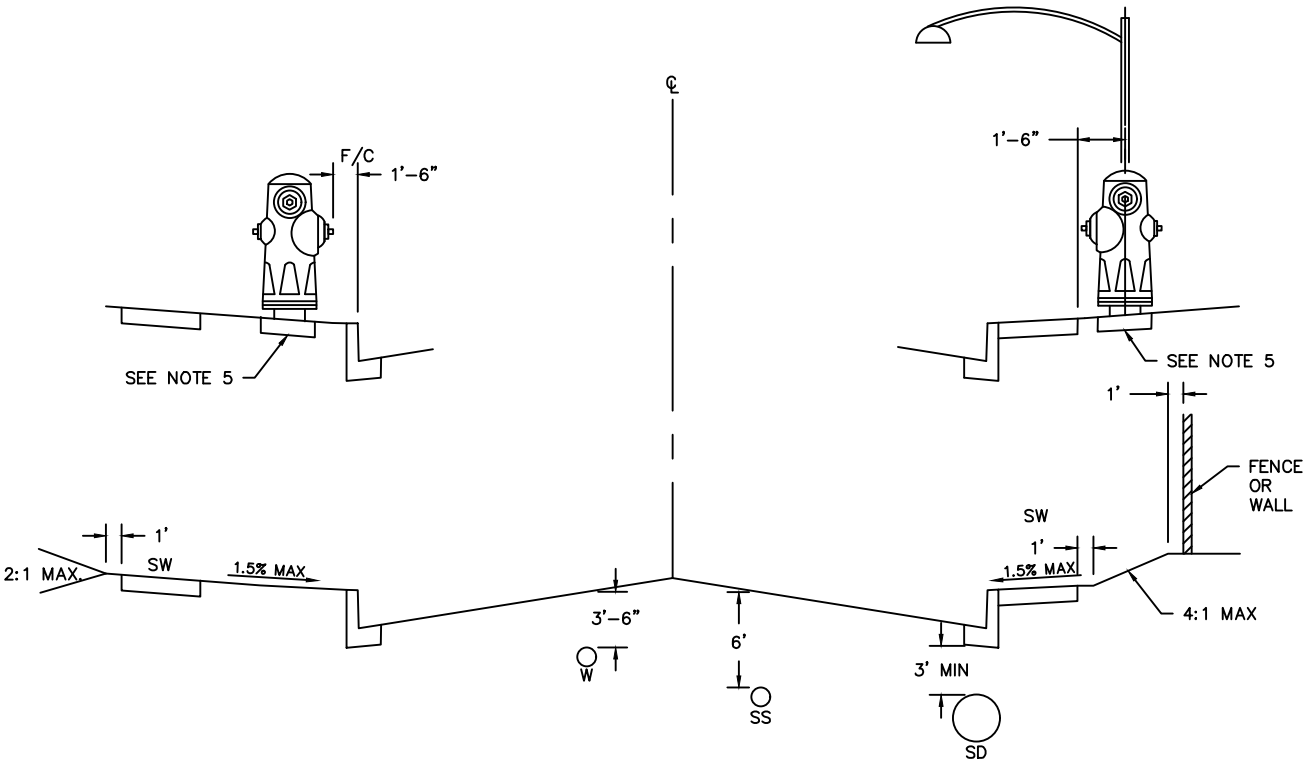
NOTES

1. "TYPICAL" LOCATION OF UTILITIES ONLY.
2. SOME UTILITIES MAY NOT BE LOCATED AS SHOWN HERE.
3. DESIGNER AND CONTRACTOR TO FIELD VERIFY AND CONFIRM LOCATIONS.
4. PROPOSED DESIGNS THAT DIFFER FROM WHAT IS SHOWN HERE, NEED PRIOR APPROVAL OF CITY ENGINEER.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: JR CHECKED BY: MK DATE: 2019-01-11 SCALE: 820 NTS	STANDARD DETAIL UTILITY LAYOUT	SHEET 1 OF 2 R-7



SECTION VIEW

SCALE: NTS

NOTES

1. "TYPICAL" LOCATION OF UTILITIES ONLY.
2. SOME UTILITIES MAY NOT BE LOCATED AS SHOWN HERE.
3. DESIGNER AND CONTRACTOR TO FIELD VERIFY AND CONFIRM LOCATIONS.
4. PROPOSED DESIGNS THAT DIFFER FROM WHAT IS SHOWN HERE, NEED PRIOR APPROVAL OF CITY ENGINEER.
5. HYDRANTS SHALL BE CENTERED ON 2' SQUARE, 4" THICK CONCRETE PAD WHEN PLACED IN LANDSCAPE OR PLANTING STRIP.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	CLEAR SPACES

DRAWN BY: AD
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

UTILITY LAYOUT

SHEET 2 OF 2

R-7

821

APPLICABLE CALTRANS STANDARD DETAILS

RSP A88A	CURB RAMP DETAILS
RSP A88B	CURB RAMP AND ISLAND PASSAGEWAY DETAILS
RSP A90A	ACCESSIBLE PARKING OFF-STREET
A90B	ACCESSIBLE PARKING ON-STREET

APPLICABLE CONTRA COSTA COUNTY STANDARD DETAILS

MODIFIED CA70 STANDARD SIDEWALK DETAILS
- CHANGE MAXIMUM CROSS SLOPES TO 1.5% (FROM 2%).

MODIFIED CA71 MEDIAN, CURB AND HMA DIKE DETAILS
- CHANGE MAXIMUM CROSS SLOPES TO 1.5% (FROM 2%).
- CHANGE DEPTH OF AGGREGATE BASE TO 6" CLASS 2 AB (FROM 3").

MODIFIED CA72 DRIVEWAY RAMP DETAILS
- CHANGE MAXIMUM CROSS SLOPES TO 1.5% (FROM 2%).
- CHANGE MAXIMUM RAMP SLOPES TO 7.5% (FROM 8.33%).
- CHANGE DEPTH OF AGGREGATE BASE TO 6" CLASS 2 AB (FROM 3").

CA73 CONCRETE VALLEY GUTTER DETAILS

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

APPLICABLE STANDARD DETAILS

SHEET 1 OF 1

R-8

STORM DRAIN NOTES

1. See Pittsburg Municipal Code Chapters 17.28 and 13.28 for design criteria.

2. Refer to the San Francisco Regional Water Quality Control Board's approved list of full trash capture devices:
   https: //www.waterboards.ca.gov/water_issues/programs/stormwater/
   docs/trash_implementation/a1_certified_fcd.pdf

3. Refer to the CASQA BMP handbooks for appropriate installation of temporary and permanent BMPs.

4. Use bicycle–proof grates for catch basin inlets.

5. No steps are to be installed in any structure (MH, CB, vaults, etc.)

6. All storm drain inlets are to be marked with the following decal:

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
	1	2019–01–11	NOTES 1–3 & 6	CHECKED BY: MK	STORM DRAIN NOTES	SD–1
				DATE: 2019–01–11		
				SCALE: NONE		

GRADING NOTES

1. SEE CITY ORDINANCE AND CONTRA COSTA COUNTY CRITERIA & CURRENT CITY APPROVED EDITION OF THE CBC FOR GENERAL GRADING CRITERIA.

2. SEE "STATE GUIDELINES" AND ABAG "FIELD MANUAL" FOR EROSION CONTROL DETAILS.

3. ADD WDID# TO FIRST SHEET OF PLAN SET.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	GRADING NOTES	G-1
				DATE: 2019-01-11		
				SCALE: NONE		

OVERLAND RELEASE

1. PROVIDE A SEPARATE EXHIBIT, WITH GRADING PLAN, CLEARLY SHOWING PATH OF OVERLAND RELEASE. EXHIBIT TO INCLUDE HIGH POINTS (AT GUTTER) AND ARROWS INDICATING PATH OF OVERLAND FLOW.

2. OVERLAND RELEASE IS THE PATH RUNOFF WOULD FOLLOW IF AN INLET OR SD SYSTEM WAS BLOCKED. FLOW WILL NEED TO EXIT THE IMPACTED AREA PRIOR TO FLOODING THE PAD. STREETS SHALL BE DESIGNED SO THAT THE RELEASE OCCURS BY THE TIME THE FLOODING REACHES THE BACK OF THE SIDEWALK AT THE IMPACTED AREA.

   RELEASE ELEVATION = GUTTER ELEVATION + 0.7'.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
				CHECKED BY: MK	OVERLAND RELEASE	G-2
				DATE: 2019-01-11		
				SCALE: NONE		

RETAINING WALL NOTES

1. ALL PERMANENT RETAINING WALLS SHALL BE REINFORCED CONCRETE BLOCK, OR OTHER MATERIAL APPROVED BY CITY ENGINEER.

2. NO PERMANENT WOOD RETAINING WALLS ALLOWED.

3. THE DESIGN OF ALL RETAINING WALLS SHALL BE PER RECOMMENDATIONS OF SOIL/GEOTECHNICAL REPORT.

4. ADEQUATE DRAINAGE SHALL BE INCLUDED IN WALL DESIGN.

5. ALL WALLS GREATER THAN 4 FEET IN HEIGHT WITHOUT SURCHARGE SHALL BE DESIGNED BY CIVIL/STRUCTURAL ENGINEER. PLANS AND CALCULATIONS REQUIRE A BUILDING PERMIT AND SHALL BE SUBMITTED TO CITY ENGINEER FOR REVIEW AND APPROVAL.

NOTE: HEIGHT OF WALL IS MEASURED FROM BOTTOM OF FOOTING TO TOP OF WALL.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

RETAINING WALL NOTES

SHEET 1 OF 1

G-3

TRAFFIC & LIGHTING NOTES

The purpose of these Traffic & Lighting Notes is to serve as the basis for design of fixed lighting for roadways, bike ways, pedestrian ways and outside parking lots. The following standard practice deals entirely with lighting and does not give advice on construction practices or methods.

It is neither intended as, nor does it establish a legal standard for roadway lighting systems. Its purpose is to provide recommended practices for designing new roadway lighting systems, and it is not intended to be applied to existing lighting systems until such systems are redesigned or modified.

In general, the lighting requirements shall be as described in the Illuminating Engineering Society of North America, RP–8 Report (IESNA, RP–8). When the IESNA publishes lighting requirements specifically for Light Emitting Diode (LED) lighting, the new LED requirements shall be utilized.

The lighting system of a specific road section should accommodate the visual needs of night traffic (vehicular and pedestrian) and be expressed in terms clearly understandable by lighting designers, traffic engineers and City of Pittsburg engineering department personnel.

The visual environmental needs along the roadway are described in the IESNA, RP–8 report in terms of pavement luminance, luminance uniformity and disability veiling glare provided by the system light sources.

The design of a roadway lighting system involves consideration of visibility, economics, aesthetics and environmental conditions as well as appropriate equipment and material.

The design shall generally follow these steps:

1. Determination of roadway classification and abutting land uses along the specific road section to be lighted.

2. Selection of the level and uniformity of pavement luminance for roadway and/or land use.

3. Selection of luminaires and light sources as indicated in City of Pittsburg Standard Detail T–5.

4. Calculation of pole spacing for the various luminaire/lamp type combinations allowed in City of Pittsburg Standard Detail T–5 based on the luminance values selected for the roadway to be lighted.

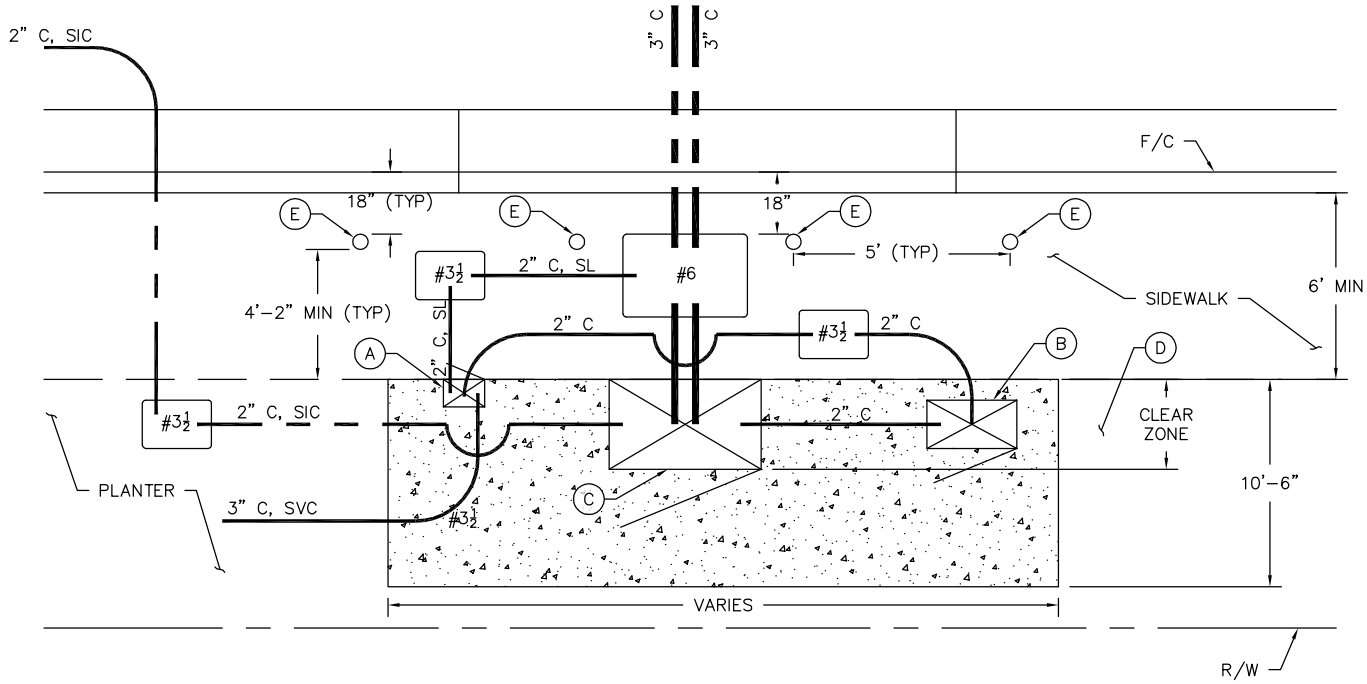
Determination of roadway classification and abutting land use, level and uniformity of illumination shall be determined from the IESNA, RP–8 report.

The lighting designer shall submit to the City, lighting calculations from an approved lighting software program, that clearly indicate the Average Luminance and Average/Minimum Luminance Uniformity ratio of the roadway surface along the desired roadway or within the project area. Lighting programs may be "AGI–32", or approved equal.

APPROVED _____ DATE _____

DRAFT

	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 1
CITY OF PITTSBURG	1	2011–04–06	UPDATED STD DETAIL	CHECKED BY: MK	TRAFFIC & LIGHTING NOTES	T–1
				DATE: 2019–01–11		
				SCALE: NONE		



PLAN VIEW

SCALE: NTS

(A) TYPE III–AF SERVICE EQUIPMENT ENCLOSURE

(B) UNINTERRUPTIBLE POWER SUPPLY (UPS)

(C) TYPE "P" CONTROLLER CABINET PER CALTRANS STANDARD PLAN ES–3A (3'–8½" WIDE x 2'–2" LONG x 4'–7" TALL)

(D) NO JOINT TRENCH FACILITIES IN CLEAR ZONE

(E) INSTALL FIXED BOLLARD PER CITY STANDARD DETAIL L–8

ABBREVIATIONS

C	CONDUIT
F/C	FACE OF CURB
R/W	RIGHT–OF–WAY
SVC	SERVICE
SIC	SIGNAL INTERCONNECT
SL	STREET LIGHT
#	CALTRANS PULL BOX SIZE

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	ADDED BOLLARDS

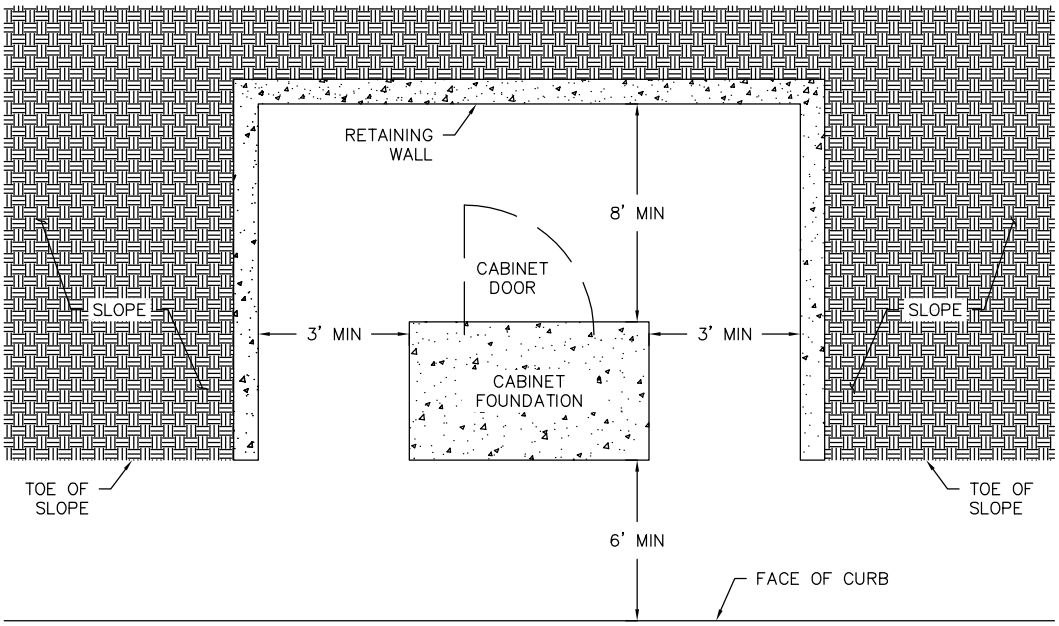
DRAWN BY: JM
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

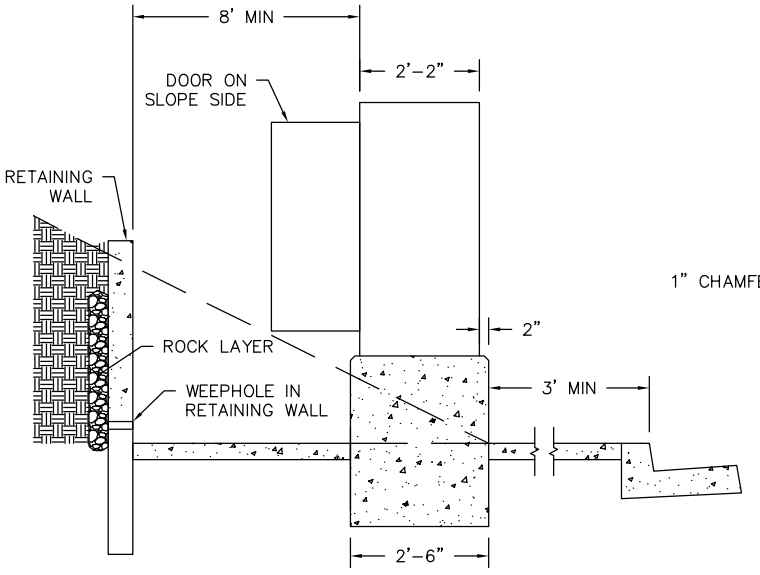
TRAFFIC SIGNAL INSTALLATION CONTROLLER ASSEMBLY & ELECTRIC SERVICE CONCEPTUAL LAYOUT

SHEET 1 OF 2

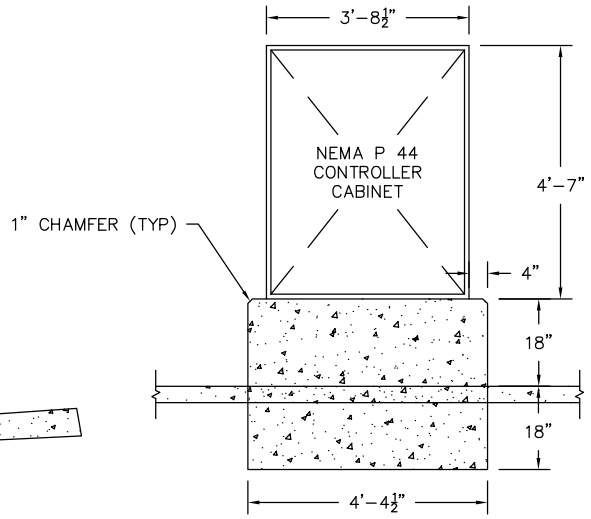
T–2



PLAN VIEW
SCALE: NTS



SIDE VIEW
SCALE: NTS



FRONT VIEW
SCALE: NTS

PCC FOUNDATION FOR TYPE P CABINET

TOE OF SLOPE LOCATION

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	ADDED RETAINING WALL, DOOR ON SLOPE SIDE

CITY OF PITTSBURG

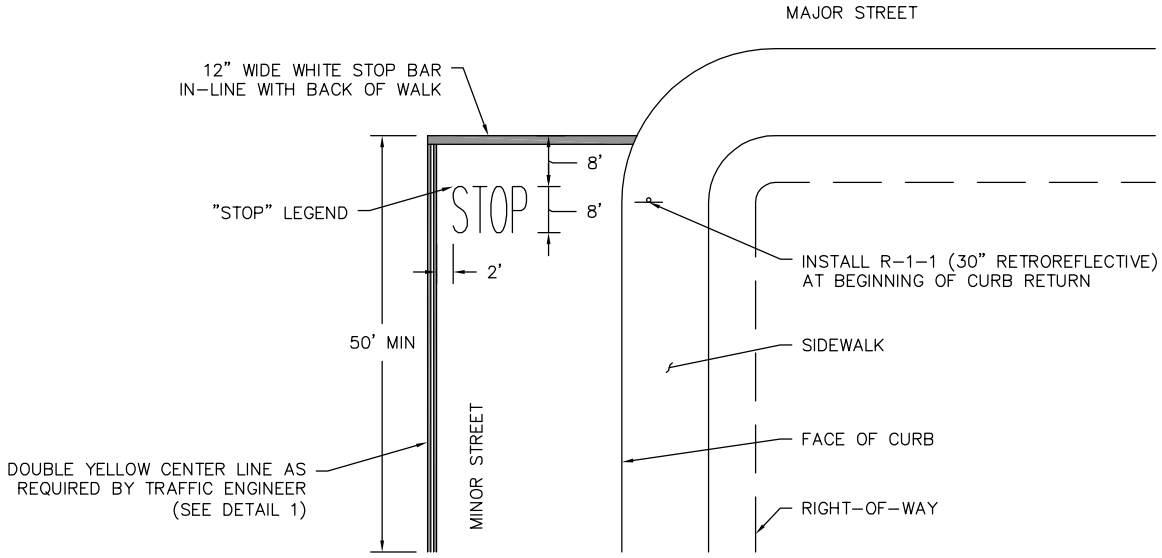
DRAWN BY:	JM
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

TRAFFIC SIGNAL INSTALLATION
CONTROLLER CABINET FOUNDATION
AT SLOPE LOCATIONS

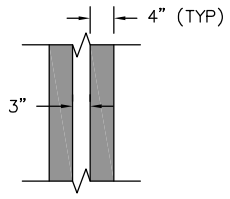
SHEET 2 OF 2

T-2



WITHOUT CROSSWALK

SCALE: NTS



1 — CENTER LINE STRIPING DETAIL

NOTES

1. TRAFFIC STRIPING PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC AND SHALL CONFORM TO THE CURRENT CALTRANS STANDARD SPECIFICATIONS.
2. STOP BAR LOCATION OTHER THAN INDICATED SHALL REQUIRE APPROVAL AND SHALL BE ALLOWED ONLY WHERE INTERSECTION GEOMETRY OR SIGHT DISTANCE WARRANT IT.

LEGEND

THERMOPLASTIC PAVEMENT MARKING

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	SIGN LOCATION

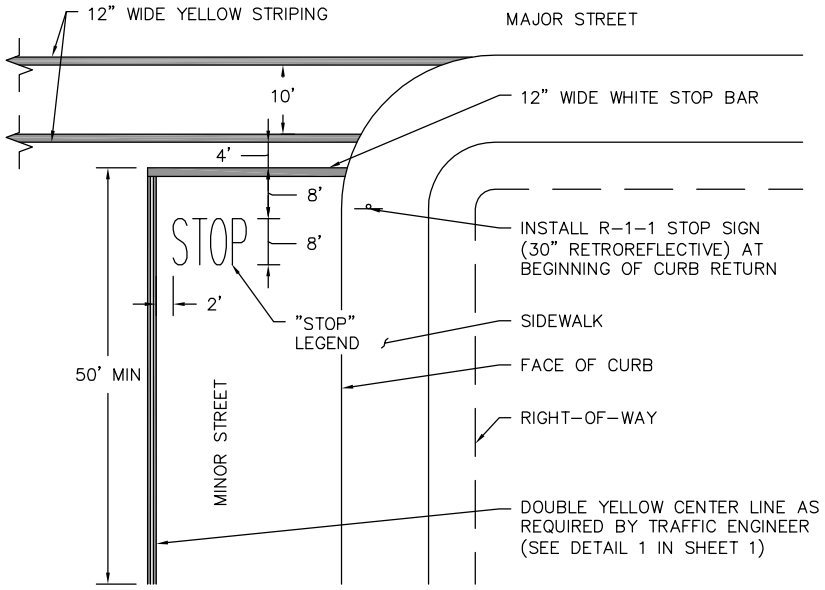
DRAWN BY: AW
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

STOP BAR

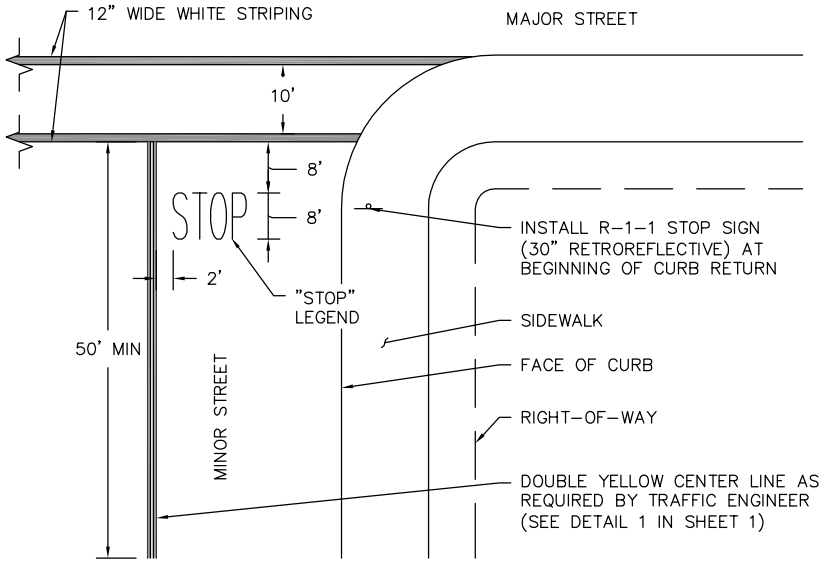
SHEET 1 OF 2

T-3



AT SCHOOL CROSSWALK

SCALE: NTS



AT NON-SCHOOL CROSSWALK

SCALE: NTS

LEGEND

THERMOPLASTIC PAVEMENT MARKING

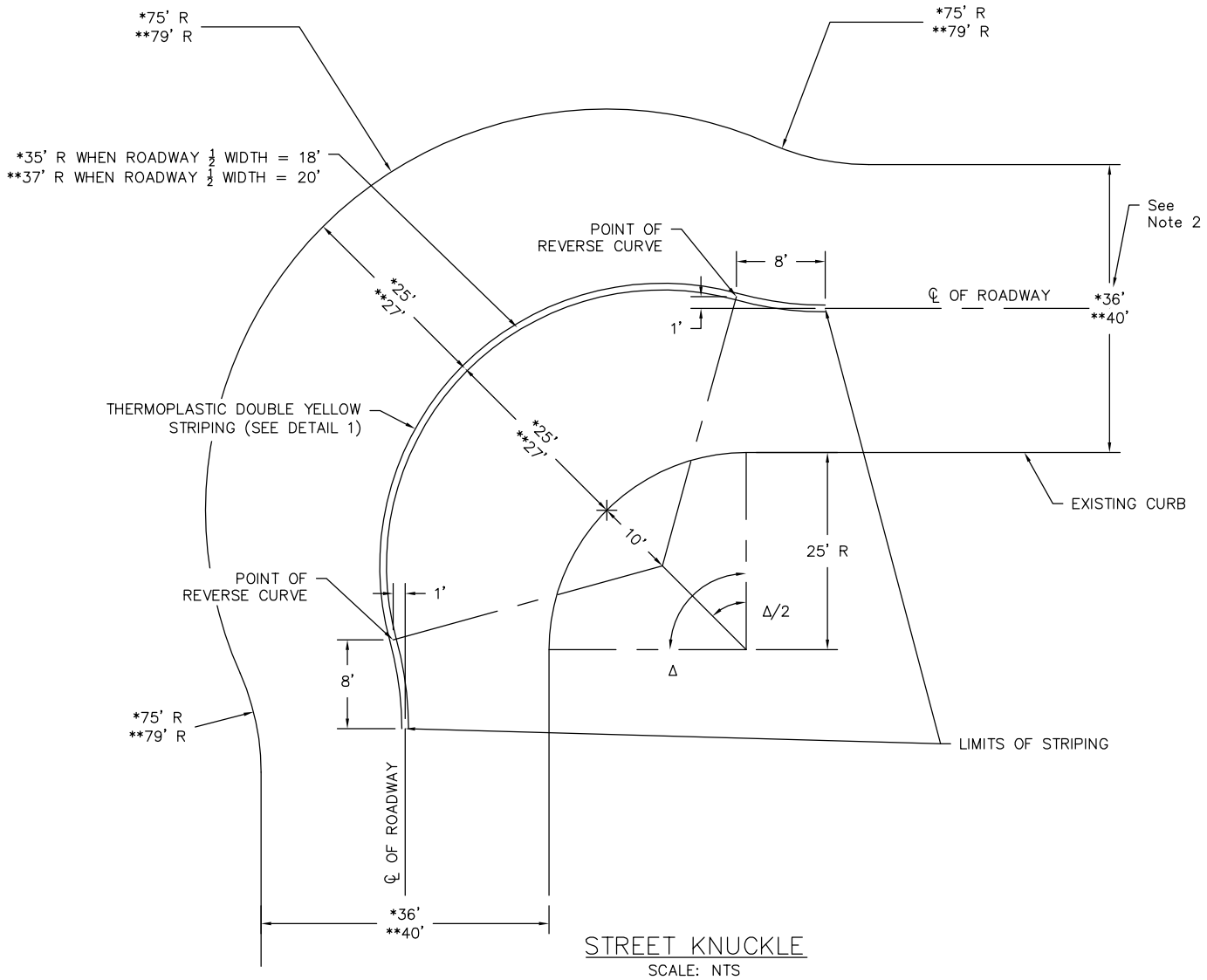
NOTES

1. TRAFFIC STRIPING PAVEMENT MARKIINGS SHALL BE REFLECTORIZED THERMOPLASTIC AND SHALL CONFORM TO THE CURRENT CALTRANS STANDARD SPECIFICATIONS.
2. STOP BAR LOCATION OTHER THAN INDICATED SHALL REQUIRE APPROVAL AND SHALL BE ALLOWED ONLY WHERE INTERSECTION GEOMETRY OR SIGHT DISTANCE WARRANT IT.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AW CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL STOP BAR	SHEET 2 OF 2 T-3

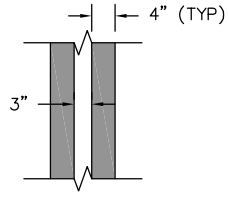


STREET KNUCKLE

SCALE: NTS

NOTES

1. THIS STRIPING TREATMENT SHALL BE USED ONLY AT LOCATIONS APPROVED BY CITY ENGINEER.
2. "*" DENOTES DIMENSIONS FOR LOCAL RESIDENTIAL STREET. "**" DENOTES DIMENSIONS FOR MINOR COLLECTOR RESIDENTIAL STREET.



1/– CENTER LINE STRIPING DETAIL

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	CENTERLINE STRIPING

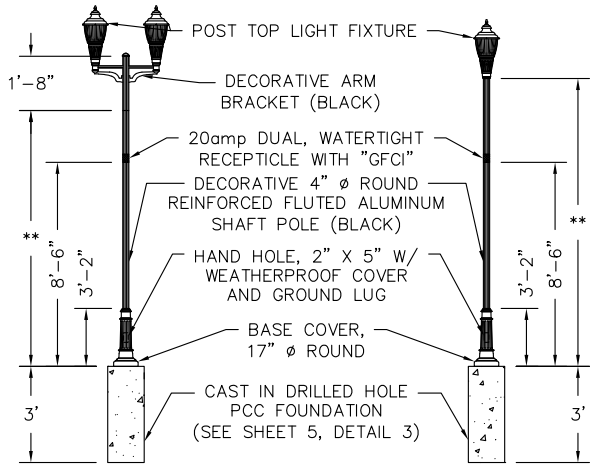
DRAWN BY: AW
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

STREET KNUCKLE

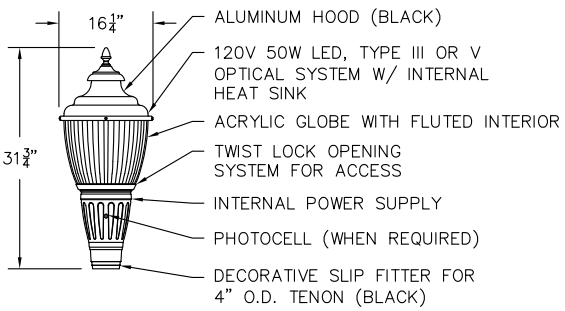
SHEET 1 OF 1

T–4



DECORATIVE LIGHTING

TWIN FIXTURE AND SINGLE FIXTURE



DECORATIVE "ACORN" LIGHT FIXTURE

("CYCLONE LIGHTING" PRESTIGE SERIES POST TOP SHOWN)

NOTES

1. ALL POLE HARDWARE NUTS/BOLTS/SCREWS SHALL BE STAINLESS STEEL. FOUNDATION MOUNTING BOLTS/NUTS/WASHERS SHALL BE GALVANIZED.
2. A No. 5 PULLBOX SHALL BE INSTALLED AT EACH LIGHT POLE. PULLBOX LID SHALL HAVE "LIGHTING" STAMPED IN LID.
3. A TWIST LOCK PHOTOCELL SHALL BE INSTALLED IN EACH FIXTURE FOR UN-METERED ELECTRICAL SERVICE INSTALLATIONS.
4. A TWIST LOCK PHOTOCELL SHALL BE INSTALLED IN SERVICE ASSEMBLY FOR METERED ELECTRICAL SERVICE INSTALLATIONS.
5. EACH LIGHT FIXTURE SHALL BE FUSED.
6. CITY-APPROVED DECORATIVE LIGHTING PARTS (OR APPROVED EQUALS) TO BE USED. SEE TABLE 1 FOR LIST OF CITY-APPROVED LIGHTING PARTS. SEE SHEET 6 FOR LIGHTING PARTS SPECIFICATIONS.
7. STEEL TENON BASE ANCHORAGE SHALL BE USED IN TWIN-FIXTURE DECORATIVE LIGHTING POLE WITH POLE HEIGHT GREATER THAN 10' AND/OR WITH BANNER ATTACHED.

TABLE 1: CITY-APPROVED DECORATIVE LIGHTING PARTS		
POST TOP LIGHT FIXTURE	WITHIN "OLD TOWN" BOUNDARY*	"CYCLONE LIGHTING" (PRESTIGE SERIES) CY13T4-VS3ARP-5-50W-3K-120-EV1-DCP-F2AP-PTDR-SQ-CP1-BK-TX
	OUTSIDE "OLD TOWN" BOUNDARY*	"CYCLONE LIGHTING" (PRESTIGE SERIES) CY13T4-VS3AR-5-50W-4K-120-EV1-DCP-F2AP-PTDR-SQ-CP1-BK-TX
POLE	SINGLE FIXTURE	"CYCLONE LIGHTING" PD12-**-GFIC2-BK-TX
	TWIN FIXTURE	"CYCLONE LIGHTING" PD12-**-T12-GFIC2-BK-TX
MOUNTING ARM BRACKET	TWIN FIXTURE	"CYCLONE LIGHTING" CP2408-C2-T12-BK-TX
BASE COVER		"CYCLONE LIGHTING" BD41-BK-TX
BANNER BRACKET		"CYCLONE LIGHTING" BA2-4-24-A-P-D2-BK-TX

* "OLD TOWN" BOUNDARY: ALL STREETS (BOTH SIDES) WITHIN THE PERIMITER OF AND INCLUDING; BLACK DIAMOND STREET, E. THIRD STREET, CUMBERLAND STREET AND E. TENTH STREET.

** POLE HEIGHT TO BE DETERMINED BY ENGINEER

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	PARTS LIST

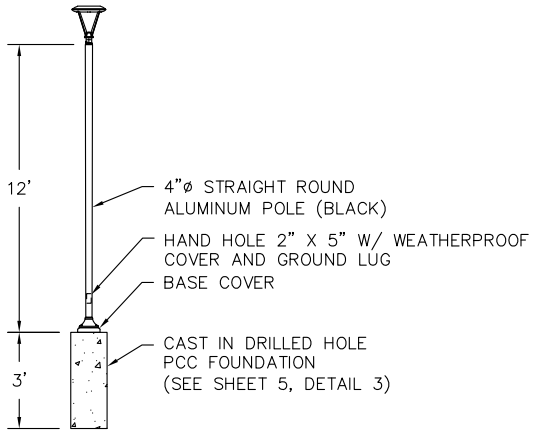
DRAWN BY: TJM
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

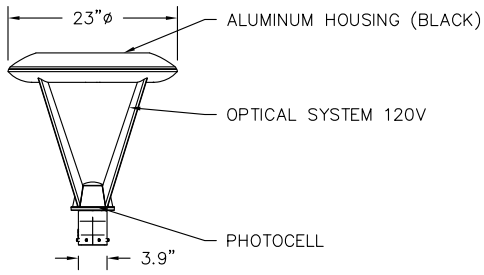
DECORATIVE STREET LIGHTING

SHEET 1 OF 6

T-5



PARK/PATHWAY LIGHTING
SINGLE FIXTURE



PARK/PATHWAY LIGHT FIXTURE
("CREE" EDGE SERIES LED SHOWN)

NOTES

1. ALL POLE HARDWARE NUTS/BOLTS/SCREWS SHALL BE STAINLESS STEEL. FOUNDATION MOUNTING BOLTS/NUTS/WASHERS SHALL BE GALVANIZED.
2. A No. 5 PULLBOX SHALL BE INSTALLED AT EACH LIGHT POLE. PULLBOX LID SHALL HAVE "LIGHTING" STAMPED IN LID.
3. A PHOTOCELL SHALL BE INSTALLED IN EACH FIXTURE FOR UN-METERED ELECTRICAL SERVICE INSTALLATIONS.
4. A PHOTOCELL SHALL BE INSTALLED IN SERVICE ASSEMBLY FOR METERED ELECTRICAL SERVICE INSTALLATIONS.
5. EACH LIGHT FIXTURE SHALL BE FUSED.
6. CITY-APPROVED PARK/PATHWAY LIGHTING PARTS (OR APPROVED EQUALS) TO BE USED. SEE TABLE 2 FOR LIST OF CITY-APPROVED LIGHTING PARTS. SEE SHEET 6 FOR LIGHTING PARTS SPECIFICATIONS.

TABLE 2: CITY-APPROVED PARK/PATHWAY LIGHTING PARTS	
LIGHT FIXTURE	"CREE" (EDGE SERIES) ARE-EDR-5M-R3-06-E-UL-BK-40K-525-P
POLE	"CYCLONE LIGHTING" PA40-12-TN32-BK-TX-R30
BASE COVER	"CYCLONE LIGHTING" BD11-BK-TX

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	PARTS LIST

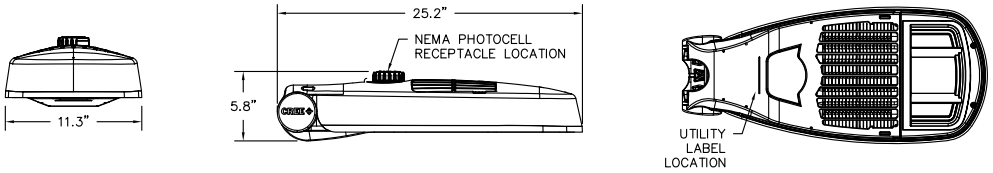
DRAWN BY: TJM
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

PARK/PATHWAY LIGHTING

SHEET 2 OF 6

T-5



STANDARD COBRA HEAD STREET LIGHT FIXTURE

("CREE" RSW SERIES LED SHOWN)

NOTES

1. ALL POLE HARDWARE NUTS/BOLTS/SCREWS SHALL BE STAINLESS STEEL. MOUNTING BOLTS/NUTS SHALL BE GALVANIZED.
2. A PULLBOX SHALL BE INSTALLED AT EACH LIGHT POLE.
3. A PHOTOCELL SHALL BE INSTALLED ON EACH FIXTURE.
4. EACH LIGHT FIXTURE SHALL BE FUSED.
5. CONDUIT SHALL HAVE A MINIMUM COVER OF 24 INCHES.
6. USE 8' LUMINAIRE ARM FOR ROADWAYS LESS THAN 40' IN WIDTH AND 15' LUMINAIRE ARM FOR ROADWAYS 40' OR MORE IN WIDTH.
7. A PHOTOCELL SHALL BE INSTALLED IN EACH FIXTURE FOR UN-METERED ELECTRICAL SERVICE INSTALLATIONS.
8. A PHOTOCELL SHALL BE INSTALLED IN SERVICE ASSEMBLY FOR METERED ELECTRICAL SERVICE INSTALLATIONS.
9. CITY-APPROVED STANDARD STREET LIGHTING PARTS (OR APPROVED EQUALS) TO BE USED. SEE TABLE 3 FOR LIST OF CITY-APPROVED LIGHTING PARTS. SEE SHEET 6 FOR LIGHTING PARTS SPECIFICATIONS.

TABLE 3: CITY-APPROVED STANDARD STREET LIGHTING PARTS	
LIGHT FIXTURE	"CREE" (RSW SERIES, MEDIUM) RSWL-A-HT-3ME-14L-40K7-UL-GY-N-Q
POLE	"HAPCO" ALUMINUM POLE AND LUMINAIRE ARM (SEE SHEET 4)

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	PARTS LIST

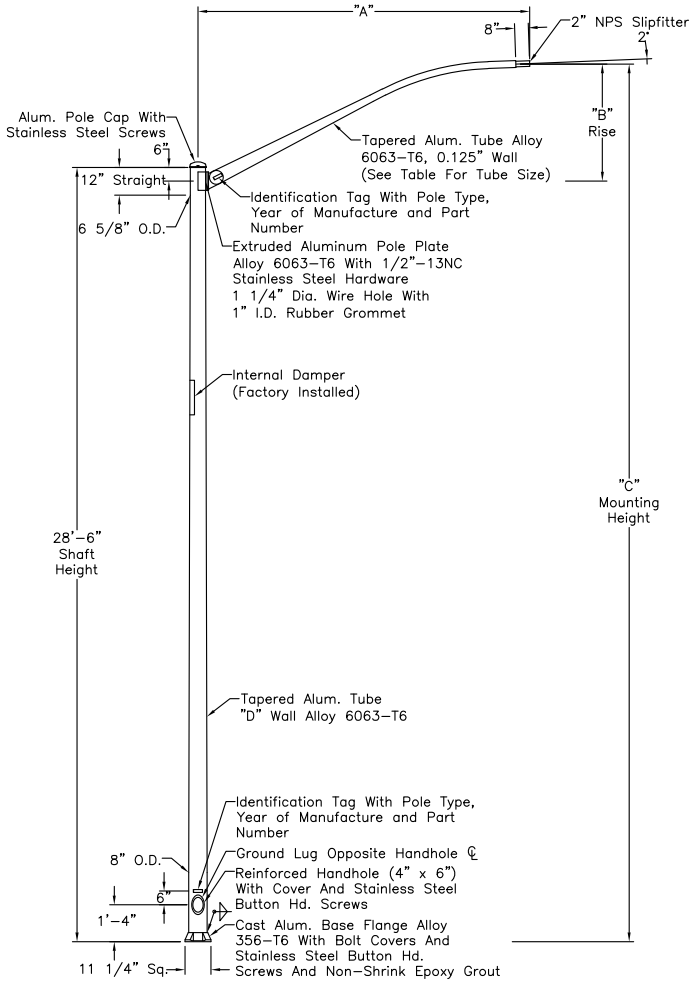
DRAWN BY: AW
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

STANDARD STREET LIGHTING

SHEET 3 OF 6

T-5

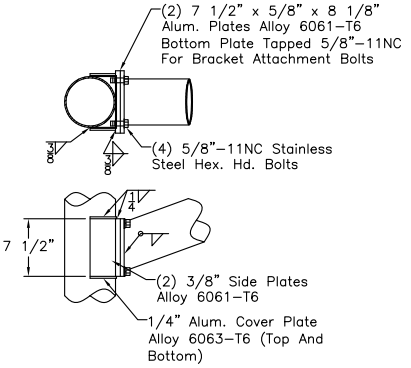


POLE AND LUMINAIRE ARM

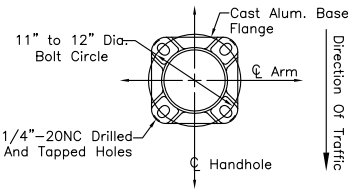
("HAPCO" B101150 SHOWN)

Item No.	"A"	"B"	Bracket Member Size	"C"	"D"
101150–008	8'	2'–6"	5" x 3" x .156" Wall	32'–0"	.188"
101150–015	15'	4'–9"	6" x 3" x .188" Wall	34'–3"	.250"

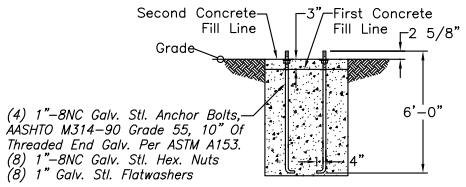
LUMINAIRE ARM TABLE



BRACKET ATTACHMENT DETAIL



BASE PLATE DETAIL



FOUNDATION DETAIL

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019–01–11	PARTS LIST

CITY OF PITTSBURG

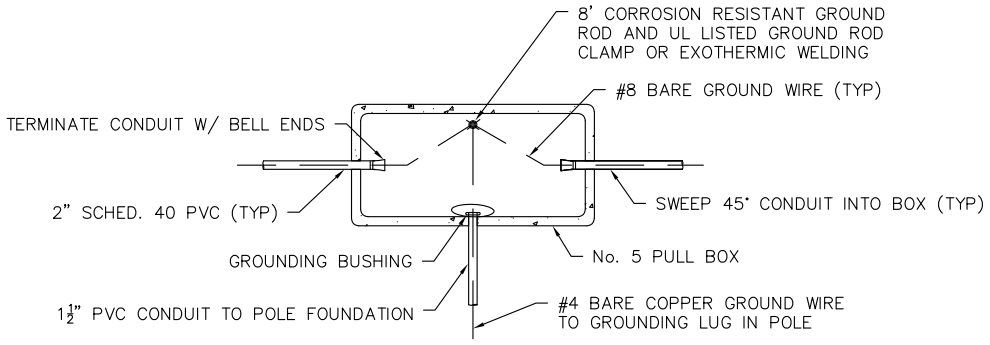
DRAWN BY: AW
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

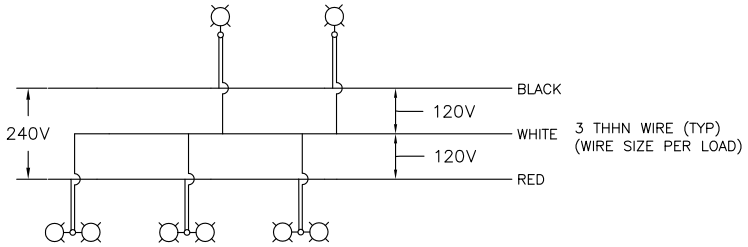
STANDARD STREET LIGHTING

SHEET 4 OF 6

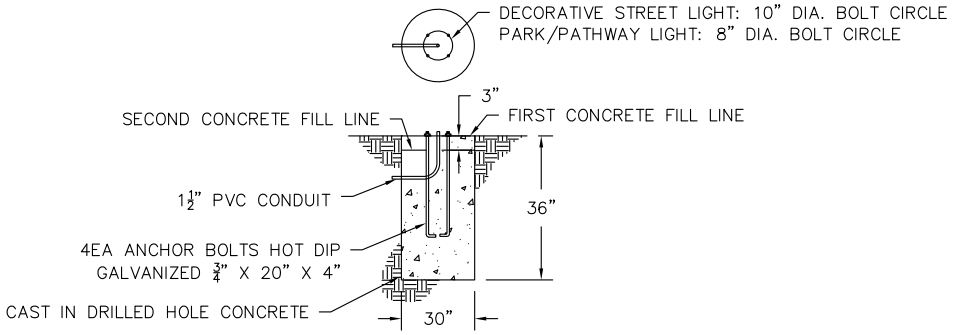
T–5



1 — PULLBOX INSTALLATION
FOR ALL STREET LIGHTING



2 — WIRING DIAGRAM
FOR CIRCUITS W/ STANDARD STREET LIGHTING
120/240 VOLT ELECTRIC SERVICE



3 — STREET LIGHT FOUNDATION
FOR DECORATIVE AND PARK/PATHWAY LIGHTING

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	PARTS LIST

CITY OF PITTSBURG

DRAWN BY:	TJM
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

LIGHTING DETAILS

SHEET 5 OF 6

T-5

DECORATIVE LIGHTING PARTS:

POST TOP LIGHT FIXTURE:

CY13T4	"CYCLONE LIGHTING" PRESTIGE SERIES POST TOP, ALUMINUM HOOD
−VS3ARP	GLOBE: ACRYLIC (A), RIBBED (R), POND (P)
−SKY−5	OPTICS: TYPE V (5)
−50W	WATTAGE: 50W
−3K / 4K	CORRELATED COLOR TEMPERATURE (CCT), WITHIN OLD TOWN: 3,000K (3K) OUTSIDE OLD TOWN: 4,000K (4K)
−120 / 240	VOLTAGE: 120V OR 240V
−EV1	FITTER STYLE
−DCP	OPTION: CUPOLA, SAME COLOR AS LUMINAIRE
−F2AP	FINIAL STYLE
−PTDR	OPTION: DIMMABLE (7−PIN) PHOTOCELL RECEPTACLE
−SQ−CP1	OPTION: SQUARE HEAD BOLTS
−BK−TX	HOUSING COLOR: BLACK, TEXTURED POWDER COAT

MOUNTING ARM BRACKET: (FOR TWIN−FIXTURE ONLY)

CP2408	"CYCLONE LIGHTING" TWIN−FIXTURE MOUNTING ARM, ALUMINUM, 4" ø TENON FOR LUMINAIRES
−C2	CONFIGURATION: DOUBLE FIXTURES AT 180°
−T12	OPTION: MOUNTING ATTACHMENT FOR 4" ø FLUTED POLE
−BK−TX	COLOR: BLACK, TEXTURED POWDER COAT

POLE: (SEE NOTE 1)

PD12	"CYCLONE LIGHTING" POLE, 4" ø FLUTED, ALUMINUM
−10 − 16	HEIGHT (IN FEET)
−TB4	ANCHORAGE: STEEL TENON BASE, 4' TALL (SEE NOTE 2)
−T12	OPTION: (FOR TWIN−FIXTURE ONLY) MOUNTING ATTACHMENT FOR MOUNTING ARM BRACKET
−GFIC2	OPTION: DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (20A)
−BK−TX	COLOR: BLACK, TEXTURED POWDER COAT

BASE COVER:

BD41	"CYCLONE LIGHTING" BASE COVER, ALUMINUM, 17" ø, 39.5" HEIGHT
−BK−TX	COLOR: BLACK, TEXTURED POWDER COAT

BANNER BRACKET: (OPTIONAL)

BA2	"CYCLONE LIGHTING" BANNER ARMS, ALUMINUM, 1" ø RODS, REMOVABLE
−4	POLE DIAMETER (IN INCHES)
−24	BANNER LENGTH (IN INCHES)
−A−P	FINIAL: ALUMINUM (A), PAINTED (P)
−D2	ARM CONFIGURATION: DOUBLE BANNER, TOP AND BOTTOM ARMS
−BK−TX	COLOR: BLACK, TEXTURED POWDER COAT

PARK/PATHWAY LIGHTING PARTS:

LIGHT FIXTURE:

ARE−EDR	"CREE" EDGE SERIES
−5M	OPTICS: TYPE V MEDIUM (5M)
−R3	MOUNTING: SPIDER, CENTER TENON, 2⅜" TO 3" O.D.
−06	LED COUNT (x10): 60 LEDs (06)
−E	SERIES
−UL	VOLTAGE: UNIVERSAL 120−277V
−BK	COLOR: BLACK
−40K	COLOR TEMPERATURE: 4,000K
−525	DRIVE CURRENT (IN mA)
−P	OPTION: PHOTOCELL

POLE: (SEE NOTE 1)

PA40	"CYCLONE LIGHTING" POLE, 4" ø STRAIGHT, ALUMINUM
−12	HEIGHT (IN FEET)
−TN32	OPTION: POST TOP TENON, 3" ø, 2" HEIGHT
−BK−TX	COLOR: BLACK, TEXTURED POWDER COAT
−R30	REDUCER: 3" ø

BASE COVER:

BD11	"CYCLONE LIGHTING" BASE COVER, 15" ø, 9.5" HEIGHT
−BK−TX	COLOR: BLACK, TEXTURED POWDER COAT

STANDARD STREET LIGHTING PARTS:

LIGHT FIXTURE:

RSWM	"CREE" RSW SERIES, MEDIUM
−A	VERSION
−HT	MOUNTING: HORIZONTAL TENON
−3ME	OPTICS: TYPE iii MEDIUM (3ME)
−9L	LUMEN PACKAGE: 9,050 LUMENS
−40K7	CCT AND CRI: 4,000K (40K), 70 CRI (7)
−UL	VOLTAGE: UNIVERSAL 120−277V
−GY	COLOR: GRAY (GY)
−N	RECEPTACLE: NEMA 7−PIN PHOTOCELL
−Q	OPTION: FIELD−ADJUSTABLE LUMEN OUTPUT

POLE: SEE SHEET 4

NOTES

1. IF POLE ANCHORAGE IS NOT SPECIFIED, ANCHORAGE SHALL BE ANCHOR PLATE.
2. STEEL TENON BASE (−TB4) ANCHORAGE SHALL BE USED IN TWIN−FIXTURE DECORATIVE LIGHTING POLE WITH POLE HEIGHT GREATER THAN 10' AND/OR WITH BANNER ATTACHED.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

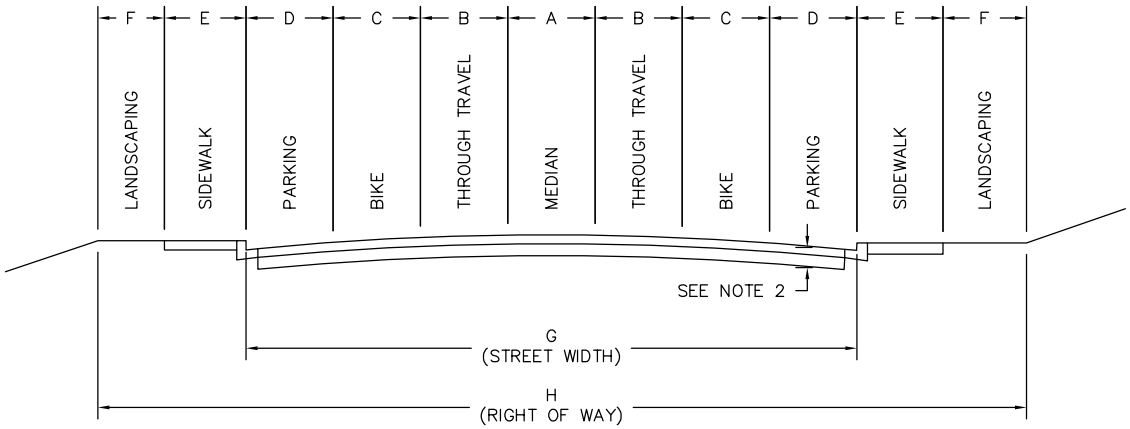
DRAWN BY:
CHECKED BY: MK
DATE: 2019−01−11
SCALE: NONE

STANDARD DETAIL

LIGHTING PARTS SPECIFICATIONS

SHEET 6 OF 6

T−5



TYPICAL STREET SECTION

SCALE: NTS

NOTES

1. SEE SHEET 2 FOR WIDTHS.
2. STRUCTURAL SECTION BASED ON R-VALUE. 3" MINIMUM AC DEPTH.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: JR	STANDARD DETAIL	SHEET 1 OF 2
				CHECKED BY: MK	TYPICAL STREET SECTION	T-6
				DATE: 2019-01-11		
				SCALE: NTS		

Street Classification		ADT [1] (vehicles per day)	Minimum Traffic Index (T.I.)	Minimum Design Speed (mph)	Maximum Grade (%)	Widths (feet)							
						A	B	C	D	E	F	G	H
						Median Lane [8]	Through Travel Lanes [9]	Bike Lanes/ Shoulders [9]	Parking Lanes [9]	Sidewalks or Landscaping [2,9]	Landscaping or Sidewalks [2,9]	Street [10]	Right-of-Way [11]
Residential	Private Driveway (serving 2 or more parcels) [3,5]	<40		20	15		7					14	14
	Private Roadway [4,5]	40 to 1000		20	15		10					20	20
	Cul-de-Sac [4]	<200	4.0	20	15		10		8	6		36	48
	Local	< 1000	4.5	30	12		10		8	6		36	48
	Minor Collector	1000 to 3000	6.0	30	11		12		8	6		40	52
	Major Collector (without abutter's rights)	3001 to 5000	7.0	40	9		12	6		5	6	36	58
	Major Collector (with abutter's rights)	3001 to 5000	7.0	40	9	12	12	5	8	6	5	62	84
	Arterial	>5000	8.0	55	7	16	24	8		10	10	80	120
Non-Residential	Local	<1000	7.0	30	8		12		8	10	5	40	70
	Collector	1000 to 5000	8.0	40	8		12	5	9	10	5	52	82
	Major Arterial	>5000	9.5	55	7	16	25	8		10	10	82	122
Hillside	Private Driveway (serving 2 or more parcels) [3,5,6]	<40		20	17		7					14	14
	Private Roadway [4,5,8]	40 to 1000		20	16		10					20	20
	Cul-de-Sac [4,6,7]	<200	4.0	25	15		10		6	5		32	42
	Local [6,7]	< 1000	4.5	25	14		10		6	5		32	42
	Minor Collector [6,7]	1000 to 3000	6.0	30	12		11		7	5		36	46
	Major Collector (without abutter's rights) [6]	3001 to 5000	7.0	30	11		11	5		5	6	32	54
	Major Collector (with abutter's rights) [6,7]	3001 to 5000	7.0	30	11	11	11	4	8	6	5	57	79
	Arterial [6]	>5000	8.0	40	8	16	24	6		5	6	76	98

(1) Projected Average Daily Traffic. Using current Institute of Transportation Engineer's (ITE) trip generation rates.
(2) Sidewalk located adjacent to curb when ADT ≤ 5000 vpd or where abutter's rights have been relinquished, otherwise landscaping located between curb and sidewalk.
(3) Maximum length of Private Driveway = 150 feet.
(4) Maximum length of Public or Private Cul-de-Sac/Dead End street = 700 feet.
(5) Private access to multiple parcels must be approved by the City Engineer
(6) Hillside Development Standards apply above 500 foot elevation.
(7) Parking lane and sidewalk may be eliminated on one side of street where grading does not allow development.
(8) 11' or 12' = painted median; 16' = raised median
(9) Both sides
(10) Face of curb / Edge of pavement to Face of curb / Edge of pavement. A+2B+2C+2D
(11) P.U.E.'s and slope grading not included. A+2B+2C+2D+2E+2F

DRAFT

APPROVED

DATE

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	MEDIAN LANE WIDTHS

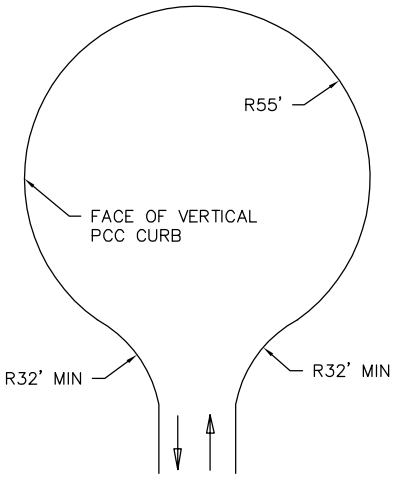
DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

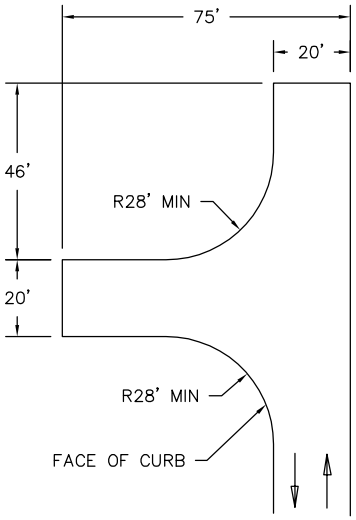
TYPICAL STREET SECTION

SHEET 2 OF 2

T-6



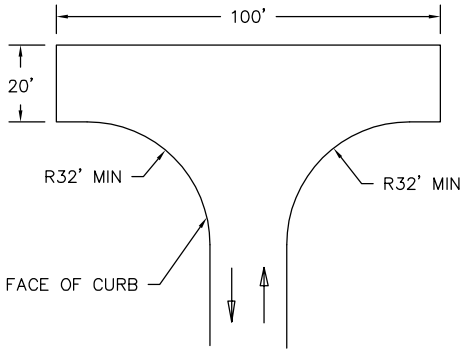
CUL–DE–SAC
SCALE: NTS



SHUNT
SCALE: NTS

NOTES

1. CUL–DE–SAC MUST BE USED UNLESS T–TURN OR SHUNT IS APPROVED BY THE CITY ENGINEER



T–TURN
SCALE: NTS

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

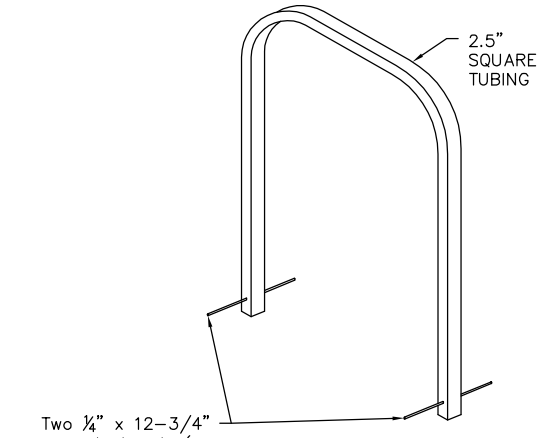
DRAWN BY:	JR
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

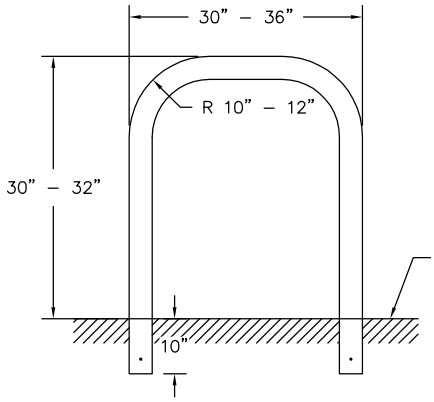
CUL–DE–SAC AND TURNAROUNDS

SHEET 1 OF 1

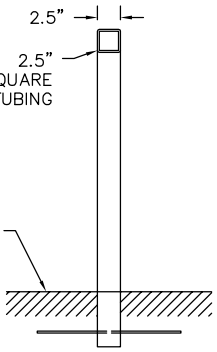
T–7



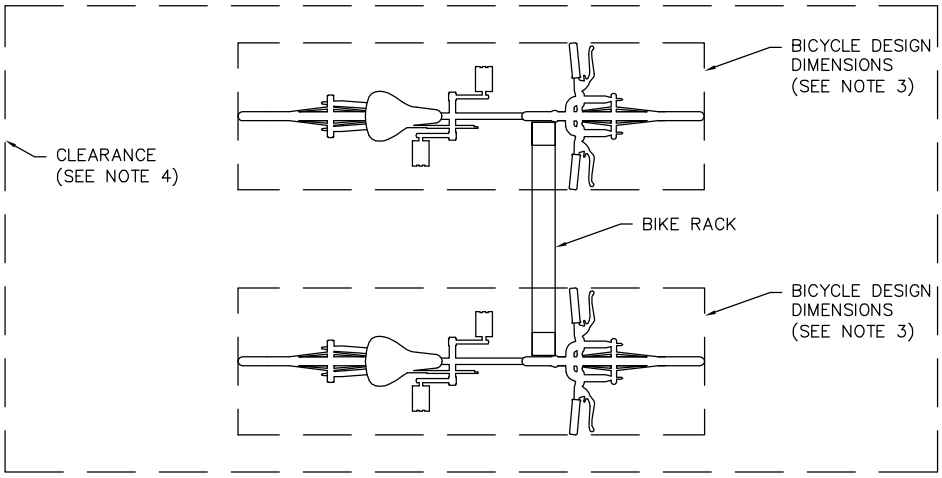
ISOMETRIC VIEW
SCALE: NTS



FRONT VIEW
SCALE: NTS



SIDE VIEW
SCALE: NTS



INVERTED–U BIKE RACK
TWO BICYCLES PER RACK

NOTES

1. BIKE RACK TO BE GALVANIZED, PAINTED, OR POWDER COATED TO MATCH SURROUNDING IMPROVEMENTS.
2. BIKE RACKS SHOULD BE LOCATED TO MAXIMIZE VISIBILITY, NOT OBSTRUCT PEDESTRIAN TRAFFIC OR FIRE HYDRANTS, AND AS CLOSE AS PRACTICAL TO BUILDING ENTRANCES.
3. BICYCLE DESIGN DIMENSIONS ARE 72" X 24" IN PLAN VIEW. ADDITIONAL CLEARANCE REQUIRED FOR MANEUVERING IS 48" LONGITUDINALLY AND 24" TRANSVERSELY.
4. FOOTPRINT OF BIKE RACK WITH TWO BICYCLES AND REQUIRED CLEARANCES IS 120" X 72".
5. MINIMUM SPACING BETWEEN BIKE RACKS IS 30".
6. MINIMUM STREET SETBACK IS 36".

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AW	STANDARD DETAIL	SHEET 1 OF 1
	1	2019–01–11	UPDATED STD DETAIL	CHECKED BY: MK	BIKE RACK	T–9
				DATE: 2019–01–11		
				SCALE: NTS		

TEMPORARY TRAFFIC CONTROL PLAN (TTCP) CHECKLIST

No traffic control may be implemented on City streets without City approval.

This checklist is provided to assist Developers and Contractors in developing acceptable Temporary Traffic Control Plans (TTCP's) for encroachments onto City right-of-way. Please refer to the California Manual of Uniform Traffic Control Devices (MUTCD), Part 6: Temporary Traffic Control, for basic information on preparing TTCP's and typical TTCP examples (www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm).

Contractor is responsible for inspecting any approved traffic detour routes to insure adequate horizontal and vertical clearances are maintained from obstructions (e.g., poles and overhanging tree limbs).

Lane Closures

- ☐ Except for emergencies or unless otherwise specified:
  - No lane closures will be allowed on weekdays from 6:00 AM to 8:30 AM, or from 3:30 PM to 6:00 PM.
  - Two-lane closures and lane closures with reversible control will not be allowed on weekdays before 9:00 AM, or after 3:00 PM.

Road Closures

- ☐ Except for emergencies or unless otherwise specified:
- ☐ Full road closures may only be used when no other types of temporary traffic control are feasible for the work involved.
- ☐ Detour routes and notification plans must be submitted to the City at least two weeks in advance.
- ☐ The road closure(s) must be limited in duration and area as practicable.

Construction Activity

- ☐ Show the exact location of the work zone and how it is to be protected (e.g., cones, barricades, k-rail) during construction.
- ☐ Show construction schedule, work hours, and all times TTCP will be in effect.
- ☐ Include details on construction activity and equipment being used within street right-of-way. Specify how the work area will be protected at night (e.g., trench plates).
- ☐ If work is to be done in phases, submit separate TTCP's for each phase of work.
- ☐ All detour signs must be removed or covered when detour is not in effect.
- ☐ Traffic Control Devices
- ☐ Every roadside sign on the TTCP should include the MUTCD sign number, dimension and description.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 1 OF 2
				CHECKED BY: MK	TEMPORARY TRAFFIC CONTROL PLAN CHECKLIST	T-10
				DATE: 2019-01-11		
				SCALE: NONE		

TEMPORARY TRAFFIC CONTROL PLAN (TTCP) CHECKLIST (CONT'D)

- ☐ A Flashing Arrow Sign/Board (FAS) must be used for all lane/street closures, and for lane/street detours on the following streets. (Include size, panel display and exact location on the TTCP).

  - Railroad Avenue/Kirker Pass Road
  - Bailey Road
  - Somersville Road
  - Loveridge Road
  - West/East Leland Road
  - Buchanan Road
  - Power Avenue
  - San Marco Boulevard
  - Harbor Street
  - North Parkside Drive
  - Willow Pass Road
  - Pittsburg–Antioch Highway
  - California Avenue
  - Century Boulevard
  - West/East Tenth Street

- ☐ Flaggers should be identified where required and their position shown on the TTCP.

- ☐ Show dimensions and locations of all channelizing devices, warning lights, flag trees, and portable barriers on the TTCP. All devices must comply with California MUTCD.

Traffic Signal Operation and Equipment

- ☐ Include location of all traffic signals and traffic signal detection devices within the traffic control area.

- ☐ If special signal timing is required in the TTCP, specify all changes and their effects. This includes changing signal operations to flashing red, recall or fixed time.

Pedestrian/Bicycle Safety

- ☐ Pedestrians and bicyclists must have a safe route to walk/ride through and/or around the work area wherever practicable.

- ☐ Show all pedestrian/bicycle entries, detours, paths and exits on the TTCP.

- ☐ Clearly show description and location of all traffic control devices, including fences and barricades, within the pedestrian's/bicyclists safe route to walk/ride on the TTCP.

Parking Restrictions

- ☐ Parking restrictions must be clearly posted a minimum of 48 hours before work begins. Their implementation will be at the expense of the contractor/developer.

- ☐ All legal parking areas must be maintained unless signs are posted. Access to legally parked vehicles' doors and storage areas must also be maintained.

- ☐ Parking restrictions must be limited in time as practicable. Restrictions may only be used when there are no other types of traffic control feasible for the work involved, and parking demand can be reasonably accommodated.

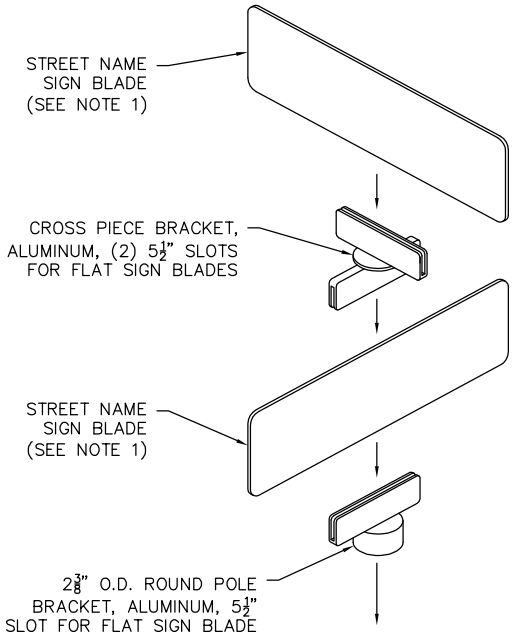
Please contact the Traffic Engineering Division at (925) 252–4930 for any questions related to TTCP's, including closures, traffic signal operations, and temporary "No Parking" signs.

Please allow five (5) working days for the City to review the TTCP. Once the TTCP is approved it must be available for inspection on–site at all times. Should City staff on the job site find potential hazards with an approved TTCP, City may require changes to the TTCP to maintain safety.

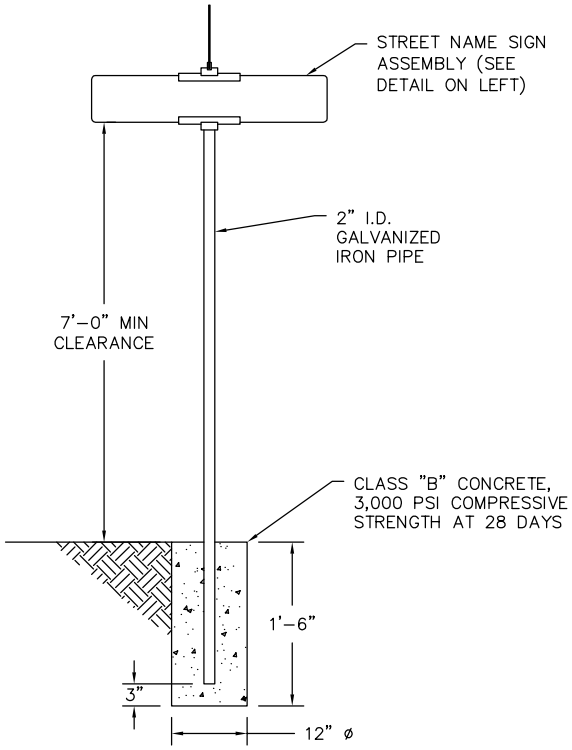
APPROVED _____ DATE _____

DRAFT

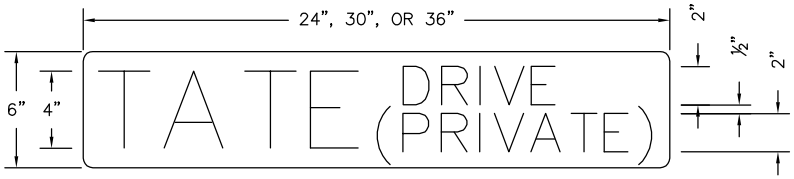
CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY:	STANDARD DETAIL	SHEET 2 OF 2
	1	2019–01–11	ADDED SAN MARCO BLVD	CHECKED BY: MK	TEMPORARY TRAFFIC CONTROL PLAN CHECKLIST	T–10
				DATE: 2019–01–11		
				SCALE: NONE		



STREET NAME SIGN ASSEMBLY



POLE & FOOTING DETAIL



PRIVATE STREET LETTERING
(SEE NOTE 4)

NOTES

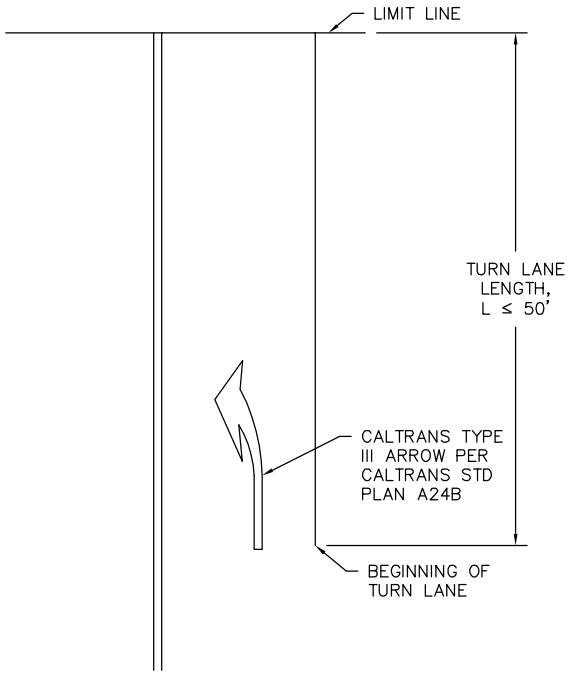
1. STREET NAME SIGN BLADE SHALL BE MADE ON FLAT ALUMINUM PLATE WITH A THICKNESS OF 0.080" AND DOUBLE-FACED. SIGN FIELD TO BE GREEN, HIGH-INTENSITY PRISMATIC (HIP) SHEETING AND SHALL ALLOW 1" (MIN) MARGIN AROUND LETTERING. LETTERING TO BE 4" UPPERCASE, WHITE, GOTHIC (SEE NOTE 4).
2. CITY-APPROVED STREET NAME SIGN PARTS (OR APPROVED EQUALS) TO BE USED. SEE TABLE 1 FOR LIST OF CITY-APPROVED PARTS.
3. STANDARDS SHALL BE 2" I.D. GALVANIZED IRON PIPE.
4. LETTERING ON "PRIVATE STREET" SIGNS SHALL HAVE 4" LETTER HEIGHT FOR NAME AND 2" LETTER HEIGHT FOR SUFFIX (LANE, COURT, ETC.) AND THE WORD "PRIVATE". "PRIVATE" SHALL BE PARENTHESIZED.
5. PROPERTY OWNER(S) ON A "PRIVATE STREET" SHALL BE RESPONSIBLE FOR PROPER MAINTENANCE OF THE PRIVATE STREET SIGN. IT SHALL BE MOUNTED WITHIN THE PRIVATE RIGHT OF WAY.

TABLE 1: CITY-APPROVED STREET NAME SIGN PARTS	
POLE BRACKET	"TAPCO" 2⅜" OD ROUND POLE BRACKET, 5½" FLAT SLOT, UNPAINTED (P/N: 037-00022)
CROSS PIECE BRACKET	"TAPCO" CROSS PIECE BRACKET, 5½" FLAT SLOT, UNPAINTED (P/N: 037-00021)

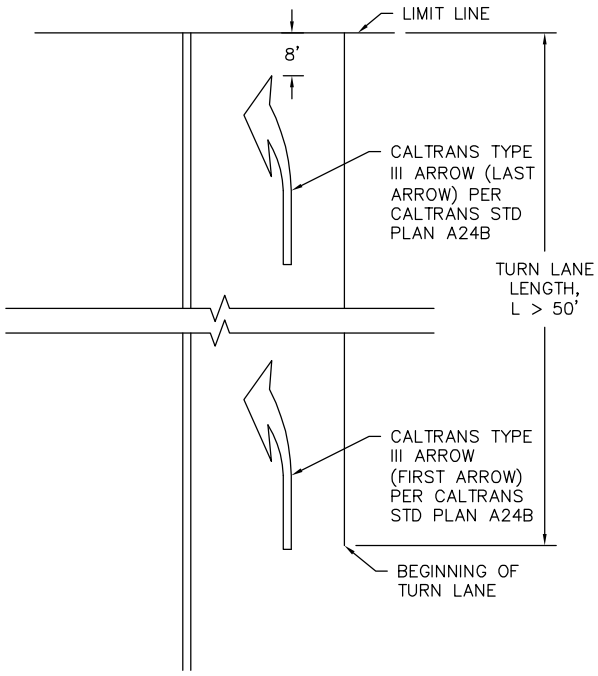
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AW CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL STREET NAME SIGN	SHEET 1 OF 1 T-11



TURN LANE (L ≤ 50')
(LEFT TURN LANE SHOWN)



TURN LANE (L > 50')
(LEFT TURN LANE SHOWN)

NOTES

1. TURN ARROW PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. SEE TABLE 1 FOR NUMBER OF ARROWS TO BE INSTALLED PER TURN LANE.
3. THE FIRST ARROW SHALL BE PLACED AT THE BEGINNING OF THE TURN LANE. IF APPLICABLE, THE LAST ARROW SHALL BE PLACED 8' BACK FROM THE LIMIT LINE. ANY ADDITIONAL ARROWS SHALL BE SPACED EVENLY BETWEEN THE FIRST ARROW AND LAST ARROW.

TABLE 1: TURN ARROW COUNT	
TURN LANE LENGTH, L	NUMBER OF TURN ARROWS
1' – 50'	1
51' – 100'	2
101' – 150'	3
151' – 200'	4
...	...
L	roundUp(L/50')

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

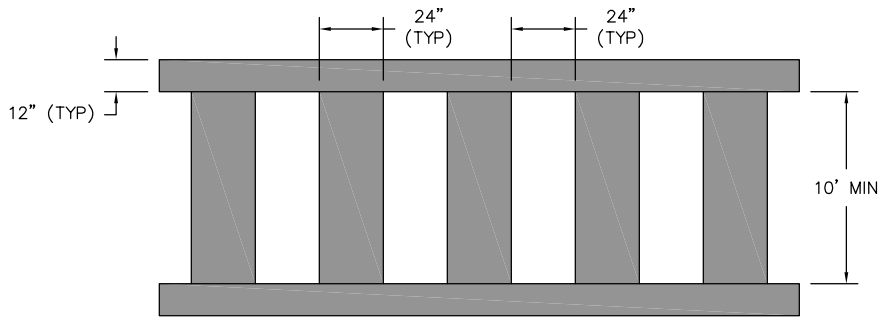
DRAWN BY: AW
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

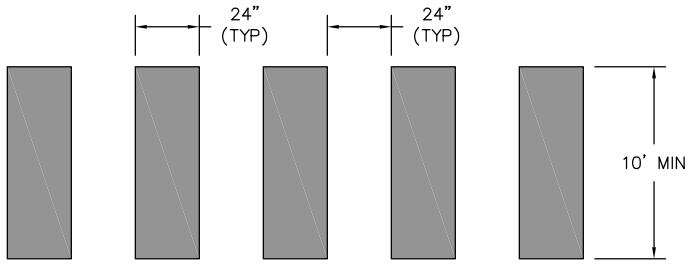
TURN ARROW LAYOUT

SHEET 1 OF 1

T-12



LADDER CROSSWALK



CONTINENTAL CROSSWALK

LEGEND

THERMOPLASTIC PAVEMENT MARKING

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

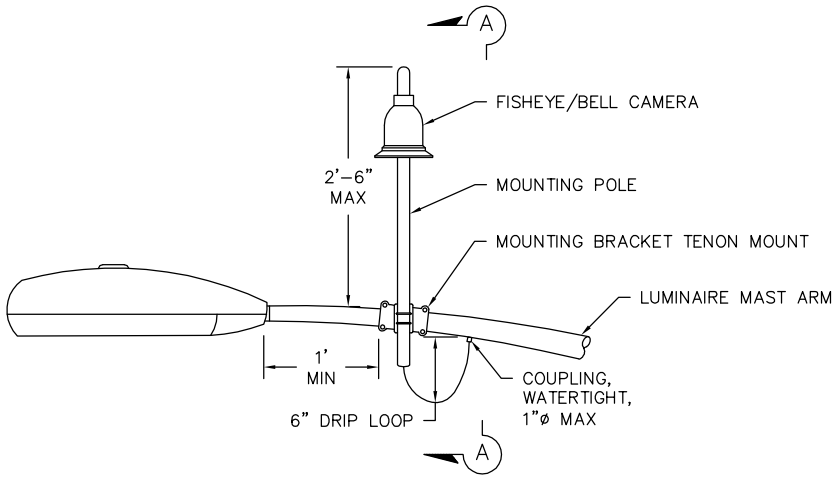
DRAWN BY:	AW
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

HIGH VISIBILITY CROSSWALKS

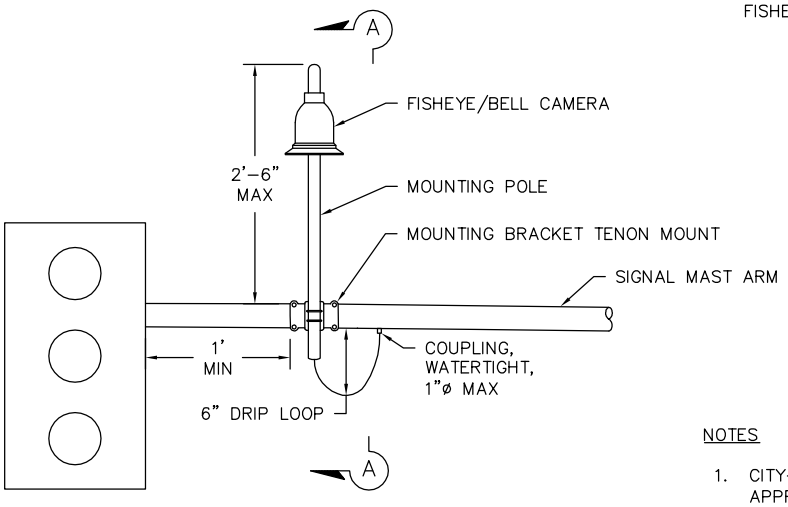
SHEET 1 OF 1

T-13



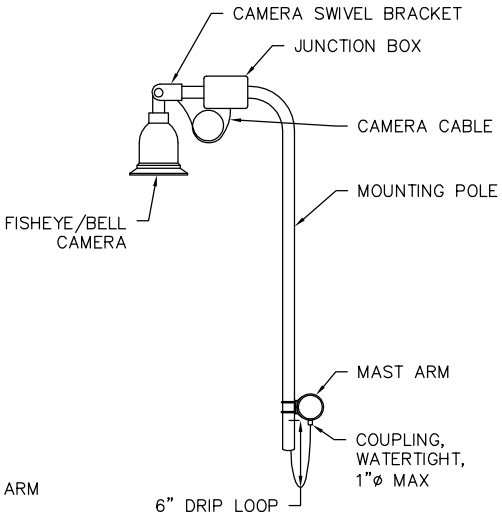
LUMINAIRE MAST ARM MOUNT

("GRIDSMART" BELL CAMERA SHOWN)



SIGNAL MAST ARM MOUNT

("GRIDSMART" BELL CAMERA SHOWN)



SECTION A-A

("GRIDSMART" BELL CAMERA SHOWN)

NOTES

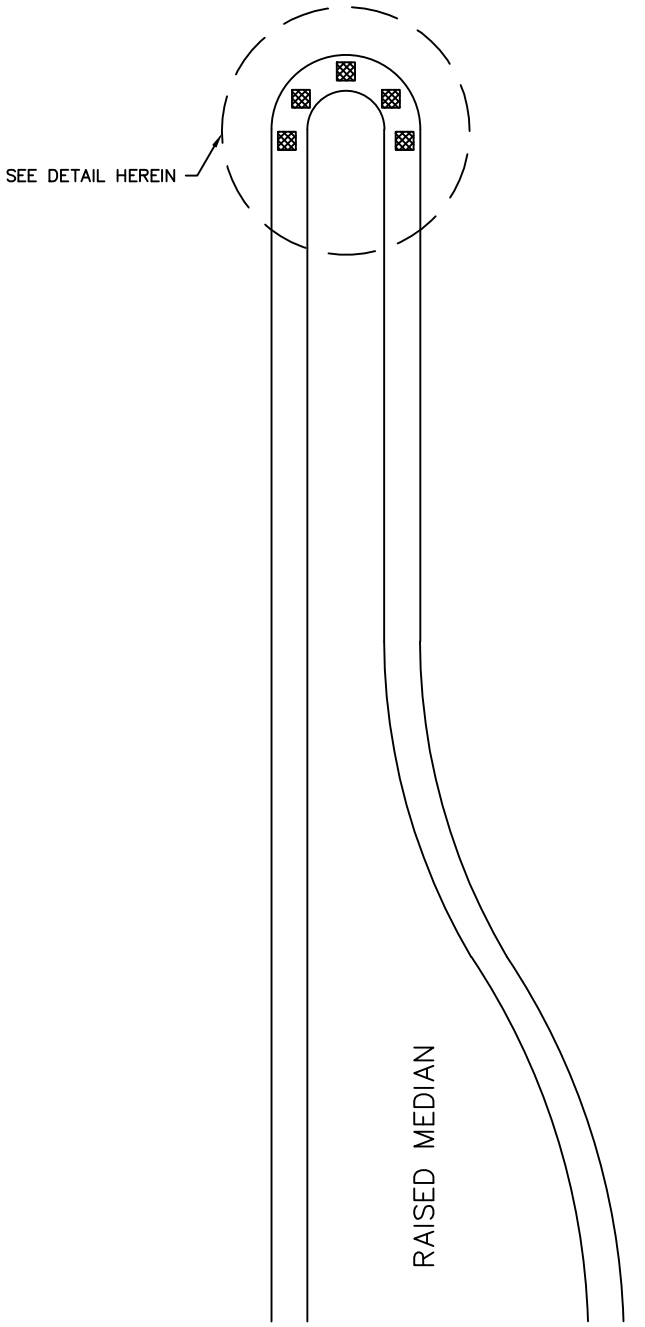
1. CITY-APPROVED VIDEO DETECTION SYSTEM (OR APPROVED EQUAL) TO BE USED. SEE TABLE 1.
2. VIDEO DETECTION SYSTEM TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

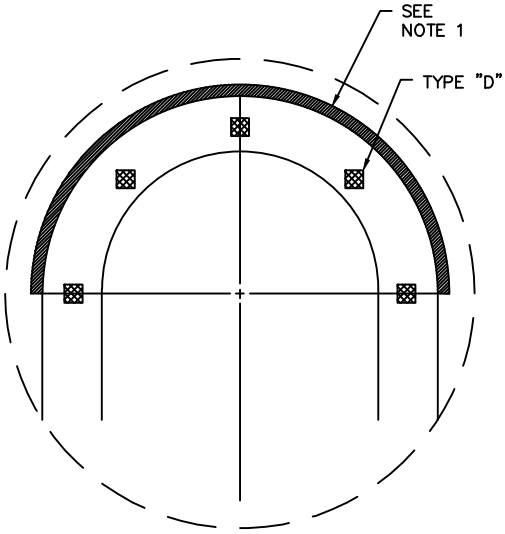
TABLE 1: CITY-APPROVED VIDEO DETECTION SYSTEM PARTS	
CAMERA	"GRIDSMART" FISHEYE CAMERA (P/N: GS-3-CAM)
PROCESSING UNIT	"GRIDSMART" GS2 PROCESSOR (P/N: GS-3-GS2)
CAMERA MOUNTING BRACKET	"GRIDSMART" SWIVEL BRACKET CAMERA MOUNTING HARDWARE W/ JUNCTION BOX & CONNECTOR (P/N: GS-3-SMC)
ARM POLE	"GRIDSMART" CAMERA MOUNTING ARM POLE (90°), 58"/34" (P/N: GS-3-A58/A34)
ARM POLE MOUNT CLAMP	"GRIDSMART" STANDARD TENON MOUNT CLAMP (P/N: GS-3-TEN) "SKYBRACKET" STANDARD TENON MOUNT CLAMP (P/N: SB-TM-SCK) "ASTRO-BRAC" STANDARD TENON MOUNT CLAMP (P/N: AB-3010)
ARM POLE	"GRIDSMART" CAMERA MOUNTING ARM POLE (90°), 58"/34" (P/N: GS-3-A58/A34)

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AW CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL VIDEO DETECTION SYSTEM	SHEET 1 OF 1 T-14





MEDIAN NOSE DETAIL

NOTES

1. PAINT MEDIAN NOSE WITH YELLOW TRAFFIC PAINT.
2. INSTALL R4-7 SIGN AND TYPE "N" OBJECT MARKER ON TELESPAR POST. IF MEDIAN IS LESS THAN 2' WIDE, INSTALL FLEXIBLE VERTICAL TYPE "K" MARKER.
3. INSTALL YELLOW REFLECTIVE PAVEMENT MARKERS ON TOP OF SURFACE OF MEDIAN CURB NOSE AT 2' ON CENTER SPACING (MINIMUM 5 MARKERS). PLACE SURFACE MARKER'S REFLECTIVE SURFACE FACING ON COMING TRAFFIC.

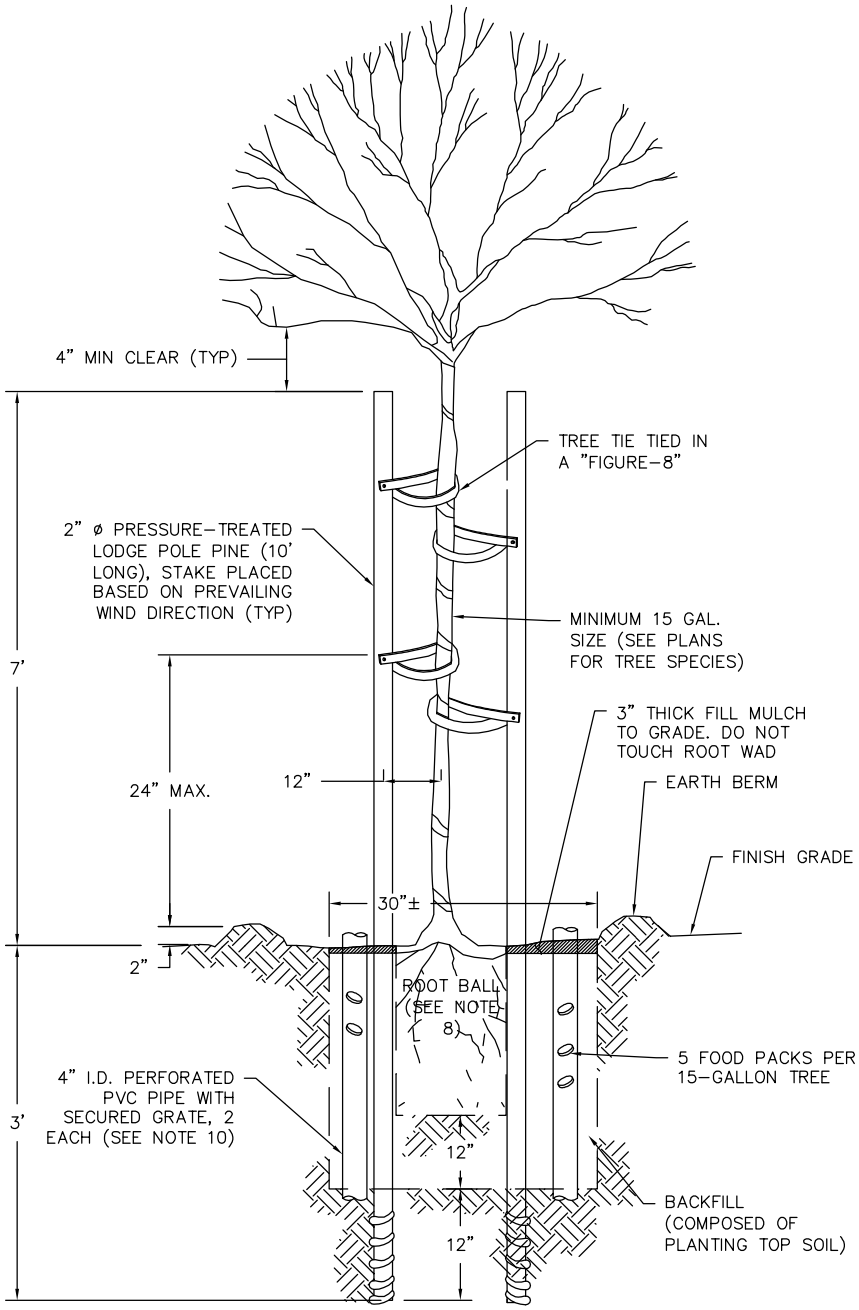
LEGEND

▩ — TYPE "D"" TWO-WAY YELLOW REFLECTIVE MARKER (HIGH INTENSITY)

APPROVED _____ DATE _____

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: RL CHECKED BY: SA DATE: 2022-07-05 SCALE: NTS	STANDARD DETAIL RAISED PAVEMENT MARKERS	SHEET 1 OF 1 T-15

849



NOTES

1. TREE HOLES IN RESIDENTIAL AREAS SHALL BE NOT LESS THAN 18" IN DIAMETER AND NOT LESS THAN 12" DEEPER THAN THE CONTAINER OR ROOT SYSTEM.
2. TREE HOLES IN COMMERCIAL SIDEWALK AREAS SHALL NOT BE LESS THAN 30" IN DIAMETER, AND NOT LESS THAN 12" DEEPER THAN THE CONTAINER OR ROOT SYSTEM.
3. ONE STREET TREE SHALL BE PROVIDED PER RESIDENTIAL LOT PER STREET, OR AS SHOWN ON PLANS APPROVED BY THE CITY ENGINEER.
4. TREE TIES SHALL BE RUBBER OR, APPROVED EQUAL AND SHALL BE A MINIMUM OF 18" LONG, AND BE SECURELY FASTENED TO THE STAKE WITH 1½" GALVANIZED ROOFING NAILS.
5. A ROOT PROTECTOR "DEEP ROOT PLANTER" OR EQUAL SHALL BE INSTALLED FOR ALL TREES IN SIDEWALK AREAS. SEE CITY STANDARD DETAIL L-3 FOR ROOT BARRIER DETAIL.
6. TREES SHALL BE PLANTED AT 10' MIN. CLEAR FROM WALLS, FENCES, TABLES, BENCHES, LIGHT BOLLARDS, DRINKING FOUNTAINS, ETC.
7. NO TREES SHALL BE PLANTED WITHIN 5' OF EXISTING OR DESIGNED JOINT TRENCH UTILITY, 35' FROM STREET INTERSECTION, AND 20' FROM STREETLIGHT.
8. SET TREES ROOT BALL 3" ABOVE GRADE; SCARIFY ROOT WALLS AND BOTTOM OF HOLE; SQUARE-OFF HOLE.
9. PRIOR TO EXCAVATION OF NEW TREE, CONTRACTOR SHALL USA TO VERIFY LOCATION OF ALL NEARBY EXISTING UTILITIES.
10. 4" PERFORATED PVC PIPE SHALL EXTED 6" BEYOND ROOT BALL, SHALL BE FILLED WITH ¾" DRAIN ROCK, AND SHALL INCLUDE SECURED GRATE (COLOR: PURPLE). SEE CITY STANDARD DETAIL I-14 FOR TREE BUBBLER.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	NOTES 9&10, ADDED MULCH

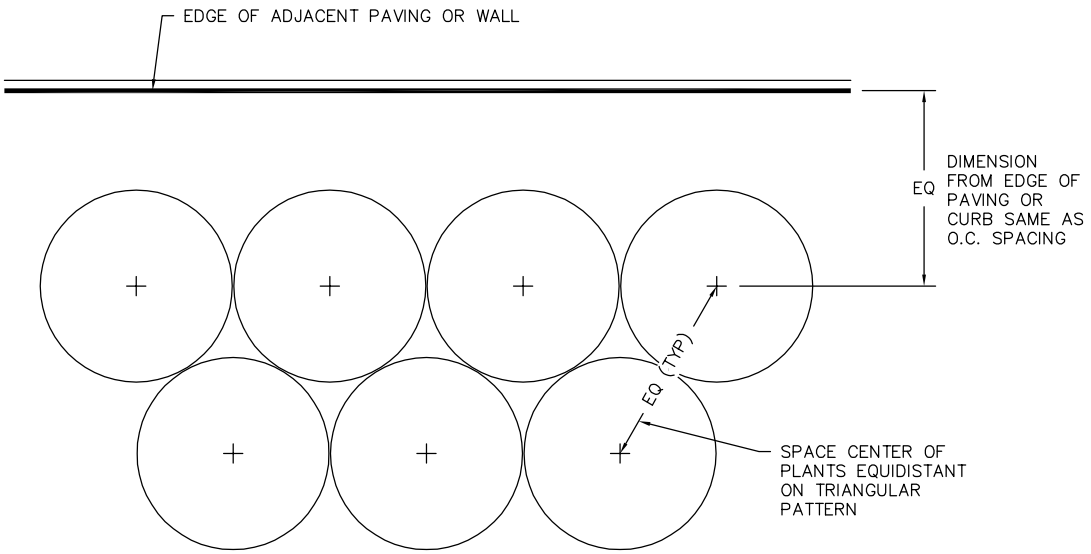
DRAWN BY: ALA
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

TREE PLANTING

SHEET 1 OF 1

L-1



PLAN VIEW

SCALE: NTS

NOTES

1. FOR MEDIANS, THE MATURE HEIGHT OF SHRUBS SHALL NOT EXCEED 4' RELATIVE TO THE GRADE OF PAVEMENT IN THE TRAVEL LANE.
2. MAINTAIN MINIMUM SIGN DISTANCE FOR CURB RETURNS AND MEDIANS.
3. SHRUBS SHALL BE LOCATED 3' MINIMUM AWAY FROM ROADSIDE SIGNS.

APPROVED _____ DATE _____

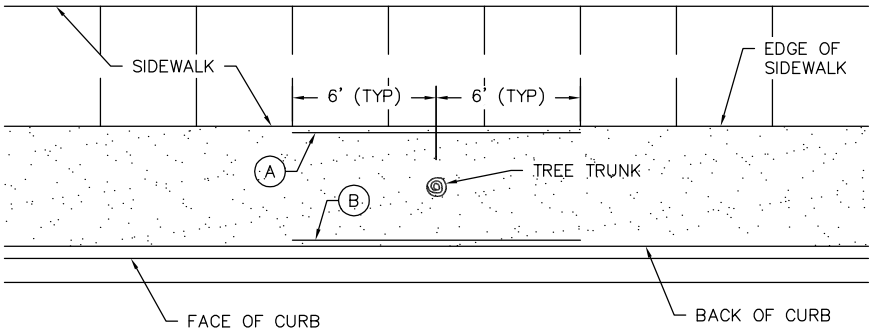
DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: ALA	STANDARD DETAIL	SHEET 1 OF 1
	1	2019-01-11	NOTES 2&3	CHECKED BY: MK	GROUNDCOVER & SHRUB SPACING	L-2
				DATE: 2019-01-11		
				SCALE: NTS		

LEGEND

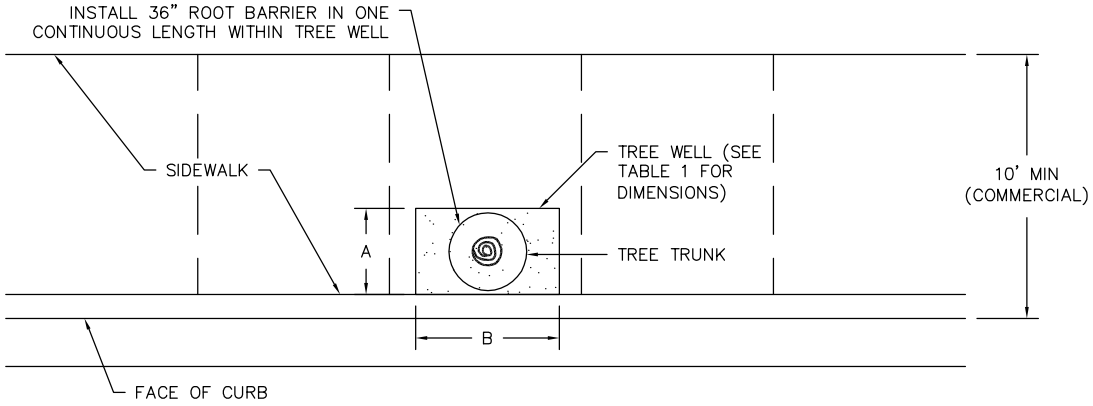
(A) INSTALL 24" DEEP ROOT BARRIER AT EDGE OF SIDEWALK

(B) INSTALL 36" DEEP ROOT BARRIER AT BACK OF CURB



DETACHED SIDEWALK

PLAN VIEW



MONOLITHIC CURB AND SIDEWALK

PLAN VIEW

TABLE 1: TREE WELL DIMENSIONS		
	A	B
SMALL TREE	3'	3'
MEDIUM TREE	4'	4'
LARGE TREE	4'	6'

NOTES

1. ROOT BARRIERS SHALL BE REQUIRED FOR ALL TREES PLANTED WITHIN 5' OF HARDSCAPE.
2. 24" AND 36" ROOT BARRIER SHALL BE HIGH DENSITY AND HIGH IMPACT PLASTIC AS AVAILABLE FROM "DEEP ROOT," VESPRO, INC. OR EQUIVALENT AS APPROVED BY LANDSCAPE DIVISION OF PUBLIC WORKS DEPARTMENT.
3. TOP OF ROOT BARRIER SHALL BE SET ½" ± ABOVE FINISHED GRADE OF SOIL. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE TOP OF ROOT BARRIER EXTEND ABOVE ADJACENT CURB, SIDEWALK OR OTHER HARD SURFACING, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. NO ADDITIONAL PLANTINGS IN TREE WELL.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	TABLE 1

DRAWN BY: ALA
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

ROOT BARRIER

SHEET 1 OF 1

L-3

LARGE TREES					
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3	Utility–Friendly
Cedrus deodara	Deodar Cedar	*	*		
Fraxinus uhdei	Shamel Ash	*			
Liriodendron tulipifera	Tulip Tree	*	*		
Liquidambar styraciflua	Sweet Gum				
Pinus canariensis	Canary Island Pine	*			
Pinus halepensis	Aleppo Pine	*			
Platanus acerifolia 'Bloodgood' / 'Yarwood'	London Plane Tree	*			
Platanus racemosa	California Sycamore	*			
Quercus agrifolia	Coast Live Oak	*			
Quercus lobata	Valley Oak	*			
Sequoia sempervirens	Coast Redwood	*	*		
Sequoiadendron giganteum	Giant Sequoia	*	*		

MEDIUM TREES					
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3	Utility–Friendly
Casuarina cunninghamiana	River She–Oak	*			
Celtis australis	European Hackberry	*			
Cinnamomum camphora	Camphor Tree	*			
Fraxinus angustifolia 'Raywood'	Raywood Ash	*		*	
Ginkgo biloba	Maidenhair Tree	*			
Koelreuteria paniculata	Goldenrain Tree	*			
Morus alba 'Fruitless'	Fruitless Mulberry	*			
Phoenix canariensis	Canary Island Date Palm	*			
Pinus eldarica	Eldarica Pine	*			
Pistacia chinensis	Chinese Pistache	*			
Quercus ilex	Holly Oak	*			
Quercus suber	Cork Oak	*			
Robinia ambigua 'Idahoensis'	Idaho Locust	*			
Salix babylonica	Weeping Willow	*	*		
Schinus molle	California Pepper Tree	*	*		
Washingtonia filifera	California Fan Palm	*			

NOTES

1. FOR LIST OF PLANTS WITH C.3 AREAS, SEE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (LATEST EDITION), ATTACHMENT B–1 "PLANT RECOMMENDATIONS FOR BIORETENTION FACILITIES AND PLANTER BOXES".
2. FOR LIST OF UTILITY–FRIENDLY TREES, SEE SELECTREE: UTILITY PRECAUTIONS AT https://selectree.calpoly.edu/right–tree–right–place/utility–precautions

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	NOTES 1&2

DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

APPROVED PLANT LIST

SHEET 1 OF 6

L–4

SMALL TREES					
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3	Utility–Friendly
Acacia baileyana	Bailey Acacia	*			
Aesculus californica	California Buckeye	*			*
Alnus cordata	European Alder	*			*
Callistemon citrinus	Lemon Bottlebrush	*			
Cercis canadensis	Eastern Redbud				
Cercis occidentalis	Western Redbud	*		*	*
Cotinus coggygria	Smoke Tree	*		*	*
Crataegus phaenopyrum	Washington Hawthorn	*			
Geijera parviflora	Australian Willow	*			
Gleditsia triacanthos inermis	Thornless Honey Locust	*			
Lagerstroemia indica	Crepe Myrtle	*			*
Malus species	Flowering Crabapples	*			*
Maytenus boaria	Mayten Tree	*			
Prunus cerasifera 'Atropurpurea'	Purple–Leaf Cherry Plum	*			
Pyrus calleryana 'Bradford'	Bradford Pear	*			
Pyrus kawakami	Ornamental Pear	*			
Rhus lancea	African Sumac	*			

LARGE SHRUBS				
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3
Arbutus unedo	Strawberry Tree	*		
Chaenomelies species	Flowering Quince	*		
Cotoneaster species	Cotoneaster	*		
Dodonea viscosa 'Purpurea'	Hopseed Bush	*		
Euryops pectinatus 'Viridis'	Euryops Daisy	*		
Fremontodendron californicum	Common Flannel Bush	*		*
Grevillea canberra	Grevellea	*		
Hakea suaveolens	Sweet Hakea			
Heteromeles arbutifolia	Toyon	*		*
Juniperus chinensis 'Torulosa'	Hollywood Juniper	*		
Leptospermum laevigatum	Australian Tea Tree	*		
Ligustrum japonicum	Japanese Privet	*		
Myrica californica	Pacific Wax Myrtle	*		*
Nerium oleander	Oleander	*		
Osmanthus fragrans	Sweet Olive			
Phormium tenax	New Zealand Flax	*		
Photinia fraseri	Red Tipped Photinia	*		
Photinia serrulata	Chinese Photinia	*		
Podocarpus macrophylla	Yew Pine	*		
Prunus lyonii	Catalina Cherry			*
Rhamnus californica	Coffeeberry	*		*
Viburnum tinus	Laurustinus	*		
Westringia rosmariniformus	Westringia	*		
Xylosma congestum	Shiny Xylosma	*		

NOTES

1. FOR LIST OF PLANTS WITH C.3 AREAS, SEE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (LATEST EDITION), ATTACHMENT B–1 "PLANT RECOMMENDATIONS FOR BIORETENTION FACILITIES AND PLANTER BOXES".
2. FOR LIST OF UTILITY–FRIENDLY TREES, SEE SELECTREE: UTILITY PRECAUTIONS AT https://selectree.calpoly.edu/right–tree–right–place/utility–precautions

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	NOTES 1&2

DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

APPROVED PLANT LIST

SHEET 2 OF 6

L–4

SMALL SHRUBS				
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3
Abelia grandiflora 'Edward Goucher'	Glossy Abelia	*		
Berberis thunbergii 'Atropurpurea'	Red Leaf Japanese Barberry	*		
Dwarf nerium	Dwarf Oleander "Petite Pink" and "Petite Salmon"	*		
Feijoa sellowiana	Pineapple Guava	*		
Forsythia suspensa	Weeping Forsythia			
Grevillea noellii	Grevillea	*		
Juniperus horizontalis 'Bar Harbor'	Bar Harbor Juniper	*		
Juniperus horizontalis 'Wiltonii'	Blue Carpet Juniper	*		
Mahonia aquifolium	Oregon Grape	*		
Nandina domestica	Nandina (Compacta And Gulf Stream)	*		*
Pittosporum tobira 'Variegata'	Variegated Pittosporum	*		
Pittosporum tobira 'Wheeleri'	Wheelers Dwarf Pittosporum	*		
Plumbago capensis	Cape Plumbago	*		
Pyracantha coccinea 'Santa Cruz'	Firethorn	*		
Raphiolepis indica	India Hawthorne	*		
Rosa	Carpet Roses (Rosey Carpet, Pink Bells, Essex, Red Meidiland, etc.)	*		
Rosmarinus officinalis	Rosemary (Arp, Blue Boy, etc.)	*		*
Sollya heterophylla	Australian Bluebell Creeper	*		
Tulbaghia violacea	Society Garlic	*		

VINES				
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3
Bougainvillea species	Bougainvillea	*		
Campsis radicans	Trumpet Creeper			
Distictis buccinatoria	Blood Red Trumpet Vine			
Ficus pumila	Creeping Fig	*		
Gelsemium sempervirens	Carolina Jasmine	*		
Jasminum polyanthemum	Pink Jasmine	*		
Lonicera japonica 'Halliana'	Halls Honeysuckle	*		
Macfadyena ungus-cati	Cat's Claw	*		
Passiflora alatocaerulea	Passion Flower	*		
Rosa banksiae	Lady Banks Rose	*		
Wisteria sinensis	Chinese Wisteria	*		
Hardenbergia violacea	Lilac Vine	*		

NOTES

1. FOR LIST OF PLANTS WITH C.3 AREAS, SEE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (LATEST EDITION), ATTACHMENT B-1 "PLANT RECOMMENDATIONS FOR BIORETENTION FACILITIES AND PLANTER BOXES".

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	NOTE 1

DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

APPROVED PLANT LIST

SHEET 3 OF 6

L-4

GROUND COVER				
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3
Acacia redolens	Prostrate Acacia	*		
Ajuga reptans	Carpet Bugle			
Arctostaphylos species	Manzanita	*		*
Asparagus densiflorus 'Sprengeri'	Sprenger Asparagus	*		
Carpobrotus / Delosperma / Lampranthus / Drosanthemum / Mesembryanthemum	Ice Plant	*		
Ceanothus species	Wild Lilac	*		*
Cerastium tomentosum	Snow-In-Summer	*		
Coprosma kirkii	Coprosma	*		
Gazania leucolana	Gazania (Trailing & Clumping)	*		*
Hedera helix	English Ivy	*		
Hypericum calycinium	St. Johns Wort	*		
Lantana montevidensis	Lantana	*		
Myoporum parvifolium 'Prostratum'	Prostate Myoporum	*		
Oenothera berlandieri	Mexican Evening Primrose	*		
Osteopermum fruticosum	Trailing African Daisy	*		
Pelargonium peltatum	Ivy Geranium			
Rosmarinus officinalis	Rosemary	*		*
Trachelospermum jasminoides	Star Jasmine			
Verbena species	Verbena	*		
Vinca major	Big Leaf Periwinkle	*		
Vinca minor	Little Leaf Periwinkle	*		

NOTES

1. FOR LIST OF PLANTS WITH C.3 AREAS, SEE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (LATEST EDITION), ATTACHMENT B-1 "PLANT RECOMMENDATIONS FOR BIORETENTION FACILITIES AND PLANTER BOXES".

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	NOTE 1

DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

APPROVED PLANT LIST

SHEET 4 OF 6

L-4

PERENNIALS				
Botanical Name	Common Name	Drought Tolerant	Not Recommended for Street	C.3
Achillea millefolium	Common Yarrow	*		*
Agapanthus species	Lily–of–the–Nile	*		
Canna lily	Canna Lily			
Chrysanthemum maximum	Shasta Daisy	*		
Chrysanthemum frutescens	Marguerite Daisy	*		
Coreopsis lanceloata	Corepsis			
Dietes species	Fortnight Lily	*		
Felicia amelloides	Blue Marguerite	*		
Henerocallis species	Daylilies	*		
Iberis sempervirens	Evergreen Candytuft	*		
Kniphofia uvaria	Red Hot Poker	*		
Lavandula species	Lavender	*		*
Limonium perezii	Sea Lavender	*		
Liriope muscari	Big Blue Lily Turf			
Pelargonium hortorum	Common Geranium	*		
Petunia hybrida	Petunia			
Romneya coulteri	Matilija Poppy	*		
Salvia species	Sage	*		
Senecio cineraria	Dusty Miller	*		
Viola species	Pansy			
Zantedeschia aethiopica	Common Calla Lily			

NOTES

1. FOR LIST OF PLANTS WITH C.3 AREAS, SEE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (LATEST EDITION), ATTACHMENT B–1 "PLANT RECOMMENDATIONS FOR BIORETENTION FACILITIES AND PLANTER BOXES".

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	NOTE 1

DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

APPROVED PLANT LIST

SHEET 5 OF 6

L–4

MEDIAN TREES	
Botanical Name	Common Name
Lagerstroemia indica	Crape Myrtle
Pyrus calleryana 'Bradford'	Bradford Pear
Pyrus calleryana 'Aristocrat'	Aristocrat Pear
Pinus canariensis	Canary Island Pine

MEDIAN SHRUBS	
Botanical Name	Common Name
Nandina	Gulf Stream Nandina
Pittosporum	Compact Pittosporum
Oleander	Petite Oleander
Rosa	Carpet Rose
Hemerocallis	Dwarf Daylilly
Hemerocallis	Regular Daylilly
Tulbaghia	Society Garlic

MEDIAN VINES	
Botanical Name	Common Name
Parthenocissus tricuspidata	Boston Ivy
Ficus pumila	Fig Vine

MEDIAN GROUND COVER	
Botanical Name	Common Name
Lantana montevidensis	Lantana
Trachelospermum jasminoides	Star Jasmine
Verbena species	Verbena
Gazania leucolana	Gazania
Osteopermum fruticosum	Trailing African Daisy

NOTES

1. FOR LIST OF PLANTS WITH C.3 AREAS, SEE CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK (LATEST EDITION), ATTACHMENT B–1 "PLANT RECOMMENDATIONS FOR BIORETENTION FACILITIES AND PLANTER BOXES".

2. FOR MEDIANS, THE MATURE HEIGHT OF SHRUBS SHALL NOT EXCEED 4' RELATIVE TO THE GRADE OF PAVEMENT IN THE TRAVEL LANE.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019–01–11	NOTES 1&2

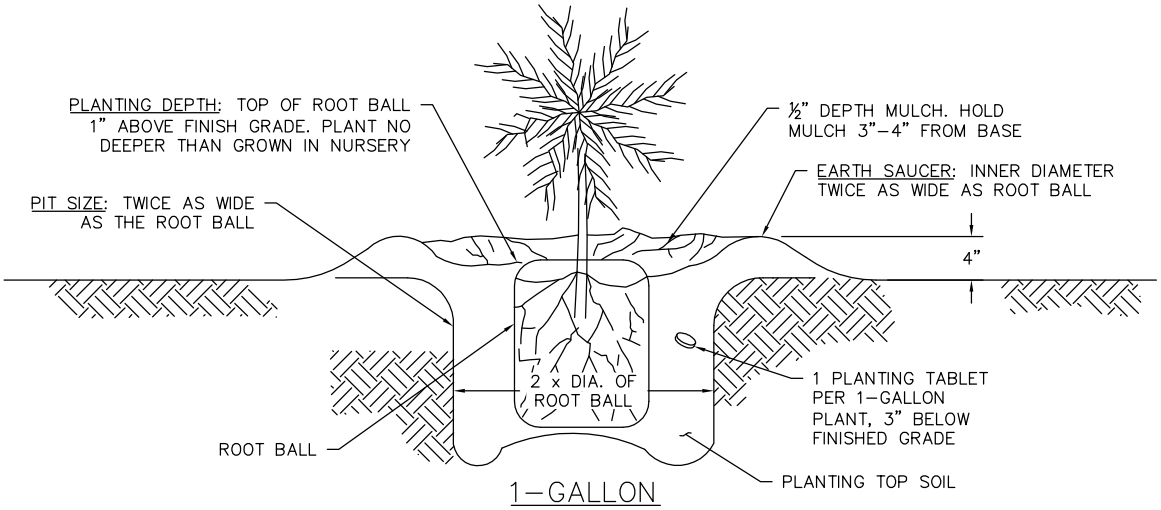
DRAWN BY:
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NONE

STANDARD DETAIL

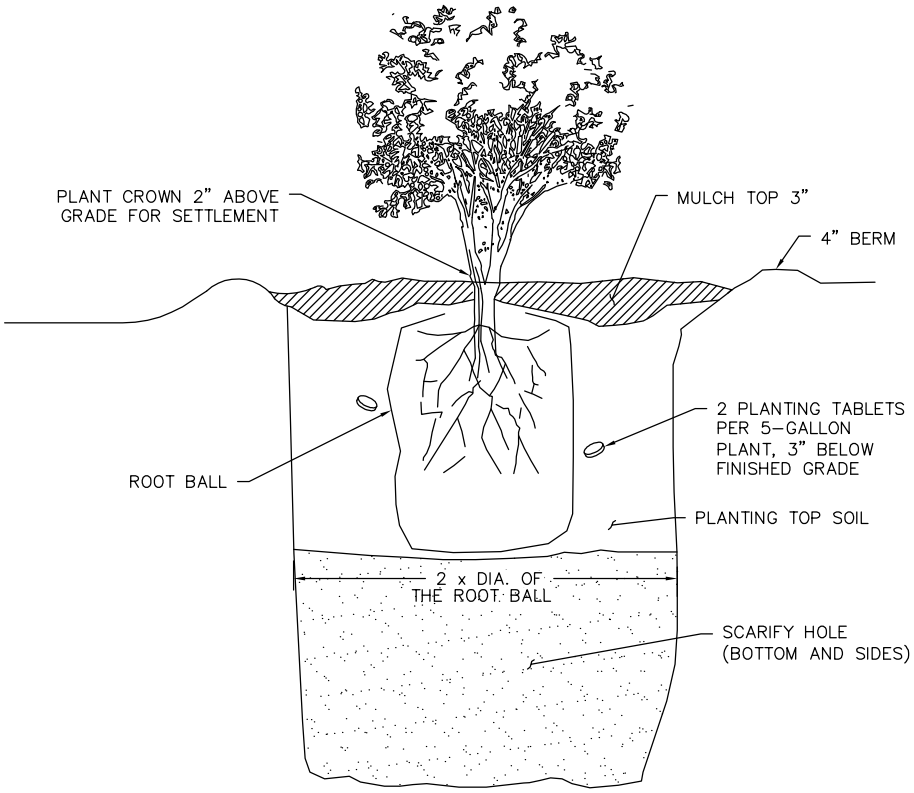
APPROVED PLANT LIST

SHEET 6 OF 6

L–4



1–GALLON



2–GALLON

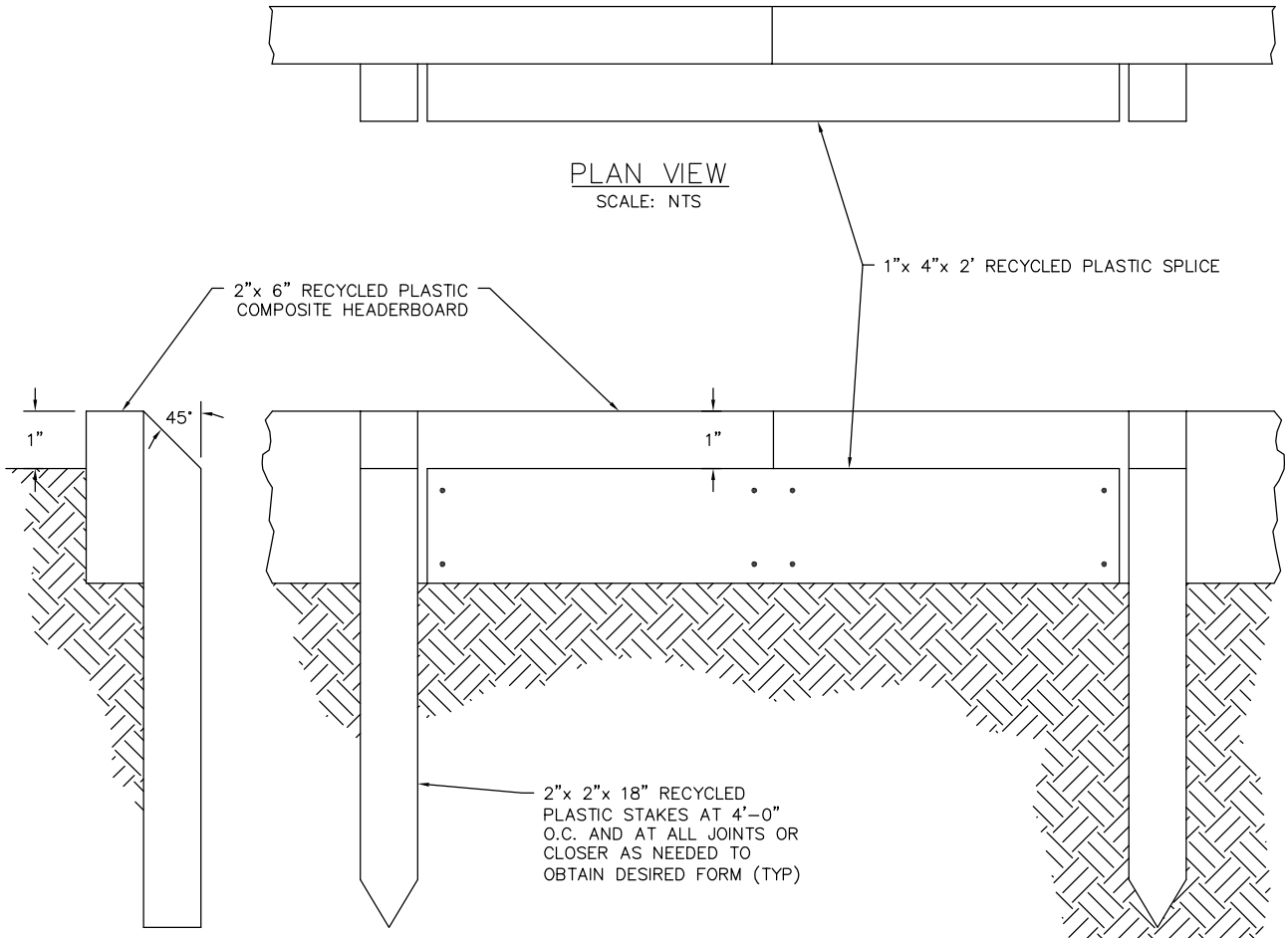
NOTES

1. BACKFILL WITH PLANTING TOP SOIL.
2. PLANTER AREA SHALL HAVE PRE–EMERGENT HERBICIDE APPLIED BEFORE PLANTING TO PREVENT GERMINATION OF WEED SEEDS.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: ALA CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL SHRUB PLANTING	SHEET 1 OF 1 L–5



PLAN VIEW
SCALE: NTS

SECTION VIEW
SCALE: NTS

NOTES

1. INSTALL ALL STAKES AND SPLICES ON PLANTING SIDE OF HEADERBOARD.
2. FASTEN HEADERBOARD WITH HOT DIP GALVANIZED DECK SCREWS.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION
1	2019-01-11	REPLACED REDWOOD

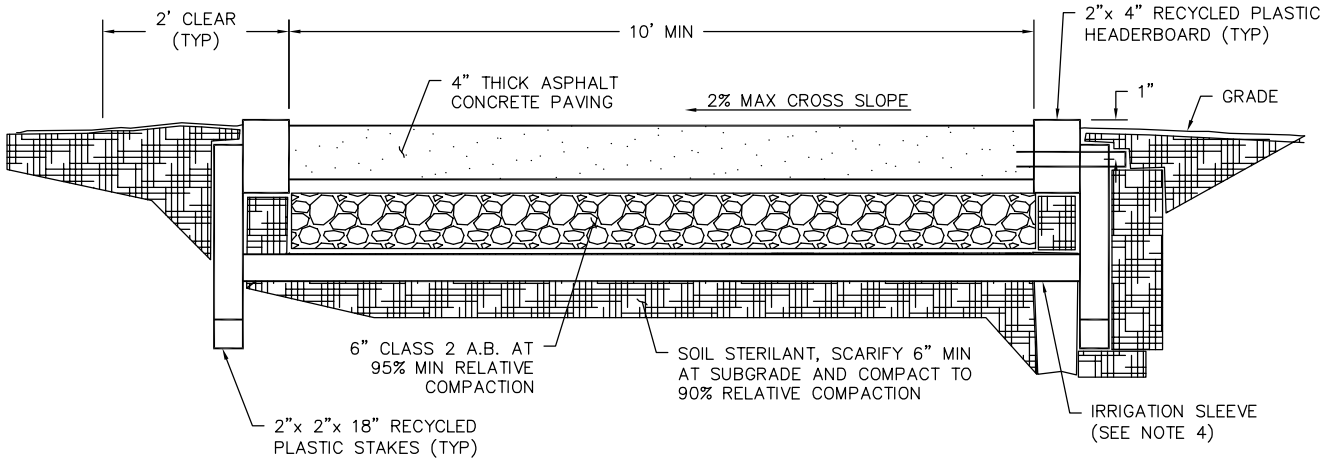
DRAWN BY: ALA
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

HEADERBOARD ON PLANTING AREAS

SHEET 1 OF 1

L-6



SECTION VIEW

SCALE: NTS

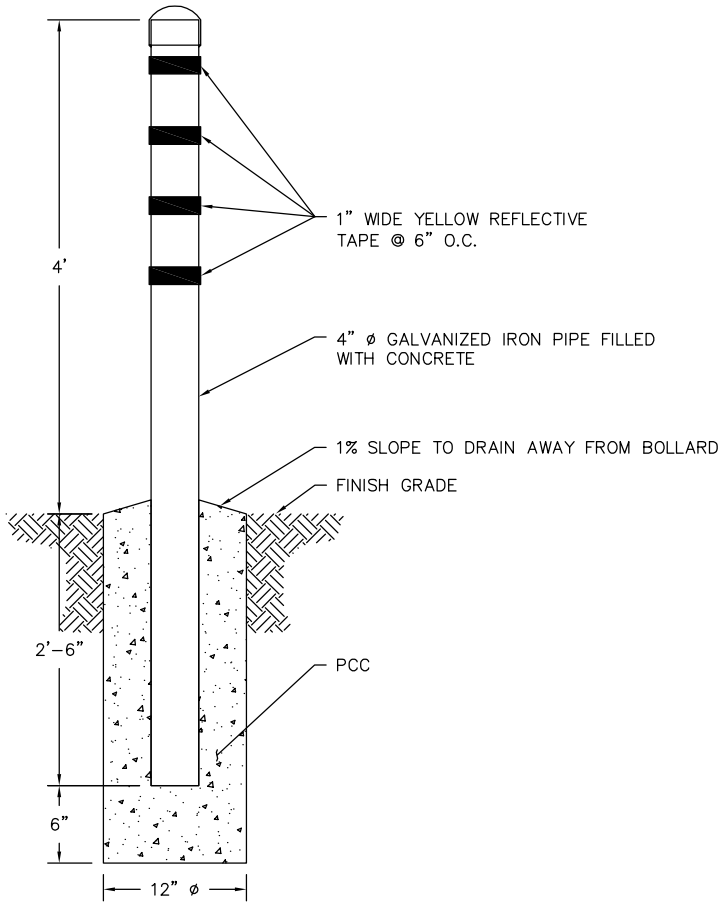
NOTES

1. ALL SCREWS SHALL BE HOT DIP GALVANIZED.
2. THE USE OF RECYCLED AGGREGATE BASE SHALL NOT BE ALLOWED.
3. IRRIGATION SLEEVES SHALL BE CENTERED BETWEEN CONCRETE SECTION JOINTS.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: ALA	STANDARD DETAIL	SHEET 1 OF 1
	1	2019-01-11	REPLACED REDWOOD ADDED SLEEVE	CHECKED BY: MK		
				DATE: 2019-01-11	ASPHALT CONCRETE WALK	L-7
				SCALE: NTS		



SECTION VIEW

SCALE: NTS

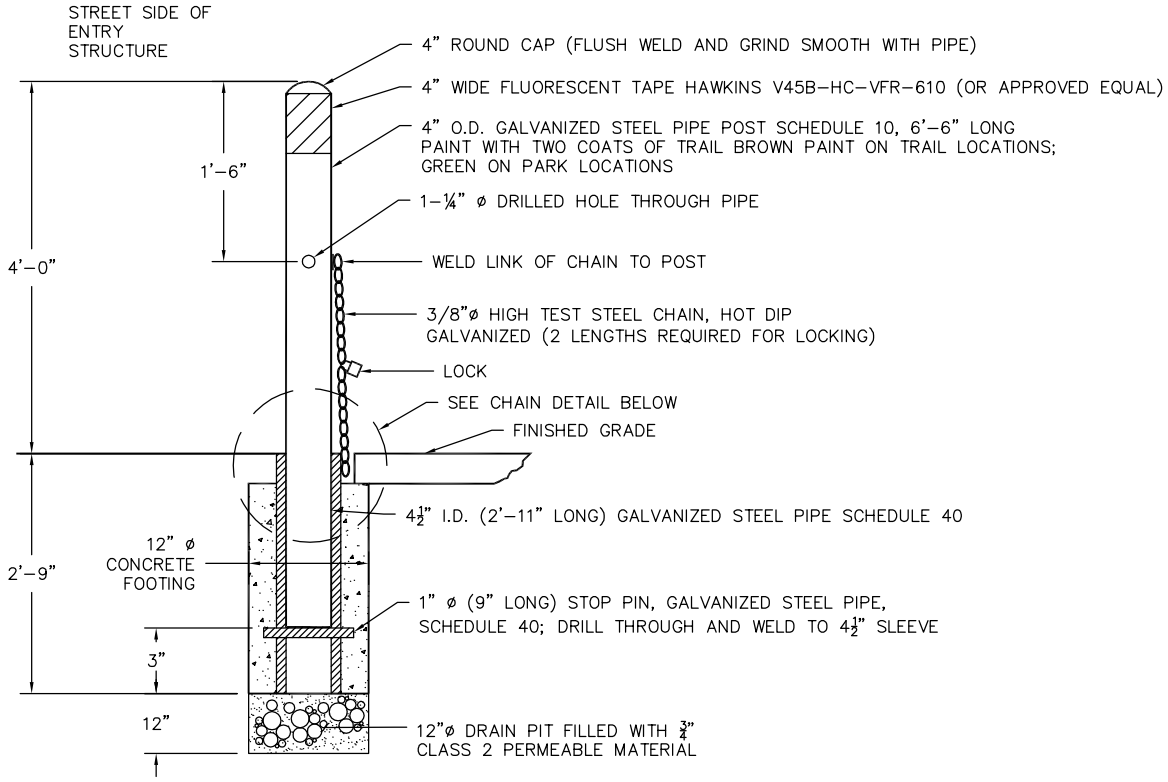
NOTES

1. LOCATE ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING POST FOOTING.
2. PRIME ALL METAL WITH ONE COAT OF GALVANIZE-COMPATIBLE PRIMER AND TWO COATS OF WHITE INDUSTRIAL ENAMEL.
3. APPLY TWO 3" WIDE STRIPS OF REFLECTORIZED YELLOW TAPE. PROVIDE A 3" GAP BETWEEN EACH STRIP.
4. THESE DETAILS SHALL BE USED IN CONJUNCTION WITH ALL THE CITY STANDARD DETAILS AND SPECIFICATIONS. REFER TO THE CITY STANDARD SPECIFICATIONS FOR THE MATERIALS, INSTALLATION, TESTING, PROTECTIVE COATINGS, AND OTHER REQUIREMENTS.

APPROVED _____ DATE _____

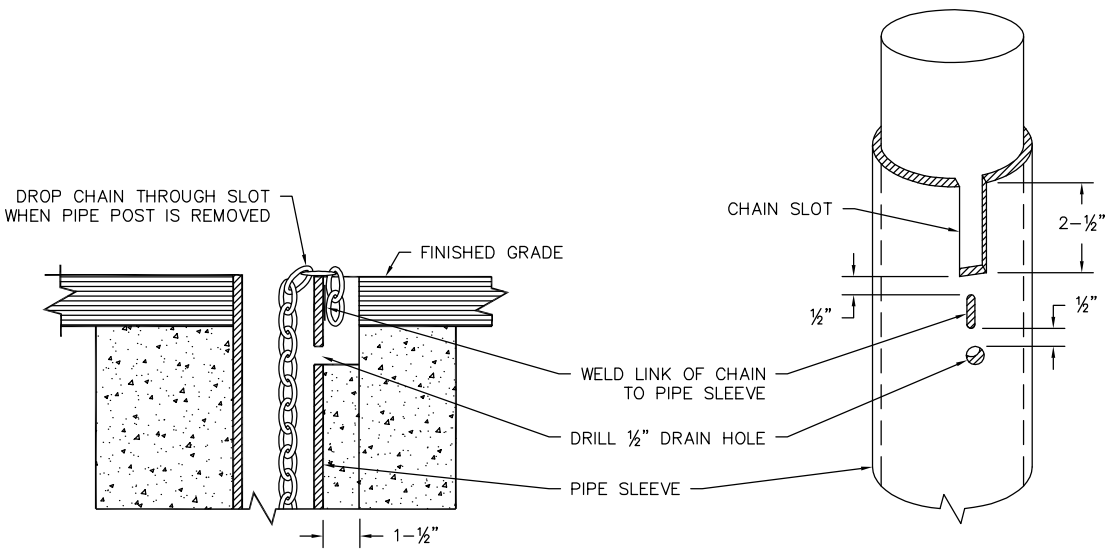
DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: AW	STANDARD DETAIL	SHEET 1 OF 3
				CHECKED BY: MK		
				DATE: 2019-01-11	FIXED BOLLARD	L-8
				SCALE: NTS		



SECTION VIEW

SCALE: NTS



CHAIN DETAIL

SLOT DETAIL

NOTES

1. CHAIN LINK CHAIN AND SLOT SHALL BE INSTALLED PARALLEL TO CENTERLINE OF TRAIL.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	4" DIA PIPE

CITY OF PITTSBURG

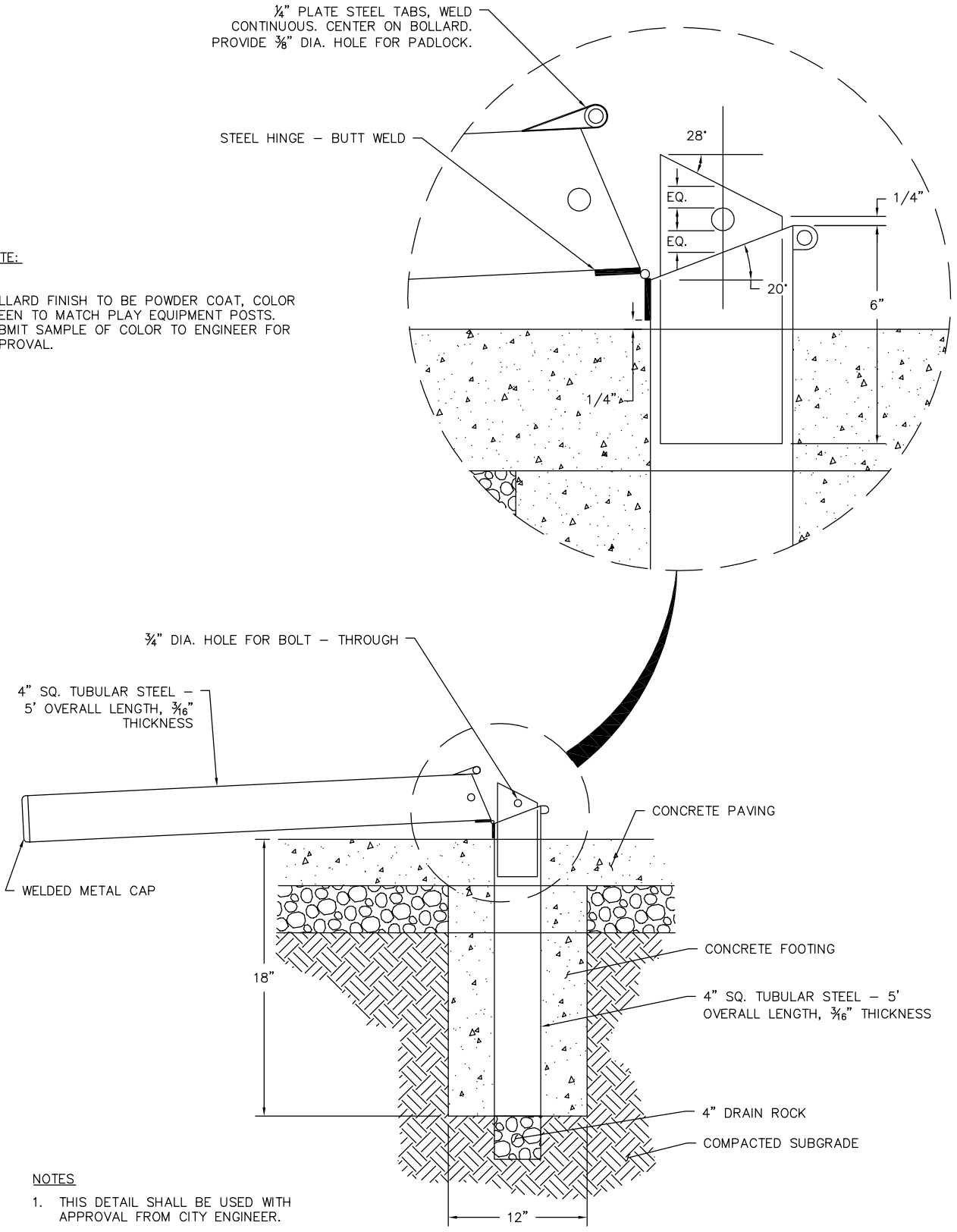
DRAWN BY: ALA
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

REMOVABLE METAL BOLLARD

SHEET 2 OF 3

L-8



NOTE:

BOLLARD FINISH TO BE POWDER COAT, COLOR GREEN TO MATCH PLAY EQUIPMENT POSTS. SUBMIT SAMPLE OF COLOR TO ENGINEER FOR APPROVAL.

NOTES

1. THIS DETAIL SHALL BE USED WITH APPROVAL FROM CITY ENGINEER.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

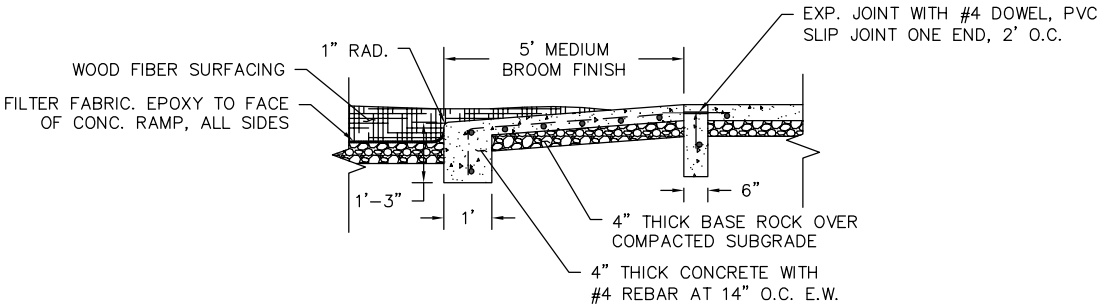
DRAWN BY:	ALA
CHECKED BY:	MK
DATE:	2019-01-11
SCALE:	NTS

STANDARD DETAIL

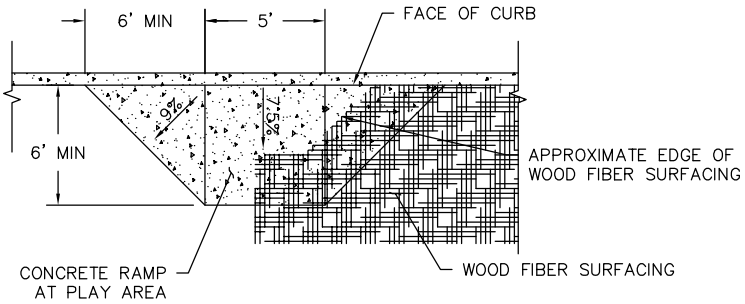
DRIVEWAY BOLLARD

SHEET 3 OF 3

L-8



PLAY AREA RAMP
SECTION VIEW



PLAY AREA RAMP
PLAN VIEW

NOTES

1. SEE SHEET 2 FOR PLAY AREA CURB AND SURFACING DETAILS.

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION
1	2019-01-11	MAX SLOPES

CITY OF PITTSBURG

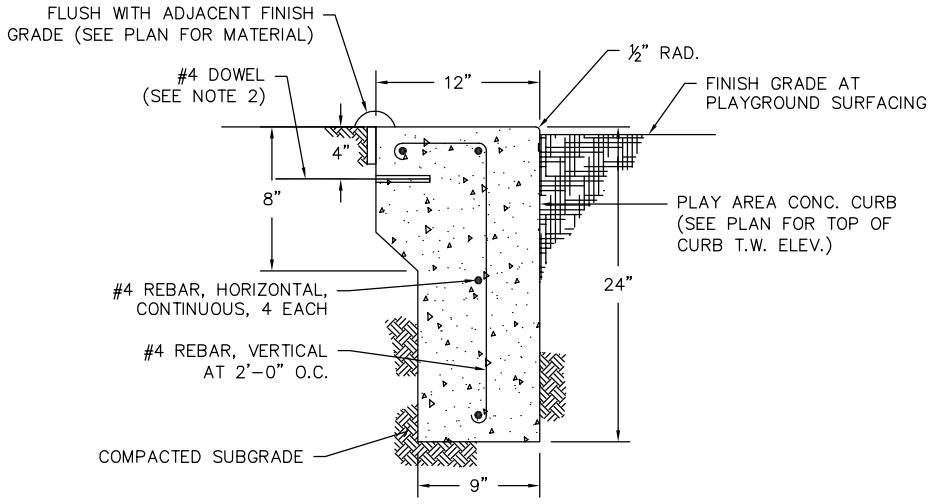
DRAWN BY: ALA
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NTS

STANDARD DETAIL

PLAY AREA RAMP

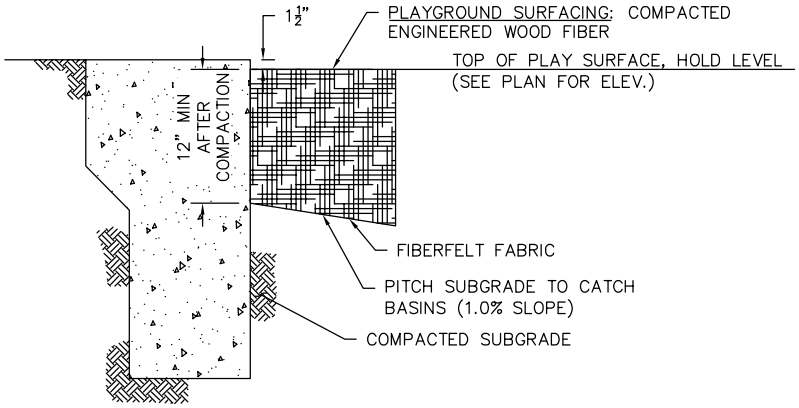
SHEET 1 OF 2

L-9



PLAY AREA CURB

SECTION VIEW



PLAY AREA SURFACING

ENGINEERED WOOD FIBER

NOTES

1. SEE SHEET 1 FOR PLAY AREA RAMP DETAILS.
2. AT INTERSECTION WITH CONC. PAVING: PROVIDE #4 BAR x 12" LENGTH DOWEL (SLEEVE ONE END) AT 24" O.C.
3. ENGINEERED WOOD FIBER: INSTALL 16" MIN. DEPTH TO COMPACT TO 12" MIN. DEPTH. FINISH GRADE OF WOOD FIBER TO BE WITHIN 1.5" OF TOP OF CURB.
4. PROVIDE FIBARMAT RUBBER MAT UNDER EACH SWING. SLIDE EXIT AND SLIDING POLE.

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: ALA CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL PLAY AREA CURB AND SURFACING	SHEET 2 OF 2 L–9

ITEM	MANUFACTURER/MODEL (OR APPROVED EQUAL)
BACKFLOW PREVENTER	FEBCO MODEL 825Y
BACKFLOW PREVENTER ENCLOSURE	STRONG BOX MODEL SBBC-CR (POWDER COATED DARK GREEN)
BOOSTER PUMP	WATERTRONICS
PRESSURE REDUCING VALVE	WILKINS MODEL 600XL
MASTER VALVE	RAIN BIRD PESB SERIES
FLOW SENSOR	RAIN MASTER FM SERIES
GATE VALVE-4" & LARGER	NIBCO P-619-RW
GATE VALVE-3" & SMALLER	LEEMCO LGT-SS SERIES
QUICK COUPLING VALVE	RAIN BIRD 44LRC OR 44NP (RECYCLED WATER SYSTEMS
CONTROLLER	SITE ONE GREEN TECH DX2 SATELLITE ASSEMBLY
ELECTRIC CONTROL VALVE	RAIN BIRD PEB SERIES
BRASS BALL VALVE	NIBCO T-FP-600A
VALVE BOXES IN PLANTING AREAS	CARSON MODEL 708,910,1419 OR 1324
POP-UP TURF SPRAY SPRINKLER	RAIN BIRD 1806-SAM-PRS SERIES
POP-UP SHRUB SPRAY SPRINKLER	RAIN BIRD 1812-SAM-PRS SERIES
POP-UP ROTOR SPRINKLER	RAIN BIRD 8005 OR 5000 SERIES
BUBBLER	RAIN BIRD 1400 SERIES
DRIPLINE	RAIN BIRD XFCV
INLINE CHECK VALVE	NDS CV SERIES

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

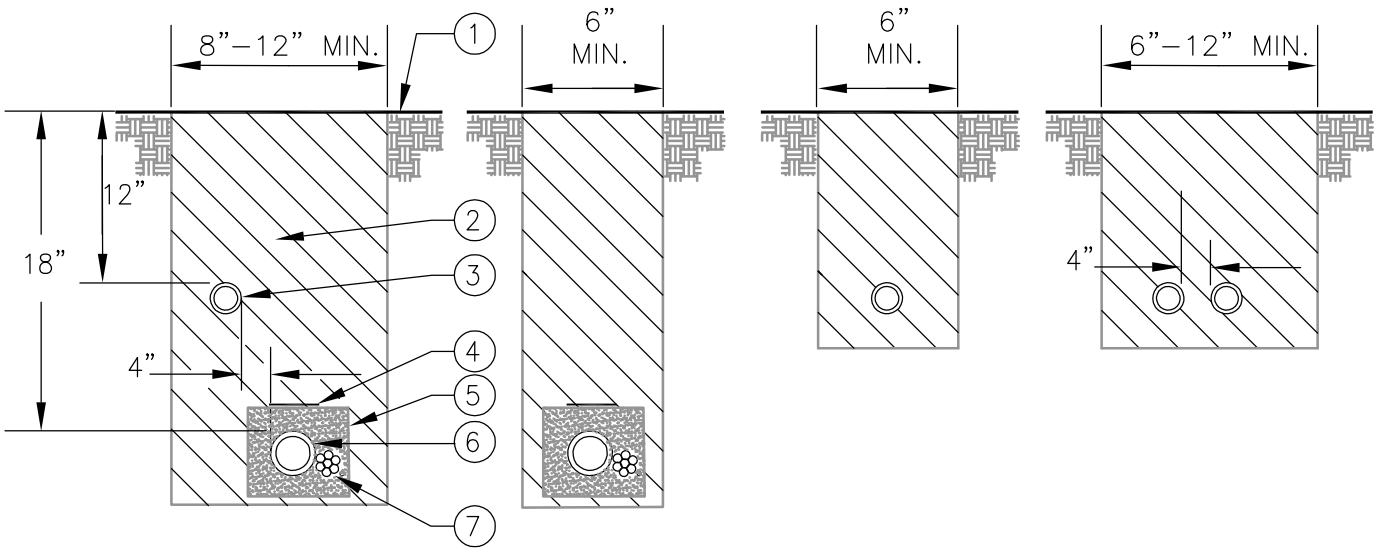
DRAWN BY:
CHECKED BY: MK
DATE: 2019-01-11
SCALE: NONE

STANDARD DETAIL

IRRIGATION EQUIPMENT LIST

SHEET 1 OF 1

I-1



LATERAL, MAIN, AND WIRES | MAIN AND WIRES ONLY | LATERAL ONLY | MULTIPLE LATERALS

NOTES:

1. ALL MAIN SUPPLY LINES AND LATERAL LINES SHALL BE PLACED IN SLEEVES UNDER PAVED SURFACES. INSTALL LOW VOLTAGE WIRES WITHIN A SEPARATE CONDUIT UNDER PAVED SURFACES. DO NOT TAPE WIRES WITHIN CONDUIT
2. REUSE SALVAGED EXCAVATED FILL AND COMPACT TO ORIGINAL DENSITY IN LANDSCAPE AREAS. ALL OTHER AREAS SHALL BE AT 85% COMPACTION. BACKFILL MATERIAL SHALL BE THE EARTH EXCAVATED FROM THE TRENCHES, FREE FROM ROCKS (ANYTHING LARGER THAN 2"), CONCRETE CHUNKS, AND OTHER FOREIGN OR COARSE MATERIALS
3. FOR ANY PIPING UNDER PAVEMENT, SEE CITY DETAIL R–5.
4. WHEN 12" POP–UP SPRINKLER HEADS ARE USED, INCREASE THE DEPTH OF LATERAL TO 18" AT THE SPRINKLER LOCATION ONLY

(1) FINISH GRADE

(2) CLEAN BACKFILL MATERIAL

(3) LATERAL LINE

(4) 3" DETECTABLE WARNING TAPE OVER MAIN LINE. INSTALL ON TOP OF SAND ENCASEMENT. USE CHRISTY MODEL #TA–DT–3–BIRR FOR POTABLE IRRIGATION SYSTEMS OR #TA–DT–3–PRW FOR RECYCLED IRRIGATION WATER SYSTEMS

(5) ENCASE MAIN LINE AND WIRES IN SAND. PROVIDE 4" OF SAND ABOVE MAIN AND WIRES AND A MINIMUM OF 2" OF SAND ON THE REMAINING SIDES

(6) MAIN LINE

(7) LOW VOLTAGE CONTROL WIRES OR TWO–WIRE CABLE. TAPE AND BUNDLE CONTROL WIRES AT 10 FT. INTERVALS. WIRING SHALL BE LAID OUT LOOSELY IN THE TRENCH

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

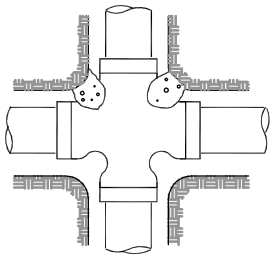
DRAWN BY: CM
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

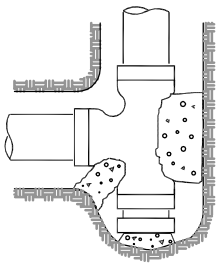
IRRIGATION SYSTEM TRENCHING

SHEET 1 OF 1

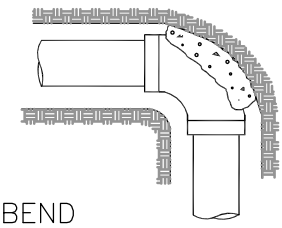
I–2



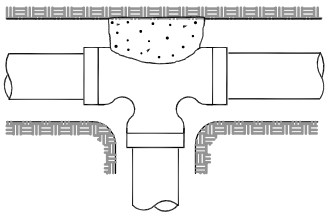
CROSS



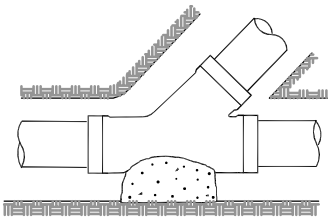
TEE W/ STUB



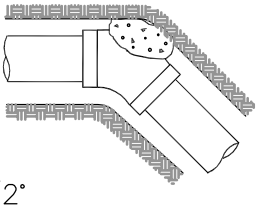
90° BEND



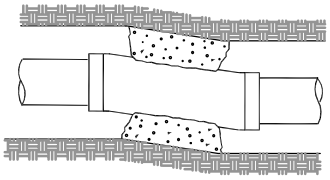
TEE



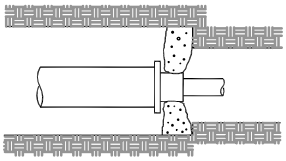
WYE



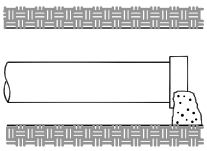
22 1/2°
OR 45° BEND



1 1/4° BEND



REDUCER



END CAP

1. CONCRETE THRUST BLOCK SHALL HAVE CONTACT WITH FITTING ONLY AND REMAIN CLEAR OF PIPE AND JOINTS
2. THRUST BLOCK TO BE CONSTRUCTED OF 3000 PSI CONCRETE
3. BLOCK TO BE POURED AGAINST UNDISTURBED SOIL
4. REFER TO CITY STANDARD DETAIL W-10 FOR THRUST BLOCK SIZING CHART

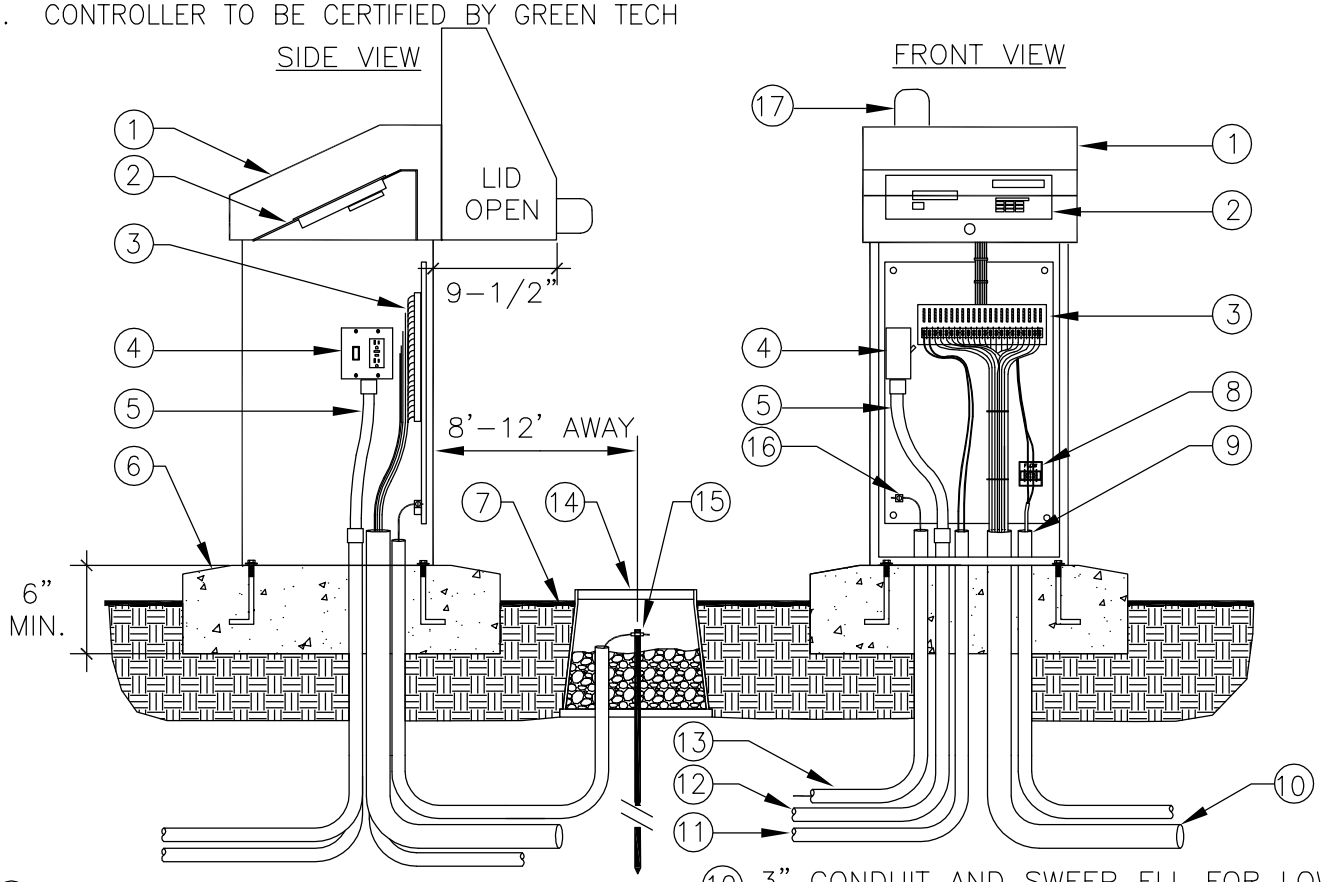
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL IRRIGATION SYSTEM THRUST BLOCKING	SHEET 1 OF 1 I-3

NOTES:

1. PROVIDE (CONTRACTOR) #10 BARE COPPER GROUND WIRE AND 5/8" DIA. (8' LONG) COPPER CLAD GROUNDING ROD(S) AS DIRECTED BY MANUFACTURER
2. UNIT IS TO BE ASSEMBLED, WIRED, AND TESTED BY A MANUFACTURER TRAINED VENDOR.
3. INSTALL (CONTRACTOR) ENCLOSURE TO CONCRETE PAD AS DIRECTED BY ENCLOSURE MANUFACTURER
4. INSTALL SLAB LEVEL AND 1" ABOVE FINISH GRADE. PROVIDE SLOPE TO TOP OF SLAB SURFACE FOR DRAINAGE
5. CONTRACTOR IS RESPONSIBLE TO COORDINATE 120V POWER FOR CONTROLLER WITH CITY PRIOR TO INSTALLATION
6. CONTROLLER TO BE CERTIFIED BY GREEN TECH

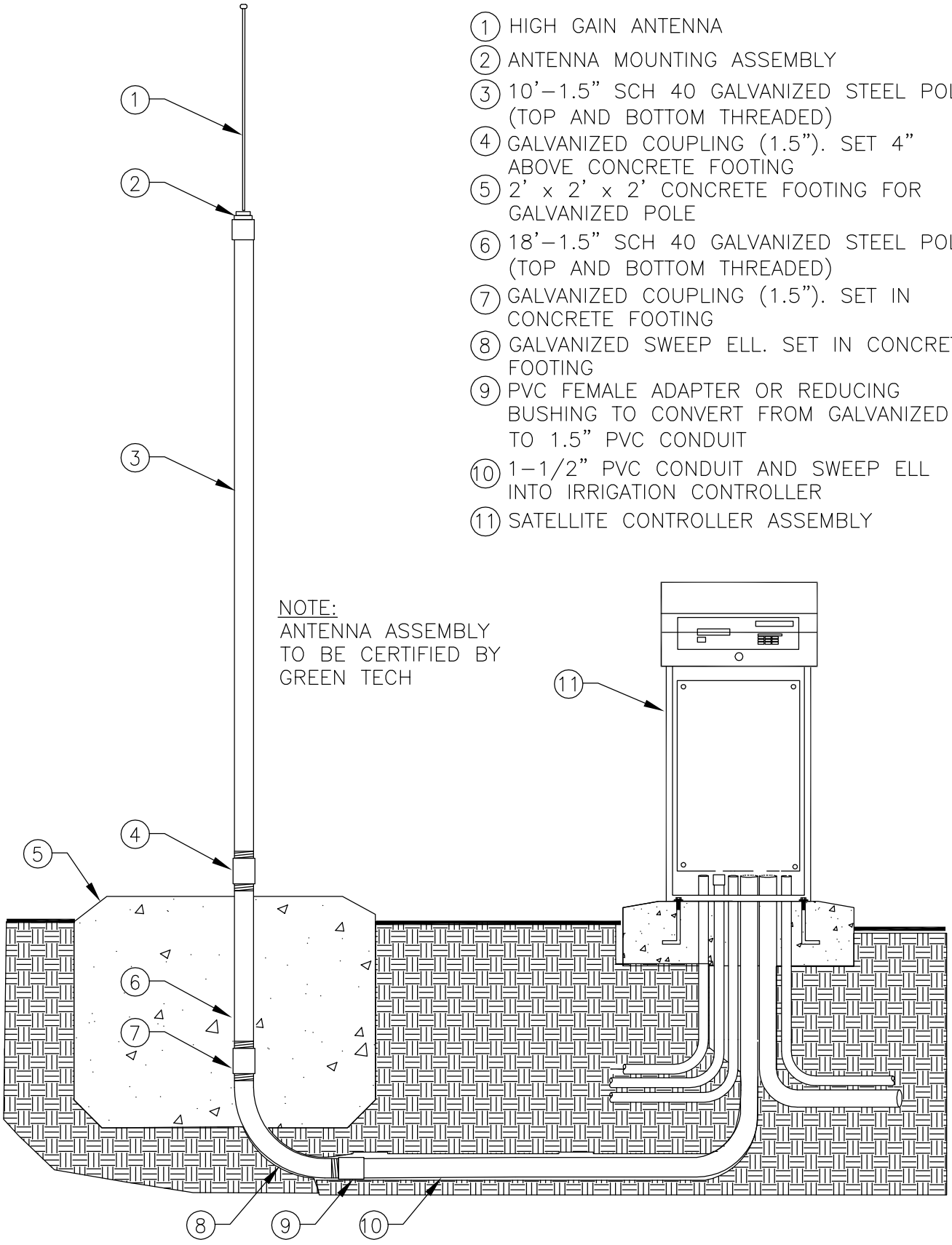


1. STRONGBOX STAINLESS STEEL NEMA 3R RAINPROOF ENCLOSURE (UL LISTED)
2. SATELLITE ASSEMBLY. ASSEMBLED IN ENCLOSURE BY JOHN DEERE GREEN TECH
3. TERMINAL STRIP FOR VALVE WIRES
4. POWER SWITCH / GFCI RECEPTACLE
5. ELECTRICAL FLEX CONDUIT FOR POWER
6. 6" MIN THICK, CONCRETE PAD WITH ANCHOR BOLTS PER MANUFACTURER RECOMMENDATIONS
7. FINISH GRADE
8. FLOW SENSOR TERMINAL BOARD
9. 1" CONDUIT AND SWEEP ELL WITH FLOW SENSOR CABLE
10. 3" CONDUIT AND SWEEP ELL FOR LOW VOLTAGE WIRES
11. 1" CONDUIT AND SWEEP ELL FOR MASTER VALVE WIRES
12. 1" CONDUIT AND SWEEP ELL FOR 110 VAC POWER LINE
13. 1" CONDUIT AND SWEEP ELL FOR GROUND WIRE
14. 10" ROUND VALVE BOX AROUND GROUND ROD. FILL WITH 3/4" CRUSHED ROCK
15. 5/8" X 8' GROUND ROD WITH #6 GROUND WIRE AND CLAMP. LOCATE 8'-12' FROM ENCLOSURE
16. #6 GROUND WIRE SECURED TO BACKBOARD GROUNDING TERMINAL
17. REMOTE RADIO ANTENNA

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL CONTROLLER IN PEDESTAL ENCLOSURE	SHEET 1 OF 1 I-4



1. HIGH GAIN ANTENNA
2. ANTENNA MOUNTING ASSEMBLY
3. 10'–1.5" SCH 40 GALVANIZED STEEL POLE (TOP AND BOTTOM THREADED)
4. GALVANIZED COUPLING (1.5"). SET 4" ABOVE CONCRETE FOOTING
5. 2' x 2' x 2' CONCRETE FOOTING FOR GALVANIZED POLE
6. 18'–1.5" SCH 40 GALVANIZED STEEL POLE (TOP AND BOTTOM THREADED)
7. GALVANIZED COUPLING (1.5"). SET IN CONCRETE FOOTING
8. GALVANIZED SWEEP ELL. SET IN CONCRETE FOOTING
9. PVC FEMALE ADAPTER OR REDUCING BUSHING TO CONVERT FROM GALVANIZED TO 1.5" PVC CONDUIT
10. 1–1/2" PVC CONDUIT AND SWEEP ELL INTO IRRIGATION CONTROLLER
11. SATELLITE CONTROLLER ASSEMBLY

NOTE:
ANTENNA ASSEMBLY TO BE CERTIFIED BY GREEN TECH

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG

NO.	DATE	REVISION

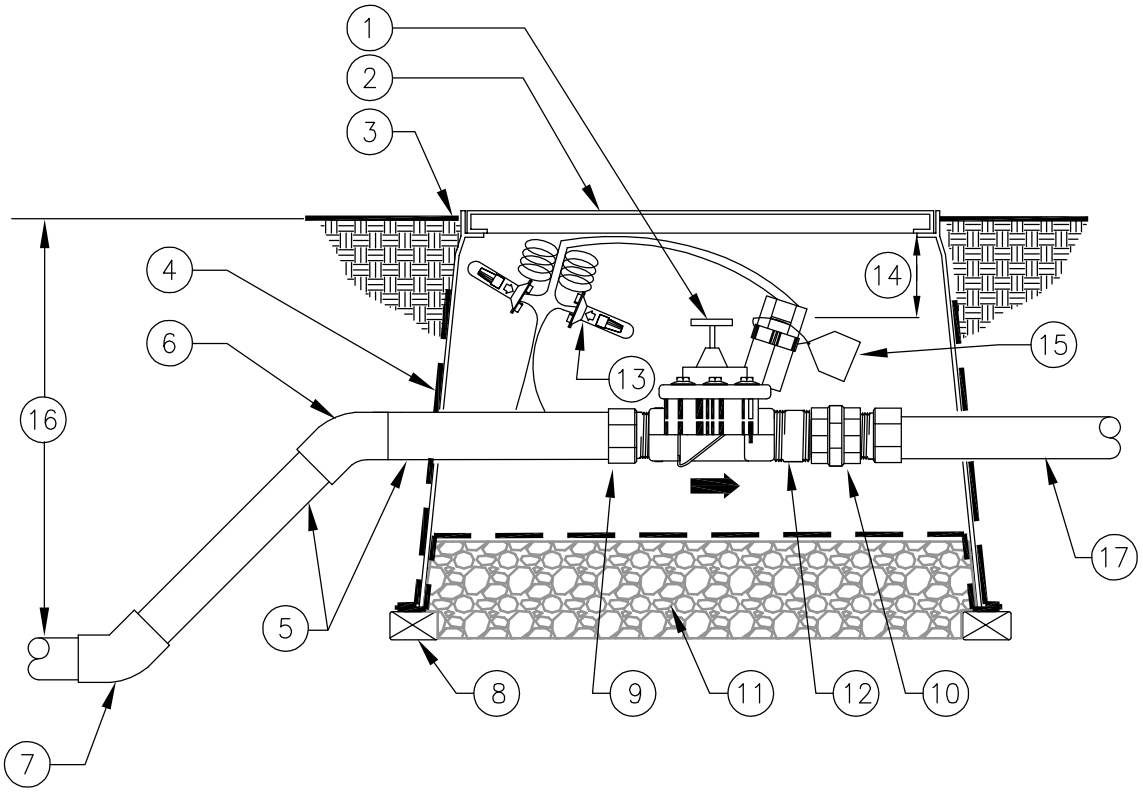
DRAWN BY: CM
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

HIGH GAIN ANTENNA

SHEET 1 OF 1

I–5



1. MASTER CONTROL VALVE WITH FLOW CONTROL AND MANUAL BLEED (PRESSURE REGULATOR WHERE SHOWN ON PLANS). CENTER WITHIN BOX
2. 14" X 19" RECTANGULAR PLASTIC VALVE BOX WITH BOLT DOWN LID. INSTALL BOX AS SHOWN IN BOX INSTALLATION DETAIL
3. FINISH GRADE
4. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX
5. SCH. 80 PVC PIPE. LENGTH AS REQUIRED
6. TYP. PVC SCH. 80 45° ELBOW (SxS)–4 TOTAL
7. PVC MAIN LINE FROM BACKFLOW OR PUMP
8. BRICK–ONE ON EACH CORNER
9. SCH. 80 PVC MALE ADAPTER– 2 TOTAL
10. SCH. 80 PVC THREADED UNION–2 TOTAL
11. PEA GRAVEL OR 3/4" DRAIN ROCK– 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)
12. 3" LONG SCH. 80 PVC NIPPLE–2 TOTAL. MATCH VALVE SIZE
13. VALVE CONTROL WIRE– PROVIDE 3M–DBY SEAL PACKS AT ALL SPLICES AND 36" OF EXCESS UF WIRE IN A 1" DIAMETER COIL
14. 3" MIN 6" MAX
15. VALVE I.D. TAG (CONTROLLER AND STATION NUMBER)
16. REFER TO IRRIGATION LEGEND
17. PVC MAIN LINE TO FLOW SENSOR

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

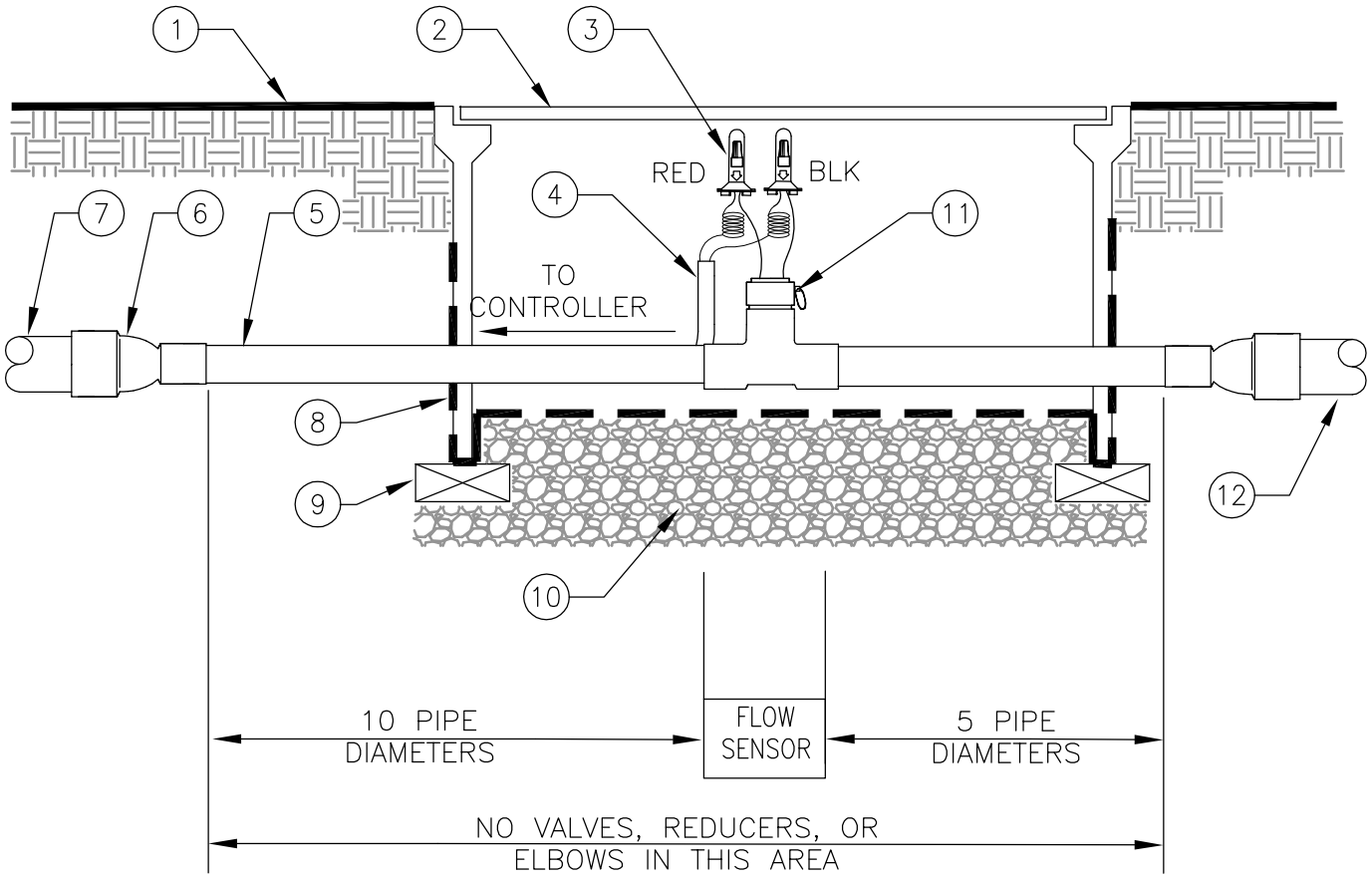
DRAWN BY:	CM
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

MASTER CONTROL VALVE

SHEET 1 OF 1

I–6

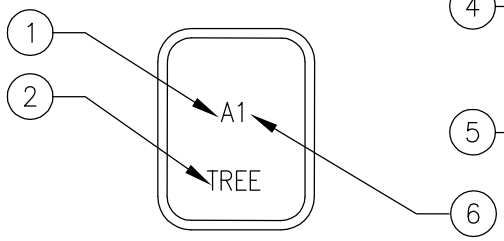


1. FINISH GRADE
2. 14" X 19" RECTANGULAR PLASTIC VALVE BOX WITH BOLT DOWN LID. INSTALL BOX AS SHOWN IN BOX INSTALLATION DETAIL
3. 18 GAUGE AWG DIRECT BURIAL WIRE. FLOW SENSOR WIRE MUST BE RUN IN 1" PVC CONDUIT FROM FLOW SENSOR TO CONTROLLER ENCLOSURE. PROVIDE 3M–DBY SEAL PACKS AT ALL SPLICES AND 36" OF EXCESS WIRE IN A 1" DIAMETER COIL
4. 1" SCH 40 PVC CONDUIT
5. SCH. 80 PVC PIPE
6. SCH. 80 PVC REDUCER IF REQUIRED
7. PVC MAIN LINE TO MASTER CONTROL VALVE
8. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX
9. BRICK–ONE ON EACH CORNER
10. PEA GRAVEL OR 3/4" DRAIN ROCK– 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)
11. FLOW SENSOR MUST BE INSTALLED WITH INSERT (TOP) POSITIONED VERTICALLY AND BODY (TEE) POSITIONED HORIZONTALLY
12. PVC MAIN LINE TO IRRIGATION SYSTEM

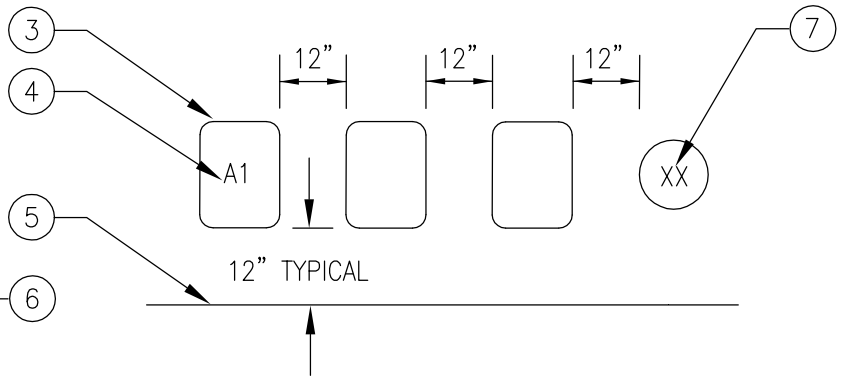
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL FLOW SENSOR	SHEET 1 OF 1 I–7



VALVE IDENTIFICATION



TOP VIEW OF BOXES

1. CONTROLLER ID
2. ALL TREE VALVES TO HAVE TREE BRANDED INTO LID
3. RECTANGULAR VALVE BOX
4. HEAT BRAND VALVE TYPE PER TABLE OR CONTROLLER ID AND STATION NUMBER INTO LID
5. EDGE OF LAWN, WALK, FENCE, CURB, ETC
6. STATION NUMBER
7. ROUND VALVE BOX FOR QCV AND GATE VALVE. HEAT BRAND VALVE TYPE INTO INTO LID PER TABLE

ITEMS TO BRAND:	BRAND CODE
GATE VALVE	GV
PRESSURE REDUCER	PRV
MASTER VALVE	MV
FLOW SENSOR	FS
HYDROMETER	HM
MAIN LINE AIR RELIEF	ARV
REMOTE CONTROL VALVE	A1 → A48
QUICK COUPLER	QC
SPLICE BOX	SB
PULL BOX	PB
LIGHTNING ARRESTOR	LA
GROUND ROD	GR

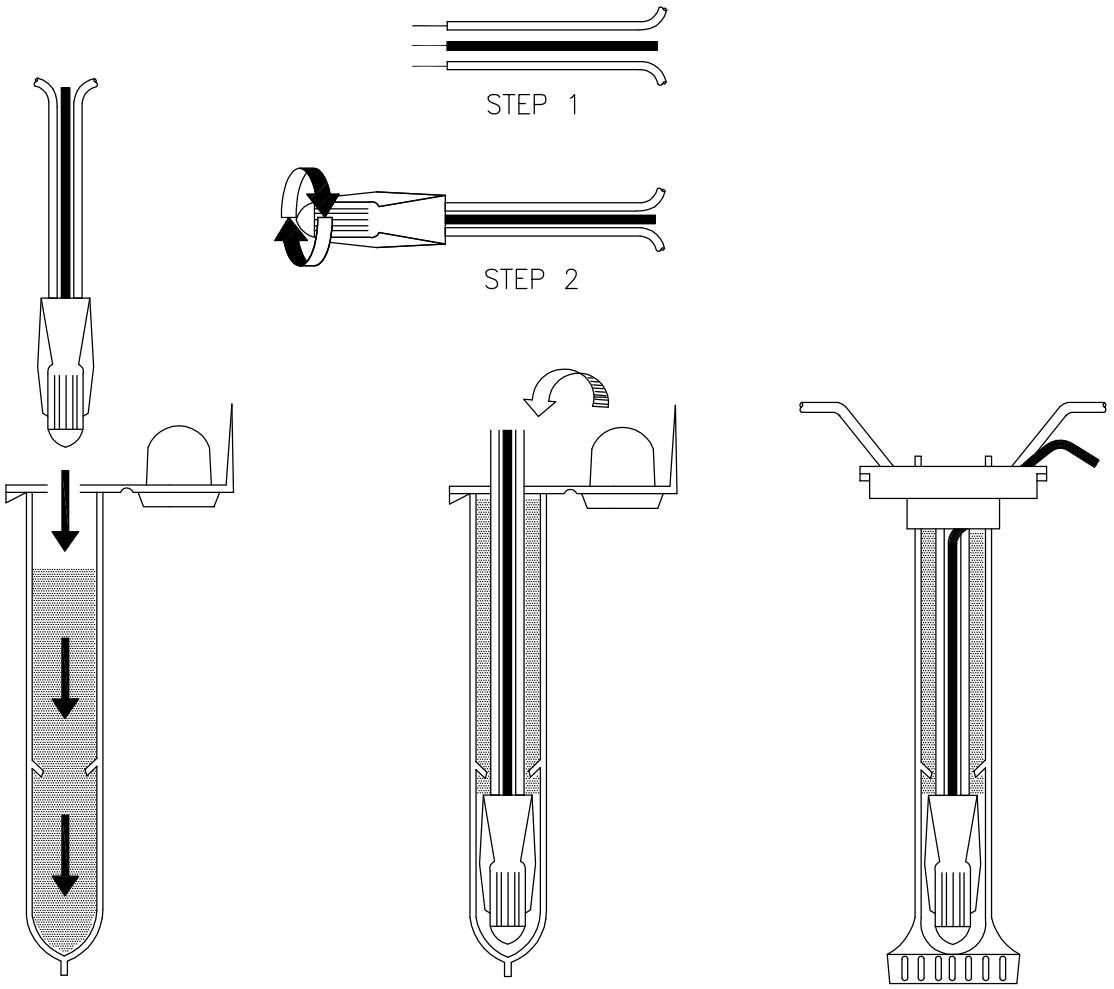
INSTRUCTIONS:

1. CENTER VALVE BOX OVER REMOTE CONTROL VALVE TO FACILITATE SERVICING VALVE
2. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREA AND FLUSH WITH FINISH GRADE IN TURF AREA
3. SET RCV AND VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN ONLY IF GROUND COVER DOES NOT EXIST ADJACENT TO LAWN
4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE OF LAWN, WALK, FENCE, CURB, ETC
5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOXES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES
6. INSTALL EXTENSION BY VALVE BOX MANUFACTURER AS REQUIRED TO COMPLETELY ENCLOSE ASSEMBLY FOR EASY ACCESS

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL IRRIGATION VALVE BOX INSTALLATION	SHEET 1 OF 1 I-8



NOTE:

MAXIMUM # OF WIRES PER CONNECTOR:

- 3–#14 GAUGE
- 2–#12 GAUGE

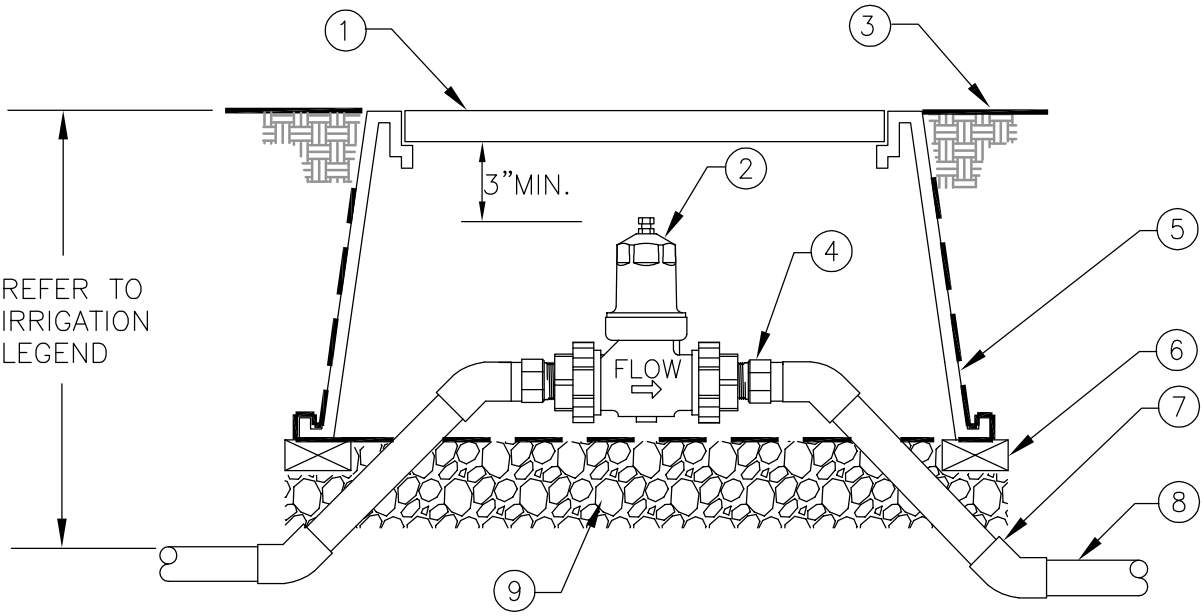
INSTRUCTIONS:

1. STRIP WIRES APPROXIMATELY 1/2" FROM ENDS TO EXPOSE WIRE
2. TWIST CONNECTOR AROUND WIRES CLOCKWISE UNTIL HAND TIGHT, DO NOT OVERTIGHTEN
3. INSERT WIRE ASSEMBLY TO BOTTOM OF GEL–FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT THE BOTTOM OF THE TUBE
4. PLACE WIRES WHICH EXIT TUBE IN WIRE EXIT HOLES AND CLOSE CAP UNTIL IT SNAPS
5. INSPECT FINAL SPLICE ASSEMBLY THAT IT IS SECURED

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL WEATHERPROOF WIRE SPLICE ASSEMBLY	SHEET 1 OF 1 I–9

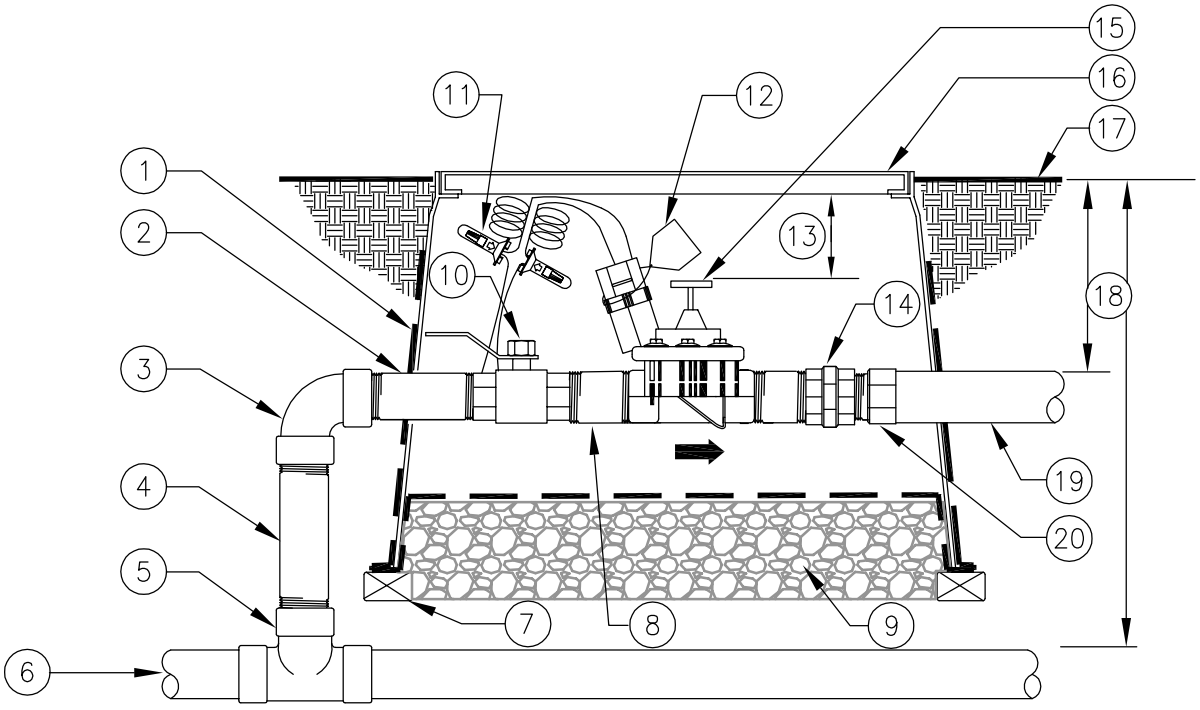


1. RECTANGULAR PLASTIC VALVE BOX WITH BOLT– DOWN LID. INSTALL BOX AS SHOWN IN BOX INSTALLATION DETAIL. TOP DIMENSION: 15 3/4" X 25 1/4" (15" DEEP)
2. PRESSURE REDUCING VALVE: WILKINS 600XL OR APPROVED EQUAL
3. FINISH GRADE
4. SCHEDULE 80 PVC MALE ADAPTER. (2 TOTAL)
5. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX
6. BRICK – ONE EACH CORNER OF BOX
7. TYP. PVC SCHEDULE 80 45° ELBOW (SxS)
8. PVC MAIN LINE
9. PEA GRAVEL – 4" DEEP (NO SOIL IN VALVE BOX)

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL PRESSURE REDUCING VALVE	SHEET 1 OF 1 I–10

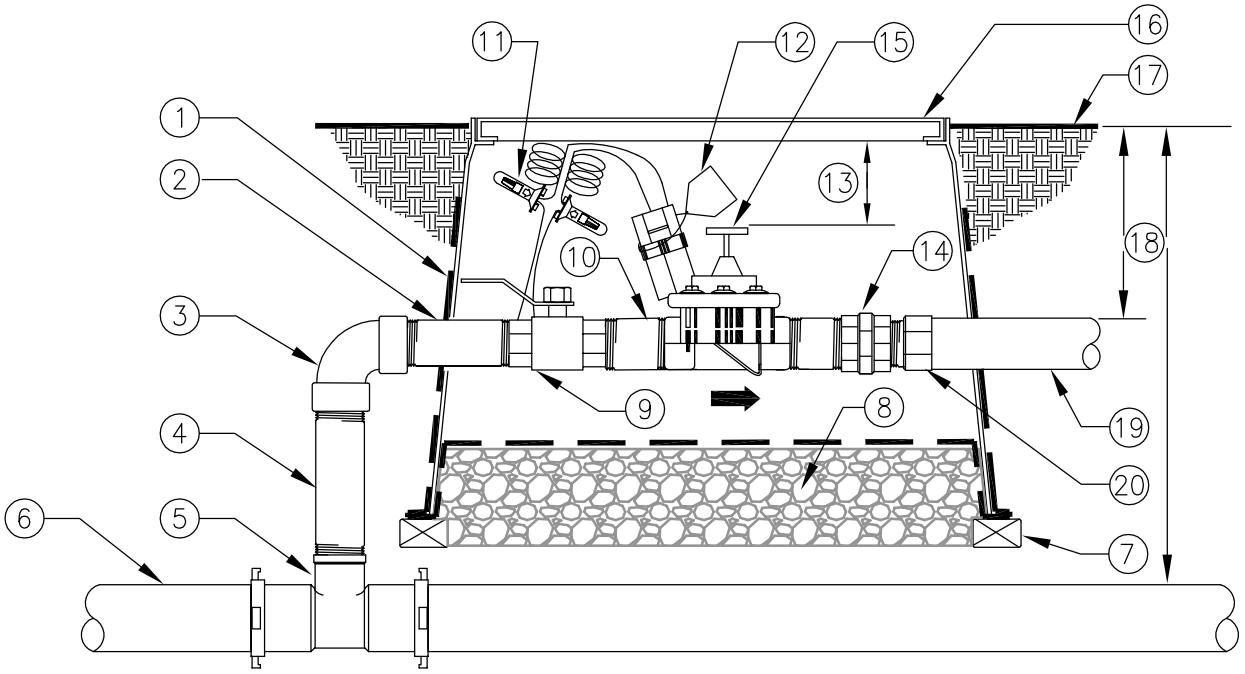


1. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX
2. SCH. 80 PVC NIPPLE (8"–12" IN LENGTH). LENGTH AS REQUIRED TO PROVIDE CLEARANCE FOR BALL VALVE HANDLE. MATCH VALVE SIZE
3. SCH. 80 PVC 90° ELBOW (TxT)
4. SCH. 80 PVC NIPPLE. LENGTH AS REQUIRED
5. SCH. 40 OR 80 PVC TEE. REFER TO LEGEND FOR TYPE
6. PVC MAIN LINE
7. BRICK–ONE ON EACH CORNER
8. 3" LONG SCH. 80 PVC NIPPLE. MATCH VALVE SIZE (2 TOTAL)
9. PEA GRAVEL OR 3/4" DRAIN ROCK. 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)
10. BRASS BALL VALVE–1 PER VALVE. PROVIDE ENOUGH CLEARANCE FROM EDGE OF BOX FOR VALVE TO OPERATE
11. VALVE CONTROL WIRE. PROVIDE 3M–DBY SEAL PACKS AT ALL SPLICES AND 36" OF EXCESS UF WIRE IN A 1" DIA. COIL
12. VALVE I.D. TAG (CONTROLLER AND STATION NUMBER)
13. 3" MIN 6" MAX
14. SCH. 80 PVC THREADED UNION
15. REMOTE CONTROL VALVE WITH FLOW CONTROL AND MANUAL BLEED (PRESSURE REGULATOR WHERE SHOWN ON PLANS)
16. 14" X 19" RECTANGULAR PLASTIC VALVE BOX WITH BOLT DOWN LID. ONE VALVE PER BOX– NO EXCEPTIONS. INSTALL BOX AS SHOWN IN BOX INSTALLATION DETAIL
17. FINISH GRADE
18. REFER TO IRRIGATION LEGEND
19. PVC LATERAL LINE
20. SCH. 80 PVC MALE ADAPTER

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL REMOTE CONTROL VALVE	SHEET 1 OF 3 I–11

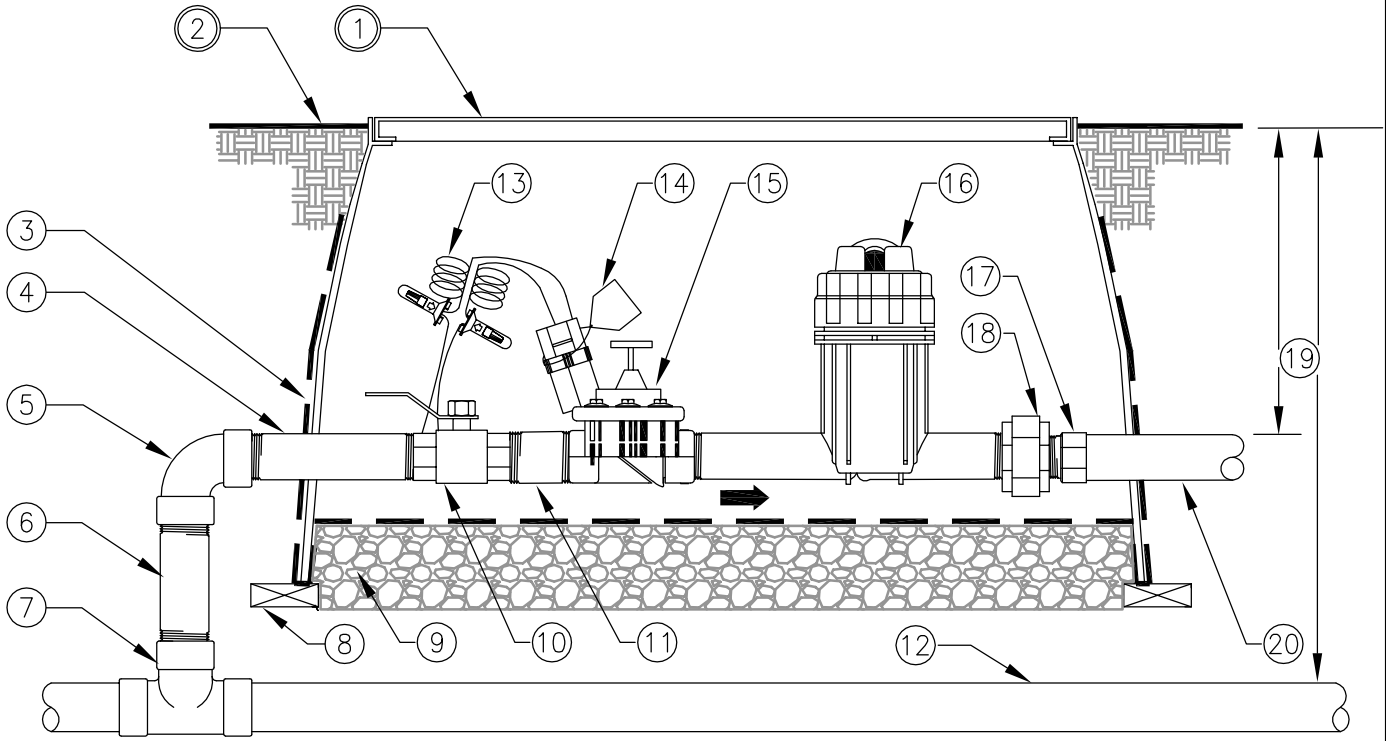


1. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX
2. SCH. 80 PVC NIPPLE (8"–12" IN LENGTH). LENGTH AS REQUIRED TO PROVIDE CLEARANCE FOR BALL VALVE HANDLE. MATCH VALVE SIZE
3. SCH. 80 PVC 90° ELBOW (TxT)
4. SCH. 80 PVC NIPPLE. LENGTH AS REQUIRED
5. GASKETED DUCTILE IRON SERVICE TEE
6. CLASS 200 RING TITE PVC MAIN LINE
7. BRICK–ONE ON EACH CORNER
8. PEA GRAVEL OR 3/4" DRAIN ROCK. 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)
9. BRASS BALL VALVE–1 PER VALVE. PROVIDE ENOUGH CLEARANCE FROM EDGE OF BOX FOR VALVE TO OPERATE
10. 3" LONG SCH. 80 PVC NIPPLE. MATCH VALVE SIZE (2 TOTAL)
11. VALVE CONTROL WIRE. PROVIDE 3M–DBY SEAL PACKS AT ALL SPLICES AND 36" OF EXCESS UF WIRE IN A 1" DIA. COIL
12. VALVE I.D. TAG (CONTROLLER AND STATION NUMBER)
13. 3" MIN 6" MAX
14. SCH. 80 PVC THREADED UNION
15. REMOTE CONTROL VALVE WITH FLOW CONTROL AND MANUAL BLEED (PRESSURE REGULATOR WHERE SHOWN ON PLANS)
16. 14" X 19" RECTANGULAR PLASTIC VALVE BOX WITH BOLT DOWN LID. ONE VALVE PER BOX– NO EXCEPTIONS. INSTALL BOX AS SHOWN IN BOX INSTALLATION DETAIL.
17. FINISH GRADE
18. REFER TO IRRIGATION LEGEND
19. PVC LATERAL LINE
20. SCH. 80 PVC MALE ADAPTER

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL REMOTE CONTROL VALVE – GASKETED MAIN	SHEET 2 OF 3 I–11

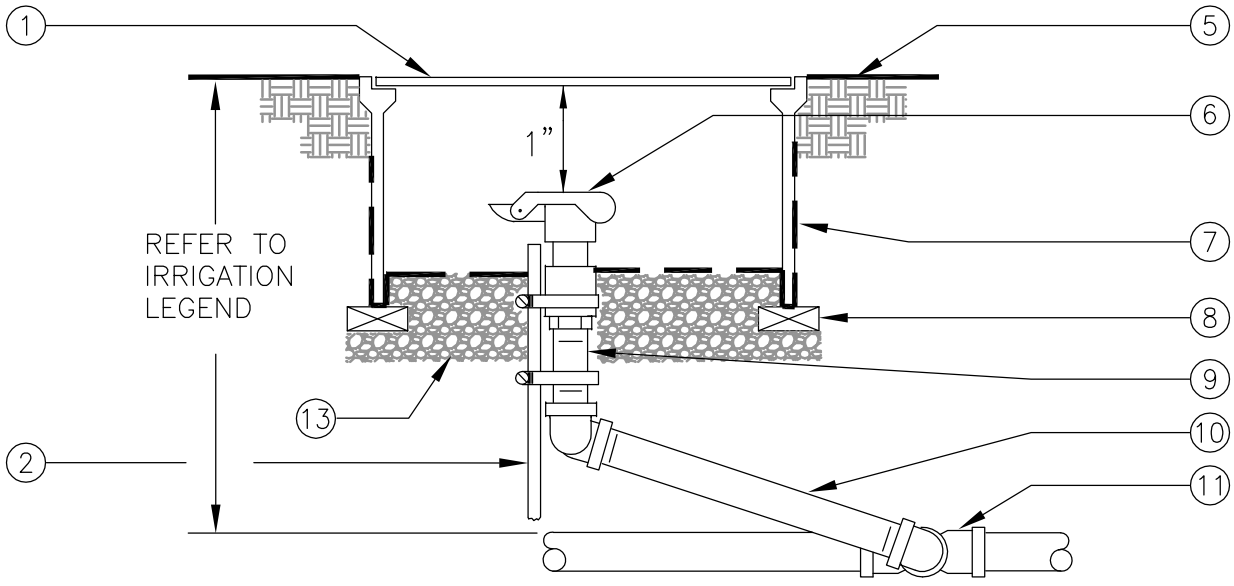


1. RECTANGULAR PLASTIC VALVE BOX WITH BOLT DOWN LID. ONE VALVE PER BOX–NO EXCEPTIONS. INSTALL BOX AS SHOWN IN BOX INSTALLATION DETAIL
2. FINISH GRADE
3. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX
4. SCH. 80 PVC NIPPLE (8"–12" IN LENGTH). LENGTH AS REQUIRED TO PROVIDE CLEARANCE FOR BALL VALVE HANDLE. MATCH VALVE SIZE
5. SCH. 80 PVC 90° ELBOW (TxT)
6. SCH. 80 PVC NIPPLE. LENGTH AS REQUIRED
7. SCH. 40 OR 80 PVC TEE. REFER TO LEGEND FOR TYPE
8. BRICK–ONE ON EACH CORNER
9. PEA GRAVEL OR 3/4" DRAIN ROCK. 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)
10. BRASS BALL VALVE–1 PER VALVE. PROVIDE ENOUGH CLEARANCE FROM EDGE OF BOX FOR VALVE TO OPERATE
11. 3" LONG SCH. 80 PVC NIPPLE. MATCH VALVE SIZE (2 TOTAL)
12. PVC MAIN LINE
13. VALVE CONTROL WIRE. PROVIDE 3M–DBY SEAL PACKS AT ALL SPLICES AND 36" OF EXCESS UF WIRE IN A 1" DIA. COIL
14. VALVE I.D. TAG (CONTROLLER AND STATION NUMBER)
15. REMOTE CONTROL VALVE
16. PRESSURE REDUCING FILTER (40 PSI)
17. SCH. 80 PVC MALE ADAPTER
18. SCH. 80 PVC THREADED UNION
19. REFER TO IRRIGATION LEGEND
20. PVC LATERAL LINE

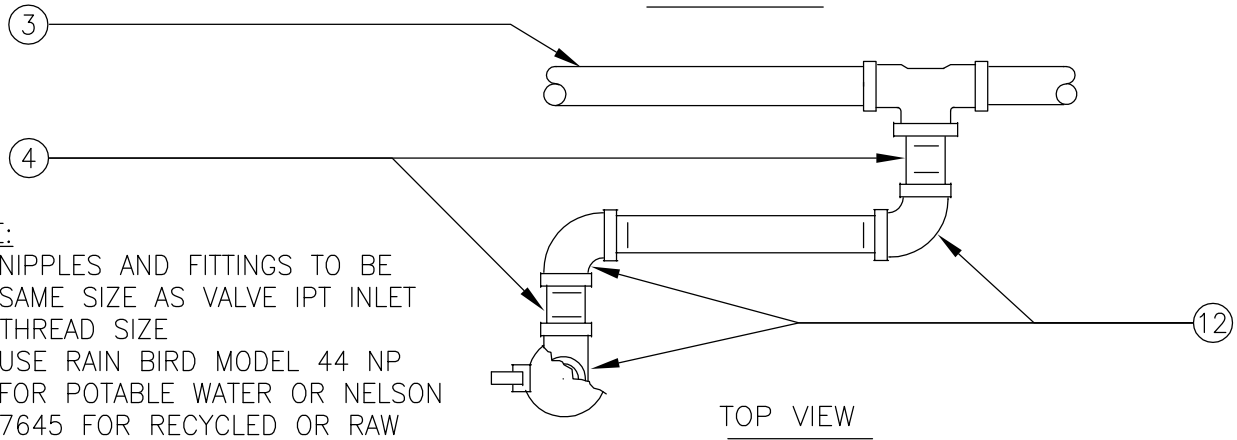
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL REMOTE CONTROL VALVE – DRIP	SHEET 3 OF 3 I–11



SIDE VIEW



TOP VIEW

NOTE:
1. NIPPLES AND FITTINGS TO BE SAME SIZE AS VALVE IPT INLET THREAD SIZE
2. USE RAIN BIRD MODEL 44 NP FOR POTABLE WATER OR NELSON 7645 FOR RECYCLED OR RAW WATER

(1) 10" ROUND PLASTIC VALVE BOX WITH BOLT DOWN LID

(2) 1 1/4" x 1 1/4" x 3/16" ANGLE IRON 30" LONG W/2 STAINLESS STEEL STRAPS (ONE AROUND QCV)

(3) PVC MAIN LINE

(4) 3" LONG SCHEDULE 80 PVC THREADED NIPPLE

(5) FINISH GRADE

(6) QUICK COUPLING VALVE

(7) 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDES OF BOX

(8) BRICK – 2 TOTAL

(9) SCHEDULE 80 PVC THREADED NIPPLE

(10) 10" LONG SCHEDULE 80 PVC THREADED NIPPLE

(11) UPC APPROVED SCHEDULE 40 PVC TEE OR ELBOW

(12) SCHEDULE 80 PVC THREADED 90° ELL

(13) PEA GRAVEL OR 3/4" DRAIN ROCK– 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

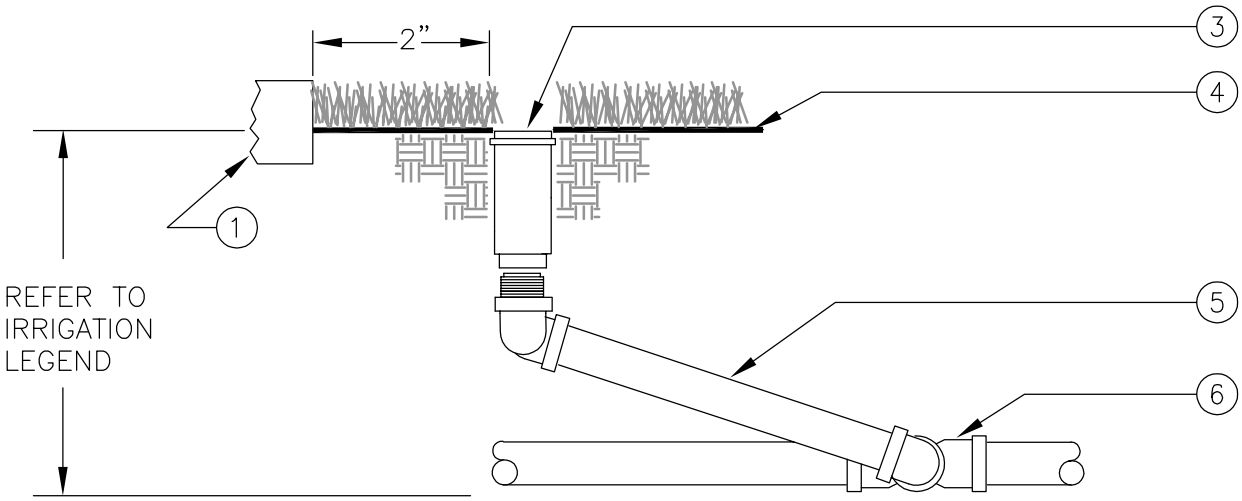
DRAWN BY:	CM
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

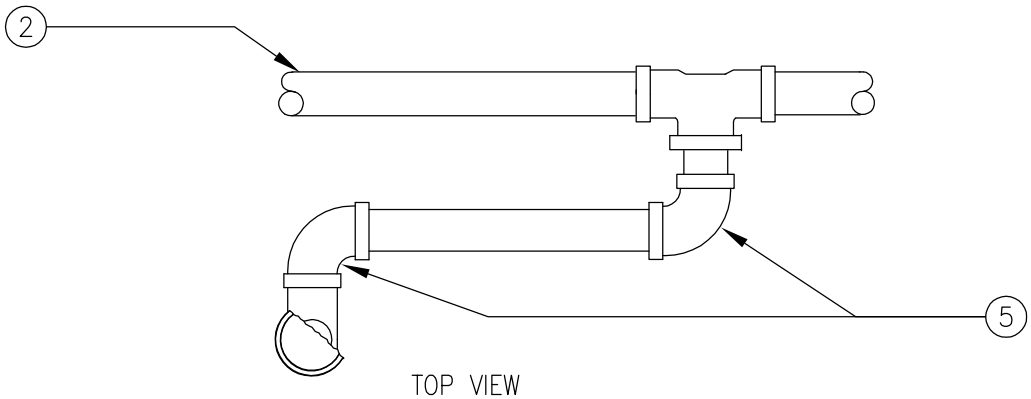
QUICK COUPLING VALVE

SHEET 1 OF 1

I–12



SIDE VIEW



TOP VIEW

NOTES:

1. SET SPRINKLER 1" ABOVE FINISH GRADE AT TIME OF INSTALLATION – LOWER TO FINISH GRADE WHEN TURF IS WELL ESTABLISHED

(1) WALL, WALK, CURB OR HEADER

(2) PVC LATERAL LINE

(3) POP–UP ROTARY SPRINKLER

(4) FINISH GRADE

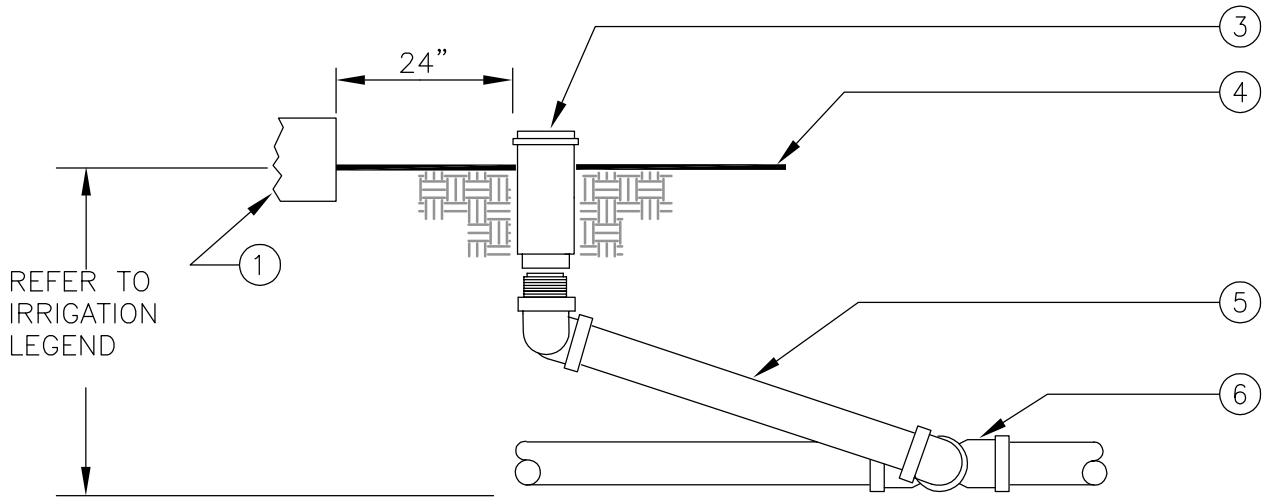
(5) UNITIZED SWING JOINT: 3/4"–LASCO MODEL T732–212
1"–LASCO MODEL T932–212

(6) SCHEDULE 40 PVC TEE OR ELBOW WITH THREADED OUTLET

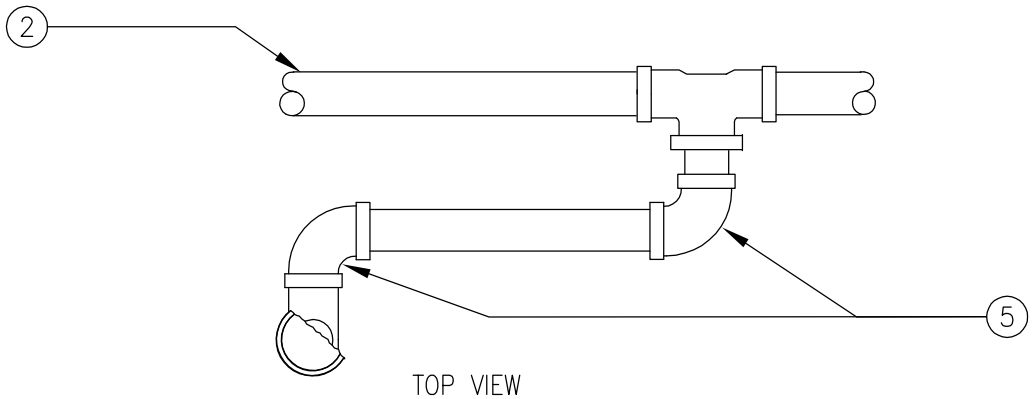
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL POP–UP ROTOR – TURF AREAS	SHEET 1 OF 3 I–13



SIDE VIEW



TOP VIEW

NOTES:

1. SET SPRINKLER 2" ABOVE FINISH GRADE

(1) WALL, WALK, CURB OR HEADER

(2) PVC LATERAL LINE

(3) POP-UP ROTARY SPRINKLER

(4) FINISH GRADE

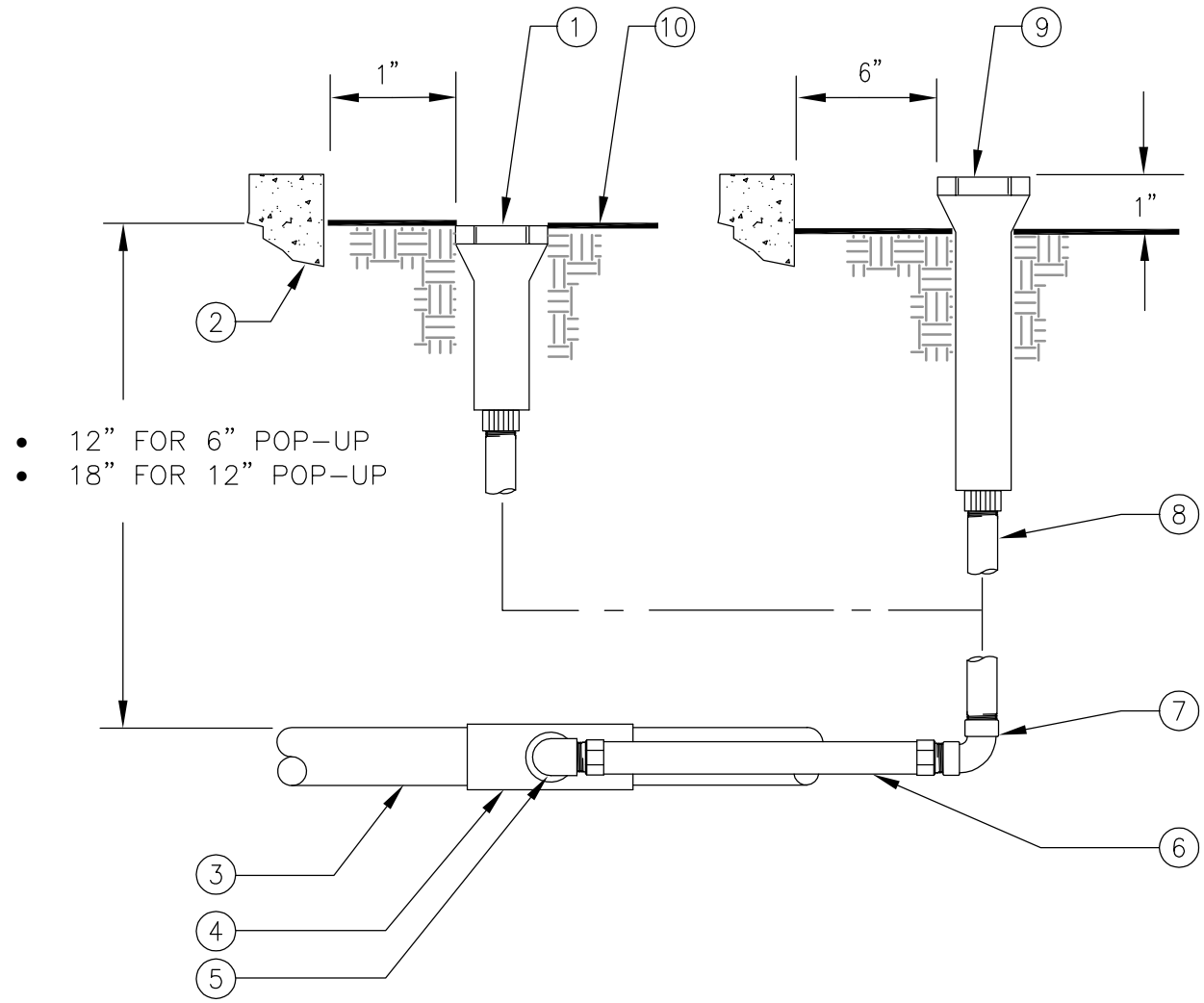
(5) UNITIZED SWING JOINT: 3/4"-LASCO MODEL T732-212
1"-LASCO MODEL T932-212

(6) SCHEDULE 40 PVC TEE OR ELBOW WITH THREADED OUTLET

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL POP-UP ROTOR - GROUND COVER/SHRUB AREAS	SHEET 2 OF 3 I-13



1. POP-UP LAWN
2. WALL, WALK, CURB OR BUILDING
3. PVC LATERAL LINE
4. SCH. 40 PVC TEE OR ELBOW
5. 1/2" SCH. 40 PVC STREET ELL
6. 1/2" FLEXIBLE IPS HOSE 6" LONG WITH MALE ADAPTERS
7. 1/2" SCH. 40 PVC THREADED 90° ELL
8. 1/2" SCH. 80 PVC THREADED NIPPLE (LENGTH AS REQUIRED)
9. POP-UP SHRUB SPRAY SPRINKLER OR BUBBLER
10. FINISH GRADE

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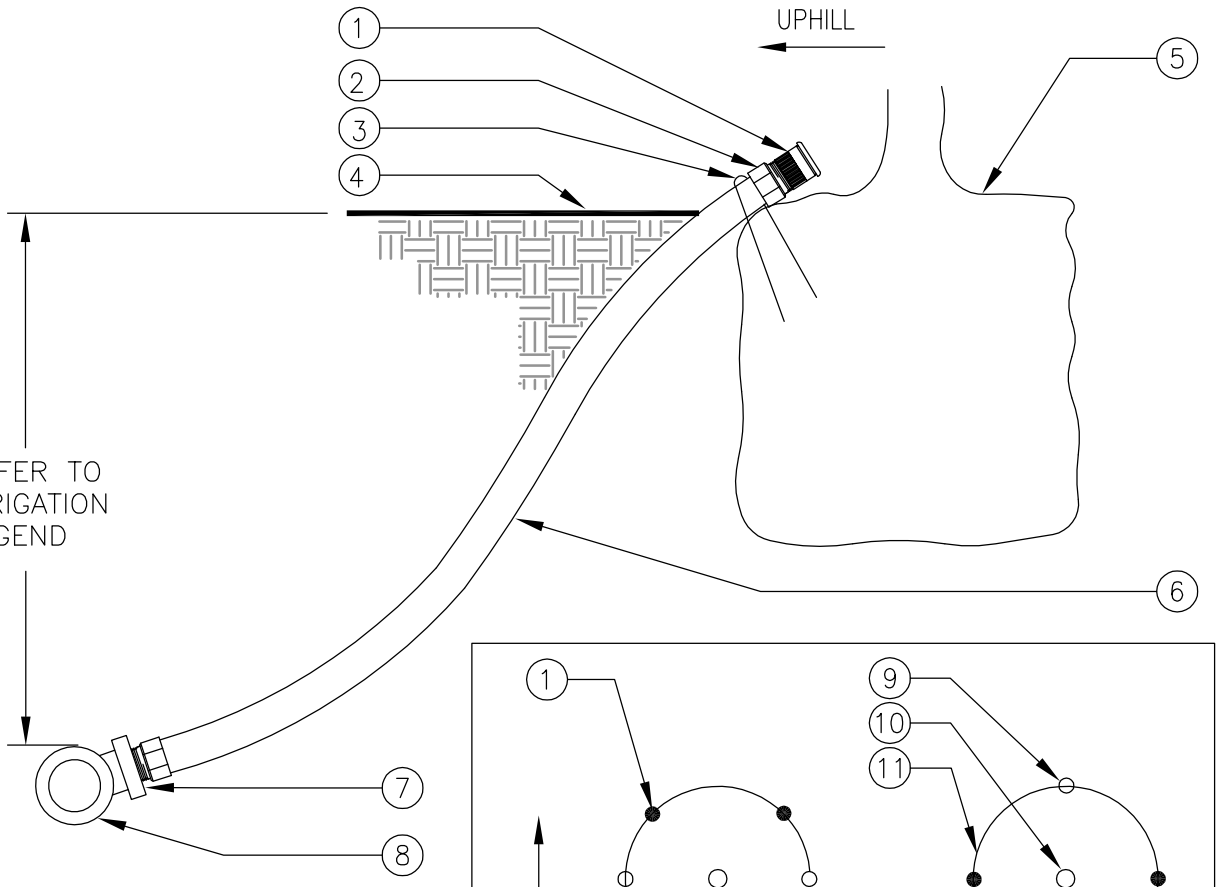
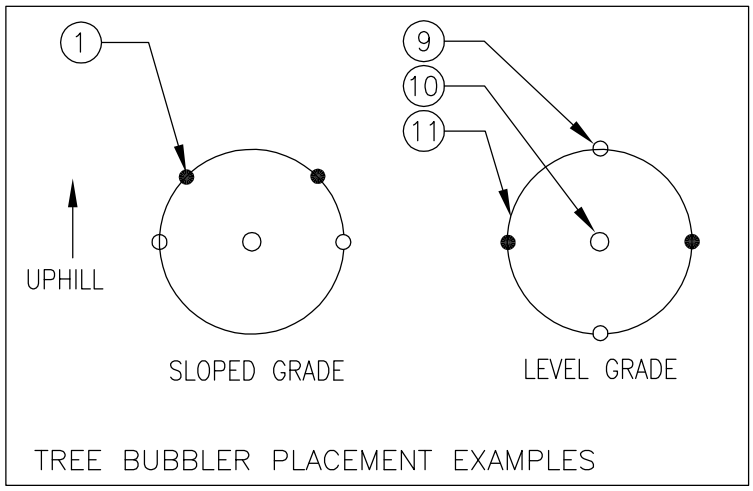
DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL POP-UP SPRAY SPRINKLER	SHEET 3 OF 3 I-13





TREE BUBBLER PLACEMENT EXAMPLES

NOTE:
SUGGESTED QUANTITY OF BUBBLERS PER TREES AND SHRUBS SIZE:

- SHRUBS = 1 BUBBLER
- 15 GAL OR 24" BOX = 2 BUBBLERS
- 36" OR 48" BOX = 4 BUBBLERS

(1) BUBBLER (TO BE INSTALLED ON TOP OF ROOTBALL)

(2) 1/2" SCH. 40 MALE ADAPTER

(3) 6" STAPLE

(4) FINISH GRADE

(5) TREE OR SHRUB ROOTBALL

(6) 1/2" IPS FLEXIBLE PVC

(7) PVC TEE (SST), ELBOW (ST) OR FEMALE ADAPTER

(8) PVC LATERAL LINE

(9) TREE STAKES

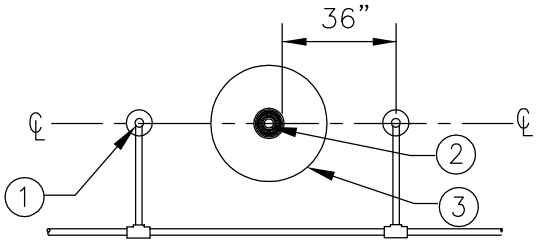
(10) TREE OR SHRUB

(11) EDGE OF ROOTBALL (TYPICAL)

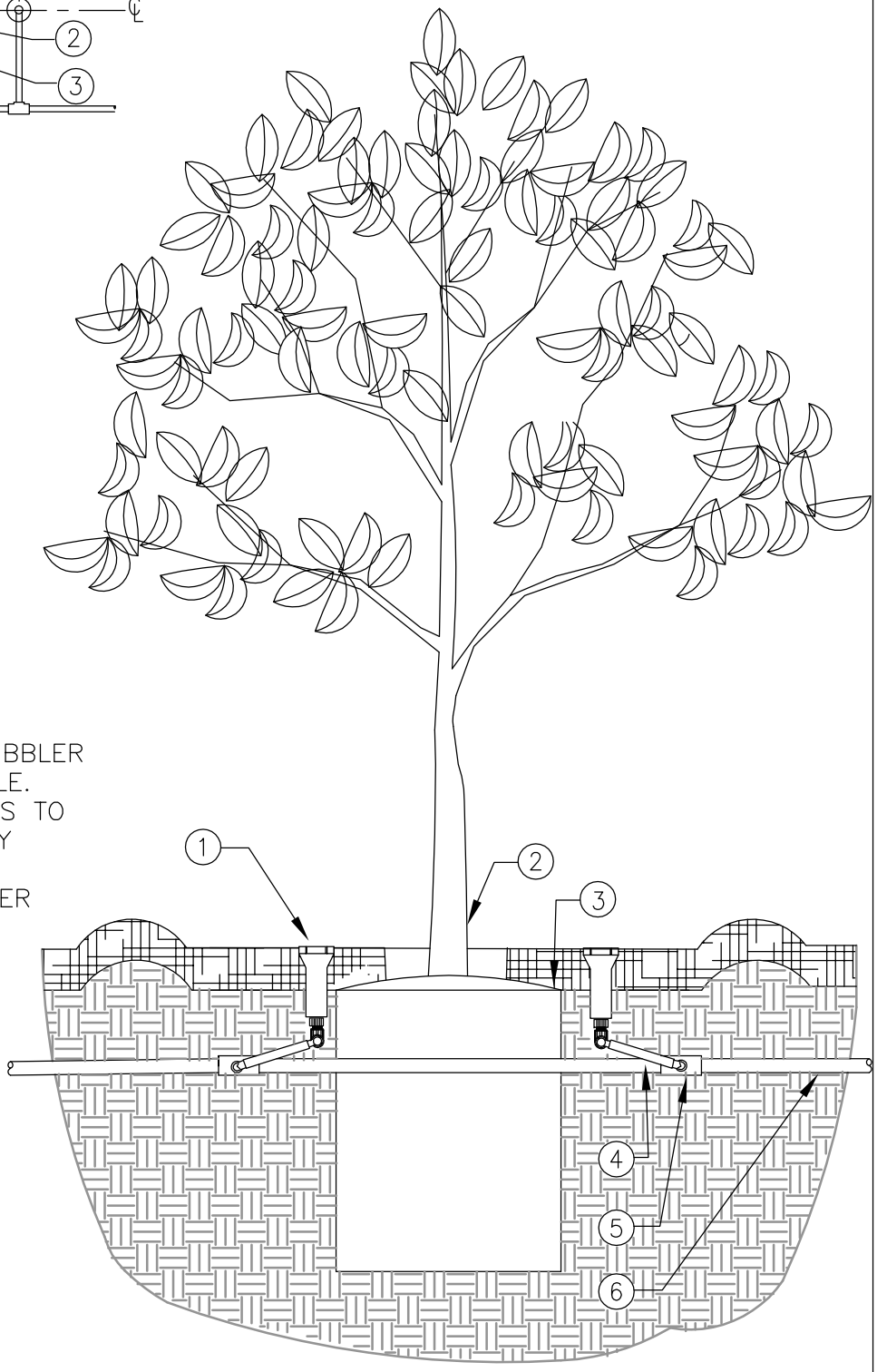
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL TREE & SHRUB BUBBLER – NON-TURF AREAS	SHEET 1 OF 2 I-14



TOP VIEW



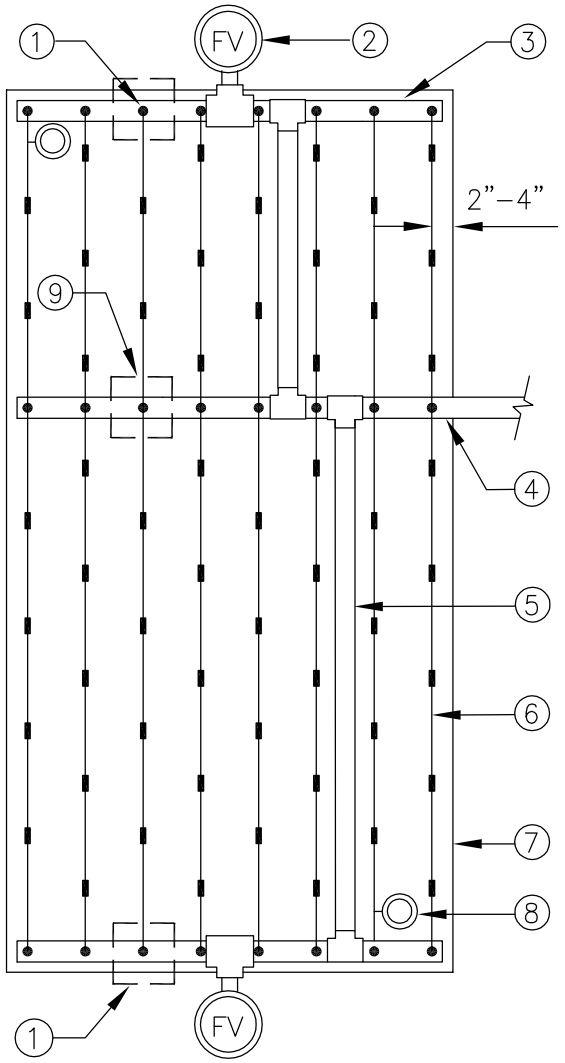
NOTE:
INSTALL 2 POP-UP BUBBLERS PER TREE.

1. 6" POP-UP SPRAY BUBBLER WITH 5 FT MPR NOZZLE. ADJUST NOZZLE RADIUS TO PREVENT DIRECT SPRAY ONTO TRUNK. INSTALL POP-UP SPRINKLER PER CITY STD DETAIL I-13
2. BASE OF TREE
3. ROOT BALL
4. SPRINKLER RISER. INSTALL POP-UP SPRINKLER PER CITY STD DETAIL I-13
5. SCH. 40 PVC TEE OR ELBOW
6. LATERAL LINE

APPROVED _____ DATE _____

DRAFT

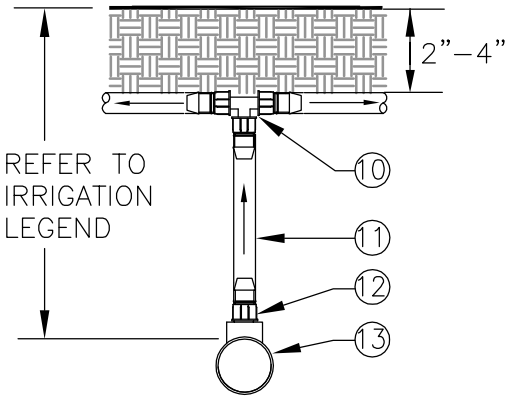
CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL POP-UP TREE BUBBLER – TURF AREAS	SHEET 2 OF 2 I-14



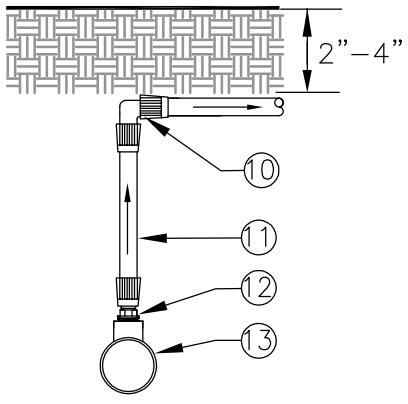
PLAN VIEW

1. PVC TO DRIPLINE ELBOW CONNECTION. REFER TO INSET B
2. FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT
3. 1" SCH. 40 PVC FLUSH MANIFOLD
4. PVC LATERAL LINE FROM VALVE. MINIMUM SIZE TO BE 1". SIZE AS FOLLOWS:
   1" = 0–12 GPM
   1.25 = 13–20 GPM
5. 1" PVC SUPPLY. EXTEND TO ENDS OF ZONE/EXHAUST HEADER
6. RAIN BIRD XFCV DRIPLINE
7. AREA PERIMETER
8. DRIPLINE OPERATION INDICATOR LOCATED AT THE ENDS OF EACH DRIPLINE ZONE. MIN. 2 PER VALVE
9. PVC TO DRIPLINE TEE CONNECTION. REFER TO INSET A
10. TWIST LOCK FITTING. TLF–TEE–0600 OR TLF–ELBW–0600
11. 1/2" POLYETHYLENE TUBING: RAIN BIRD XFD SERIES BLANK TUBING
12. TWIST LOCK FITTING: TLF–MPT6–0600
13. SCH 40 PVC TEE (SxSxT) WITH 1/2" FPT OUTLET

NOTE:
1. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE OFF A SINGLE PVC SUPPLY LINE CONNECTION OR A SINGLE RUN OF DRIPLINE SHALL NOT EXCEED 300 FT
2. INSTALL DRIPLINE 2"–4" BELOW GRADE AND STAKE DOWN EVERY 4' OR AS REQUIRED



INSET A



INSET B

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

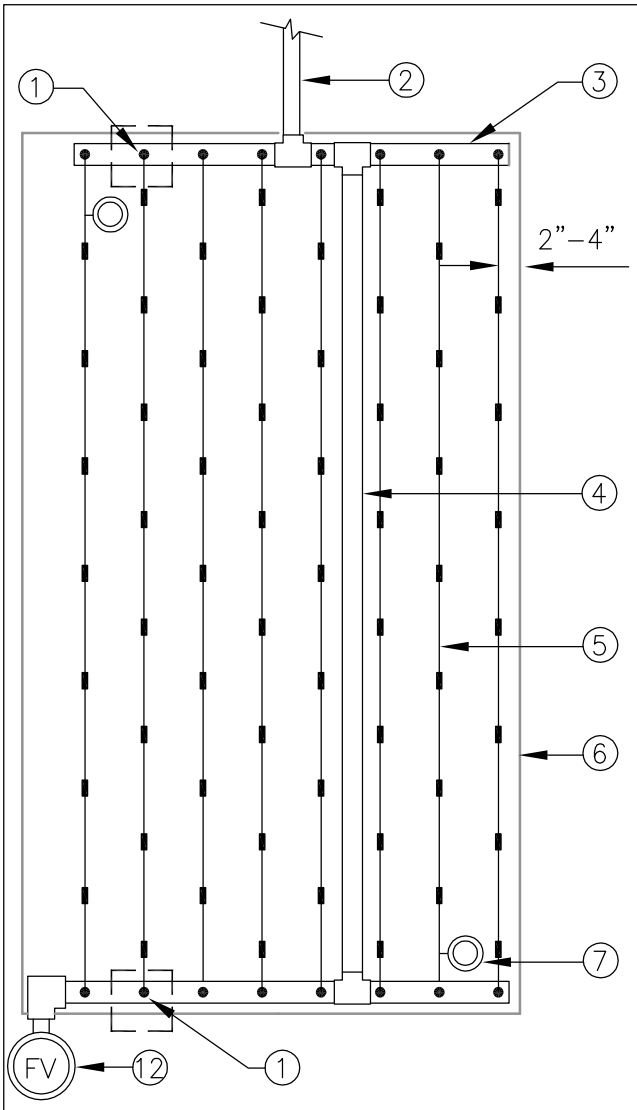
DRAWN BY:	CM
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

DRIPLINE – CENTER FEED

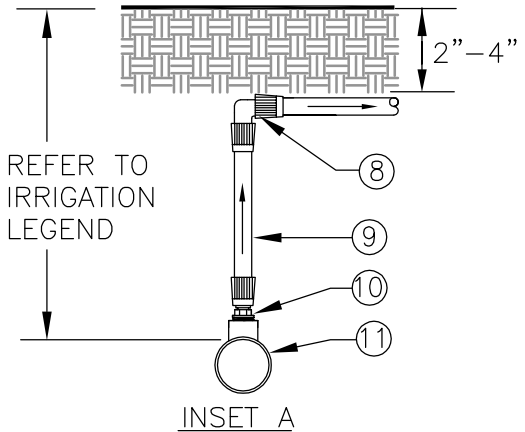
SHEET 1 OF 6

I–15



PLAN VIEW

1. PVC TO DRIPLINE ELBOW CONNECTION. REFER TO INSET A
2. PVC LATERAL LINE FROM VALVE. MINIMUM SIZE TO BE 1". SIZE AS FOLLOWS:
   1" = 0–12 GPM
   1.25 = 13–20 GPM
3. 1" SCH. 40 PVC FLUSH MANIFOLD
4. 1" PVC SUPPLY. EXTEND TO ENDS OF ZONE/EXHAUST HEADER
5. RAIN BIRD XFCV DRIPLINE
6. AREA PERIMETER
7. DRIPLINE OPERATION INDICATOR LOCATED AT THE ENDS OF EACH DRIPLINE ZONE. MIN. 2 PER VALVE
8. TWIST LOCK FITTING. TLF–ELBW–0600
9. 1/2" POLYETHYLENE TUBING: RAIN BIRD XFD SERIES BLANK TUBING
10. TWIST LOCK FITTING: TLF–MPT6–0600
11. SCH 40 PVC TEE (SxSxT) WITH 1/2" FPT OUTLET
12. FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT



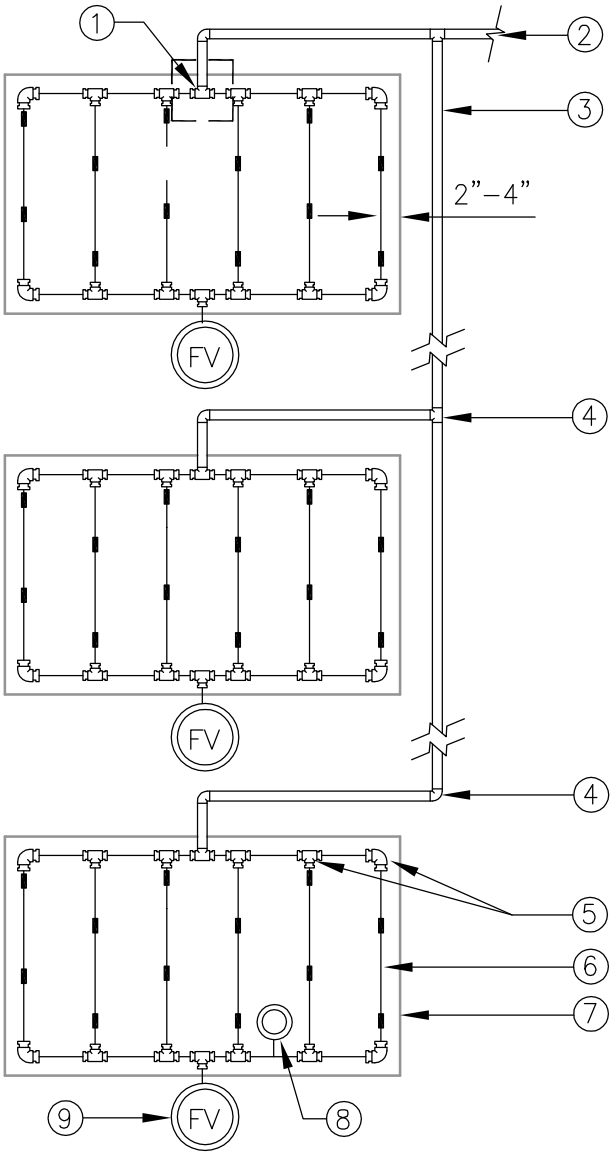
INSET A

NOTE:
1. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE OFF A SINGLE PVC SUPPLY LINE CONNECTION OR A SINGLE RUN OF DRIPLINE SHALL NOT EXCEED 300 FT
2. INSTALL DRIPLINE 2"–4" BELOW GRADE AND STAKE DOWN EVERY 4' OR AS REQUIRED

APPROVED _____ DATE _____

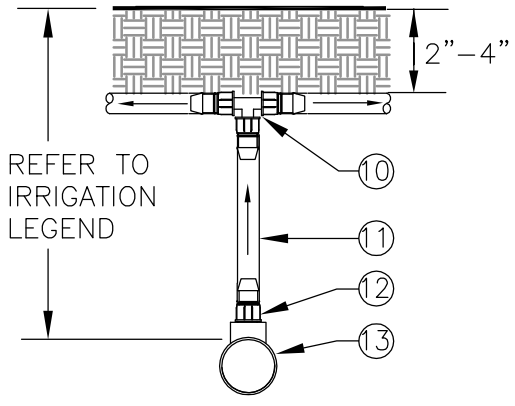
DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM	STANDARD DETAIL	SHEET 2 OF 6
				CHECKED BY: MK	DRIPLINE – END FEED	I–15
				DATE: 2019–01–11		
				SCALE: NTS		



PLAN VIEW

1. PVC TO DRIPLINE TEE CONNECTION. REFER TO INSET A
2. PVC LATERAL LINE FROM VALVE. MINIMUM SIZE TO BE 1". SIZE AS FOLLOWS:
   1" = 0–12 GPM
   1.25 = 13–20 GPM
3. 1" PVC SUPPLY. EXTEND TO EACH ISLAND PLANTER
4. SCH. 40 PVC TEE OR ELBOW (SxSxS OR SxS)
4. 1" PVC SUPPLY. EXTEND TO ENDS OF ZONE/EXHAUST HEADER
5. TWIST LOCK FITTING. TLF–ELBW–0600 OR TLF–TEE–0600
6. RAIN BIRD XFCV DRIPLINE
7. AREA PERIMETER
8. DRIPLINE OPERATION INDICATOR LOCATED AT THE ENDS OF EACH DRIPLINE ZONE. MIN. 2 PER VALVE
9. FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT
10. TWIST LOCK FITTING. TLF–ELBW–0600 OR TLF–TEE0600
11. 1/2" POLYETHYLENE TUBING: RAIN BIRD XFD SERIES BLANK TUBING
12. TWIST LOCK FITTING: TLF–MPT6–0600
13. SCH 40 PVC TEE (SxSxT) WITH 1/2" FPT OUTLET



INSET A

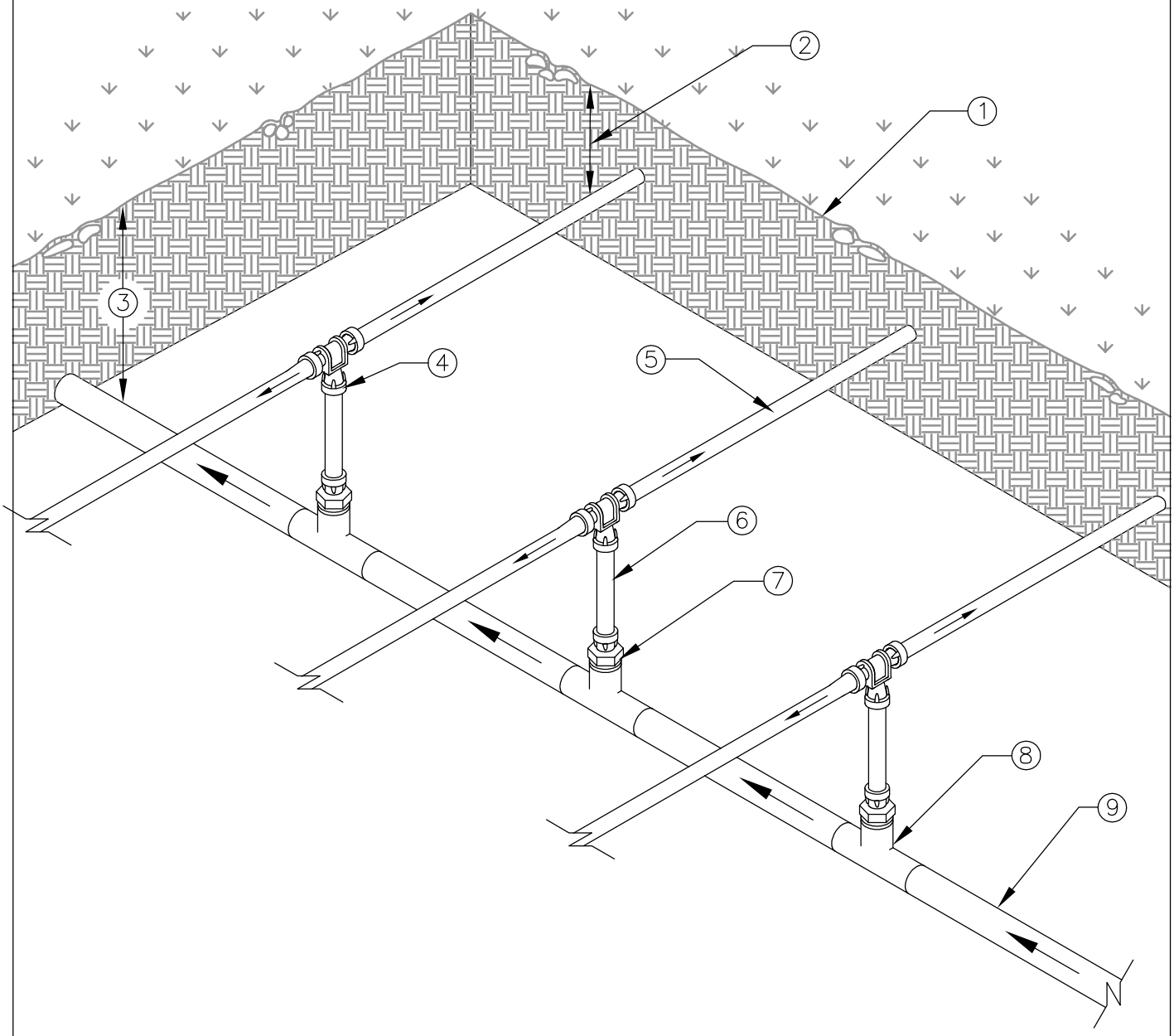
NOTE:
1. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE OFF A SINGLE PVC SUPPLY LINE CONNECTION OR A SINGLE RUN OF DRIPLINE SHALL NOT EXCEED 300 FT
2. INSTALL DRIPLINE 2"–4" BELOW GRADE AND STAKE DOWN EVERY 4' OR AS REQUIRED

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL DRIPLINE – ISLAND LAYOUT	SHEET 3 OF 6 I–15

ISOMETRIC



1. FINISH GRADE
2. DEPTH OF TUBING PER IRRIGATION LEGEND
3. DEPTH OF PVC LATERAL LINE PER IRRIGATION LEGEND
4. TWIST LOCK TEE FITTING. TLF–TEE–0600
5. RAIN BIRD XFCV DRIPLINE
6. 1/2" POLYETHYLENE TUBING: RAIN BIRD XFD SERIES BLANK TUBING
7. TWIST LOCK FITTING: TLF–MPT6–0600
8. SCH 40 PVC TEE WITH 1/2" FPT OUTLET
9. PVC LATERAL LINE FROM REMOTE CONTROL VALVE

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

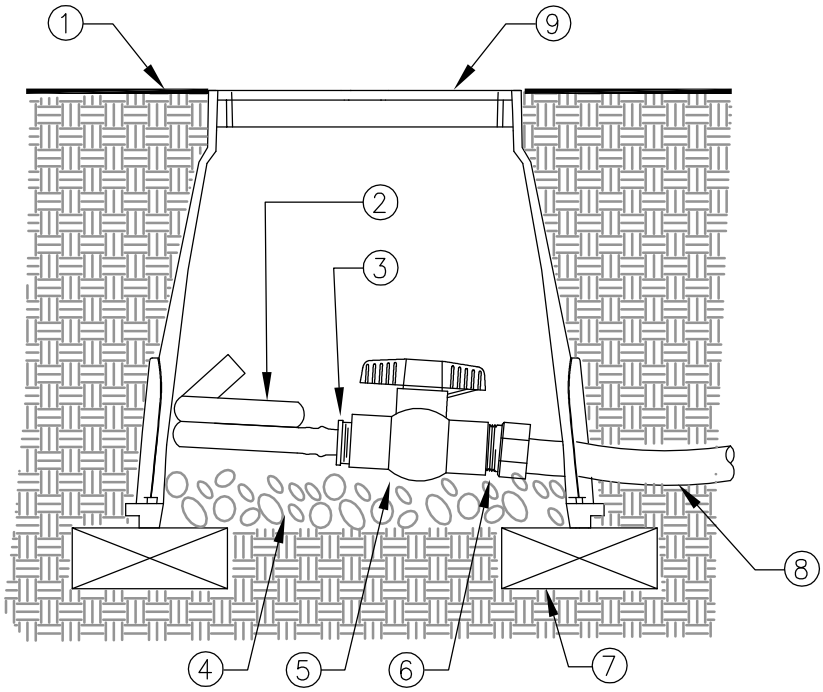
DRAWN BY:	CM
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

DRIPLINE – CENTER FEED MANIFOLD

SHEET 4 OF 6

I–15



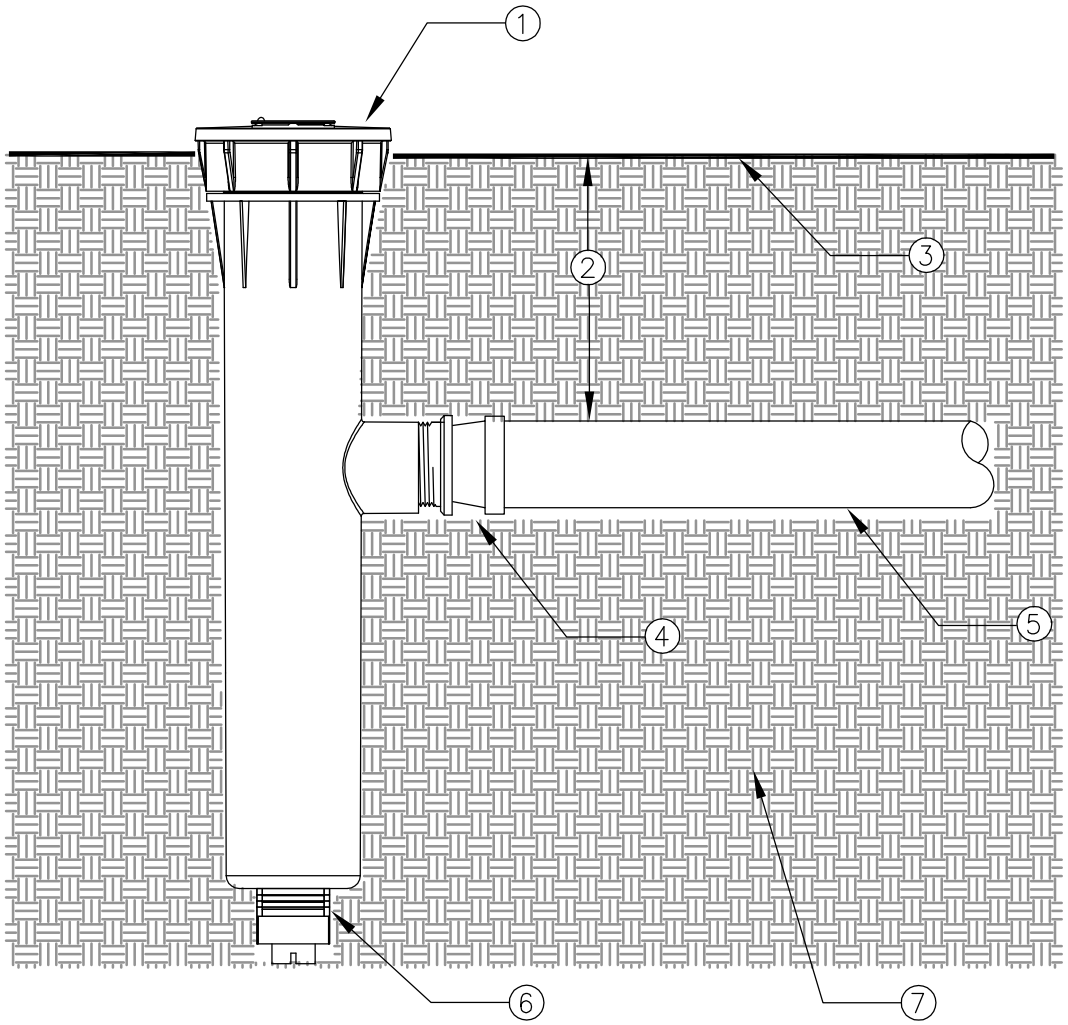
NOTE:
ALLOW A MINIMUM 18" OF DRIPLINE HOSE IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX

1. FINISH GRADE
2. 1/2" POLYETHYLENE TUBING:
   RAIN BIRD XFD SERIES BLANK TUBING. MIN. 18" IN LENGTH
3. TWIST LOCK MALE ADAPTER. TLF-MPT6-0600
4. PEA GRAVEL SUMP (4" DEEP)
5. 1/2" SCH. 40 THREADED BALL VALVE
6. 1/2" SCH. 40 MALE ADAPTER
7. BRICK-2 TOTAL
8. 1/2" IPS PVC HOSE FROM DRIPLINE OR EXHAUST HEADER
9. 6" ROUND PLASTIC VALVE BOX

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL DRIPLINE – FLUSH POINT	SHEET 5 OF 6 I-15



SECTION/ELEVATION

1. RAIN BIRD 6" POP UP SPRINKLER WITH SIDE INLET (MODEL 1806-SI WITH 5' NOZZLE (MODEL 5Q) TURNED COMPLETELY OFF WITH ADJUSTMENT SCREW. SPRINKLER SHALL OPERATE AS THE DRIPLINE INDICATOR. USE A MINIMUM OF ONE PER ZONE AND LOCATED AT END OF ZONE
2. DEPTH OF DRIPLINE. REFER TO IRRIGATION LEGEND
3. FINISH GRADE
4. RAIN BIRD TWIST LOCK MALE ADAPTER FITTING: TLF-MPT6-0600
5. DRIPLINE
6. KEEP PLUG IN SPRINKLER. ONLY USE SIDE INLET
7. SOIL BACKFILL

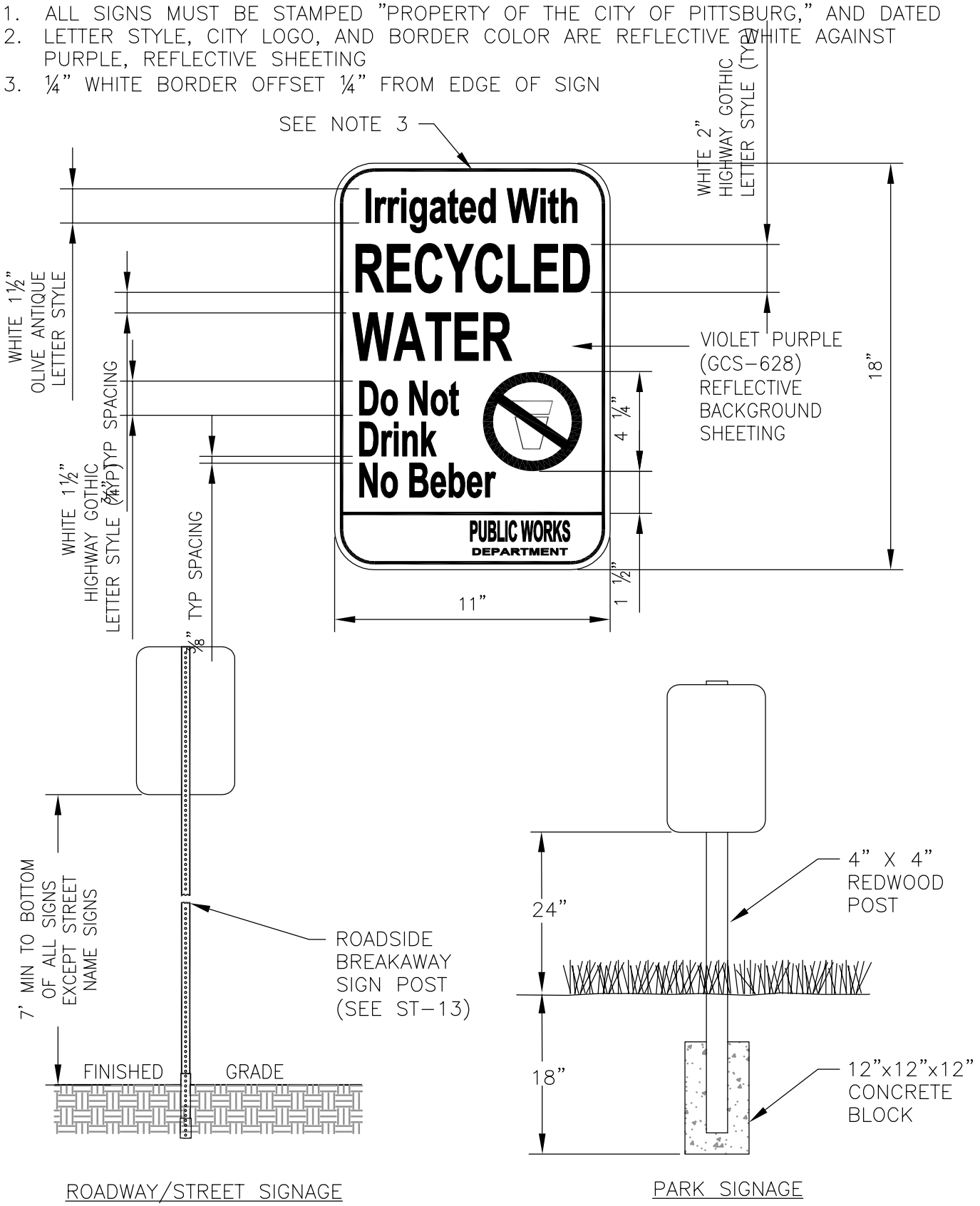
APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019-01-11 SCALE: NTS	STANDARD DETAIL DRIPLINE – OPERATION INDICATOR	SHEET 6 OF 6 I-15

NOTES:

1. ALL SIGNS MUST BE STAMPED "PROPERTY OF THE CITY OF PITTSBURG," AND DATED
2. LETTER STYLE, CITY LOGO, AND BORDER COLOR ARE REFLECTIVE WHITE AGAINST PURPLE, REFLECTIVE SHEETING
3. ¼" WHITE BORDER OFFSET ¼" FROM EDGE OF SIGN



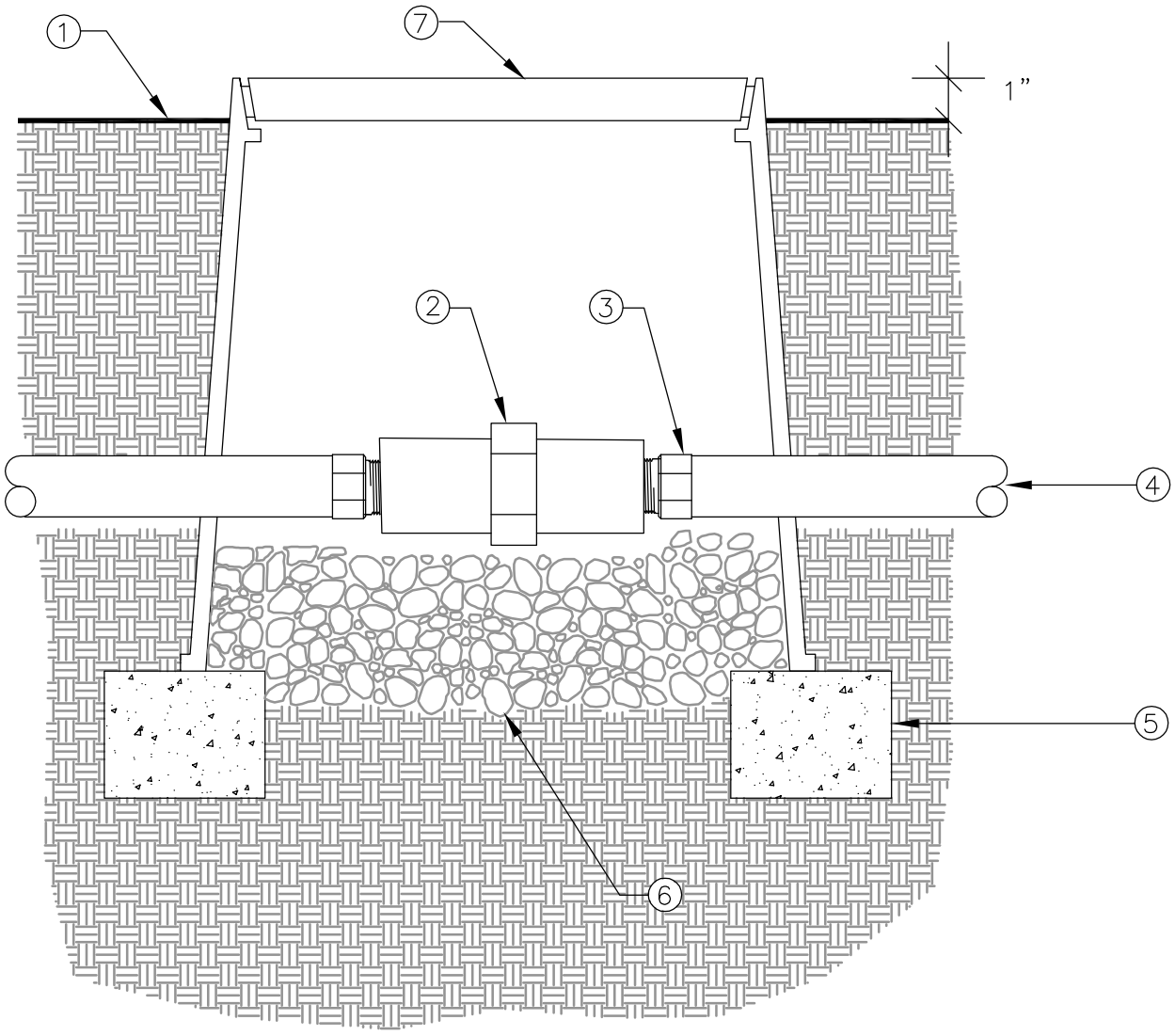
ROADWAY/STREET SIGNAGE

PARK SIGNAGE

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM	CHECKED BY: MK	DATE: 2019-01-11	SCALE: NTS	STANDARD DETAIL	SHEET 1 OF 1
								RECYCLED WATER SIGN	I-16



SECTION/ELEVATION

1. FINISH GRADE
2. INLINE SPRING OR SWING LOADED CHECK VALVE. MATCH SIZE OF LATERAL LINE
3. SCHEDULE 40 PVC MALE ADAPTER. 2 TOTAL
4. PVC LATERAL LINE
5. BRICK–2 TOTAL
6. PEA GRAVEL OR 3/4" DRAIN ROCK – 4" DEEP (NO SOIL IN VALVE BOX)
7. 10" ROUND VALVE BOX

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

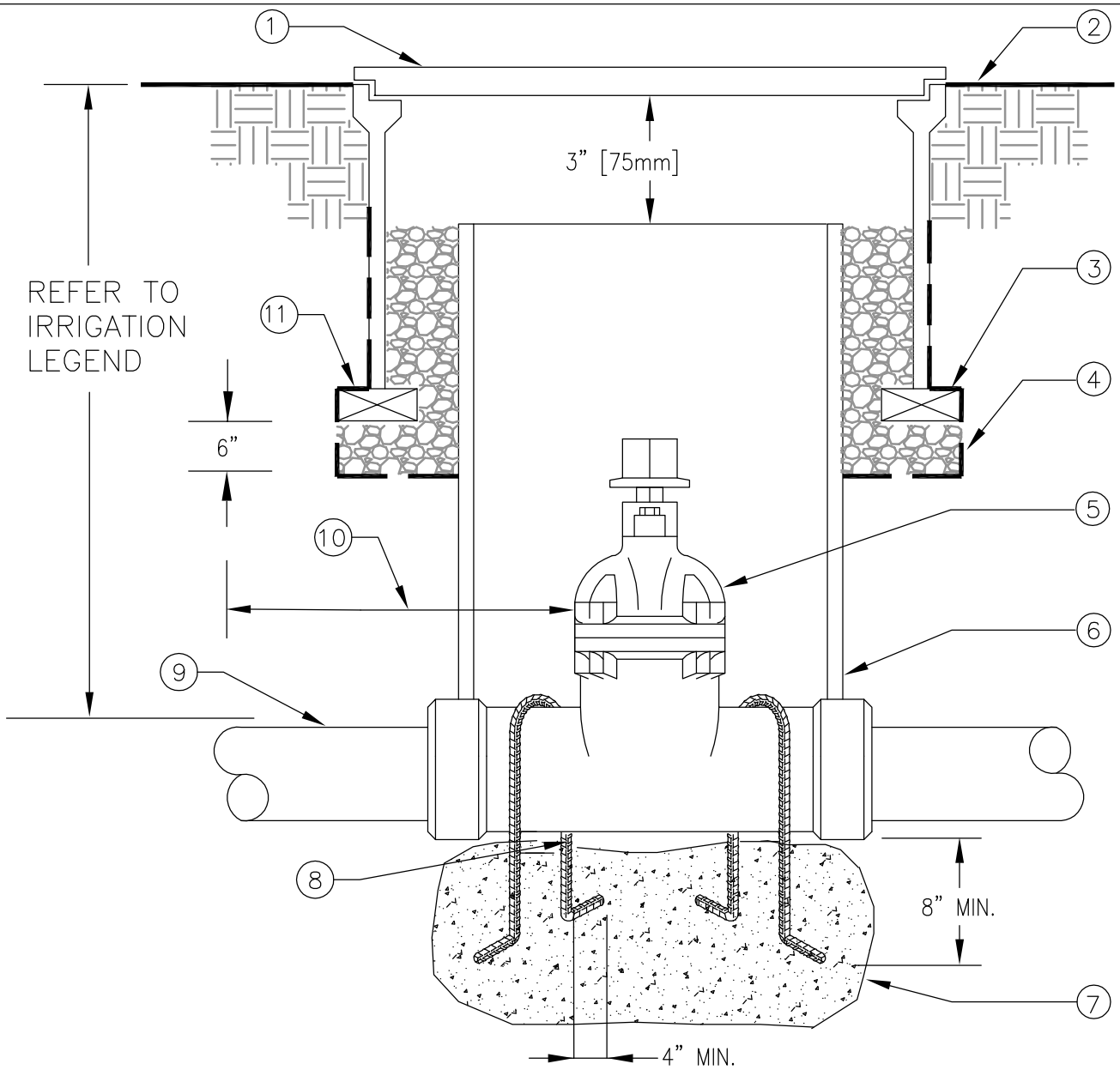
DRAWN BY: CM
CHECKED BY: MK
DATE: 2019–01–11
SCALE: NTS

STANDARD DETAIL

LATERAL LINE CHECK VALVE

SHEET 1 OF 1

I–17



1. 10" ROUND PLASTIC VALVE BOX WITH BOLT DOWN T–LID
2. FINISH GRADE
3. BRICK–2 TOTAL
4. PEA GRAVEL OR 3/4" DRAIN ROCK – 4" DEEP BELOW VALVE (NO SOIL IN VALVE BOX)
5. GATE VALVE WITH 2" OPERATING NUT
6. 6" PVC PIPE. CUT OUT AROUND PIPE
7. CONCRETE THRUST BLOCK – 18" CUBE
8. #4 REBAR–BEND OVER VALVE BODY BEND EACH END
9. PVC MAIN LINE
10. PROVIDE A MINIMUM OF 10' BETWEEN GATE VALVE AND MAIN LINE TEE OR ELBOW
11. 19 GAUGE 1/2" SQUARE WIRE MESH. WRAP UP SIDE OF BOX

APPROVED _____ DATE _____

DRAFT

NO.	DATE	REVISION

CITY OF PITTSBURG

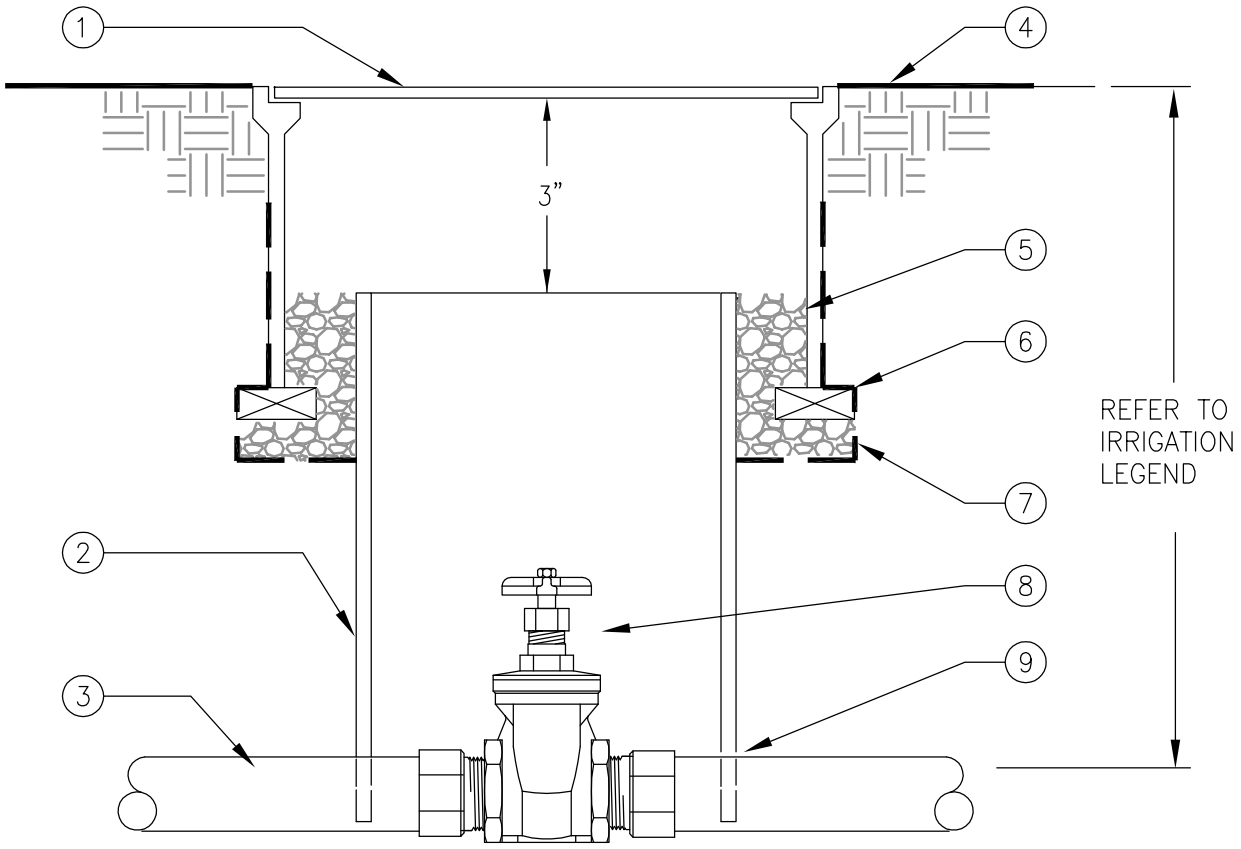
DRAWN BY:	CM
CHECKED BY:	MK
DATE:	2019–01–11
SCALE:	NTS

STANDARD DETAIL

GATE VALVE – 4" & LARGER

SHEET 1 OF 2

I–18



1. 10" ROUND PLASTIC VALVE BOX WITH BOLT DOWN LID
2. 8" CLASS 160 OR SCHEDULE 40 PVC PIPE (NOTCH TO FIT OVER MAIN LINE PIPE)
3. PVC MAIN LINE
4. FINISH GRADE
5. PEA GRAVEL OR 3/4" DRAIN ROCK – 4" DEEP (NO SOIL IN VALVE BOX)
6. BRICK–2 TOTAL
7. 19 GAUGE 1/2" SQUARE WIRE MESH
8. GATE VALVE WITH X–TOP HANDLE
9. MALE ADAPTER. REFER TO LEGEND FOR FITTING TYPE

APPROVED _____ DATE _____

DRAFT

CITY OF PITTSBURG	NO.	DATE	REVISION	DRAWN BY: CM CHECKED BY: MK DATE: 2019–01–11 SCALE: NTS	STANDARD DETAIL GATE VALVE – 3" & SMALLER	SHEET 2 OF 2 I–18

City of Pittsburg

City Council

City Standard Specifications and Details Update

January 17, 2023

BACKGROUND

The City Standard Specifications and Standard Details are requirements that outline the acceptable methods of design and construction of public improvements.

Routine updates are necessary to ensure that public improvements meet a minimum level of quality.

City Standard Specifications and Details Update

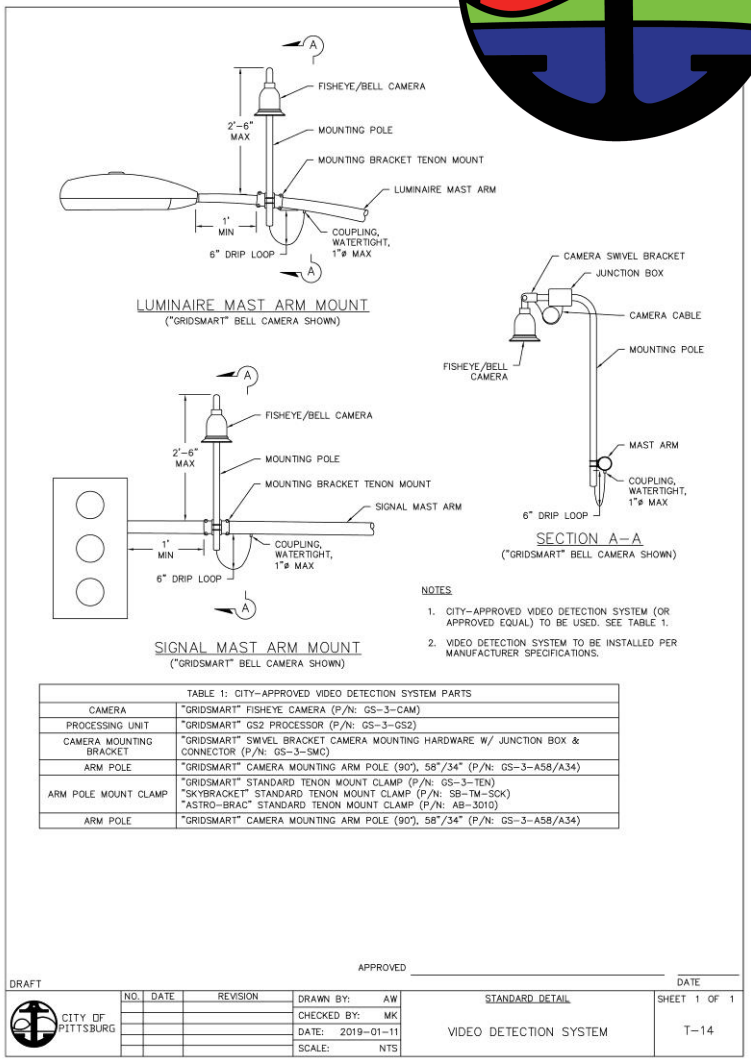
DETAIL T-13, T-14 AND T-15

Improve Safety Through Increased Visibility

- Detail T-13 Raised pavement markers on median noses
- Detail T-14 For high visibility crosswalks

Improve Intersection Quality Control

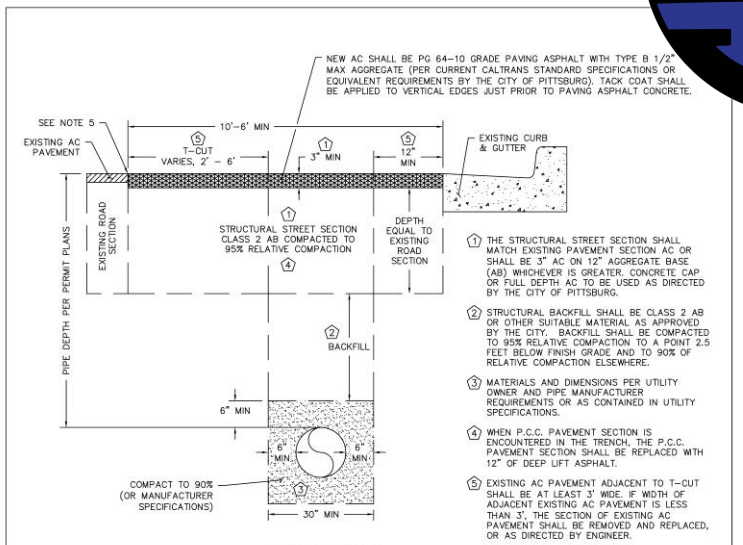
- Detail T-15 Improved video detection technology for traffic at intersections



DETAIL R-5 UPDATES

New requirements for contractors

- Prohibit contractors from leaving a small section of pavement unrestored between the existing trench asphalt and gutters
- Must maintain a minimum width of existing asphalt pavement adjacent to trench repairs



City Standard Specifications and Details Update

OTHER SPECIFICATION UPDATES

Notable additions include:

- □pdates to the material make or model referred to in Standard Details
- An “Agreement and Release of Any and All Claims” form
- Reference to the latest Bay Area Stormwater Management Agencies Association Specification of Soils for Biotreatment or Bioretention Facilities
- Information on updated Water Pollution Prevention

STAFF RECOMMENDATION

Staff recommends that the City Council

- Adopt the resolution to adopt the updated City Standard Specifications and Standard Details
- Authorize the City Engineer to execute periodic amendments as necessary.

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption by Minute Order of Council Member Committee Assignments for 2022, and Confirmation of Posting of FPPC Form 806 "Agency Report of Public Official Appointments"

MEETING DATE: **January 17, 2023**

EXECUTIVE SUMMARY

In accordance with the City of Pittsburg "Policy and Procedure for City Council" adopted by the City Council on September 4, 2001 by Resolution No. 01-9475, the Mayor and Vice-Mayor shall appoint individual City Council Members to standing and ad hoc committees and such appointments shall be approved by the entire City Council at its first meeting following reorganization. This also confirms posting of the Fair Political Practices Commission Form 806 "Agency Report of Public Official Appointments."

FISCAL IMPACT

There is no fiscal impact.

RECOMMENDATION

Adopt by Minute Order the City Council Committee Assignments - 2023 attached as Exhibit A and confirm posting of FPPC Form 806 "Agency Report of Public Official Appointments."

BACKGROUND

California Government Code Section 36813 authorizes a City Council to establish rules and policies for the conduct of its proceedings. On September 4, 2001, the City Council adopted Resolution No. 01-9475 providing for rules and procedures for the conduct of Council business.

SUBCOMMITTEE FINDINGS

This item was not submitted to a subcommittee.

STAFF ANALYSIS

In accordance with the rules and procedures, the Mayor and Vice-Mayor shall appoint individual City Council Members to the standing and ad hoc committees. Prior to the appointments, individual City Council Members may submit preferences for committee assignments. The list of appointments is then presented to the City Council for consideration at the first meeting following the annual reorganization.

Mayor Scales-Preston and Vice-Mayor Banales submit the proposed assignments set forth in Exhibit A for City Council consideration and recommend adoption of the committee assignments for 2023.

Pursuant to Section 18705.5 of Title 2 of the California Code of Regulations, an updated FPPC Form 806, “Agency Report of Public Official Appointments” has been posted on the City’s website as well as on the board at City Hall as of December 23, 2022.

ATTACHMENTS: Exhibit A

Report Prepared By: Alice E. Evenson, City Clerk

City Council Outside Agency / Liaison / Sub-Committees Assignments - 2023

Updated January 17, 2023

OUTSIDE AGENCY BOARDS	COUNCIL MEMBER(S)	TYPE	MEETS	TIME	STAFF
ABAG	Shanelle Scales-Preston / Jelani Killings Alt.	Standing	Annual		G. Evans
Delta Diablo*	Juan Banales / Shanelle Scales-Preston Alt.	Standing	2nd Wednesday	4:30 pm	R. Abono
East Co. Co. County Habitat Conservancy	Juan Banales / Jelani Killings Alternate	Standing	4th Monday Bi-Monthly	2:00 pm	J. Davis
East County Water Management	Juan Banales / Jelani Killings Alternate	Standing	Annual		R. Abono
MCE Clean Energy Board	Shanelle Scales-Preston / Angelica Lopez Alt.	Standing	Quarterly	7:00 pm	D. Buchanan
TRANSPLAN / ECCRFFA	Shanelle Scales-Preston / Juan Banales Alt.	Standing	2nd Thursday	6:30 pm	R. Abono
Tri-Delta Transit (2 reps)**	S. Scales-Preston & Dionne Adams / Jelani Killings Alt.	Standing	Last Wednesday	4:00 pm	R. Abono

LIAISON TO	COUNCIL MEMBER(S)	TYPE	MEETS	TIME	STAFF
East Bay League of Calif. Cities	Shanelle Scales-Preston / Jelani Killings Alt.	Standing	3rd Thursday		G. Evans
Los Medanos Health Advisory Committee	Shanelle Scales-Preston & Jelani Killings	Ad Hoc	As needed		M. Aliotti
Mayor's Conference	Shanelle Scales-Preston / Juan Banales Alt.	Standing	1st Thursday	6:30 pm	G. Evans
School Districts Committee (2x2)	Jelani Killings & Angelica Lopez / Dionne Adams Alt.	Standing	2nd Thursday even months	4:00 pm	M. Aliotti

SUBCOMMITTEES	COUNCIL MEMBER(S)	TYPE	MEETS	TIME	STAFF
CAC CDBG	Dionne Adams & Angelica Lopes / S. Scales-Preston Alt.	Standing	As needed		M. Aliotti
City Infrastructure and Transportation	S. Scales-Preston & Juan Banales / Jelani Killings Alt.	Standing	As needed		R. Abono
Community Services	S. Scales-Preston & Angelica Lopez / Dionne Adams Alt.	Standing	As needed		M. Aliotti
Constituent Management Services	S. Scales-Preston & Dionne Adams / Angelica Lopez Alt.	Ad Hoc	As needed		M. Aliotti
Economic Develop/Waterfront	Jelani Killings & Dionne Adams / S. Scales-Preston Alt.	Standing	As needed	4:30 pm	J. Davis
Finance	S. Scales-Preston & Juan Banales / Dionne Adams Alt.	Standing	Monthly	3:30 pm	P. Rodrigues
Government Performance	Juan Banales & Jelani Killings	Ad Hoc	As needed		J. Brizel
Land Use	Juan Banales & Dionne Adams / Angelica Lopez Alt.	Standing	Monthly	1:30 pm	J. Davis
My Brothers Keeper	S. Scales-Preston & Jelani Killings	Ad Hoc	As needed		K. Simonton
Pittsburg Arts & Community Foundation	S. Scales-Preston & Jelani Killings / Dionne Adams Alt.	Standing	As needed		K. Simonton
Pittsburg Police Activities League (PAL)	S. Scales-Preston & Angelica Lopez / Dionne Adams Alt.	Standing	Monthly		S. Albanese
Pittsburg Recognition	Juan Banales & Jelani Killings	Standing	As needed		M. Aliotti
Power Company Advisory	Dionne Adams & Angelica Lopez / Juan Banales Alt.	Standing	As needed		D. Buchanan
Public Safety	S. Scales-Preston & Jelani Killings / Juan Banales Alt.	Standing	As needed	5:00 pm	S. Albanese
Sister City Committee	Jelani Killings & Angelica Lopez / S. Scales-Preston Alt.	Standing	As needed		K. Simonton
Tobacco, Cannabis, Alcohol Policy Review	Juan Banales & Jelani Killings	Ad Hoc	As needed		G. Evans

*Stipend of $170 per month
**Stipend of $100 per month

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Accepting Metropolitan Transportation Commission's Allocation of FY 2022-23 Transportation Development Act Article 3 Pedestrian/Bicycle Project Grant Funding for Project 2050—Safe Routes to School

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The Metropolitan Transportation Commission (MTC) provides Transportation Development Act (TDA) Pedestrian/Bicycle Project Grant funds to projects creating safer routes for walking and biking to school. The City's application for funds has been approved. The attached resolution accepts the MTC FY 2022-23 grant funds for Project 2050—Safe Routes to School (the "Project") to improve safety at five school crosswalk locations.

FISCAL IMPACT

The MTC grant is in the amount of $105,000 for construction of Project improvements. Staff will provide in-house design and construction management services. The total project cost is estimated to be $105,000.

RECOMMENDATION

Staff recommends that the City Council accept the MTC TDA Article 3 Pedestrian/Bicycle Project Grant funds for FY 2022-23 for Project 2050-Safe Routes to School.

BACKGROUND

Currently, students use crosswalks marked with two 12" painted lines.

The Project will increase student safety through the installation of rectangular rapid flashing beacons (RRFBs) with push buttons at five school crosswalks: Pittsburg High School, Heights Elementary School, Saint Peter Martyr School, and Highlands Elementary School.

The proposed improvements also include roadside signage at roadway crossings along School Street, Seeno Street, Riverview Drive, West 4th Street, and Buchanan Road.

The Project has the support of the Pittsburg Unified School District Director of Maintenance, Operations, and Transportation.

SUBCOMMITTEE FINDINGS

The item was not presented to a subcommittee.

STAFF ANALYSIS

Construction of the Project will encourage more walking, which would help to reduce vehicle travel and greenhouse gas emissions.

Approval of the attached resolution accepts the grant funds. Staff anticipates returning to the City Council at a later meeting to request project approval and award of a construction contract.

ATTACHMENTS: Resolution
Attachment A – Required Findings
Attachment B – MTC Application
Attachment C – MTC Fund Allocation Letter

Report Prepared By: Savon Reese, Assistant Engineer

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adoption of a City Council Resolution	)	RESOLUTION NO. 23-
Accepting Metropolitan Transportation	)	
Commission's Allocation of FY 2022-23	)	
Transportation Development Act Article 3	)	
Pedestrian/Bicycle Project Grant Funding	)	

WHEREAS, Article 3 of the Transportation Development Act (TDA) Public Utilities Code (PUC), Section 99200 et seq., authorizes the submission of claims to a regional transportation planning agency for the funding of projects exclusively for the benefit and use of pedestrians and bicyclists; and

WHEREAS, the Metropolitan Transportation Commission (MTC), as the regional transportation planning agency for the San Francisco Bay region, has adopted MTC Resolution No. 4108, entitled "Transportation Development Act Article 3 Pedestrian/Bicycle Projects," which delineates procedures and criteria for submission of requests for the allocation of TDA Article 3 funding; and

WHEREAS, MTC Resolution 4108 requires that requests for the allocation of TDA Article 3 funding be submitted as part of a single, countywide coordinated claim for each county in the San Francisco Bay region; and

WHEREAS, the City of Pittsburg declares it is eligible to request an allocation of TDA Article 3 funds pursuant to Section 99234 of the Public Utilities Code; and

WHEREAS, the Project involves the installation of rectangular rapid flashing beacons (RRFBs) with push buttons at five school crosswalks at Pittsburg High School, Heights Elementary School, Saint Peter Martyr School, and Highlands Elementary School; and

WHEREAS, a certified copy of this resolution and its attachments and any accompanying supporting materials shall be forwarded to the congestion management agency, countywide transportation planning agency, or county association of governments of Contra Costa County for submission to MTC as part of the countywide coordinated TDA Article 3 claim.

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby accepts Metropolitan Transportation Commission's Allocation of FY 2022-23 Transportation Development Act Article 3 Pedestrian/Bicycle Project funding for Project 2050— Safe Routes to School.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

Attachment A

Re: Request to the Metropolitan Transportation Commission for the Allocation of Fiscal Year FY 2022/23 Transportation Development Act Article 3 Pedestrian/Bicycle Project Funding

Findings

1. That the City of Pittsburg is not legally impeded from submitting a request to the Metropolitan Transportation Commission for the allocation of Transportation Development Act (TDA) Article 3 funds, nor is the City of Pittsburg legally impeded from undertaking the project(s) described in "Attachment B" of this resolution.
2. That the City of Pittsburg has committed adequate staffing resources to complete the project(s) described in Attachment B.
3. A review of the project(s) described in Attachment B has resulted in the consideration of all pertinent matters, including those related to environmental and right-of-way permits and clearances, attendant to the successful completion of the project(s).
4. Issues attendant to securing environmental and right-of-way permits and clearances for the projects described in Attachment B have been reviewed and will be concluded in a manner and on a schedule that will not jeopardize the deadline for the use of the TDA funds being requested.
5. That the project(s) described in Attachment B comply with the requirements of the California Environmental Quality Act (CEQA, Public Resources Code Sections 21000 et seq.).
6. That as portrayed in the budgetary description(s) of the project(s) in Attachment B, the sources of funding other than TDA are assured and adequate for completion of the project(s).
7. That the project(s) described in Attachment B are for capital construction and/or final design and engineering or quick build project; and/or for the maintenance of a Class I bikeway which is closed to motorized traffic and/or Class IV separated bikeway; and/or for the purposes of restriping Class II bicycle lanes; and/or for the development or support of a bicycle safety education program; and/or for the development of a comprehensive bicycle and/or pedestrian facilities plan, and an allocation of TDA Article 3 funding for such a plan has not been received by the City of Pittsburg within the prior five fiscal years.
8. That the project(s) described in Attachment B which are bicycle projects have been included in a detailed bicycle circulation element included in an adopted general plan, or included in an adopted comprehensive bikeway plan (such as outlined in Section 2377 of the California Bikeways Act, Streets and Highways Code section 2370 et seq.) or responds to an immediate community need, such as a quick-build project.
9. That any project described in Attachment B bicycle project meets the mandatory minimum safety design criteria published in the California Highway Design Manual or is in a National Association of City and Transportation Officials (NACTO) guidance or similar best practices document.
10. That the project(s) described in Attachment B will be completed in the allocated time (fiscal year of allocation plus two additional fiscal years).
11. That the City of Pittsburg agrees to maintain, or provide for the maintenance of, the project(s) and facilities described in Attachment B, for the benefit of and use by the public.

TDA Article 3 Project Application Form

Fiscal Year of this Claim: **2022/2023** Applicant: **City of Pittsburg**

Contact person: **Nhat Phan**

Mailing Address: **65 Civic Avenue, Pittsburg CA 94565**

E-Mail Address: **Nphan@pittsburgca.gov** Telephone: **925-252-4857**

Secondary Contact (in event primary not available) **Gina Haynes**

E-Mail Address: **Ghaynes@pittsburgca.gov** Telephone: **925-252-4042**

Project Title (Short Description)**: Safe Routes to School - Crosswalk Improvements Project**

Amount of claim: **$105,000**

Description of Overall Project:

Design, purchase, and installation of rectangular rapid flashing beacons (RRFBs) with push buttons at five school crosswalks to assist pedestrian and bicyclist to cross the roadway safely. Priority of traffic control devices based on available funding would be in the following order: School Street, Seeno Street, Riverview Drive, West 4th Street, and Buchanan Drive. All crosswalks are within 900 feet or less from a school.

Project Scope Proposed for Funding: (Project level environmental, preliminary planning, and ROW are ineligible uses of TDA funds.)

Funding would assist with evaluation of existing site conditions and design placement locations, staff time, purchase of RRFBs, and installation of RRFBs at proposed crosswalk locations.

Project Budget and Schedule

Project Phase	TDA 3	Other Funds	Total Cost	Estimated Completion (month/year)
Bike/Ped Plan			-	
ENV			-	
PA&ED			-	
PS&E	13,100		13,100	Aug-22
ROW			-	
CON	91,900		91,900	Dec-22
Total Cost	**105,000**	-	**105,000**	

Project Eligibility:	**YES?/NO?**
A. Has the project been approved by the claimant's governing body? (If "NO," provide the approximate date approval is anticipated).	**Yes**
B. Has this project previously received TDA Article 3 funding? If "YES," provide an explanation on a separate page.	**No**
C. For "bikeways," does the project meet Caltrans minimum safety design criteria pursuant to Chapter 1000 of the California Highway Design Manual? (Available on the internet via: http://www.dot.ca.gov).	**Yes**
D. Has the project been reviewed by the Bicycle and Pedestrian Advisory Committee? (If "NO," provide an explanation). Has not been presented to BPAC. City will plan to present at next available BPAC Meeting.	**No**
E. Has the public availability of the environmental compliance documentation for the project (pursuant to CEQA) been evidenced by the dated stamping of the document by the county clerk or county recorder? (required only for projects that include construction).	**Yes**
F. Will the project be completed before the allocation expires? Enter the anticipated completion date of project (month and year) **December 2022**	**Yes**
G. Have provisions been made by the claimant to maintain the project or facility, or has the claimant arranged for such maintenance by another agency? (If an agency other than the Claimant is to maintain the facility provide its name:)	**Yes**

DocuSign Envelope ID: 57612010-096D-478D-A057-6EA30F27C6F7

Alfredo Pedroza, Chair
Napa County and Cities

Nick Josefowitz, Vice Chair
San Francisco Mayor's Appointee

Margaret Abe-Koga
Cities of Santa Clara County

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San Francisco Bay Conservation and Development Commission

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San Mateo County

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Carol Dutra-Vernaci
Cities of Alameda County

Dina El-Tawansy
California State Transportation Agency

Victoria Fleming
Sonoma County and Cities

Dorene M. Giacopini
U.S. Department of Transportation

Federal D. Glover
Contra Costa County

Sam Liccardo
San Jose Mayor's Appointee

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Alameda County

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Cities of San Mateo County

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Association of Bay Area Governments

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City and County of San Francisco

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Oakland Mayor's Appointee

James P. Spering
Solano County and Cities

Amy R. Worth
Cities of Contra Costa County

Vacant
U.S. Department of Housing and Urban Development

Therese W. McMillan
Executive Director

Alix Bockelman
Deputy Executive Director, Policy

Andrew B. Fremier
Deputy Executive Director, Operations

Brad Paul
Deputy Executive Director, Local Government Services

Paul Reinders
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

Re: Allocation of TDA Funds in FY 2022-23

Dear Mr. Reinders:

On July 27, 2022, the Metropolitan Transportation Commission (MTC) approved allocation(s) of Transportation Development Act (TDA) funds to City of Pittsburg for FY 2022-23 in the amount of $105,000. The purpose for which these funds are allocated is described in Attachment A to MTC Executive Director Delegated Authority of July 27, 2022.

MTC's approval of your TDA claim and payment by the Contra Costa County Auditor/Controller are subject to such monies being on hand and available for disbursement. Further, payment is subject to the stipulation that such monies shall be expended only for the purpose(s) specified in the MTC Executive Director Delegated Authority of July 27, 2022, and to the allocation instruction(s) prepared in accordance with these documents.

Enclosed are allocation instruction(s) pertaining to your TDA allocation(s), which describe the projects, terms, conditions and payment schedules for allocation(s). If funds are reserved in the Local Transportation Fund (LTF), please submit to MTC invoice(s) or document(s) showing evidence of expenses incurred in order to obtain disbursement authorization.

Please be reminded that for each year you encumber expenses, you are required to submit a fiscal audit in accordance with Section 99245 of the Public Utilities Code (PUC). The audit for FY 2022-23 is due at MTC on or before December 31, 2023. Please refer to 21 Cal. Code of Regs. Sections 6664, 6666, and 6667 for a discussion of the compliance requirement and the tasks required for fulfillment of the compliance aspect of this audit.

All invoices are to be submitted to MTC Accounts Payable by August 31, 2025, in order for the funds to be drawn by September 30, 2025. Requests for capital disbursement and supporting documentation are to be sent to: MTC, Attn: Accounts Payable, 375 Beale Street, Suite 800, San Francisco, CA 94105 or to be emailed to: acctpay@bayareametro.gov. Invoicing procedure can be found in TDA Article 3 Policies and Procedures at mtc.ca.gov/tda3. If you have any questions, please contact Ms. Cheryl Chi at (415) 778-5339, or by email at cchi@bayareametro.gov.

Very truly yours,

DocuSigned by:
Suzanne Bode
302F34B21245483...
Suzanne Bode
Accounting Manager

SB/fc
cc: Cheryl Chi, MTC
Contra Costa County Auditor-Controller
City of Pittsburg-Finance

CITY OF PITTSBURG
CITY COUNCIL/AGENCY CONCURRENT MEETING MINUTES

DATE: December 12, 2022

LOCATION: Council Chamber, City Hall, 65 Civic Avenue, Pittsburg, CA 94565

CITY COUNCIL.AGENCY MEMBERS
Shanelle Scales-Preston, Mayor/Chair
Juan Antonio Banales, Vice-Mayor/Chair
Jelani Killings, Council/Agency Member
Dionne Adams, Council/Agency Member
Angelica Lopez, Council/Agency Member
S.L. Floyd, Agency Member
Annie Hill Herring, Agency Member

APPOINTED OFFICIALS
Garrett Evans, City Manager/Executive Director
Donna Mooney, City Attorney/Legal Counsel
Alice E. Evenson, City Clerk/Agency Secretary (elected)
Nancy Parent, City Treasurer (elected)

Mayor Scales-Preston called the special meeting to order at 7:23 P.M. in the City Council Chamber at City Hall, 65 Civic Avenue, Pittsburg, CA.

ROLL CALL

Vice-Mayor Banales was absent and excused.

PLEDGE OF ALLEGIANCE

Chief Albanese led the Pledge of Allegiance.

PRESENTATIONS

1. Quarterly Overview of Use of Force by Law Enforcement Personnel and Overview of Internal Affairs Investigations

2. Presentation and Update of the Housing Element for the 2023-2031 Cycle

CITY MANAGER REPORTS/REMARKS

City Manager Evans gave an update on upcoming City events.

PUBLIC COMMENTS

There were no public comments.

COMMITTEE REPORTS

Member Killings attended the Tobacco, Alcohol and Cannabis Committee meeting.

Mayor Scales-Preston attended the Los Medanos Health Advisory Committee meeting.

CONSIDERATION

3. Introduction and Waive First Reading of an Ordinance Amending Title 2 of the Pittsburg Municipal Code

On Motion by Member Killings, seconded by Member Adams to introduce and waive first reading of the Ordinance and carried by the following vote:

AYES: Adams, Killings, Lopez, Scales-Preston
ABSENT: Banales

4. Introduce and Waive First Reading of an Ordinance to Rescind and Amend Pittsburg Municipal Code Title 15, “Buildings and Construction,” to Adopt by Reference the 2022 California Building Code, Residential Code, Electrical Code, Fire Code, Mechanical Code, Plumbing Code, Historical Building Code, Green Building Standards Code, Existing Building Code and Energy Code with State of California and Local Amendments

On Motion by Member Killings, seconded by Member Lopez to introduce and waive first reading of the Ordinance and carried by the following vote:

AYES: Adams, Killings, Lopez, Scales-Preston
ABSENT: Banales

5. Receive and File Report on the Review of Development Impact Fees Received by the City of Pittsburg that are Subject to AB 1600 Reporting Requirements

On Motion by Member Killings, seconded by Member Adams to approve and carried by the following vote:

AYES: Adams, Killings, Lopez, Scales-Preston
ABSENT: Banales

CONFLICT OF INTEREST STATEMENT

There were no conflicts of interest statements.

COMBINED CITY COUNCIL, PITTSBURG ARTS AND COMMUNITY FOUNDATION, PITTSBURG POWER COMPANY, SOUTHWEST PITTSBURG GHAD II AND SUCCESSOR AGENCY CONSENT CALENDAR

On Motion by Member Killings, seconded by Member Lopez to adopt and carried by the following vote:

AYES: Adams, Killings, Lopez, Scales-Preston
ABSENT: Banales

6. Minutes of November 7, 2022, November 21, 2022, and December 5, 2022

7. Adoption of a City Council Resolution Allocating American Rescue Plan Act (ARPA) Funds for the Frontage Road Living Green Trail Project

8. Adoption of a City Council Resolution Authorizing the Execution of a Consulting Services Agreement with TRC Solutions, Inc. for the H Cycle Renewable Hydrogen Project

9. Adoption of a City Council Resolution Making Findings in Support of Continuing to Hold Public Subcommittee Meetings by Teleconference Pursuant to California Government Code Section 54953(e)

10. Adoption of a City Council Resolution to Amend the Master Pay Schedule to Include Amendments to the Seasonal Salary Schedule and Previously Approved Positions and Compensation

COUNCIL REQUEST FOR FUTURE AGENDA ITEMS

There were no requests for future agenda items.

COUNCIL MEMBER REMARKS

Member Killings congratulated all new Council Members.

Mayor Scales-Preston thanked staff for the successful events last week, including the holiday tree lighting and parade and wished everyone happy holidays.

ADJOURNMENT

The City Council adjourned at 8:28 P.M. to January 17, 2023.

Respectfully submitted,

Alice E. Evenson, City Clerk

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor/Chair and Council/Governing Board Members

FROM: Garrett Evans, Executive Director

SUBJECT: Adoption of a Pittsburg Power Company Resolution Approving the Addition of Robertson-Bryan, Inc. to the "On-Call" Professional Services List

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

Pittsburg Power Company (PPC), a joint powers authority, utilizes professional electric consulting and design services to support power market research and development of new energy projects.

FISCAL IMPACT

PPC proposes to enter in to an "On-Call" Professional Services Agreement for $200,0000 for Robertson-Bryan, Inc. (RBI). As services are needed, PPC will issue task orders to perform the services. The anticipated amount for each task order is generally in a range of $2,500 up to $25,000 on average.

Approval of the professional utility services agreement has no direct fiscal impact to the City's General Fund. Funds for such professional services will be drawn from PPC's capital and operating budgets approved by the City Council.

RECOMMENDATION

The Governing Board of the PPC approves the addition of RBI to the "On-Call" Professional Services List and authorizes the Executive Director to execute a Professional Services Agreement.

BACKGROUND

PPC requires professional and specialized engineering and market research and assessment services from companies qualified and experienced in providing professional services including engineering, power market pricing, power scheduling and delivery assessments in the California energy market.

On January 19, 2021, the PPC Governing Board adopted Resolution 21-405, approving an On-Call Utility Professional Services List and subsequently entered into Professional Services Agreements with three qualified firms. PPC is requesting that an additional qualified firm be added to the “On-Call” list.

SUBCOMMITTEE FINDINGS

The addition of RBI to the “On-Call” Professional Services List has not been presented to the PPC Subcommittee.

STAFF ANALYSIS

In order to provide the most reliable service and highest efficacy of project design and customer support, PPC necessarily seeks the support of qualified utility professional services companies.

Robertson-Bryan, Inc. possesses unique skills and experience to perform market power availability assessments, power scheduling, and delivery assessments in real-time, day-ahead and market futures.

Further, RBI is currently performing day-ahead power scheduling for several large irrigation districts. These skills will be critical in supporting PPC as it seeks to serve new commercial and industrial load outside of PPC’s existing service territory on Mare Island, Vallejo.

PPC would enter in to an “On-Call” professional service agreement and issue a task order for each specific power market related assessment and engineering service. The task order will set forth scope of work, estimated cost, anticipated resources and materials, schedule, deliverable, and any other pertinent information.

RBI would subsequently be requested to provide a quote to perform the work. Any services task expected to exceed $60,000 will be competitively bid. Based on historical examples, tasks are generally in the range of $2,500 up to $25,000 on average.

Staff is further proposing that each company Professional Services Agreement be limited to an amount not to exceed $200,000 per agreement, and an expiration date of December 31, 2024.

ATTACHMENTS: Resolution
Agreement

Report Prepared By: Douglas Buchanan, Power Company Manager

BEFORE THE GOVERNING BOARD OF THE PITTSBURG POWER COMPANY

In the Matter of:

Approving the Addition of Robertson-Bryan, Inc. to the On-Call Professional Services List) RESOLUTION NO. 23-

WHEREAS, Pittsburg Power Company (PPC), a joint powers authority, requires professional and specialized engineering services and power market assessments from companies qualified and experienced in providing electric utility engineering services including engineering, power market pricing, power scheduling and delivery assessments; and

WHEREAS, on January 19, 2021, by Resolution 21-405, the PPC Governing Board approved an "On-Call" Professional Services List and subsequently entered into Professional Services Agreements with three qualified firms; and

WHEREAS, staff recommends the addition of Robertson-Bryan Engineering, Inc., which is deemed qualified and provides specialty power market assessment, power scheduling and delivery services assessments, to the "On-Call" Professional Services list to expand the power market assessment support and services.

NOW, THEREFORE BE IT RESOLVED that the Governing Board of the Pittsburg Power Company hereby approves the addition of Robertson-Bryan, Inc. to the previously approved "On-Call" Professional Services List, authorize the Executive Director to enter into a Professional Service Agreement with Robertson-Bryan, Inc. for an amount not to exceed $200,000 and expires on December 31, 2024.

PASSED AND ADOPTED by Governing Board of the Pittsburg Power Company at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Chair

ATTEST:

_____
Garrett Evans, Executive Secretary

PROFESSIONAL SERVICES AGREEMENT

Between

PITTSBURG POWER COMPANY

And

Robertson-Bryan, Inc.

THIS Agreement ("Agreement") for consulting services is made by and between the Pittsburg Power Company, a joint powers authority ("PPC") and Robertson-Bryan, Inc, a California corporation together referred to as the "Parties", as of Dec 6, 2022 (the "Effective Date").

Section 1. SERVICES. Subject to the terms and conditions set forth in this Agreement, Engineer shall provide to PPC the services described in a work order in the form attached as Exhibit A, at the time and place and in the manner specified therein.

1.1 Term of Services. The term of this Agreement shall begin on the Effective Date and shall end on December 31, 2024 unless the term of the Agreement is otherwise terminated or extended, as referenced herein.

1.2 Standard of Performance. Engineer shall perform all services required pursuant to this Agreement according to the standards observed by a competent practitioner of the profession in which Engineer is engaged.

1.3 Assignment of Personnel. Engineer shall assign only competent personnel to perform services pursuant to this Agreement. In the event that PPC, in its sole discretion, at any time during the term of this Agreement, requests in writing the reassignment of any such persons to ensure Engineer performs services in accordance with the Standard of Performance, Engineer shall, immediately upon receiving PPC's request, reassign such persons.

1.4 Time. Engineer shall devote such time to the performance of services pursuant to this Agreement as may be reasonably necessary to meet the standard of performance provided herein above and to satisfy Consultant's obligations hereunder.

Section 2. COMPENSATION. PPC hereby agrees to pay Engineer the sum set forth in the executed Work Order and in no event shall the total compensation paid under this agreement exceed $ 200,000.00 as set forth in Exhibit B, attached hereto and incorporated herein for services to be performed and reimbursable expenses incurred under this Agreement.

Engineer and PPC acknowledge and agree that compensation paid by PPC to Engineer under this Agreement is based upon Engineer's estimated costs of providing the services required hereunder, including salaries and benefits of employees and subcontractors of Engineer. Consequently, the parties further agree that compensation hereunder is intended to include the costs of contributions to any pensions and/or annuities to which Engineer, and its employees, agents, and subcontractors may be eligible. PPC therefore has no responsibility for such contributions beyond compensation required under this Agreement.

2.1 **Invoices.** Engineer shall submit invoices, not more often than once a month during the term of this Agreement, based on the cost for services performed and reimbursable costs incurred prior to the invoice date. Invoices shall contain the following information, unless waived by the Power Company Manager, or his or her designee:

- Serial identifications of progress bills, i.e., Progress Bill No. 1 for the first invoice, etc.
- The beginning and ending dates of the billing period.
- A Task Summary containing the original contract amount, the number of prior billings, the total due this period, the balance available under the task order, and the percentage of completion.
- At PPC's option, for each work item in each task, a copy of the applicable time entries or time sheets shall be submitted showing the name of the person doing the work, the hours spent by each person, a brief description of the work, and each reimbursable expense;
- The total number of hours of work performed under the Agreement by Engineer and each employee, agent, and subcontractor of Engineer performing services hereunder.
- The Engineer's signature.

2.2 **Monthly Payment.** PPC shall make monthly payments, based on invoices received, for services satisfactorily performed, and for authorized reimbursable costs incurred. PPC shall pay undisputed invoices that comply with the above requirements within 30 days from the receipt of the invoice.

2.3 **Final Payment.** Engineer shall submit its final invoice within 60 days of completing its services. Engineer's failure to submit its final invoice within this 60 day period shall constitute Consultant's waiver of any further billings to, or payments from, PPC.

2.4 **Reimbursable Expenses.** Reimbursable expenses, if any, are specified in Exhibit B and included in the total compensation referenced in Section 2. Expenses not listed in Exhibit B are not chargeable to, or reimbursable by, PPC.

2.5 **Payment of Taxes.** Engineer is solely responsible for the payment of all federal, state and local taxes, including employment taxes, incurred under this Agreement.

2.6 **Authorization to Perform Services.** The Engineer is not authorized/task order to perform any services or incur any costs whatsoever under the terms of this Agreement until receipt of a written authorization from the Power Company Manager, or his or her designee.

Section 3. FACILITIES AND EQUIPMENT. Except as set forth herein Engineer shall, at its sole cost and expense, provide all facilities and equipment that may be necessary to perform the services required by this Agreement

Section 4. INSURANCE REQUIREMENTS. Before beginning any services under this Agreement, Consultant, at its own cost and expense, shall procure the types and amounts of insurance specified herein and maintain that insurance throughout the term of this Agreement. The cost of such insurance shall be included in the Consultant's bid or proposal. Consultant shall be fully responsible for the acts and omissions of its subcontractors or other agents.

4.1 **Workers' Compensation** Engineer shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Engineer in the amount required by applicable law. The requirement to maintain Statutory Workers' Compensation and Employer's Liability Insurance may be waived by the PPC upon written verification that Engineer is a sole proprietor and does not have any employees and will not have any employees during the term of this Agreement.

4.2 Commercial General and Automobile Liability Insurance.

4.2.1 General requirements. Engineer, at its own cost and expense, shall maintain commercial general and automobile liability insurance for the term of this Agreement in an amount not less than $1,000,000 per occurrence and $1,000,000 aggregate, combined single limit coverage for risks associated with the work contemplated by this Agreement.

4.2.2 Minimum scope of coverage. Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 (most recent edition) covering comprehensive General Liability on an "occurrence" basis. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (most recent edition) covering any auto (Code 1), or if Engineer has no owned autos, hired (code 8) and non-owned autos (Code 9). No endorsement shall be attached limiting the coverage.

4.2.3 Additional requirements. Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. The Commercial General and Automobile Liability Insurance shall cover on an occurrence basis.

b. PPC, its officers, officials, employees, agents, and volunteers shall be covered as additional insureds for liability arising out of work or operations on behalf of the Engineer, including materials, parts, or equipment furnished in connection with such work or operations; or automobiles owned, leased, hired, or borrowed by the Engineer. Coverage can be provided in the form of an endorsement to the Engineer's insurance at least as broad as CG 20 10 11 85, or both CG 20 10 10 01 and CG 20 37 10 01.

c. For any claims related to this Agreement or the work hereunder, the Engineer's insurance covered shall be primary insurance as respects the PPC, its officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by the PPC, its officers, officials, employees, agents or volunteers shall be excess of the Engineer's insurance and non-contributing.

d. The policy shall cover inter-insured suits and include a "separation of Insureds" or "severability" clause which treats each insured separately.

e. Engineer agrees to give at least 30 days prior written notice to PPC before coverage is canceled or modified as to scope or amount.

4.3 Professional Liability Insurance.

4.3.1 General requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals performing work pursuant to this Agreement in an amount not less than $1,000,000 per occurrence or claim, $2,000,000 aggregate covering the Consultant's errors and omissions.

4.3.2 Claims-made limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form:

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained, and evidence of insurance must be provided for at least five (5) years after completion of the Agreement or the work.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Engineer must purchase an extended period coverage for a minimum of five (5) years after completion of work under this Agreement.

d. A copy of the claim reporting requirements must be submitted to the PPC for review prior to the commencement of any work under this Agreement.

4.4 All Policies Requirements.

4.4.1 Submittal Requirements. Engineer shall submit the following to PPC prior to beginning services:

a. Certificate of Liability Insurance in the amounts specified in this Agreement; and

b. Additional Insured Endorsement as required for the General Commercial and Automobile Liability Polices.

4.4.2 Acceptability of Insurers. All insurance required by this Agreement is to be placed with insurers with a Bests' rating of no less than A:VII.

4.4.3 Deductibles and Self-Insured Retentions. Insurance obtained by the Engineer shall have a self-insured retention or deductible of no more than $100,000.

4.4.4 Wasting Policies. No policy required herein shall include a "wasting" policy limit (i.e., limit that is eroded by the cost of defense), with the exception of professional liability.

4.4.5 Waiver of Subrogation. Engineer hereby agrees to waive subrogation which any insurer or contractor may require from Engineer by virtue of the payment of any loss. Engineer agrees to obtain any endorsements that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the PPC has received a waiver of subrogation endorsement from the insurer.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the PPC for all work performed by the Engineer, its employees, agents, and subcontractors.

4.4.6 Subcontractors. Engineer shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein, and Engineer shall ensure that PPC, its officers, officials, employees, agents, and volunteers are covered as additional insured on all coverages.

4.4.7 Excess Insurance. If Engineer maintains higher insurance limits than the minimums specified herein, PPC shall be entitled to coverage for the higher limits maintained by the Engineer.

4.5 Remedies. In addition to any other remedies PPC may have if Engineer fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, PPC may, at its sole option: 1) obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement; 2) order Engineer to stop work under this Agreement and withhold any

payment that becomes due to Engineer hereunder until Engineer demonstrates compliance with the requirements hereof; and/or 3) terminate this Agreement.

Section 5. INDEMNIFICATION AND CONSULTANT'S RESPONSIBILITIES.

5.1 General Requirement. To the fullest extent permitted by law, Engineer shall indemnify and hold harmless PPC and its officers, officials, employees, and volunteers (collectively, "Indemnitees") from and against any and all liability, loss, damage, claims, expenses, and costs, including, reasonable attorney's fees, costs and fees of litigation, (collectively, "Liability") to the extent caused by Engineer's negligent performance of the services under this Agreement, except such Liability caused by the negligence or willful misconduct of PPC.

Acceptance by PPC of insurance certificates and endorsements required under this Agreement does not relieve Engineer from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall apply to any damage or claims for damages whether or not such insurance policies shall be been determined to apply.

5.2 PERS Indemnification. In the event that Engineer or any employee, agent, or subcontractor of Engineer providing services under this Agreement is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of PPC, Engineer shall indemnify, defend, and hold harmless PPC for the payment of any employee and/or employer contributions for PERS benefits on behalf of Engineer or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of PPC.

Section 6. STATUS OF ENGINEER.

6.1 **Independent Engineer.** At all times during the term of this Agreement, Engineer shall be an independent engineer and shall not be an employee of PPC.

6.2 **Engineer Not an Agent.** Except as PPC may specify in writing, Engineer shall have no authority, express or implied, to act on behalf of PPC in any capacity whatsoever as an agent. Engineer shall have no authority, express or implied, pursuant to this Agreement to bind the City of Pittsburg to any obligation whatsoever.

Section 7. LEGAL REQUIREMENTS.

7.1 **Governing Law.** The laws of the State of California shall govern this Agreement.

7.2 **Compliance with Applicable Laws.** Engineer and any subcontractors shall comply with all laws applicable to the performance of the work hereunder. Engineer shall also, to the extent required by the California Labor Code, pay not less than the latest prevailing wage rates as determined by the California Department of Industrial Relations.

7.3 **Licenses and Permits.** Engineer represents and warrants to PPC that Engineer and its employees, agents, and any subcontractors have, and will maintain at their sole cost and expense, all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required to practice their respective professions. In addition to the foregoing, Engineer and any subcontractors shall obtain and maintain during the term of this Agreement valid business licenses from PPC.

7.4 **Nondiscrimination and Equal Opportunity.** Engineer shall not discriminate, on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, genetic information, marital status, sex, sexual orientation, gender or gender identity, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Engineer under this Agreement. Engineer shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of

any services that are the subject of this Agreement, including but not limited to the satisfaction of any positive obligations required of Consultant thereby.

Section 8. TERMINATION AND MODIFICATION.

8.1 **Termination.** Upon ten days' prior written notice, PPC may cancel this Agreement at any time and without cause upon such written notification to Engineer. In the event of termination, Engineer shall be entitled to compensation for services performed to the effective date of termination; PPC, however, may condition payment of such compensation upon Engineer delivering to PPC, in accordance with the intellectual property provisions herein, any or all documents, photographs, computer software, video and audio tapes, and other materials provided to Engineer or prepared by or for Engineer or the PPC in connection with this Agreement.

8.2 **Amendments.** The parties may amend this Agreement only by a writing signed by the parties hereto.

8.3 **Assignment and Subcontracting.** PPC and Engineer recognize and agree that this Agreement contemplates personal performance by Engineer and is based upon a determination of Engineer's unique personal competence, experience, and specialized personal knowledge. Moreover, a substantial inducement to PPC for entering into this Agreement was and is the professional reputation and competence of Engineer. Engineer may not assign this Agreement or any interest therein without the prior written approval of the Power Company Manager, or his or her designee. Engineer shall not subcontract any portion of the performance contemplated and provided for herein, other than to the subcontractors noted in the proposal, without prior written approval of the PPC Manager, or his or her designee.

8.4 **Survival.** All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating liability between PPC and Engineer, including but not limited to the provisions of Section 5, shall survive the termination of this Agreement.

8.5 **Options upon Breach by Consultant.** If Engineer materially breaches any of the terms of this Agreement, PPC's remedies shall include, but not be limited to, the following:

8.5.1 Immediately terminate the Agreement.

8.5.2 In accordance with the intellectual property provisions herein, retain the plans, specifications, drawings, reports, design documents, and any other work product prepared by Consultant pursuant to this Agreement.

8.5.3 Retain a different engineer to complete the work described in Exhibit A not finished by Engineer; or

8.5.4 Charge Engineer the difference between the cost to complete the work described in Exhibit A that is unfinished at the time of breach and the amount that PPC would have paid Consultant pursuant to Section 2 if Engineer had completed the work.

8.5.5 The remedies mentioned in this Agreement are not exclusive of any other right, power or remedy permitted by law. The PPC's failure or delay in exercising any remedy shall not constitute a waiver of such remedy or preclude the further exercise of PPC's rights.

Section 9. KEEPING AND STATUS OF RECORDS.

9.1 **Ownership of Work Product.** Any reports, studies, audits, materials or other work product prepared under any Work Order by Engineer or Engineer's Personnel (collectively, "Work Product") shall remain the property of Engineer. Upon receipt of payment ~~by~~ to Engineer, PPC shall gain ownership of all tangible or electronic versions of any deliverables prepared under this Agreement and delivered to PPC. PPC shall not gain ownership of any intellectual property of Engineer that was used to create or is otherwise embodied in the Work Product. Engineer shall grant to PPC a nonexclusive, perpetual, royalty-free, world-wide, limited license under copyright to use solely for its own benefit, for internal purposes only, and only with its own personnel and without rights to sublicense, such Engineer intellectual property as is necessary for PPC to make the agreed use of the deliverables as contemplated by this Agreement. PPC acknowledges that Engineer's Work Product is comprised of instruments of service for use solely with respect to the project for which they were developed or created, and if PPC uses such Work Product other than for the purposes for which the relevant Work Order was issued, PPC shall do

so at its own risk and shall indemnify, defend and hold Engineer harmless from any claims or damages arising therefrom. PPC and Engineer agree that, until final approval by PPC, all data, plans, specifications, reports and other documents are confidential drafts and will not be released to third parties by Engineer without prior written approval of PPC.

9.2 **Engineer's Books and Records.** Engineer shall maintain any and all records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the PPC under this Agreement for a minimum of 3 years, or for any longer period required by law, from the date of final payment to the Engineer to this Agreement. All such records shall be maintained in accordance with generally accepted accounting principles and shall be made available for inspection, audit, and/or copying at any time during regular business hours, upon oral or written request of the PPC. Pursuant to Government Code Section 8546.7, the Agreement may be subject to the examination and audit of the State Auditor for a period of 3 years after final payment under the Agreement.

Section 10 MISCELLANEOUS PROVISIONS.

10.1 **Attorneys' Fees.** If a party to this Agreement brings any action, including an action for declaratory relief, to enforce or interpret the provision of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief to which that party may be entitled. The court may set such fees in the same action or in a separate action brought for that purpose.

10.2 **Venue.** In the event that either party brings any action against the other under this Agreement, the parties agree that trial of such action shall be vested exclusively in the state courts of California in Contra Costa County or in the United States District Court for the Northern District of California.

10.3 **Severability.** If a court of competent jurisdiction finds or rules that any provision of this Agreement is invalid, void, or unenforceable, the provisions of this Agreement not so adjudged shall remain in full force and effect. The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision of this Agreement.

10.4 **No Implied Waiver of Breach.** The waiver of any breach of a specific provision of this Agreement does not constitute a waiver of any other breach of that term or any other term of this Agreement.

10.5 **Successors and Assigns.** The provisions of this Agreement shall inure to the benefit of and shall apply to and bind the successors and assigns of the parties.

10.6 **Conflict of Interest.** Engineer may serve other clients, but none whose activities within the corporate limits of PPC or whose business, regardless of location, would place Engineer in a "conflict of interest," as that term is defined in the Political Reform Act, codified at California Government Code Section 81000 *et seq.*

Engineer shall not employ any PPC official in the work performed pursuant to this Agreement. No officer or employee of PPC shall have any financial interest in this Agreement that would violate California Government Code Sections 1090 *et seq.*

10.7 **Solicitation.** Engineer agrees not to solicit business at any meeting, focus group, or interview related to this Agreement, either orally or through any written materials.

10.8 **Notices.** Any notice, demand, request, consent or approval that either party is required to give the other pursuant to this Agreement, shall be in writing and may be given by either (i) personal service, or (ii) certified United States mail, postage prepaid, return receipt requested. Notice shall be effective upon personal delivery or delivery to the addresses specified below, as reflected on the receipt of delivery or return receipt, as applicable.

Engineer: Robertson-Bryan, Inc
3100 Zinfandel Drive, Ste. 300
Rancho Cordova, CA 95670

ATTN: Michael Bryan, Ph.D.

PPC: Pittsburg Power Company
65 Civic Avenue
Pittsburg, CA 94565

ATTN: Power Company Manager

10.9 Professional Seal. Where applicable in the determination of the PPC Manager, or his or her designee, the first page of a technical report, first page of design specifications, and each page of construction drawings shall be stamped / sealed and signed by the licensed professional responsible for the report/design preparation. The stamp/seal shall be in a block entitled "Seal and Signature of Registered Professional with report/design responsibility."

10.10 Integration. This Agreement, including the scope of work attached hereto and incorporated herein as Exhibits A and B represents the entire and integrated agreement between PPC and Engineer and supersedes all prior negotiations, representations, or agreements, either written or oral. To the extent there are any inconsistences between this Agreement, the Exhibits, and Engineer's proposal, the Agreement shall control to the extent there are any inconsistences between the Exhibits and the Consultant's Proposal, the Exhibits shall control.

Exhibit A	Scope of Services
Exhibit B	Compensation Schedule

10.11 Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be an original and all of which together shall constitute one agreement.

10.12 Construction of Agreement. Each party hereto has had an equivalent opportunity to participate in the drafting of the agreement and/or to consult with legal counsel. Therefore, the usual construction of an agreement against the drafting party shall not apply hereto.

10.13 No Third Party Beneficiaries. This Agreement is made solely for the benefit of the parties hereto, with no intent to benefit any third parties.

10.14 Dispute Resolution. The Parties shall attempt in good faith to resolve any dispute arising out of or relating to this Agreement promptly by negotiation between executives who have authority to settle the controversy. Any party may give the other party written notice of any dispute not resolved during the normal course of business. Within thirty (30) days after delivery of the initial notice, the executives of both parties shall meet at a mutually acceptable time and place and use good faith efforts to resolve the dispute. In the event that the parties are unable to settle the dispute through direct negotiations as set forth above, all remaining controversies or claims shall then be submitted to mediation within ten (10) days from written notice of concluded negotiations following

the Commercial Mediation Rules published by the American Arbitration Association. In the event that the dispute has not been resolved within thirty (30) days following mediation, or such longer period as the parties may agree, either party may initiate formal proceedings against the other party.

10.15 Limitation of Liability. Notwithstanding any other provision of this Agreement to the contrary, PPC agrees to limit Engineer's liability to PPC and to all persons having contractual relationships with PPC to the total fee or compensation received by Engineer for the services under which the liability arises.

10.16 Waiver of Consequential Damages. Notwithstanding any other provision of this Agreement to the contrary, neither Engineer nor PPC nor either party's suppliers, agents, officers, and directors shall have any liability regardless of the theory of recovery, including breach of contract or negligence, to the other party or any other person or entity for any indirect, incidental, special, or consequential damages, cost or expense whatsoever, including but not limited to loss of revenue or profit, whether actual or anticipated, loss of use, failure to realize anticipated savings, loss of or damage to data or other commercial or economic loss. This waiver of consequential damages is made regardless of whether (i) either party has been advised of the possibility of such damages or (ii) such damages may be foreseeable.

The Parties have executed this Agreement as of the Effective Date.

PITTSBURG POWER COMPANY

Garret Evans
Executive Director

Engineer

Michael Bryan, Ph.D.
President/Managing Partner

Attest:

Alice Evenson, Secretary

Approved as to Form:

Donna Mooney, Agency Counsel
PPC Attorney

EXHIBIT A

WORK ORDER EXAMPLE

(Follows Next Page)

Pittsburg Power Company

PITTSBURG POWER COMPANY

WORK ORDER

(Example)

Work Order No._____

This Work Order, effective _____ , 20__ , ("Effective Date") is issued under and subject to all the terms and conditions of the Professional Services Agreement ("Agreement"), dated as of , 20__ , by and between the Pittsburg Power Company, a public joint powers authority ("PPC") and [type in name], [type in the type of entity], ("Service Provider").

Capitalized terms used herein shall have the meanings ascribed to them in the Agreement.

SECTION 1: SCOPE OF WORK

The scope of work authorized by this Work Order is as summarized below, and further described in Attachment A.

SECTION 2: SCHEDULE

a. The start date shall be [insert date] and the completion date shall be [insert date].

b. Service Provider will perform the services according to the attached schedule. If the schedule calls for the services to be performed in phases or discrete increments, Service Provider shall not proceed from one phase or increment to the next without written authorization from PPC Manager or his or her designee.

c. Service Provider will perform the services according to the schedule contained in Attachment B of this Work Order, which is attached hereto and incorporated herein. If the schedule calls for the services to be performed in phases or discrete increments, Service Provider shall not proceed from one phase or increment to the next without written authorization from the PPC Manager or his or her designee.

SECTION 3: ESTIMATED COST AND COMPENSATION

All services performed under this Work Order shall be performed on a lump-sum basis, unless as may otherwise be agreed to and documented in this Work (time and material, not to exceed)

PPC agrees to pay Service Provider for the services set forth in this Work Order in an amount not to exceed [amount in text] [amount in $$].

This Work Order is released as authorization for work to commence. The parties agree to perform their respective obligations under this Work Order in accordance with the terms and conditions of the Agreement.

[TYPE IN COMPANY NAME],
[TYPE IN TYPE OF ENTITY]

By: _____
[insert name]
[insert title]

DATE: _____

PITTSBURG POWER COMPANY,
a public joint powers authority

By: _____
Douglas W. Buchanan, PE
PPC Power Company Manager

DATE: _____

EXHIBIT B

COMPENSATION SCHEDULE

1. Engineer shall be compensated payable by invoice submitted for work completed and accepted by Pittsburg Power Company.

2. Engineer may be compensated by achieving certain milestones within a Work Order, as such may be agreed to by the Parties.

3. Total compensation shall not exceed the agreed-to amount contained within the Work Order, unless as otherwise may be amended by agreement of the Parties.

4. Total Compensation for all Work Orders shall not exceed two hundred thousand dollars ($200,000)

CERTIFICATE OF COMPLIANCE WITH LABOR CODE § 3700

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

ENGINEER

By: Michael Bryan

Title: President

2784980.1

ROBERTSON - BRYAN, INC.
Solutions for Progress

ROBERTSON-BRYAN 2023 FEE SCHEDULE

Charges for project work performed by Robertson-Bryan, Inc. (RBI) will be calculated and billed at the hourly rates shown below.

PROFESSIONAL SERVICES	RATE/HOUR
♦ Managing Partner	$285.00
♦ Principal Engineer/Scientist	$278.00
♦ Resource Director	$250.00
♦ Chief Engineer/Scientist	$250.00
♦ Senior Analyst	$226.00
♦ Senior Portfolio Manager	$194.00
♦ CAISO Specialist	$177.00
♦ Project Database Analyst II	$173.00
♦ Project Analyst II	$169.00
♦ Project Analyst I	$166.00
♦ Project Database Analyst I	$163.00
♦ Staff Analyst II	$152.00
♦ Staff Analyst I	$147.00
♦ Administrative Assistant	$100.00

Ten percent (10%) of subcontractor fees will be added to cover administrative costs. Hourly rates increase by twenty-five percent (25%) for depositions, trials, and hearings.

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor/Chair and Council/Governing Board Members

FROM: Garrett Evans, Executive Director

SUBJECT: Adoption of a Pittsburg Power Company Resolution to Authorize the Executive Director to Extend the Term of the Full Load Service Contract with Western Area Power Administration

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The Pittsburg Power Company (PPC) and the Western Area Power Administration (WAPA) are parties to the Full Load Service (FLS) Contract for WAPA to furnish supplemental power and portfolio management services. In order for WAPA to purchase long-term supplemental power for its full load service customers, WAPA requested an extension to the term of the FLS Contract commencing December 31, 2024 and remaining in effect until December 31, 2029.

FISCAL IMPACT

There is no fiscal impact to the City of Pittsburg's General Fund. The cost of supplemental power purchase and associated expenses are addressed in Island Energy's annual rate case and operating budget.

RECOMMENDATION

The Governing Board of the PPC adopt the resolution authorizing the Executive Director to extend the term of the FLS Contract with WAPA commencing December 31, 2024 and remaining in effect until December 31, 2029.

BACKGROUND

PPC and WAPA are parties to a series of power procurement and delivery contracts. These contracts include the Base Resource Contract (00-SNR-00340, the FLS Contract (22-SNR-02783), the Scheduling Coordinator Services Contract (22-SNR-02784) and their exhibits as amended from time to time to incorporate regulatory and operational changes to the PPC utility practice on Mare Island.

SUBCOMMITTEE FINDINGS

The extension of the WAPA FLS Contract commencing December 31, 2024, has not been presented to the PPC Subcommittee.

STAFF ANALYSIS

On March 1, 2021, the PPC Board approved Resolution 21-049 authorizing an extension of the Base Resource Contract to the end date of December 31, 2054. The Base Resource Contract allocates a fixed percentage of hydro-electricity generation from the Federal Central Valley Project.

The sequential Scheduling Coordinator Service Contract is utilized to schedule and deliver Base Resource power to Mare Island and the FLS Contract is utilized to procure and deliver supplemental power to Base Resource to serve load on Mare Island. These documents complete the Base Resource Contract.

The current FLS Contract is scheduled to terminate on December 31, 2024. The FLS Contract provides for WAPA to contract for and furnish supplemental power, and to provide portfolio management services to the PPC.

In order for WAPA to purchase long-term supplemental power for its full load service customers for the period extending beyond December 31, 2024, WAPA must have commitments from all full load service customers well in advance. PPC proposes to continue to subscribe full load service from WAPA beyond December 31, 2024; therefore, staff recommends extending the FLS Contract to December 31, 2029.

ATTACHMENTS: Resolution
WAPA Full Load Service Contract

Report Prepared By: Douglas Buchanan, Power Company Manager

BEFORE THE PITTSBURG POWER COMPANY OF THE CITY OF PITTSBURG

In the Matter of:

Authorizing the Executive Director to Extend	)	
The Term of the Full Load Service Contract	)	RESOLUTION NO. 23-
With Western Area Power Administration	)	

WHEREAS, the Pittsburg Power Company (PPC) and the Western Area Power Administration (WAPA) are parties to a series of power procurement and delivery contracts; and

WHEREAS, these contracts include the Base Resource Contract (00-SNR-00340), the Full Load Service Contract (22-SNR-02783) and the Scheduling Coordinator Services Contract (22-SNR-02784) (collectively, the "Contracts"); and

WHEREAS, these Contracts and their exhibits have been amended from time to time to incorporate regulatory and operational changes to the PPC utility practice on Mare Island; and

WHEREAS, on March 1, 2021, the Governing Board of the PPC Board approved Resolution 21-409 approving an extension to the Base Resource Contract through December 31, 2054; and

WHEREAS, the current Full Load Service (FLS) Contract is scheduled to terminate on December 31, 2024; and

WHEREAS, in order for WAPA to commit to and purchase long-term supplemental power for its full load service customers for the period extending beyond December 31, 2024, it must have contract commitments from these customers in place well in advance; and

WHEREAS, PPC proposes to continue to subscribe full load service from WAPA beyond December 31, 2024; therefore, staff recommends extending the FLS Contract commencing December 31, 2024 and remaining in effect until December 31, 2029.

NOW, THEREFORE BE IT RESOLVED that the Governing Board of the Pittsburg Power Company hereby authorize the Executive Director to extend the terms of the Full Load Service Contract between Western Area Power Administration and Pittsburg Power Company to December 31, 2029.

PASSED AND ADOPTED by the Governing Board of the Pittsburg Power Company at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scales Preston, Chair

ATTEST:

_____
Garrett Evans, Executive Secretary

UNITED STATES

DEPARTMENT OF ENERGY

WESTERN AREA POWER ADMINISTRATION

SIERRA NEVADA REGION

CUSTOM PRODUCT CONTRACT

FOR

FULL LOAD SERVICE

WITH

PITTSBURG POWER COMPANY

UNITED STATES
DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
SIERRA NEVADA REGION

CUSTOM PRODUCT CONTRACT
FOR
FULL LOAD SERVICE
WITH

PITTSBURG POWER COMPANY

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Signature Clause
Resolution/Certificate
General Power Contract Provisions (September 1, 2007)
Schedule of Rates for Custom Product Power
Exhibit A – Full Load Service
Exhibit B – Charges for Portfolio Manager Services

UNITED STATES
DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
SIERRA NEVADA REGION

CUSTOM PRODUCT CONTRACT
FOR
FULL LOAD SERVICE
WITH

PITTSBURG POWER COMPANY

1. PREAMBLE:

This Contract is made this 11/30/22 pursuant to the Acts of Congress approved June 17, 1902, (32 Stat. 388); August 26, 1937, (50 Stat. 844); August 4, 1939, (53 Stat. 1187); and August 4, 1977, (91 Stat. 565); and Acts amendatory or supplementary to the foregoing Acts; between the UNITED STATES OF AMERICA (United States), acting by and through the Administrator, Western Area Power Administration, Department of Energy, represented by the officer executing this Contract, or a duly appointed successor, hereinafter called WAPA or Contracting Officer; and PITTSBURG POWER COMPANY, a California joint powers authority, organized and existing under the laws of the State of California, hereinafter referred to as PPC or the Contractor, its successors and assigns; both also hereinafter referred to individually as Party and together as Parties.

2. EXPLANATORY RECITALS:

2.1 The Parties entered into Base Resource Contract 20-SNR-02315 on April 9, 2021. The Base Resource Contract provides the terms and conditions whereby WAPA will provide Base Resource electric service to PPC.

2.2 At times, power provided under the Base Resource Contract will not be sufficient to meet the electrical needs of PPC at the delivery point(s) specified herein.

2.3 WAPA's final 2025 Power Marketing Plan, published in the Federal Register on August 15, 2017 (82 FR 38675), provides for WAPA to develop Custom Products for customers who request them. Section 7.7 of the Base Resource Contract allows for WAPA to develop a Custom Product for PPC.

2.4 PPC requested a Custom Product in the form of Custom Product Power to meet the load at a specific delivery point(s).

2.5 PPC also requested WAPA provide Portfolio Manager services.

2.6 WAPA and PPC recognize that, due to load diversity, there may be benefits to aggregating some Full Load Service Customers' Base Resource Percentages and Custom Product Power requirements for power purchases; and additional business efficiencies may be realized through consolidation of power scheduling and related activities.

3. AGREEMENT:

The Parties agree to the terms and conditions set forth herein.

4. EFFECTIVE DATE AND TERM OF CONTRACT:

4.1 This Contract shall become effective upon execution by the Parties and shall remain in effect through December 31, 2029, except as otherwise provided for herein.

///

4.2 The date of initial service under this Contract is December 31, 2024, at 11:59:59 P.M.

4.3 Either Party may terminate this Contract by giving the other Party a one (1) year advance written notice of the requested termination date.

4.4 WAPA may suspend or terminate service under this Contract pursuant to Section 18.

4.5 WAPA may terminate this Contract upon thirty (30) days advance notice if PPC ceases to be a WAPA Base Resource Customer.

4.6 All obligations incurred under this Contract shall be preserved until satisfied.

5. DEFINITION OF TERMS:

As used herein, the following terms whether singular or plural, or used with or without initial capitalization, shall have the following meanings:

5.1 "Base Resource" means Central Valley Project (CVP) and Washoe Project power (capacity and energy) output, determined by WAPA to be available for Customers, including the Environmental Attributes, only after meeting the requirements of Project Use and First Preference Customers, and any adjustments for maintenance, reserves, system losses, and certain ancillary services.

5.2 "Custom Product" means a combination of products and services which may be made available by WAPA per Customer request.

///

5.3 "Custom Product Power" means firm capacity and energy, provided by WAPA, a Customer(s) needs in addition to its Base Resource for use in meeting that Customer's load.

5.4 "Customer" means an entity with a contract and receiving electric service from WAPA's Sierra Nevada Region.

5.5 "Full Load Service Customer" means a Customer that will have its entire load at its delivery point(s) specified in Exhibit A met by WAPA, and its Portfolio Manager functions for those delivery point(s) performed by WAPA.

5.6 "Internal Generation" means a power resource owned and operated by a Full Load Service Customer and located on its side of the meter within its electric system and its generation output is intended solely to serve the Customer's load.

5.7 "Portfolio Manager" means an entity responsible for determining balanced hourly load and resource schedules for a Customer.

5.8 "Regional Transmission Organization" or "RTO" means an organization that meets the minimum characteristics and performs the minimum functions specified in Federal Energy Regulatory Commission Order 2000, as that order may be amended or superseded.

5.9 "Scheduling Coordinator" means an entity that is responsible for submitting and modifying bids and interchange schedules and Inter-SC Trades to and settling with the California Independent System Operator (CAISO), in accordance with the protocols specified in the CAISO Tariff.

///

6. CUSTOM PRODUCT POWER FURNISHED BY WAPA:

6.1 WAPA will provide additional power to those Full Load Service Customers whose loads exceed their Base Resource. WAPA may aggregate the needs of Full Load Service Customers to determine Custom Product Power requirements.

6.2 Custom Product Power provided by WAPA may include long-term, short-term, day-ahead, and hour-ahead purchases, and/or other arrangements.

6.3 WAPA will provide Custom Product Power to PPC to serve the load unmet by the power provided under PPC's Base Resource Contract. PPC's expected annual peak capacity and energy are specified in Section 2 of Exhibit A attached hereto. PPC shall provide written notification to WAPA of any expected increase or decrease in the capacity and energy amounts specified in Exhibit A. Such notification shall be made as soon as practicable, and no less than ninety (90) days prior to the expected change in the capacity and energy amounts specified in Exhibit A.

7. DELIVERY ARRANGEMENTS:

7.1 WAPA will use best efforts to contract with the appropriate parties for the transmission and distribution service necessary to make PPC's Custom Product Power available at the point(s) of delivery specified in Section 4 of Exhibit A. If WAPA is successful in contracting for transmission and distribution on behalf of PPC, PPC will be required to execute a third-party transmission contract with WAPA to receive such service.

7.2 In the event that WAPA is unable to secure transmission and distribution service on behalf of PPC, WAPA will make PPC's Custom Product Power available at the point(s) of delivery specified in Exhibit A of PPC's Base Resource

Contract. PPC shall ultimately be responsible for arranging for the transmission and distribution necessary to receive Custom Product Power provided under this Contract to the delivery point specified in Section 4 of Exhibit A.

8. PORTFOLIO MANAGER SERVICES:

8.1 During the term of this Contract WAPA shall serve as PPC's Portfolio Manager. In such capacity, WAPA will need load data and other information to determine the power necessary to meet PPC's load. If WAPA does not have access to the information it needs, WAPA will request it from PPC. PPC shall provide the information within thirty (30) days of a request from WAPA. Said data may include, but is not limited to, the following:

8.1.1 Historical hourly or sub-hourly load data at the delivery point(s) specified in Section 4 of Exhibit A; and

8.1.2 Expected future loads at the delivery point(s) specified in Section 4 of Exhibit A during the term of this Contract.

8.1.3 Internal Generation projections as set forth in Exhibit C, if applicable.

8.2 If requested by WAPA, PPC will submit to WAPA its annual planned power usage for the upcoming calendar year by October 1 of each year during the term of this Contract. PPC shall provide the information to WAPA in a format agreed to between the Parties. In addition, PPC must provide any planned significant changes in its power usage to WAPA in writing not less than ninety (90) days prior to the planned change. WAPA will revise Exhibit A to this Contract to reflect such changes in power usage. The information provided by PPC will be used by WAPA in determining daily power schedules for PPC.

///

///

8.3 On a daily basis, using the information provided in Sections 8.1 and 8.2, WAPA will determine the power necessary on an hourly basis to fully serve PPC's load at the delivery point(s) specified in Exhibit A, as follows:

8.3.1 Using the information as provided in Section 6 of PPC's Base Resource Contract, WAPA will determine the hourly use of PPC's Base Resource for the day.

8.3.2 If PPC's Base Resource does not fully meet PPC's forecasted load, WAPA will schedule PPC's share of exchange program energy, if any, to serve PPC's load.

8.3.3 Once all Base Resource and exchange program energy has been distributed, WAPA will meet PPC's unmet forecasted load with Custom Product Power.

8.3.4 Any Base Resource in excess of PPC's forecasted load will be retained by WAPA for distribution under the exchange program in accordance with Exhibit B to PPC's Base Resource Contract.

8.3.5 After WAPA has determined the resource mix to meet PPC's hourly load, WAPA will provide the resource schedules to the balancing authority area operator in accordance with its protocols and as further described in the Scheduling Coordinator Contract.

8.4 WAPA shall not be liable in the event that power and/or transmission is scheduled either in excess of or below that necessary to serve PPC's hourly load.

9. INTERNAL GENERATION:

If PPC currently has Internal Generation or intends to install Internal Generation, Subsections 9.1 and/or 9.2 shall apply to PPC.

///

9.1 Existing Internal Generation: WAPA will integrate PPC's Internal Generation into PPC's energy portfolio using technical specifications and historical data to forecast load. If requested, PPC shall provide WAPA with technical and general information about its on-site Internal Generation facility. The information that may be required is provided below:

9.1.1 Internal Generation Specifications:

9.1.1.1 Type of Internal Generation (solar, wind, other);

9.1.1.2 Exact geographical location of Internal Generation including longitude and latitude;

9.1.1.3 Installed capacity rating in kilowatts;

9.1.1.4 If solar, rating of inverter;

9.1.1.5 Type of solar (stationary or tracking);

9.1.1.6 Type of solar tracking (single-axis or dual-axis tracking);

9.1.1.7 Operational date after installation;

9.1.1.8 Expected yearly loss of capacity due to aging of system after installation; and

9.1.1.9 Other pertinent information as may be required.

9.1.2 Notifications: PPC shall notify WAPA of any changes to the information in Section 9.1 above, thirty (30) days prior to the operational date of the change.

9.2 New or Increased Internal Generation: PPC shall notify and coordinate with WAPA on any new Internal Generation planned to be located on its facility. If requested, PPC shall provide WAPA with technical and general information as outlined in Section 9.1.1. Exhibit C will set forth any scheduling or other procedures required for integrating Internal Generation into PPC's energy portfolio.

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9.3 WAPA shall have no obligation to include PPC's Internal Generation in PPC's energy portfolio if PPC does not comply with the requirements set forth in this Section 9.

10. SCHEDULING COORDINATOR SERVICES:

For WAPA to provide Full Load Service as described in this Contract, WAPA must be PPC's Scheduling Coordinator. Scheduling Coordinator services will be provided under a separate contract.

11. ADDITIONAL SERVICES NECESSARY TO PROVIDE CUSTOM PRODUCT(S):

PPC understands that additional services, including but not limited to, scheduling the resource and balancing authority area services may be necessary to provide the Custom Products(s) requested under this Contract. PPC shall be responsible for all costs incurred by WAPA to provide Full Load Service as specified in this Contract.

12. SCHEDULING AND METERING:

All services provided by WAPA to PPC under this Contract will be subject to the same Scheduling and Metering terms and conditions as provided under PPC's Base Resource Contract with WAPA the same as if they had been expressly set forth herein; Except, That, PPC shall notify WAPA of any changes in metering devices and their configurations used to meter PPC's load within five (5) business days to the extent that PPC is aware of such changes.

13. INDEPENDENT SYSTEM OPERATOR OR REGIONAL TRANSMISSION ORGANIZATION:

13.1 WAPA is a sub-balancing authority area within BANC. WAPA operates in conformance with its sub-balancing authority area and BANC's balancing authority area protocols, business practices and procedures. In the event of

changes to any protocols, business practices and procedures, WAPA may make any changes necessary to this Contract to conform to the operating and scheduling protocols, business practices and procedures in accordance with Section 17 of the Base Resource Contract.

13.2 The Parties understand that, in the future, WAPA may also change its operating configuration such as by: (1) joining an independent system operator or RTO; or (2) participating in future markets such as energy imbalance markets; or (3) making system configurations to meet future operating requirements. In such an event, if WAPA is required to conform to the protocols, business practices or procedures, WAPA shall make changes to this Contract to conform to the terms and conditions required by such events in accordance with Section 17 of the Base Resource Contract.

13.3 In the event that: (1) WAPA incurs costs from the balancing authority area, WAPA's sub-balancing authority area, CAISO, an RTO, or a different balancing authority area for serving PPC's load; or (2) PPC does not abide by the protocols of the balancing authority area, an RTO, or other balancing authority area operator that are applicable to WAPA and WAPA incurs costs as a result, PPC agrees to pay all such costs attributable to PPC.

14. FULL LOAD SERVICE CHARGES:

14.1 WAPA Charge: The charge, including WAPA's labor and equipment costs, associated with providing Portfolio Manager services to PPC under this Contract is specified in Exhibit B attached hereto. PPC shall pay for such charge as described in Section 16. By August 1st of each year during the term of this Contract, WAPA will review the charge for Portfolio Manager services and, if necessary, will revise Exhibit B to reflect the updated charge for providing this

service, and will send PPC a revised Exhibit B for its signature. The revised Exhibit B shall become effective on January 1st of the following year. If WAPA has not received the signed revised Exhibit B back from PPC by the effective date and has not received a notice of termination from PPC, WAPA will begin to operate and charge under the revised Exhibit B.

14.2 Custom Product Power Charges: PPC shall pay for Custom Product Power furnished hereunder in accordance with the rates, charges, and conditions set forth in the CVP Schedule of Rates for Custom Product Power, effective January 1, 2025, or any superseding rate schedules. PPC shall pay for such charges as described in Section 16.

15. CREDITWORTHINESS:

For determining the ability of PPC to meet its obligations related to service hereunder, WAPA may require reasonable credit review procedures. If WAPA determines that PPC does not meet WAPA's creditworthiness standards, WAPA may require PPC to provide and keep in effect during the term of this Contract, an unconditional and irrevocable letter of credit or an alternate form of security acceptable to WAPA to meet its responsibilities and obligations under this Contract; Provided, That, if WAPA determines that PPC has maintained a credit history that satisfies WAPA's requirements for a period of time determined to be sufficient by WAPA, WAPA will discuss with PPC options regarding the letter of credit or an alternative form of security.

16. BILLING AND PAYMENT FOR SERVICES PROVIDED UNDER THIS CONTRACT:

WAPA will bill, and PPC shall pay for services provided under this Contract in accordance with the procedures established under either Section 16.1 or Section 16.2, as solely determined by WAPA. If determined necessary by WAPA, WAPA may

change the section under which WAPA is billing and PPC is paying upon sixty (60) days' notice to PPC.

16.1 After-the-Fact-Billing: PPC shall pay WAPA for Full Load Service provided in the previous month as directed on the monthly electric service bill; or

16.2 Advance Funding: WAPA will estimate the initial amount of funds required. The estimate shall initially be based on two (2) months of WAPA's costs attributable to PPC for Full Load Service; Provided, That, if WAPA determines at a later date that two (2) months is either less than, or in excess of, the amount that WAPA determines is appropriate to maintain on behalf of PPC, WAPA will either bill such shortage to PPC pursuant to Section 17.2.1, or refund such excess to PPC pursuant to Section 17.2.2.

16.3 The initial advance funding amount shall be due on the date specified on the bill for collection.

16.4 Any alternative method of advance funding shall be set forth in a separate contractual agreement.

17. TRUST ACCOUNT FOR ADVANCED FUNDS:

PPC understands that it may be required to advance funds to WAPA pursuant to Section 16.2 and this section for the services provided under this Contract. This Section 15 provides for establishing and maintaining the trust account(s) required if Section 16.2 is in effect.

17.1 Funds that PPC advances to WAPA shall be sent in accordance with the information included on the bill(s) for collection or as otherwise directed.

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17.2 PPC shall be required to maintain a balance in the trust account in an amount that WAPA, pursuant to Section 16.2, has determined to be appropriate to maintain on behalf of PPC. WAPA shall monitor the account and if WAPA determines that:

17.2.1 There are not sufficient funds in the account, WAPA shall notify PPC of the shortage in writing and PPC shall advance the requested amount of funds to WAPA within ten (10) days; or

17.2.2 There are excessive funds in the WAPA trust account, WAPA, at its sole discretion, will either: (1) decrease subsequent amounts required by the amount in excess of the estimate, or (2) return any excess funds to PPC.

17.3 Should PPC be required to maintain a trust account pursuant to Section 16.2 and this Section 17, WAPA shall be under no obligation to provide service under this Contract without PPC advancing sufficient funds and said funds being available to WAPA from the trust account(s) as described herein.

17.4 Within ninety (90) days after termination of this Contract and after WAPA has determined that all obligations incurred under this Contract have been satisfied, WAPA shall return any funds remaining in the trust account(s) to PPC without interest.

18. DEFAULT PROVISIONS:

18.1 The failure of PPC to perform any of its payment obligations under this Contract shall constitute a default. If WAPA determines PPC to be in default, WAPA shall notify PPC, in writing via First-Class mail, return receipt requested, FedEx, UPS or other method that can be tracked. If PPC has not cured such default within seven (7) days of receiving the notice of default, WAPA may

suspend service under this Contract. Upon receipt of payment of any amounts owed, WAPA shall work with PPC to reinstate service under this Contract as soon as practicable.

18.2 If PPC is determined to be in default and does not cure such default within forty-five (45) days of receiving the notice of default, WAPA shall have the right to terminate this Contract, and assess damages, as follows:

18.2.1 If WAPA's aggregate gains exceed its aggregate losses and costs, including obligations incurred on behalf of PPC that extend past the current month, WAPA, after any set-off, shall make no payment to PPC and, notwithstanding anything in this Contract to the contrary, the amount by which such gain exceeds the losses and costs for the purposes of this Contract shall be zero (0); or

18.2.2 If WAPA's aggregate gains do not exceed its aggregate losses, including obligations incurred on behalf of PPC that extend past the current month, WAPA will promptly calculate the damages associated with the default. As soon as practical, WAPA will provide notice to PPC of the amount of the damages. Payment for the damages shall be made by PPC to WAPA within ten (10) business days after such notice is received.

19. ENFORCEABILITY:

It is not the intent of the Parties that this Contract confer any rights on third parties to enforce the provisions of this Contract except as required by law or express provision in this Contract. Except as provided in this Section, this Contract may be enforced, or caused to be enforced, only by WAPA or PPC, or their successors or assigns.

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20. GENERAL POWER CONTRACT PROVISIONS:

The GPCP, effective September 1, 2007, attached hereto, are hereby made a part of this Contract, the same as if they had been expressly set forth herein.

21. EXHIBITS MADE PART OF CONTRACT:

Exhibit A (Full Load Service), and Exhibit B (Charges for Portfolio Manager Services), existing under this Contract may vary during the term hereof. Each of said exhibits shall become a part of this Contract during the term fixed by its provisions. Exhibits A and B are attached hereto and shall be in force and effect in accordance with its terms until respectively superseded by a subsequent exhibit.

22. EXECUTION BY COUNTERPARTS:

This Contract may be executed in any number of counterparts and, upon execution and delivery by each Party, the executed and delivered counterparts together shall have the same force and effect as an original instrument as if all Parties had signed the same instrument. Any signature page of this Contract may be detached by any counterpart of this Contract without impairing the legal effect of any signatures thereon and may be attached to another counterpart of this Contract identical in form hereto, by having attached to it one or more signature pages.

23. ELECTRONIC SIGNATURES:

The Parties agree that this Contract may be executed by handwritten signature or digitally signed using DocuSign, Adobe Sign or Adobe E-Signature. An electronic or digital signature is the same as a handwritten signature and shall be considered valid and acceptable.

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IN WITNESS WHEREOF, the Parties have caused this Contract to be executed the day and year first above written.

PITTSBURG POWER COMPANY

By: Douglas W. Buchanan
Digitally signed by Douglas W. Buchanan
DN: cn=Douglas W. Buchanan, o=Pittsburg Power Company, ou=Island Energy, email=dougbuchanan@ci.pittsburg.ca.us, c=US
Date: 2022.11.23 08:24:31 -08'00'

Name: Douglas W. Buchanan
Title: Power Company Manager
Address: 995 Walnut Ave., Vallejo CA 94592

(Attest)

By:
Name: Vanessa Xie
Title: Administrative Officer

WESTERN AREA POWER ADMINISTRATION

By:
Digitally signed by ARUN SETHI
Date: 2022.11.30 07:56:03 -08'00'

Name: Arun K. Sethi
Title: Vice President of Power Marketing
For Sierra Nevada Region
Address: 114 Parkshore Drive
Folsom, CA 95630-4710

RESOLUTION/CERTIFICATE
OF
PITTSBURG POWER COMPANY

EXHIBIT A
(Full Load Service)

1. This Exhibit A, to be effective under and as a part of Contract 22-SNR-02783 (Contract), shall become effective upon execution of the Contract; and shall remain in effect until superseded by another Exhibit A or termination of the Contract.

2. On the effective date of this Exhibit A, WAPA will serve PPC's load up to 27,840,000 kWh per year, at a maximum rate of delivery of 8,100 kW.

3. Power provided under this Contract will be delivered to the point(s) specified in Exhibit A of PPC's Base Resource Contract.

4. If WAPA is able to contract with the Pacific Gas and Electric Company (PG&E) for transmission and distribution, and PPC executes a contract with WAPA for third-party transmission service, WAPA will provide power to PPC at the point at which PPC's electric system is connected to PG&E's electric system.

5. All power deliveries provided under this Contract shall be adjusted for the applicable transformation and transmission losses.

6. California Air Resources Board's Cap and Trade Program

6.1 WAPA has been directed by the U.S. Department of Energy to participate in the Cap-and-Trade Program.

6.2 WAPA purchases and imports power resources as Custom Product Power from outside the State of California to serve PPC's load. As a Covered Entity in the Cap-and-Trade Program, WAPA incurs an obligation to surrender allowances for certain power resources imported on behalf of PPC.

6.3 PPC shall provide WAPA with the allowances associated with any power that WAPA imports for PPC.

6.4 PPC is required to maintain a balance with WAPA of allowances associated with the Cap-and-Trade Program (Advance Delivery Quantity or ADQ). PPC and WAPA will agree on the ADQ to be retained by WAPA.

6.4.1 WAPA will retain PPC's ADQ in WAPA's Compliance Instrument Tracking System Service (CITSS) holding account until termination of this Contract or other event that would terminate WAPA's compliance obligation on behalf of PPC. Upon termination of WAPA's compliance

obligation on behalf of PPC, WAPA will return the remaining ADQ to PPC as soon as practicable.

6.5 On a monthly basis, WAPA will calculate and provide notice to PPC of the compliance obligation it incurred on behalf of PPC in the previous month. PPC shall transfer to WAPA's CITSS account the monthly allowances required within thirty (30) days of receiving WAPA's notice. WAPA shall surrender these allowances to CARB in accordance with the Cap-and-Trade Regulations.

6.6 At any time, PPC may provide allowances to WAPA in excess of the number of allowances due at that time. If PPC provides additional allowances to WAPA, no monthly transfer of allowances will be required from PPC until the allowance balance reaches zero (0).

6.7 Unless agreed to otherwise by the parties, in the event PPC does not transfer allowances to WAPA as described in this Section 6, WAPA will not provide imported power resources to PPC. Power service to PPC may be interrupted while WAPA makes the system and protocol adjustments necessary to provide only in-state power resources to PPC.

EXHIBIT B
(Charges for Portfolio Manager Services)

1. This Exhibit B, to be effective under and as a part of Contract 22-SNR-02783 (Contract), shall become effective upon execution of the Contract; and shall remain in effect until superseded by another Exhibit B or termination of the Contract.

2. The monthly charge for Portfolio Manager (PM) services is yet to be determined. Prior to January 1, 2025, WAPA will revise this Exhibit B to include the monthly PM services charge.

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor/Chair and Council/Governing Board Members

FROM: Garrett Evans, Executive Director

SUBJECT: Adoption of a Pittsburg Power Company Resolution to Authorize the Executive Director to Extend the Term of the Scheduling Coordinator Services Contract with Western Area Power Administration

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The Pittsburg Power Company (PPC) and the Western Area Power Administration (WAPA) are parties to the Scheduling Coordinator Services Contract for WAPA to furnish supplemental power and portfolio management services. In order for WAPA to purchase long-term supplemental power for its full load service customers, WAPA requested an extension to the term of the Full Load Service (FLS) Contract commencing December 31, 2024 and remaining in effect until December 31, 2029.

FISCAL IMPACT

There is no fiscal impact to the City of Pittsburg's General Fund. The cost of supplemental power purchase and associated expenses are addressed in Island Energy's annual rate case and operating budget.

RECOMMENDATION

The Governing Board of the PPC adopt the resolution authorizing the Executive Director to extend the term of the Scheduling Coordinator Services Contract with WAPA commencing December 31, 2024 and remaining in effect until December 31, 2029.

BACKGROUND

PPC and the Western Area Power Administration (WAPA) are parties to a series of power procurement and delivery contracts. These contracts include the Base Resource Contract (00-SNR-00340, the FLS Contract 22-SNR-02783, the Scheduling Coordinator Services Contract (22-SNR-02784) and their exhibits as amended from time to time to incorporate regulatory and operational changes to the PPC utility practice on Mare Island.

SUBCOMMITTEE FINDINGS

The extension of the WAPA Scheduling Coordinator Services Contract commencing December 31, 2024, has not been presented to the PPC Subcommittee.

STAFF ANALYSIS

On March 1, 2021, the PPC Board approved Resolution 21-049 authorizing an extension to the end date of the Base Resource Contract to December 31, 2054. The Base Resource Contract allocates a fixed percentage of hydro-electricity generation from the Federal Central Valley Project.

The sequential Scheduling Coordinator Service Contract is utilized to schedule and deliver Base Resource power to Mare Island and the Scheduling Coordinator Services Contract is utilized to procure and deliver supplemental power to Base Resource to serve load on Mare Island. These documents complete the Base Resource Contract.

The current Scheduling Coordinator Services Contract is scheduled to terminate on December 31, 2024. The Scheduling Coordinator Services Contract provides for WAPA to contract and furnish supplemental power, and provide portfolio management services to the PPC.

For WAPA to purchase long-term supplemental power for its full load service customers for the period extending beyond December 31, 2024, WAPA must have customer commitments from all full load service customers well in advance. PPC proposes to continue to subscribe full load service from WAPA beyond December 31, 2024; therefore, staff recommends extending the Scheduling Coordinator Services Contract to December 31, 2029.

ATTACHMENTS: Resolution
WAPA Scheduling Coordinator Services Contract

Report Prepared By: Douglas Buchanan, Power Company Manager

BEFORE THE PITTSBURG POWER COMPANY OF THE CITY OF PITTSBURG

In the Matter of:

Resolution Authorizing the Executive Director To Extend the Term of the Scheduling Coordinator Services Contract with the Western Area Power Administration	))))	RESOLUTION NO. 23-

WHEREAS, the Pittsburg Power Company (PPC) and the Western Area Power Administration (WAPA) are parties to a series of power procurement and delivery contracts; and

WHEREAS, these contracts include the Base Resource Contract (00-SNR-00340), the Full Load Services Contract (22-SNR-02783) and the Scheduling Coordinator Services Contract (22-SNR-02784) (collectively, the "Contracts"); and

WHEREAS, these Contracts and their exhibits have been amended from time to time to incorporate regulatory and operational changes to the PPC utility practice on Mare Island; and

WHEREAS, on March 1, 2021, the Governing Board of the PPC approved Resolution 21-409 approving an extension to the Base Resource Contract through December 31, 2054; and

WHEREAS, the current Scheduling Coordinator Services Contract is scheduled to terminate on December 31, 2024; and

WHEREAS, in order for WAPA to commit to and purchase long-term supplemental power for its Scheduling Coordinator Services customers for the period extending beyond December 31, 2024, it must have contract commitments from these customers in place well in advance; and

WHEREAS, PPC proposes to continue to subscribe Scheduling Coordinator Services from WAPA beyond December 31, 2024; therefore, staff recommends extending the Scheduling Coordinator Services Contract commencing December 31, 2024 and remaining in effect until December 31, 2029.

NOW, THEREFORE BE IT RESOLVED that the Governing Board of the Pittsburg Power Company hereby authorize the Executive Director to extend the terms of the Scheduling Coordinator Services Contract between Western Area Power Administration and Pittsburg Power Company to December 31, 2029.

PASSED AND ADOPTED by the Governing Board of the Pittsburg Power Company at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scales Preston, Chair

ATTEST:

_____
Garrett Evans, Executive Secretary

Contract 22-SNR-02784

UNITED STATES

DEPARTMENT OF ENERGY

WESTERN AREA POWER ADMINISTRATION

SIERRA NEVADA REGION

CUSTOM PRODUCT CONTRACT

FOR

SCHEDULING COORDINATOR SERVICES

WITH

PITTSBURG POWER COMPANY

UNITED STATES
DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
SIERRA NEVADA REGION

CUSTOM PRODUCT CONTRACT FOR SCHEDULING COORDINATOR SERVICES WITH

PITTSBURG POWER COMPANY

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Signature Clause
Resolution/Certificate
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UNITED STATES
DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
SIERRA NEVADA REGION

CUSTOM PRODUCT CONTRACT
FOR
SCHEDULING COORDINATOR SERVICES
WITH

PITTSBURG POWER COMPANY

1. PREAMBLE:

This Contract is made this 11/29/22 pursuant to the Acts of Congress approved June 17, 1902, (32 Stat. 388); August 26, 1937, (50 Stat. 844); August 4, 1939, (53 Stat. 1187); and August 4, 1977, (91 Stat. 565); and Acts amendatory or supplementary to the foregoing Acts; between the UNITED STATES OF AMERICA (United States), acting by and through the Administrator, Western Area Power Administration, Department of Energy, represented by the officer executing this Contract, or a duly appointed successor, hereinafter referred to as WAPA or the Contracting Officer; and PITTSBURG POWER COMPANY, a California joint powers authority, organized and existing under the laws of the State of California, hereinafter referred to as PPC or the Contractor, its successors and assigns; both also hereinafter referred to individually as Party and together as Parties.

2. EXPLANATORY RECITALS:

2.1 WAPA markets the surplus generation from and operates a high-voltage transmission system as a part of the Central Valley Project (CVP).

2.2 On August 15, 2017, WAPA's final 2025 Power Marketing Plan (Marketing Plan) was published in the Federal Register (82 FR 38675). The Marketing Plan provides for WAPA to develop Custom Products for customers who request them.

2.3 Pursuant to the Marketing Plan, WAPA executed Base Resource Contract 20-SNR-02315 (Base Resource Contract) with PPC on March 1, 2021. Section 7 of the Base Resource Contract allows for WAPA to develop Custom Products for PPC.

2.4 Under the Base Resource Contract, WAPA requires that all WAPA power be scheduled in accordance with the applicable balancing authority area operator requirements and that each customer designate a certified Scheduling Coordinator. WAPA is a certified California Independent System Operator (CAISO) Scheduling Coordinator and is offering this service as a Custom Product.

2.5 PPC has requested that WAPA provide Scheduling Coordinator services, as specified herein, as a Custom Product.

2.6 WAPA is willing to provide Scheduling Coordinator services to PPC under the terms and conditions of this Contract.

3. AGREEMENT:

The Parties agree to the terms and conditions set forth herein.

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4. EFFECTIVE DATE AND TERM OF CONTRACT:

4.1 This Contract shall become effective upon execution by the Parties, and shall remain in effect through December 31, 2029, except as otherwise provided herein.

4.2 The date of initial service under this Contract is December 31, 2024, at 11:59:59 P.M.

4.3 Either Party may terminate this Contract by giving the other Party a one (1) year advance written notice of the requested termination date.

4.4 WAPA may suspend or terminate this Contract pursuant to Section 13 herein.

4.5 WAPA may terminate this Contract upon thirty (30) days advance notice if PPC ceases to be a WAPA Base Resource customer.

4.6 All obligations incurred under this Contract shall be preserved until satisfied.

5. DEFINITION OF TERMS:

As used herein, the following terms whether singular or plural, or used with or without initial capitalization, shall have the following meanings:

5.1 "Base Resource" means CVP and Washoe Project power (capacity and energy) output, determined by WAPA to be available for Customers, including the Environmental Attributes, only after meeting the requirements of Project Use and First Preference Customers, and any adjustments for maintenance, reserves, system losses, and certain ancillary services.

5.2 "CAISO" means the California Independent System Operator or its successor.

5.3 "CAISO Tariff" means the California Independent System Operator Agreement and Tariff, conformed as of September 26, 2021, as it may be modified or amended from time-to-time.

5.4 "Custom Product" means a combination of products and services which may be made available by WAPA per customer request.

5.5 "Portfolio Manager" means an entity responsible for determining balanced hourly load and resource schedules for a customer.

5.6 "Scheduling Coordinator" means an entity that is responsible for submitting and modifying bids and interchange schedules and Inter-SC Trades to and settling with the CAISO, in accordance with the protocols specified in the CAISO Tariff.

6. SCHEDULING COORDINATOR SERVICES PROVIDED BY WAPA:

6.1 PPC hereby authorizes WAPA to act as its Scheduling Coordinator and WAPA shall be responsible for all obligations and duties of a Scheduling Coordinator on behalf of PPC pursuant to the CAISO Tariff.

6.2 In its capacity as Scheduling Coordinator, WAPA shall use data or other information provided by PPC's Portfolio Manager and submit day-ahead schedules to the CAISO, in accordance with the CAISO Tariff, for PPC's load. When WAPA is not PPC's Portfolio Manager, and PPC's Portfolio Manager does not provide WAPA with day-ahead schedules in accordance with the CAISO

Tariff or other necessary information in a timely manner and prior to the time WAPA submits day-ahead schedules to the CAISO, WAPA will, at its discretion, either: (1) not submit a day-ahead schedule on PPC's behalf; or (2) provide a day-ahead schedule based on reasonable estimates. In any case, PPC shall be responsible for all costs resulting from PPC's Portfolio Manager not providing information to WAPA in an appropriate and/or timely manner.

6.3 If WAPA is not PPC's Portfolio Manager, WAPA is under no obligation to submit a schedule to the CAISO if the schedule provided by PPC's Portfolio Manager is not in accordance with the CAISO Tariff.

6.4 Pursuant to the CAISO Tariff, PPC's Portfolio Manager may request an adjustment to PPC's day-ahead schedule in the hour-ahead market. If WAPA is not PPC's Portfolio Manager, WAPA shall make the adjustment with the CAISO; Provided, That, WAPA receives all information necessary to accommodate the adjustment in a timely manner; Provided Further, That, the requested adjustment does not conflict with existing contractual arrangements between the Parties or the CAISO Tariff.

6.5 WAPA shall receive, validate, and disseminate CAISO data and settlement information to PPC or its designated representative.

6.6 On a monthly basis, WAPA will develop and transmit statements to PPC with a breakdown of CAISO charges and credits and any other costs related to PPC's CAISO transactions.

6.7 WAPA shall dispute those CAISO charges related to PPC's CAISO transactions that WAPA or PPC believes to be incorrect and disputable under the

CAISO Tariff. If PPC requests that WAPA dispute a CAISO charge(s), WAPA shall initiate a dispute; Provided, That, WAPA agrees that such charge(s) are incorrect and are disputable under the CAISO Tariff.

6.8 As PPC's Scheduling Coordinator, WAPA may be required to provide legal representation on behalf of PPC in CAISO-related legal proceedings. PPC agrees to pay WAPA's legal fees, and all costs associated with its involvement with any CAISO-related activities that require WAPA's legal support.

6.9 WAPA may provide additional Scheduling Coordinator-related services as mutually agreed to by the Parties in writing.

7. SCHEDULING AND METERING:

All services provided by WAPA to PPC under this Contract will be subject to the same Scheduling and Metering terms and conditions as provided under PPC's Base Resource Contract with WAPA the same as if they had been expressly set forth herein; Except, That, PPC shall notify WAPA of any changes in metering devices and their configurations used to meter PPC's load within five (5) business days to the extent that PPC is aware of such changes.

8. INDEPENDENT SYSTEM OPERATOR OR REGIONAL TRANSMISSION ORGANIZATION:

8.1 WAPA is a sub-balancing authority area within BANC. WAPA operates in conformance with its sub-balancing authority area and BANC's balancing authority area protocols, business practices and procedures. In the event of changes to any protocols, business practices and procedures, WAPA may make any changes necessary to this Contract to conform to the operating and

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scheduling protocols, business practices and procedures in accordance with Section 17 of the Base Resource Contract.

8.2 The Parties understand that, in the future, WAPA may also change its operating configuration such as by: (1) joining an independent system operator or RTO; or (2) participating in future markets such as energy imbalance markets; or (3) making system configurations to meet future operating requirements. In such an event, if WAPA is required to conform to the protocols, business practices or procedures, WAPA shall make changes to this Contract to conform to the terms and conditions required by such events in accordance with Section 17 of the Base Resource Contract.

8.3 In the event that: (1) WAPA incurs costs from the balancing authority area, WAPA's sub-balancing authority area, CAISO, an RTO, or a different balancing authority area for serving PPC's load; or (2) PPC does not abide by the protocols of the balancing authority area, an RTO, or other balancing authority area operator that are applicable to WAPA and WAPA incurs costs as a result, PPC agrees to pay all such costs attributable to PPC.

9. SCHEDULING COORDINATOR CHARGES AND COSTS:

9.1 WAPA Charge: The charge, including WAPA's labor and equipment costs, associated with providing Scheduling Coordinator Services to PPC under this Contract is specified in Exhibit A attached hereto. PPC shall pay for such charge as described in Section 11. By August 1st of each year during the term of this Contract, WAPA will review the charge for Scheduling Coordinator Services and, if necessary, will revise Exhibit A to reflect the updated charge for providing this service, and will send PPC a revised Exhibit A for its signature. The revised Exhibit A shall become effective on January 1st of the following year. If WAPA

has not received the signed revised Exhibit A from PPC by the effective date and has not received a notice of termination from PPC, WAPA will begin to operate and charge under the revised Exhibit A.

9.2 CAISO Costs: PPC shall pay all CAISO costs charged by the CAISO for transactions occurring under this Contract. PPC shall pay for such costs as described in Section 11.

10. CREDITWORTHINESS:

For determining the ability of PPC to meet its obligations related to service hereunder, WAPA may require reasonable credit review procedures. If WAPA determines that PPC does not meet WAPA's creditworthiness standards, WAPA may require PPC to provide and keep in effect during the term of this Contract, an unconditional and irrevocable letter of credit or an alternate form of security acceptable to WAPA to meet its responsibilities and obligations under this Contract; Provided, That, if WAPA determines that PPC has maintained a credit history that satisfies WAPA's requirements for a period of time determined to be sufficient by WAPA, WAPA will discuss with PPC options regarding the letter of credit or an alternative form of security.

11. BILLING AND PAYMENT OF SERVICE PROVIDED UNDER THIS CONTRACT:

WAPA will bill, and PPC shall pay for services provided under this Contract in accordance with the procedures established under either Section 11.1 or Section 11.2, as solely determined by WAPA. If determined necessary by WAPA, WAPA may change the section under which WAPA is billing and PPC is paying upon sixty (60) days' notice to PPC.

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11.1 After-the-Fact Billing: PPC shall pay WAPA for Scheduling Coordinator Services provided in the previous month as directed on the monthly electric service bill; or

11.2 Advance Funding: WAPA will estimate the initial amount of funds required. The estimate shall initially be based on two (2) months of WAPA's costs attributable to PPC for Scheduling Coordinator Services; Provided, That, if WAPA determines at a later date that two (2) months is either less than, or in excess of, the amount that WAPA determines is appropriate to maintain on behalf of PPC, WAPA will either bill such shortage to PPC pursuant to Section 12.2.1, or refund such excess to PPC pursuant to Section 12.2.2.

11.3 The initial advance funding amount shall be due on the date specified on the bill for collection.

11.4 Any alternative method of advance funding shall be set forth in a separate contractual agreement.

12. TRUST ACCOUNT FOR ADVANCED FUNDS:

PPC understands that it may be required to advance funds to WAPA pursuant to Section 11.2 and this section for services provided under this Contract. This Section 12 provides for establishing and maintaining the trust account(s) required if Section 11.2 is in effect.

12.1 Funds that PPC advances to WAPA shall be sent in accordance with the information included on the bill(s) for collection, electric service bill, or as otherwise directed.

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12.2 PPC shall be required to maintain a balance in the trust account in an amount that WAPA, pursuant to Section 11.2, has determined to be appropriate to maintain on behalf of PPC. WAPA shall monitor the account and if WAPA determines that:

12.2.1 There are not sufficient funds in the account, WAPA shall notify PPC of the shortage in writing and PPC shall advance the requested amount of funds to WAPA within ten (10) days; or

12.2.2 There are excessive funds in the WAPA trust account, WAPA, at its sole discretion, will either: (1) decrease subsequent amounts required by the amount in excess of the estimate, or (2) return any excess funds to PPC.

12.3 WAPA will provide PPC with:

12.3.1 A monthly statement of transactions that were posted to the trust account(s), and the end-of-month balance in the account(s); and,

12.3.2 An electric service bill that will reflect the previous month of WAPA's costs and the CAISO costs and the amount of advance funding required from PPC for the costs that WAPA anticipates it will incur while providing Scheduling Coordinator services for the following month.

12.4 Should PPC be required to maintain a trust account pursuant to Section 11.2, and this Section 12, WAPA shall be under no obligation to provide service under this Contract without PPC advancing sufficient funds and said funds being available to WAPA from the trust account(s) as described herein.

12.5 Within ninety (90) days after termination of this Contract and after WAPA has determined that all obligations incurred under this Contract have been

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satisfied, WAPA shall return any funds remaining in its trust account(s) to PPC without interest.

13. DEFAULT PROVISIONS:

13.1 The failure of PPC to perform any of its payment obligations under this Contract shall constitute a default. If WAPA determines PPC to be in default, WAPA shall notify PPC, in writing via First-Class mail, return receipt requested, FedEx, UPS or some other method that can be tracked. If PPC has not cured such default within seven (7) days of receiving the notice of default, WAPA may suspend service under this Contract. Upon receipt of payment of amounts owed, WAPA shall work with PPC to reinstate service under this Contract as soon as practicable.

13.2 If PPC is determined to be in default and does not cure such default within forty-five (45) days of receiving the notice of default, WAPA shall have the right to terminate this Contract, and assess damages, as follows:

13.2.1 If WAPA's aggregate gains exceed its aggregate losses and costs, including obligations incurred on behalf of PPC that extend past the current month, WAPA, after any set-off, shall make no payment to PPC and, notwithstanding anything in this Contract to the contrary, the amount by which such gain exceeds the losses and costs for the purposes of this Contract shall be zero (0); or

13.2.2 If WAPA's aggregate gains do not exceed its aggregate losses, including obligations incurred on behalf of PPC that extend past the current month, WAPA will promptly calculate the damages associated with the default. As soon as practical, WAPA will provide notice to PPC of the amount of the damages. Payment for the damages shall be made by PPC to WAPA within ten (10) business days after such notice is received.

14. INDEMNIFICATION AND LIABILITY:

PPC shall at all times indemnify, defend, and save WAPA harmless from any and all damages, losses, claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from WAPA's performance of its obligations under this Contract on behalf of PPC, except in cases of negligence or intentional wrongdoing by WAPA. WAPA's liability shall be determined in accordance with the provisions of the Federal Tort Claims Act, as amended.

15. ENFORCEABILITY:

It is not the intent of the Parties that this Contract confer any rights on third parties to enforce the provisions of this Contract except as required by law or express provision in this Contract. Except as provided in this Section, this Contract may be enforced, or caused to be enforced, only by WAPA or PPC, or their successors or assigns.

16. GENERAL POWER CONTRACT PROVISIONS:

The GPCP, effective September 1, 2007, attached hereto, are hereby made a part of this Contract, the same as if they had been expressly set forth herein.

17. EXHIBIT MADE PART OF CONTRACT:

Exhibit A (Scheduling Coordinator Services Charges) existing under this Contract may vary during the term hereof. Exhibit A shall become a part of this Contract during the term fixed by its provisions. Exhibit A is attached hereto and shall be in force and effect in accordance with its terms until respectively superseded by a subsequent exhibit.

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18. EXECUTION BY COUNTERPARTS:

This Contract may be executed in any number of counterparts and, upon execution and delivery by each Party, the executed and delivered counterparts together shall have the same force and effect as an original instrument as if all Parties had signed the same instrument. Any signature page of this Contract may be detached by any counterpart of this Contract without impairing the legal effect of any signatures thereon and may be attached to another counterpart of this Contract identical in form hereto, by having attached to it one or more signature pages.

19. ELECTRONIC SIGNATURES:

The Parties agree that this Contract may be executed by handwritten signature or digitally signed using DocuSign, Adobe Sign, or Adobe E-Signature. An electronic or digital signature is the same as a handwritten signature and shall be considered valid and acceptable.

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IN WITNESS WHEREOF, the Parties have caused this Contract to be executed the day and year first above written.

PITTSBURG POWER COMPANY

Douglas W. Buchanan

Digitally signed by Douglas W. Buchanan
DN: cn=Douglas W. Buchanan, o=Pittsburg Power Company, ou=Island Energy, email=dougbuchanan@ci.pittsburg.ca.us, c=US
Date: 2022.11.29 08:07:52 -08'00'

By: _____
Name: Douglas W. Buchanan
Title: Power Company Manager
Address: 995 Walnut Ave., Vallejo CA 94592

(Attest)

By: _____
Name: Vanessa Xie
Title: Administrative Officer

WESTERN AREA POWER ADMINISTRATION

By: _____
Name: Arun K. Sethi
Title: Vice President of Power Marketing
For Sierra Nevada Region
Address: 114 Parkshore Drive
Folsom, CA 95630-4710

RESOLUTION/CERTIFICATE
OF
PITTSBURG POWER COMPANY

EXHIBIT A
(Scheduling Coordinator Services Charges)

1. This Exhibit A, to be effective under and as a part of Contract 22-SNR-02784 (Contract), shall become effective upon execution of the Contract; and shall remain in effect until superseded by another Exhibit A or termination of the Contract.

2. The monthly charges for Scheduling Coordinator services are set forth in the tables below. Table 1 sets forth a total monthly base charge applicable to all customers. Tables 2 and 3 set forth additive charges that may be applicable to customers based on schedule changes and additional meters in excess of those allowed for under the base charge.

3. The monthly Scheduling Coordinator services base charge is yet to be determined. Prior to January 1, 2025, WAPA will revise this Exhibit A to include a base charge and update any charges set forth in Tables 2 and 3 below if necessary.

Table 1 – Base Charge

Service	Charge
Scheduling Coordinator Services	TBD
Schedule Changes (less than or equal to 30 per month)	0.00
Metering Agent (less than or equal to 10 meters)	0.00
Trust Account(s) Administration	0.00
Total	TBD

Table 2 – Additional Schedule Changes Charge

Additional Schedule Changes	Charge
31 to 50	$ 500.00
51 to 70 [additive to the charge above ($500.00 plus $1,000.00)]	1,500.00
71 to 90 [additive to the charge above ($1,500.00 plus $1,500.00)]	3,000.00

Table 3 – Additional Meter Charge

Number of Meters	Charge
11 to 20	$ 500.00
21 to 30	1,000.00
31 to 40	1,500.00
Meters in excess of 41 will cost $500.00 per every 10 meters	

WESTERN AREA POWER ADMINISTRATION
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*Legal Citation Revised September 1, 2007

WESTERN AREA POWER ADMINISTRATION
GENERAL POWER CONTRACT PROVISIONS

I. APPLICABILITY.

1. Applicability.

1.1 These General Power Contract Provisions (Provisions) shall be a part of the contract to which they are attached. In the event these Provisions differ from requirements of the contract, specific terms set forth in the contract shall prevail.

1.2 If the Contractor has member utilities which are either directly or indirectly receiving benefits from the contract, then the Contractor shall require such members to comply with Provisions 10, 17, 18, 19, 29, 30, 36, 43, 44, and 45 of these General Power Contract Provisions.

II. DELIVERY OF SERVICE PROVISIONS.

2. Character of Service.

Electric energy supplied or transmitted under the contract will be three-phase, alternating current, at a nominal frequency of sixty (60) hertz (cycles per second).

3. Use of Capacity or Energy in Excess of Contract Obligation.

The Contractor is not entitled to use Federal power, energy, or capacity in amounts greater than the Western contract delivery obligation in effect for each type of service provided for in the contract except with the approval of Western. Unauthorized overruns of contract delivery obligations shall be subject to charges specified in the contract or the applicable rate schedules. Overruns shall not establish any continuing right thereto and the Contractor shall cease any overruns when requested by Western, or in the case of authorized overruns, when the approval expires, whichever occurs first. Nothing in the contract shall obligate Western to increase any delivery obligation. If additional power, energy, or capacity is not available from Western, the responsibility for securing additional power, energy, or capacity shall rest wholly with the Contractor.

4. Continuity of Service.

Electric service will be supplied or transmitted continuously except for: (1) fluctuations, interruptions, or reductions due to uncontrollable forces, as defined in Provision 34 (Uncontrollable Forces) herein, (2) fluctuations, interruptions, or reductions due to operation of devices installed for power system protection; and (3) temporary fluctuations, interruptions, or reductions, which, in the opinion of the party supplying the service, are necessary or desirable for the purposes of maintenance, repairs, replacements, installation of equipment, or investigation and inspection. The party supplying service, except in case of emergency, will give the party to whom service is being provided reasonable advance notice of such temporary interruptions or reductions and will remove the cause thereof with diligence.

5. Multiple Points of Delivery.

When electric service is supplied at or transmitted to two or more points of delivery under the same rate schedule, said rate schedule shall apply separately to the service supplied at or transmitted to each point of delivery; Provided, That where the meter readings are considered separately, and during abnormal conditions, the Contractor's system is interconnected between points of delivery such that duplication of metered power is possible, the meter readings at each affected point of delivery will be adjusted to compensate for duplication of power demand recorded by meters at alternate points of delivery due to abnormal conditions which are beyond the Contractor's control or temporary conditions caused by scheduled outages.

6. Metering.

6.1 The total electric power and energy supplied or transmitted under the contract will be measured by metering equipment to be furnished and maintained by Western, a designated representative of Western, or where situations deem it appropriate as determined by Western, by the Contractor or its agent(s). In the event metering equipment is furnished and maintained by the Contractor or its agent(s) and the equipment is used for billing and other accounting purposes by Western, the Contractor shall ensure that the metering equipment complies with applicable metering policies established by Western.

6.2 Meters shall be secured by appropriate security measures and meters shall not be accessed except when the meters are to be inspected, tested, adjusted, or repaired. Representatives of affected parties shall be afforded reasonable opportunity to be present upon such occasions. Metering equipment shall be inspected and tested each year by the party responsible for meter maintenance, unless a different test interval is determined in accordance with good utility practices by an applicable regional metering policy, or as agreed upon by the parties. Meters shall also be tested at any reasonable time upon request by a party hereto, or by an affected supplemental power supplier, transmission agent, or control area operator. Any metering equipment found to be damaged, defective, or inaccurate shall be repaired and readjusted or replaced by the party responsible for meter maintenance as soon as practicable. Meters found with security breaches shall be tested for tampering and, if appropriate, meter readings shall be adjusted by Western pursuant to Provision 6.3 below.

6.3 Except as otherwise provided in Provision 6.4 hereof, should any meter that is used by Western for billing or other accounting purposes fail to register accurately, the electric power and energy supplied or transmitted during the period of failure to register accurately, shall, for billing purposes, be estimated by Western from the best available information.

6.4 If inspections and tests of a meter used by Western for billing or other accounting purposes disclose an error exceeding 2 percent, or a lesser range in error as agreed upon by the parties, then a correction based upon the inaccuracy found shall be made to the service records for the period of inaccuracy as determined by Western. If the period of inaccuracy cannot be determined, the inaccuracy shall be assumed to have existed during the entire monthly billing period immediately preceding the billing period in which the inspection or test was made and the resulting correction shall be made accordingly.

6.5 Any correction in billing or other accounting information that results from a correction in meter records shall be made in a subsequent monthly bill rendered by Western to the Contractor. Payment of such bill shall constitute full adjustment of any claim between the parties arising out of inaccurate metering equipment.

7. Existence of Transmission Service Contract.

If the contract provides for Western to furnish services using the facilities of a third party, the obligation of Western shall be subject to and contingent upon the existence of a transmission service contract granting Western rights to use such facilities. If Western acquires or constructs facilities which would enable it to furnish direct service to the Contractor, Western, at its option, may furnish service over its own facilities.

8. Conditions of Transmission Service.

8.1 When the electric service under the contract is furnished by Western over the facilities of others by virtue of a transmission service arrangement, the power and energy will be furnished at the voltage available and under the conditions which exist from time to time on the transmission system over which the service is supplied.

8.2 Unless otherwise provided in the contract or applicable rate schedule, the Contractor shall maintain a power factor at each point of delivery from Western's transmission agent as required by the transmission agent.

8.3 Western will endeavor to inform the Contractor from time to time of any changes planned or proposed on the system over which the service is supplied, but the costs of any changes made necessary in the Contractor's system, because of changes or conditions on the system over which the service is supplied, shall not be a charge against or a liability of Western.

8.4 If the Contractor, because of changes or conditions on the system over which service under the contract is supplied, is required to make changes on its system at its own expense in order to continue receiving service under the contract, then the Contractor may terminate service under the contract upon not less than sixty (60) days written notice given to Western prior to making such changes, but not thereafter.

8.5 If Western notifies the Contractor that electric service provided for under the contract cannot be delivered to the Contractor because of an insufficiency of capacity available to Western in the facilities of others over which service under the contract is supplied, then the Contractor may terminate service under the contract upon not less than sixty (60) days written notice given to Western prior to the date on which said capacity ceases to be available to Western, but not thereafter.

9. Multiple Points of Delivery Involving Direct and Indirect Deliveries.

When Western has provided line and substation capacity under the contract for the purpose of delivering electric service directly to the Contractor at specified direct points of delivery and also has agreed to absorb transmission service allowance or discounts for deliveries of energy over other system(s) to indirect points of delivery and the Contractor shifts any of its load served under the contract from direct delivery to indirect delivery, Western will not absorb the transmission service costs on such shifted load until the unused capacity, as determined solely by Western, available at the direct delivery points affected is fully utilized.

10. Construction, Operation, and Maintenance of Contractor's Power System.

The Contractor shall, and, if applicable, shall require each of its members or transmission agents to construct, operate, and maintain its power system in a manner which, as determined by Western, will not interfere with the operation of the system of Western or its transmission agents over which electric services are furnished to the Contractor under the contract, and in a manner which will coordinate with the protective relaying and other protective arrangements of the system(s) of Western or Western's transmission agents. Western may reduce or

discontinue furnishing services to the Contractor if, after notice by Western, the Contractor fails or refuses to make such changes as may be necessary to eliminate an unsatisfactory condition on the Contractor's power system which is determined by Western to interfere significantly under current or probable conditions with any service supplied from the power system of Western or from the power system of a transmission agent of Western. Such a reduction or discontinuance of service will not relieve the Contractor of liability for any minimum charges provided for in the contract during the time said services are reduced or discontinued. Nothing in this Provision shall be construed to render Western liable in any manner for any claims, demands, costs, losses, causes of action, damages, or liability of any kind or nature arising out of or resulting from the construction, operation, or maintenance of the Contractor's power system.

III. RATES, BILLING, AND PAYMENT PROVISIONS.

11. Change of Rates.

Rates applicable under the contract shall be subject to change by Western in accordance with appropriate rate adjustment procedures. If at any time the United States promulgates a rate changing a rate then in effect under the contract, it will promptly notify the Contractor thereof. Rates shall become effective as to the contract as of the effective date of such rate. The Contractor, by written notice to Western within ninety (90) days after the effective date of a rate change, may elect to terminate the service billed by Western under the new rate. Said termination shall be effective on the last day of the billing period requested by the Contractor not later than two (2) years after the effective date of the new rate. Service provided by Western shall be paid for at the new rate regardless of whether the Contractor exercises the option to terminate service.

12. Minimum Seasonal or Annual Capacity Charge.

When the rate in effect under the contract provides for a minimum seasonal or annual capacity charge, a statement of the minimum capacity charge due, if any, shall be included in the bill rendered for service for the last billing period of the service season or contract year as appropriate, adjusted for increases or decreases in the contract rate of delivery and for the number of billing periods during the year or season in which service is not provided. Where multiple points of delivery are involved and the contract rate of delivery is stated to be a maximum aggregate rate of delivery for all points, in determining the minimum seasonal or annual capacity charge due, if any, the monthly capacity charges at the individual points of delivery shall be added together.

13. Billing and Payment.

13.1 Western will normally issue bills to the Contractor for services furnished during the preceding month within ten (10) days after the end of the billing period.

13.2 If Western is unable to issue timely monthly bill(s), Western may elect to render estimated bill(s). Such estimated bill(s) shall be subject to the same payment provisions as final bill(s), and any applicable adjustments will be shown on a subsequent monthly bill.

13.3 Payments of bills issued by Western are due and payable by the Contractor before the close of business on the twentieth (20th) calendar day after the date of issuance of each bill or the next business day thereafter if said day is a Saturday, Sunday, or Federal holiday. Bills shall be considered paid when payment is received by Western. Bills will be paid electronically or via the Automated Clearing House method of payment unless a written request to make payments by mail is submitted by the Contractor and approved by Western. Should Western agree to accept payments by mail, these payments will be accepted as timely and without assessment of the charge provided for in Provision 14 (Nonpayment of Bills in Full When Due) if a United States

Post Office first class mail postmark indicates the payment was mailed at least three (3) calendar days before the due date.

13.4 The parties agree that net billing procedures will be used for payments due Western by the Contractor and for payments due the Contractor by Western for the sale or exchange of electric power and energy, use of transmission facilities, operation and maintenance of electric facilities, and other services. Payments due one party in any month shall be offset against payments due the other party in such month, and the resulting net balance shall be paid to the party in whose favor such balance exists. The parties shall exchange such reports and information that either party requires for billing purposes. Net billing shall not be used for any amounts due which are in dispute.

14. Nonpayment of Bills in Full When Due.

14.1 Bills not paid in full by the Contractor by the due date specified in Provision 13 (Billing and Payment) hereof shall bear a charge of five hundredths percent (0.05%) of the principal sum unpaid for each day payment is delinquent, to be added until the amount due is paid in full. Western will also assess a fee of twenty-five dollars ($25.00) for processing a late payment. Payments received will first be applied to the charges for late payment assessed on the principal and then to payment of the principal.

14.2 Western shall have the right, upon not less than fifteen (15) days advance written notice, to discontinue furnishing the services specified in the contract for nonpayment of bills in full when due, and to refuse to resume such services so long as any part of the amount due remains unpaid. Such a discontinuance of service will not relieve the Contractor of liability for minimum charges during the time service is so discontinued. The rights reserved to Western herein shall be in addition to all other remedies available to Western either by law or in equity, for the breach of any of the terms hereof.

15. Adjustments for Fractional Billing Period.

The demand or capacity charge and minimum charges shall each be proportionately adjusted when fractional billing periods are applicable under this contract. A fractional billing period can occur: 1) at the beginning or end of electric service; 2) at the beginning or end of irrigation pumping service each year; 3) for a fractional billing period under a new rate schedule; or 4) for fractional periods due to withdrawals of electric services. The adjustment will be made based on the ratio of the number of hours that electric service is available to the Contractor in such fractional billing period, to the total number of hours in the billing period involved. Energy billing shall not be affected by fractional billing periods.

16. Adjustments for Curtailments to Firm Service.

16.1 Billing adjustments will be made if firm electric service is interrupted or reduced because of conditions on the power system of the United States for periods of one (1) hour or longer in duration each. Billing adjustments will not be made when such curtailment of electric service is due to a request by the Contractor or a discontinuance of electric service by Western pursuant to Provision 14 (Nonpayment of Bills In Full When Due). For purposes of billing adjustments under this Provision, the term power system of the United States shall include transmission facilities used under contract but not owned by the United States.

16.2 The total number of hours of curtailed firm electric service in any billing period shall be determined by adding: (1) the sum of the number of hours of interrupted electric service to (2) the product, of each reduction, of: the number of hours reduced electric service and the percentage by which electric service was reduced below the delivery obligation of Western at the time of each said reduction of electric service. The demand or capacity charge and applicable minimum charges shall each be proportionately adjusted in the ratio that

the total number of hours of electric service determined to have been curtailed bears to the total number of hours in the billing period involved.

16.3 The Contractor shall make written claim within thirty (30) days after receiving the monthly bill, for adjustment on account of any curtailment of firm electric service, for periods of one (1) hour or longer in duration each, alleged to have occurred that is not reflected in said bill. Failure to make such written claim, within said thirty-day (30-day) period, shall constitute a waiver of said claim. All curtailments of electric service, which are due to conditions on the power system of the United States, shall be subject to the terms of this Provision; Provided, That withdrawal of power and energy under the contract shall not be considered a curtailment of electric service.

IV. POWER SALES PROVISIONS.

17. Resale of Firm Electric Service (Wholesale Sales for Resale).

The Contractor shall not sell any firm electric power or energy supplied under the contract to any electric utility customer of the Contractor for resale by that utility customer; Provided, That the Contractor may sell the electric power and energy supplied under the contract to its members on condition that said members not sell any of said power and energy to any customer of the member for resale by that customer.

18. Distribution Principles.

The Contractor agrees that the benefits of firm electric power or energy supplied under the contract shall be made available to its consumers at rates that are established at the lowest possible level consistent with sound business principles, and that these rates will be established in an open and public manner. The Contractor further agrees that it will identify the costs of firm electric power or energy supplied under the contract and power from other sources to its consumers upon request. The Contractor will demonstrate compliance with the requirements of this Provision to Western upon request.

19. Contract Subject to Colorado River Compact.

Where the energy sold under the contract is generated from waters of the Colorado River system, the contract is made upon the express condition and with the express covenant that all rights under the contract shall be subject to and controlled by the Colorado River Compact approved by Section 13 (a) of the Boulder Canyon Project Act of December 21, 1928, 43 U.S.C. §§ 617a-e, and the parties to the contract shall observe and be subject to and controlled by said Colorado River Compact in the construction, management, and operation of the dams, reservoirs, and powerplants from which electrical energy is to be furnished by Western to the Contractor under the contract, and in the storage, diversion, delivery, and use of water for the generation of electrical energy to be delivered by Western to the Contractor under the contract.

V. FACILITIES PROVISIONS.

20. Design Approval.

All facilities, construction, and installation by the Contractor pursuant to the contract shall be subject to the approval of Western. Facilities interconnections shall normally conform to Western's current "General Requirements for Interconnection," in effect upon the signing of the contract document providing for each interconnection, copies of which are available from Western. At least ninety (90) days, unless otherwise agreed,

prior to the date the Contractor proposes to commence construction or to incur an obligation to purchase facilities to be installed pursuant to the contract, whichever date is the earlier, the Contractor shall submit, for the approval of Western, detailed designs, drawings, and specifications of the facilities the Contractor proposes to purchase, construct, and install. The Contractor assumes all risks for construction commenced or obligations to purchase facilities incurred prior to receipt of approval from Western. Western review and approval of designs and construction work in no way implies that Western is certifying that the designs meet the Contractor's needs.

21. Inspection and Acceptance.

Western shall have the right to inspect the materials and work furnished by the Contractor, its agents, employees, and subcontractors pursuant to the contract. Such inspections shall be at reasonable times at the work site. Any materials or work that Western determines is defective or not in accordance with designs, drawings, and specifications, as approved by Western, shall be replaced or modified, as directed by Western, at the sole expense of the Contractor before the new facilities are energized.

22. As-Built Drawings.

Within a reasonable time, as determined by Western, after the completion of construction and installation of facilities pursuant to the contract, the Contractor shall submit to Western marked as-built prints of all Western drawings affected by changes made pursuant to the contract and reproducible drawings the Contractor has prepared showing facilities of Western. The Contractor's drawings of Western facilities shall use drawing title blocks, drawing numbers, and shall be prepared in accordance with drafting standards all as approved by Western. Western may prepare, revise, or complete said drawings and bill the Contractor if the Contractor fails to provide such drawings to Western within a reasonable time as determined by Western.

23. Equipment Ownership Markers.

23.1 The Contractor shall identify all movable equipment and, to the extent agreed upon by the parties, all other salvageable facilities constructed or installed on the United States right-of-way or in Western substations pursuant to the contract which are owned by the Contractor, by permanently affixing thereto suitable markers clearly identifying the Contractor as the owner of said equipment and facilities.

23.2 If requested by the Contractor, Western shall identify all movable equipment and, to the extent agreed upon by the parties, all other salvageable facilities constructed or installed on the Contractor's right-of-way or in the Contractor's substations pursuant to the contract which are owned by the United States, by permanently affixing thereto suitable markers clearly identifying the United States as the owner of said equipment and facilities.

24. Third-Party Use of Facilities.

The Contractor shall notify Western of any proposed system change relating to the facilities governed by the contract or allowing third-party use of the facilities governed by the contract. If Western notifies the Contractor that said system change will, as solely determined by Western, adversely affect the operation of Western's system the Contractor shall, at no cost to Western, provide a solution to said adverse effect acceptable to Western.

25. Changes to Western Control Facilities.

If at any time during the term of the contract, Western determines that changes or additions to control, relay, or communications facilities are necessary to maintain the reliability or control of Western's transmission

system, and said changes or additions are entirely or partially required because of the Contractor's equipment installed under the contract, such changes or additions shall, after consultation with the Contractor, be made by Western with all costs or a proportionate share of all costs, as determined by Western, to the be paid by the Contractor. Western shall notify the Contractor in writing of the necessary changes or additions and the estimated costs to be paid by the Contractor. If the Contractor fails to pay its share of said estimated costs, Western shall have the right, after giving sixty (60) days' written notice to the Contractor, to terminate the applicable facility installation provisions to the contract and require the removal of the Contractor's facilities.

26. Modification of Western Facilities.

Western reserves the right, at any time, to modify its facilities. Western shall keep the Contractor informed of all planned modifications to Western facilities which impact the facilities installation pursuant to the contract. Western shall permit the Contractor to change or modify its facilities, in a manner satisfactory to and at no cost or expense to Western, to retain the facilities interconnection pursuant to the contract. At the Contractor's option, Western shall cooperate with the Contractor in planning alternate arrangements for service which shall be implemented at no cost or expense to Western. The Contractor and Western shall modify the contract, as necessary, to conform to the new facilities arrangements.

27. Transmission Rights.

If the contract involves an installation which sectionalizes a Western transmission line, the Contractor hereby agrees to provide a transmission path to Western across such sectionalizing facilities at no cost or expense to Western. Said transmission path shall be at least equal, in terms of capacity and reliability, to the path in the Western transmission line prior to the installation pursuant to the contract.

28. Construction and Safety Procedures.

28.1 The Contractor hereby acknowledges that it is aware of the hazards inherent in high-voltage electric lines and substations, and hereby assumes full responsibility at all times for the adoption and use of necessary safety measures required to prevent accidental harm to personnel engaged in the construction, inspection, testing, operation, maintenance, replacement, or removal activities of the Contractor pursuant to the contract. The Contractor and the authorized employees, agents, and subcontractors of the Contractor shall comply with all applicable safety laws and building and construction codes, including the provisions of Chapter 1 of the Power System Operations Manual, entitled Power System Switching Procedure, and the Occupational Safety and Health Administration regulations, Title 29 C.F.R. §§ 1910 and 1926, as amended or supplemented. In addition to the safety program required herein, upon request of the United States, the Contractor shall provide sufficient information to demonstrate that the Contractor's safety program is satisfactory to the United States.

28.2 The Contractor and its authorized employees, agents, and subcontractors shall familiarize themselves with the location and character of all the transmission facilities of Western and interconnections of others relating to the work performed by the Contractor under the contract. Prior to starting any construction, installation, or removal work, the Contractor shall submit a plan of procedure to Western which shall indicate the sequence and method of performing the work in a safe manner. No work shall be performed by the Contractor, its employees, agents, or subcontractors until written authorization to proceed is obtained from Western.

28.3 At all times when the Contractor, its employees, agents, or subcontractors are performing activities of any type pursuant to the contract, such activities shall be under supervision of a qualified employee, agent, or subcontractor of the Contractor who shall be authorized to represent the Contractor in all matters pertaining to the activity being performed. The Contractor and Western will keep each other informed of the names of their designated representatives at the site.

28.4 Upon completion of its work, the Contractor shall remove from the vicinity of the right-of-way of the United States all buildings, rubbish, used materials, concrete forms, and other like material belonging to the Contractor or used under the Contractor's direction, and in the event of failure to do so the same may be removed by Western at the expense of the Contractor.

28.5 In the event the Contractor, its employees, agents, or subcontractors fail to comply with any requirement of this Provision, or Provision 21 (Inspection and Acceptance) herein, Western or an authorized representative may issue an order to stop all or any part of the work until such time as the Contractor demonstrates compliance with the provision at issue. The Contractor, its employees, agents, or subcontractors shall make no claim for compensation or damages resulting from such work stoppage.

29. Environmental Compliance.

Facilities installed under the contract by any party shall be constructed, operated, maintained, replaced, transported, and removed subject to compliance with all applicable laws, including but not limited to the National Historic Preservation Act of 1966, 16 U.S.C. §§ 470x-6, the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4347, the Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544, and the Archaeological Resources Protection Act of 1979, 16 U.S.C. §§ 470aa-470mm, and the regulations and executive orders implementing these laws, as they may be amended or supplemented, as well as any other existing or subsequent applicable laws, regulations, and executive orders.

30. Responsibility for Regulated Materials.

When either party owns equipment containing regulated material located on the other party's substation, switchyard, right-of-way, or other property, the equipment owner shall be responsible for all activities related to regulated materials in such equipment that are necessary to meet the requirements of the Toxic Substances Control Act, 15 U.S.C. §§ 2601-2692, the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601-9675, the Oil Pollution Act of 1990, 33 U.S.C. §§ 2702-2761, the Clean Water Act, 33 U.S.C. §§ 1251-1387, the Safe Drinking Water Act, 42 U.S.C. §§ 300f-j26, and the regulations and executive orders implementing these laws, as they may be amended or supplemented, and any other existing or subsequent applicable laws, regulations, and executive orders. Each party shall label its equipment containing regulated material in accordance with appropriate laws and regulations. If the party owning the equipment does not perform activities required under appropriate laws and regulations within the time frame specified therein, the other party may perform or cause to be performed the required activities after notice to and at the sole expense of the party owning the equipment.

VI. OTHER PROVISIONS.

31. Authorized Representatives of the Parties.

Each party to the contract, by written notice to the other, shall designate the representative(s) who is (are) authorized to act in its behalf with respect to those matters contained in the contract which are the functions and responsibilities of the authorized representatives of the parties. Each party may change the designation of its authorized representative(s) upon oral notice given to the other, confirmed promptly by written notice.

32. Effect of Section Headings.

Section headings or Provision titles appearing in the contract or these General Power Contract Provisions are inserted for convenience only and shall not be construed as interpretations of text.

33. Operating Guidelines and Procedures.

The parties to the contract may agree upon and put into effect from time to time, such other written guidelines and procedures as may be required in order to establish the methods of operation of the power system to be followed in the performance of the contract.

34. Uncontrollable Forces.

Neither party to the contract shall be considered to be in default in performance of any of its obligations under the contract, except to make payment as specified in Provision 13 (Billing and Payment) herein, when a failure of performance shall be due to an uncontrollable force. The term "uncontrollable force" means any cause beyond the control of the party affected, including but not restricted to, failure of or threat of failure of facilities, flood, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, restraint by court order or public authority and action or nonaction by, or failure to obtain the necessary authorizations or approvals from, any governmental agency or authority, which by exercise of due diligence such party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome. Nothing contained herein shall be construed to require a party to settle any strike or labor dispute in which it may be involved. Either party rendered unable to fulfill any of its obligations under the contract by reason of an uncontrollable force shall give prompt written notice of such fact to the other party and shall exercise due diligence to remove such inability with all reasonable dispatch.

35. Liability.

35.1 The Contractor hereby agrees to indemnify and hold harmless the United States, its employees, agents, or contractors from any loss or damage and from any liability on account of personal injury, death, or property damage, or claims for personal injury, death, or property damage of any nature whatsoever and by whomsoever made arising out of the Contractors', its employees', agents', or subcontractors' construction, operation, maintenance, or replacement activities under the contract.

35.2 The United States is liable only for negligence on the part of its officers and employees in accordance with the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b), 1346(c), 2401(b), 2402, 2671, 2672, 2674-2680, as amended or supplemented.

36. Cooperation of Contracting Parties.

If, in the operation and maintenance of their respective power systems or electrical equipment and the utilization thereof for the purposes of the contract, it becomes necessary by reason of any emergency or extraordinary condition for either party to request the other to furnish personnel, materials, tools, and equipment for the accomplishment thereof, the party so requested shall cooperate with the other and render such assistance as the party so requested may determine to be available. The party making such request, upon receipt of properly itemized bills from the other party, shall reimburse the party rendering such assistance for all costs properly and reasonably incurred by it in such performance, including administrative and general expenses, such costs to be determined on the basis of current charges or rates used in its own operations by the party rendering assistance. Issuance and payment of bills for services provided by Western shall be in accordance with Provisions 13 (Billing

and Payment) and 14 (Nonpayment of Bills in Full When Due) herein. Western shall pay bills issued by the Contractor for services provided as soon as the necessary vouchers can be prepared which shall normally be within twenty (20) days.

37. Transfer of Interest in Contract or Change in Preference Status.

37.1 No voluntary transfer of the contract or of the rights of the Contractor under the contract shall be made without the prior written approval of the Administrator of Western. Any voluntary transfer of the contract or of the rights of the Contractor under the contract made without the prior written approval of the Administrator of Western may result in the termination of the contract; Provided, That the written approval of the Administrator shall not be unreasonably withheld; Provided further, That if the Contractor operates a project financed in whole or in part by the Rural Utilities Service, the Contractor may transfer or assign its interest in the contract to the Rural Utilities Service or any other department or agency of the Federal Government without such prior written approval; Provided further, That any successor to or assignee of the rights of the Contractor, whether by voluntary transfer, judicial sale, foreclosure sale, or otherwise, shall be subject to all the provisions and conditions of the contract to the same extent as though such successor or assignee were the original Contractor under the contract; and, Provided further, That the execution of a mortgage or trust deed, or judicial or foreclosure sales made thereunder, shall not be deemed voluntary transfers within the meaning of this Provision.

37.2 The Contractor shall maintain its status as an entity eligible for preference in Western's sale of Federal power pursuant to Reclamation law, as amended and supplemented.

37.3 Western shall give the Contractor written notice of Western's proposed determination that the Contractor has violated Provision 37.1 and Western's proposed action in response to the violation.

37.4 The Contractor shall have 120 days after receipt of Western's notice provided under Provision 37.3 to submit a written response to Western. The Contractor may also make an oral presentation to the Administrator during this 120-day period.

37.5 At any time during this process, the Contractor and Western may agree upon corrective action to resolve Western's proposed determination that the Contractor is in violation of Provision 37.1.

37.6 Within 30 days of receipt of the Contractor's written response provided under Provision 37.4, Western will notify the Contractor in writing of its final decision. The Administrator's written notice will include the intended action, the effective date thereof, and the reasons for taking the intended action. Implementation of the Administrator's action shall take place no earlier than 60 days from the Contractor's receipt of such notice.

37.7 Any successor to Western shall be subject to all the provisions and conditions of the contract to the same extent as though such successor were an original signatory to the contract.

37.8 Nothing in this Provision shall preclude any right to judicial review available to the Contractor under Federal law.

38. Choice of Law and Forum.

Federal law shall control the obligations and procedures established by this contract and the performance and enforcement thereof. The forum for litigation arising from this contract shall exclusively be a Federal court of the United States, unless the parties agree to pursue alternative dispute resolution.

39. Waivers.

Any waivers at any time by either party to the contract of its rights with respect to a default or any other matter arising under or in connection with the contract shall not be deemed a waiver with respect to any subsequent default or matter.

40. Notices.

Any notice, demand, or request specifically required by the contract or these Provisions to be in writing shall be considered properly given when delivered in person or sent by postage prepaid registered or certified mail, commercial delivery service, facsimile, electronic, prepaid telegram, or by other means with prior agreement of the parties, to each party's authorized representative at the principal offices of the party. The designation of the person to be notified may be changed at any time by similar notice. Where facsimile or electronic means are utilized for any communication covered by this Provision, the sending party shall keep a contemporaneous record of such communications and shall verify receipt by the other party.

41. Contingent Upon Appropriations and Authorization.

41.1 Where activities provided for in the contract extend beyond the current fiscal year, continued expenditures by the United States are contingent upon Congress making the necessary appropriations required for the continued performance of the United States' obligations under the contract. In case such appropriation is not made, the Contractor hereby releases the United States from its contractual obligations and from all liability due to the failure of Congress to make such appropriation.

41.2 In order to receive and expend funds advanced from the Contractor necessary for the continued performance of the obligations of the United States under the contract, additional authorization may be required. In case such authorization is not received, the Contractor hereby releases the United States from those contractual obligations and from all liability due to the lack of such authorization.

42. Covenant Against Contingent Fees.

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure the contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty, Western shall have the right to annul the contract without liability or in its discretion to deduct from the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

43. Contract Work Hours and Safety Standards.

The contract, to the extent that it is of a character specified in Section 103 of the Contract Work Hours and Safety Standards Act (Act), 40 U.S.C. § 3701, as amended or supplemented, is subject to the provisions of the Act, 40 U.S.C. §§ 3701-3708, as amended or supplemented, and to regulations promulgated by the Secretary of Labor pursuant to the Act.

44. Equal Opportunity Employment Practices.

Section 202 of Executive Order No. 11246, 30 Fed. Reg. 12319 (1965), as amended by Executive Order No. 12086, 43 Fed. Reg. 46501 (1978), as amended or supplemented, which provides, among other things, that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin, is incorporated herein by reference the same as if the specific language had been written into the contract, except that Indian Tribes and tribal organizations may apply Indian preference to the extent permitted by Federal law.

45. Use of Convict Labor.

The Contractor agrees not to employ any person undergoing sentence of imprisonment in performing the contract except as provided by 18 U.S.C. § 3622(c), as amended or supplemented, and Executive Order No. 11755, 39 Fed. Reg. 779 (1973), as amended or supplemented.

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor/Chair and Council/Governing Board Members

FROM: Garrett Evans, Executive Director

SUBJECT: Adoption of a Pittsburg Power Resolution Approving the Revised 2021 Power Content Label to the California Energy Commission

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The Pittsburg Power Company (PPC), in compliance with State law (Public Utilities Code 398.1(b)), is disclosing both the power sources portfolio information and comparison to California's total system power mix on an annual Power Content Label (PCL). Some corrections were made to the 2021 Power Content Label after its adoption.

FISCAL IMPACT

The 2021 Power Content Label is a regulatory requirement and has no fiscal impact to Island Energy's Enterprise Fund or the City of Pittsburg's General Fund.

RECOMMENDATION

The Governing Board of the PPC adopt the revised version of PPC's 2021 Power Content Label.

BACKGROUND

Under the Power Source Disclosure Program, electricity retail suppliers are required to submit to the California Energy Commission (CEC) annually to disclose their gross purchases of electricity by source, resales of electricity, and the net electricity by source used to serve retail load for the previous calendar year.

On September 19, 2022, the Governing Board of PPC adopted Resolution 22-445A, attesting the veracity of the 2021 Power Content Label to the California Energy Commission.

SUBCOMMITTEE FINDINGS

The revised 2021 Power Content Label has not been presented to the PPC Subcommittee.

STAFF ANALYSIS

Two corrections were made to the 2021 Power Content Label after its adoption.

1. The Greenhouse Gas Emission Intensity was changed from 303 lbs CO2e/MWh to 386 lbs CO2e/MWh due to increased annual sales and the California Energy Imbalance Market Adjustment.
2. The percentage of “Unspecified Power” of all energy resources should be 41.0% instead of 50.0%.

ATTACHMENTS: Resolution
Revised 2021 Power Content Label

Report Prepared By: Vanessa Xie, Administrative Officer

BEFORE THE GOVERNING BOARD OF THE PITTSBURG POWER COMPANY

In the Matter of:

Approving the Revised 2021 Power Content)
Label To the California Energy Commission) RESOLUTION NO. 23

WHEREAS, Pittsburg Power Company (PPC), a joint powers authority, provides retail electricity and natural gas services on Mare Island, Vallejo in the name of Island Energy (IE); and

WHEREAS, under the Power Source Disclosure Program, electricity retail suppliers are required to submit to the California Energy Commission (CEC) annually to disclose their gross purchases of electricity by source, resales of electricity, and the net electricity by source used to serve retail load for the previous calendar year; and

WHEREAS, on September 19, 2022, the Governing Board of PPC adopted Resolution 22-445A, attesting the veracity of the 2021 Power Content Label to the California Energy Commission; and

WHEREAS, PPC, in compliance with the State law (Public Utilities Code 398.1(b)), is disclosing both the power sources portfolio information and comparison to California's total system power mix on an annual Power Content Label; and

WHEREAS, some corrections were made to the 2021 Power Content Label after its adoption.

NOW, THEREFORE BE IT RESOLVED that the Governing Board of the Pittsburg Power Company hereby adopts the revised 2021 Power Content Label.

PASSED AND ADOPTED by Governing Board of the Pittsburg Power Company at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scales-Preston, Chair

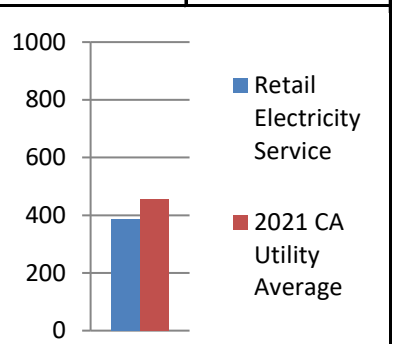
ATTEST:

_____
Garrett Evans, Executive Secretary

2021 POWER CONTENT LABEL

Pittsburg Power Company

https://islandenergy□com/power-content-label/

Greenhouse Gas Emissions Intensity (lbs CO_2e/MWh)		Energy Resources	Retail Electricity Service	2021 CA Power Mix
Retail Electricity Service	2021 CA □tility Average	**Eligible Renewable**[1]	**29□5□**	**33□6□**
386	**456**	Biomass & Biowaste	0.0□	2.3□
		Geothermal	0.0□	4.8□
		Eligible Hydroelectric	0.5□	1.0□
		Solar	29.0□	14.2□
		Wind	0.0□	11.4□
		Coal	**0□0□**	**3□0□**
		Large Hydroelectric	**25□4□**	**9□2□**
		Natural Gas	**0□0□**	**37□9□**
		Nuclear	**0□0□**	**9□3□**
		Other	**4□1□**	**0□2□**
		Unspecified Power[2]	**41□0□**	**6□8□**
		TOTAL	**100□0□**	**100□0□**
Percentage of Retail Sales Covered by Retired Unbundled RECs[3]:			**0□**	

[1]The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.

[2]□nspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

[3]Renewable energy credits (RECs) are tracking instruments issued for renewable generation. □nbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. □nbundled RECs are not reflected in the power mix or GHG emissions intensities above.

For specific information about this electricity portfolio, contact□	**Pittsburg Power Company, 707-562-5000**
For general information about the Power Content Label, visit□	http□//www.energy.ca.gov/pcl/
For additional questions, please contact the California Energy Commission at□	Toll-free in California□844-454-2906 Outside California□916-653-0237

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Chair and Governing Board Members

FROM: Garrett Evans, Executive Director

SUBJECT: Adoption of a Successor Agency Minute Order Approving the July 1, 2023 – June 30, 2024 Recognized Obligation Payment Schedule

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The Successor Agency for the Redevelopment Agency of the City of Pittsburg (Successor Agency) has prepared its Recognized Obligation Payment Schedule (ROPS) for the period of July 1, 2023 – June 30, 2024 (ROPS 23-24), pursuant to AB 26x1, also referred to as the "Dissolution Act".

FISCAL IMPACT

There is no fiscal impact to adopting ROPS 23-24. Rather, ROPS 23-24 identifies the Successor Agency's anticipated financial obligations for July 1, 2023 – June 30, 2024. ROPS 23-24 will be reflected in the Successor Agency's budget that will be considered along with the City's budget in June 2023 for Fiscal Year 2023-2024.

RECOMMENDATION

Staff recommends that the Successor Agency Governing Board approve ROPS 23-24.

BACKGROUND

On June 29, 2011, the Governor signed into law the Dissolution Act, which automatically suspended redevelopment activities, and on December 29, 2011, the California State Supreme Court upheld the provisions of the Dissolution Act, thereby dissolving all redevelopment agencies on February 1, 2012.

While redevelopment successor agencies may not initiate any new activities nor incur new indebtedness, they are nevertheless required under legislative statute and court order to continue making those payments necessary for day-to-day operations pursuant to contractual commitments/enforceable obligations, regulatory authorities, and indebtedness entered into prior to the enactment of the Dissolution Act.

On June 27, 2012, the Governor signed into law budget trailer bill AB 1484. AB 1484 imposed new requirements on successor agencies with regard to the submittal of the ROPS.

Budget trailer bill SB 107 was approved and signed by the Governor and took immediate effect on September 22, 2015. The primary purpose of SB 107 is to make technical and substantive amendments to the existing Dissolution Act. Health & Safety Code Section 34177, as amended, changed the review of ROPS from semi-annual to annual.

Pursuant to Health and Safety Code Section 34179 (j), on and after July 1, 2018, in each county where more than one oversight board was created, there shall be only one countywide oversight board. As of July 1, 2018, the California Department of Finance (DOF) will only recognize the Contra Costa County Oversight Board (Countywide Oversight Board). The Successor Agency's ROPS and other actions may not be submitted to the DOF without the Countywide Oversight Board's approval.

SUBCOMMITTEE FINDINGS

This item was not presented to a subcommittee.

STAFF ANALYSIS

ROPS 23-24 consists of debt service related expenses, administrative expenses, and other eligible enforceable obligation. Staff will submit ROPS 23-24 to the Countywide Oversight Board for its consideration on January 23, 2023. Upon receiving Countywide Oversight Board approval, ROPS 23-24 will be submitted to the DOF, the County Auditor-Controller's Office, and the California State Controller's Office on or before February 1, 2023.

ATTACHMENTS: Recognized Obligation Payment Schedule for the period of July 1, 2023 – June 30, 2024

Report Prepared By: Maria M. Aliotti, Assistant City Manager
Janielyn Bayona, Finance Division Manager

Recognized Obligation Payment Schedule (ROPS 23-24) - Summary
Filed for the July 1, 2023 through June 30, 2024 Period

Successor Agency: Pittsburg

County: Contra Costa

	Current Period Requested Funding for Enforceable Obligations (ROPS Detail)	23-24A Total (July - December)	23-24B Total (January - June)	ROPS 23-24 Total
A	**Enforceable Obligations Funded as Follows (B+C+D)**	**$ 9,420**	**$ 9,420**	**$ 18,840**
B	Bond Proceeds	-	-	-
C	Reserve Balance	-	-	-
D	Other Funds	9,420	9,420	18,840
E	**Redevelopment Property Tax Trust Fund (RPTTF) (F+G)**	**$ 15,334,667**	**$ 16,475,501**	**$ 31,810,168**
F	RPTTF	15,133,625	16,274,460	31,408,085
G	Administrative RPTTF	201,042	201,041	402,083
H	**Current Period Enforceable Obligations (A+E)**	**$ 15,344,087**	**$ 16,484,921**	**$ 31,829,008**

Certification of Oversight Board Chairman:

Pursuant to Section 34177 (o) of the Health and Safety code, I hereby certify that the above is a true and accurate Recognized Obligation Payment Schedule for the above named successor agency.

Name Title

/s/

Signature Date

Pittsburg
Recognized Obligation Payment Schedule (ROPS 23-24) - ROPS Detail
July 1, 2023 through June 30, 2024

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Item #	Project Name	Obligation Type	Agreement Execution Date	Agreement Termination Date	Payee	Description	Project Area	Total Outstanding Obligation	Retired	ROPS 23-24 Total	ROPS 23-24A (Jul - Dec)					23-24A Total	ROPS 23-24B (Jan - Jun)					23-24B Total
											Fund Sources						Fund Sources					
											Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF		Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF	
								$220,900,718		$31,829,008	$-	$-	$9,420	$15,133,625	$201,042	$15,344,087	$-	$-	$9,420	$16,274,460	$201,041	$16,484,921
2	TAB 1999	Bonds Issued On or Before 12/31/10	11/03/1999	09/01/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service (Interest & principal) 822-41272-2303/2304 (TAB 1999)	Los Medanos	54,085,000	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-
3	TAB 1999	Fees	11/03/1999	09/01/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service fiscal agent fees 822-41272-2318 (TAB 1999)	Los Medanos	-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-
10	HSG TAB 06A	Bonds Issued On or Before 12/31/10	12/14/2006	09/01/2037	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service (Interest & Principal) 844-41284-2303/2304 (HSG 2006A)	Los Medanos	9,096,213	N	$180,043	-	-	-	-	-	$-	-	-	-	180,043	-	$180,043
11	HSG TAB 06A	Fees	12/14/2006	09/01/2037	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco,	debt service fiscal agents/ PFM Invest 844-41284-2318 (HSG 2006A)	Los Medanos	36,606	N	$2,142	-	-	1,071	-	-	$1,071	-	-	1,071	-	-	$1,071

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Item #	Project Name	Obligation Type	Agreement Execution Date	Agreement Termination Date	Payee	Description	Project Area	Total Outstanding Obligation	Retired	ROPS 23-24 Total	ROPS 23-24A (Jul - Dec)					23-24A Total	ROPS 23-24B (Jan - Jun)					23-24B Total
											Fund Sources						Fund Sources					
											Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF		Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF	
					CA 94111																	
27	Prefund August debt service of Senior & Housing Bonds (1999, 2014 & Housing Bonds)	Bonds Issued On or Before 12/31/10	11/03/1999	09/01/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	Prefund senior & housing bonds debt service to fiscal agent (1999, & 2014 TABS & 2016A Hsg & 2006A HSG bonds) Balance Calendar Yr 2018	Los Medanos	13,307,480	N	$13,307,480	-	-	-	-	-	$-	-	-	-	13,307,480	-	$13,307,480
62	utilities-gas	Property Maintenance	07/01/2018	06/30/2019	PG&E	Successor Agency programs (properties owned) 801-41370-1391	Los Medanos	-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-
63	utilities-electric	Property Maintenance	07/01/2018	06/30/2019	PG&E	Successor Agency programs (properties owned) 801-41370-1392	Los Medanos	-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-
68	maintenance & repairs	Property Maintenance	07/01/2018	06/30/2019	TBD	Successor Agency programs (properties owned) 801-41370-2219	Los Medanos	-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-
69	property tax	Property Maintenance	07/01/2018	06/30/2019	Contra Costa Tax Assessor	Successor Agency programs (properties owned) 801-41372-2361	Los Medanos	-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-
71	1999 RDA Bonds	Fees	11/03/1999	09/01/2030	BLX Group LLC Dept 34461 PO Box 39000 San Francisco, CA 94139	BLX Payments administrative fees-Fund 822	Los Medanos	27,477	N	$3,090	-	-	1,545	-	-	$1,545	-	-	1,545	-	-	$1,545
81	utilities-water	Property Maintenance	07/01/2018	06/30/2019	City of Pittsburg Water Dept.	Successor Agency programs (properties owned)	Los Medanos	-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Item #	Project Name	Obligation Type	Agreement Execution Date	Agreement Termination Date	Payee	Description	Project Area	Total Outstanding Obligation	Retired	ROPS 23-24 Total	ROPS 23-24A (Jul - Dec)					23-24A Total	ROPS 23-24B (Jan - Jun)					23-24B Total
											Fund Sources						Fund Sources					
											Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF		Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF	
						801-41370-1394																
105	2014 RDA Refunded Bonds	Refunding Bonds Issued After 6/27/12	07/01/ 2014	12/01/2029	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service (Interest & Principal) 833-41285-2303/ 04 (TAB 2014)	Los Medanos	15,336,125	N	$386,125	-	-	-	-	-	$-	-	-	-	386,125	-	$386,125
107	2014 RDA Refunded Bonds	Fees	06/25/ 2014	12/01/2029	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service fiscal agent fees/ PFM Investment 833-41280-2318 (TAB 2014)		15,785	N	$2,060	-	-	1,030	-	-	$1,030	-	-	1,030	-	-	$1,030
109	2014 RDA Refunded Bonds	Fees	06/25/ 2014	12/01/2029	BLX Group LLC Dept 34461 PO Box 39000 San Francisco, CA 94139	Payment for Disclosre and Arbitrage calculation services	Los Medanos	23,677	N	$3,090	-	-	1,545	-	-	$1,545	-	-	1,545	-	-	$1,545
111	Administration	Admin Costs	07/01/ 2018	06/30/2019	City of Pittsburg	Administration 801-41202-xxxx Various Administrative Costs	Los Medanos	402,083	N	$402,083	-	-	-	-	201,042	$201,042	-	-	-	-	201,041	$201,041
118	HSG TAB 2016A Refunding	Refunding Bonds Issued After 6/27/12	02/10/ 2016	12/31/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service (Interest & Principal) 845-41278-2303/ 2304 (HSG 2016A Refunding Bond)		6,742,644	N	$146,312	-	-	-	-	-	$-	-	-	-	146,312	-	$146,312

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Item #	Project Name	Obligation Type	Agreement Execution Date	Agreement Termination Date	Payee	Description	Project Area	Total Outstanding Obligation	Retired	**ROPS 23-24 Total**	**ROPS 23-24A (Jul - Dec)**					**23-24A Total**	**ROPS 23-24B (Jan - Jun)**					**23-24B Total**
											Fund Sources						**Fund Sources**					
											Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF		Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF	
119	2016A RDA Refunding Bonds	Refunding Bonds Issued After 6/27/12	02/10/ 2016	12/31/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	debt service (Interest & Principal) 834-41281-2303/ 2304 (2016A Refunding Bond)		121,753,125	N	$17,388,125	-	-	-	15,133,625	-	$15,133,625	-	-	-	2,254,500	-	$2,254,500
122	HSG TAB 2016A Refunding Bonds	Fees	02/10/ 2016	12/31/2030	BLX Group LLC Dept 34461 PO Box 39000 San Francisco, CA 94139	Payment for Disclosre and Arbitrage calculation services 845-41278-2318		7,892	N	$1,030	-	-	515	-	-	$515	-	-	515	-	-	$515
123	2016A RDA Refunding Bonds	Fees	02/10/ 2016	12/31/2030	BLX Group LLC Dept 34461 PO Box 39000 San Francisco, CA 94139	Payment for Disclosre and Arbitrage calculation services 834-41281-2318		11,839	N	$1,546	-	-	773	-	-	$773	-	-	773	-	-	$773
126	HSG TAB 2016A Refunding Bonds	Fees	02/10/ 2016	12/31/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San Francisco, CA 94111	Debt Service Fiscal Agent Fees 845-41278-2318		37,173	N	$4,852	-	-	2,426	-	-	$2,426	-	-	2,426	-	-	$2,426
127	2016A RDA Refunding Bonds	Fees	02/10/ 2016	12/31/2030	Bank of New York Mellon Trust Company N.A. 100 Pine Street, Suite 3100 San	Debt Service Fiscal Agent Fees 834-41281-2318		-	N	$-	-	-	-	-	-	$-	-	-	-	-	-	$-

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Item #	Project Name	Obligation Type	Agreement Execution Date	Agreement Termination Date	Payee	Description	Project Area	Total Outstanding Obligation	Retired	**ROPS 23-24 Total**	**ROPS 23-24A (Jul - Dec)**					**23-24A Total**	**ROPS 23-24B (Jan - Jun)**					**23-24B Total**
											Fund Sources						**Fund Sources**					
											Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF		Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF	
					Francisco, CA 94111																	
131	Hsg TAB 2006A	Fees	12/14/ 2006	09/01/2037	BLX Group LLC Dept 34461 PO Box 39000 San Francisco, CA 94139	Payment for Disclosre and Arbitrage calculation services 844-41284-2318		17,599	N	$1,030	-	-	515	-	-	$515	-	-	515	-	-	$515

Pittsburg
Recognized Obligation Payment Schedule (ROPS 23-24) - Report of Cash Balances
July 1, 2020 through June 30, 2021
(Report Amounts in Whole Dollars)

Pursuant to Health and Safety Code section 34177 (l), Redevelopment Property Tax Trust Fund (RPTTF) may be listed as a source of payment on the ROPS, but only to the extent no other funding source is available or when payment from property tax revenues is required by an enforceable obligation.

A	B	C	D	E	F	G	H
	ROPS 20-21 Cash Balances (07/01/20 - 06/30/21)	**Fund Sources**					**Comments**
		Bond Proceeds		**Reserve Balance**	**Other Funds**	**RPTTF**	
		Bonds issued on or before 12/31/10	Bonds issued on or after 01/01/11	Prior ROPS RPTTF and Reserve Balances retained for future period(s)	Rent, grants, interest, etc.	Non-Admin and Admin	
1	**Beginning Available Cash Balance (Actual 07/01/20)** RPTTF amount should exclude "A" period distribution amount.	1,469,295	12,738,913		653,218	10,325	
2	**Revenue/Income (Actual 06/30/21)** RPTTF amount should tie to the ROPS 20-21 total distribution from the County Auditor-Controller	40,871	4,462		50,504	33,359,487	
3	**Expenditures for ROPS 20-21 Enforceable Obligations (Actual 06/30/21)**	342	4,462		454,684	33,191,161	
4	**Retention of Available Cash Balance (Actual 06/30/21)** RPTTF amount retained should only include the amounts distributed as reserve for future period(s)	1,509,824	12,738,913		184,156	10,325	
5	**ROPS 20-21 RPTTF Prior Period Adjustment** RPTTF amount should tie to the Agency's ROPS 20-21 PPA form submitted to the CAC		No entry required				
6	**Ending Actual Available Cash Balance (06/30/21) C to F = (1 + 2 - 3 - 4), G = (1 + 2 - 3 - 4 - 5)**	**$-**	**$-**	**$-**	**$64,882**	**$168,326**	

Pittsburg
Recognized Obligation Payment Schedule (ROPS 23-24) - Notes
July 1, 2023 through June 30, 2024

Item #	Notes/Comments
2	
3	
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OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Authorizing the City Manager to Negotiate and Execute a Site Lease Agreement with DISH Wireless, LLC

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

Staff is negotiating a Site Lease Agreement between the City of Pittsburg and DISH Wireless, LLC (DISH) for access to City property located at 2280 Southwood Drive in Pittsburg for placement of wireless equipment on an existing PG&E-owned tower.

FISCAL IMPACT

Approval of this Site Lease will generate a base rent up to $2,000 per month for up to 25 years with an annual escalation of 3% throughout the lifetime of the Site Lease, and a one-time signing bonus of $4,000.

RECOMMENDATION

City Council adopt a resolution authorizing the City Manager to Negotiate and Execute Site Lease Agreement with DISH.

BACKGROUND

DISH submitted a project proposing installation of wireless equipment at 2280 Southwood Drive (APN 093-340-039). The site is currently occupied with a PG&E-owned tower on which DISH proposes to collocate the equipment. PG&E acquired an easement for locating this tower (see Exhibit C-2 of Attachment 2) from the City. City staff is negotiating the following key terms in the Site Lease with DISH:

1. Base rent of $2,000 per month
2. Annual escalation of 3% throughout the lifetime of the Site Lease
3. One-time lease signing bonus of $4,000
4. Original term of five years that automatically renews up to four times for 5-year periods each renewal, ending in 2047

5. DISH may not sublease or otherwise permit any third party to access, use or occupy the premises without the City's prior written consent
6. If DISH elects to terminate this Agreement for any or no reason except (i) changes in Applicable Law which prohibit DISH's ability to operate DISH's Communications Facility at the Premises or (ii) DISH, in its sole discretion, determines that DISH's Permitted Use of the Premises is obsolete, DISH shall include with its termination notice a lump sum payable to Landlord equal to the then-current Rent multiplied by either 12 or the number of months remaining on the Term (whichever is less).

SUBCOMMITTEE FINDINGS

This item was not presented to a subcommittee.

STAFF ANALYSIS

Staff worked with Telecom Law Firm to develop and negotiate the proposed terms of this Site Lease. DISH is preparing to launch its network in 2023, and is in the process of installing approximately 100,000 sites in the United States. DISH's proposal to locate equipment on and access the PG&E-owned tower at 2280 Southwood Drive represents a long-term partnership that will provide coverage in Pittsburg for many purposes including public safety.

Staff has reviewed similar site lease agreements from other cities and for a location with two landlords (municipality and PG&E), this lease is slightly above average in compensation. Factors that influenced the rate include: Pittsburg's population and density relative to other facilities; maturity of the wireless carrier relative to others like Verizon, AT&T, and T-Mobile; and number of landlords requiring rental payments.

ATTACHMENT: Resolution

Report Prepared By: Sara Bellafronte, Assistant to the City Manager

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Authorizing the City Manager to Negotiate and Execute a Site Lease Agreement with DISH Wireless, LLC) RESOLUTION NO. 23-

WHEREAS, DISH Wireless, LLC (DISH) submitted a project requesting access to City-owned property at 2280 Southwood Drive (APN 093-340-039) for installation of wireless equipment; and

WHEREAS, 2280 Southwood Drive is currently occupied with a PG&E-owned tower on which DISH proposes to collocate the equipment; and

WHEREAS, DISH is preparing to launch its network in 2023, and is in the process of installing approximately 100,000 sites in the United States that will provide coverage in Pittsburg for many purposes including public safety; and

WHEREAS, staff worked with Telecom Law Firm to develop and negotiate the terms of this Site Lease Agreement and based on Pittsburg's population, density, and maturity of DISH relative to other carriers, and number of landlords requiring payment for the location of wireless equipment, the proposed lease rate is slightly above average for other like leases.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Pittsburg hereby authorizes the City Manager to negotiate and execute a Site Lease Agreement with DISH Wireless, LLC.

PASSED AND ADOPTED by the City Council of the City of Pittsburg, at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Allocating Funds to Reimburse Seecon Financial & Construction Co., Inc. for Infrastructure Costs incurred Related to Community Facilities District 2009-01, San Marco ("CFD 2009-01")

MEETING DATE: December 19, 2022

EXECUTIVE SUMMARY

The City established CFD 2009-01 to help fund public improvements in the San Marco development that the developer, Seecon Financial & Construction Co., Inc. dba Discovery Builders ("Developer"), builds on behalf of the City. The Developer is seeking reimbursement for eligible expenses in the amount of $6,695,799. The CFD 2009-01 has $1,698,000 in the fund. The proposed resolution will authorize the use of $1,500,000 to reimburse the Developer and pay the City for administrative expenses in the amount of $22,500.

FISCAL IMPACT

CFD 2009-01 Fund has a current available balance of $1,698,000. The proposed resolution will reimburse the Developer $1,500,000 and the City $22,500. Approval of the proposed payment will leave a balance of $175,500 in the CFD 2009-01 Fund.

RECOMMENDATION

Approve the attached resolution to reimburse the Developer in the amount of $1,500,000 for CFD 2009-01 eligible public improvement expenses and the City's administrative expenses in the amount of $22,500.

BACKGROUND

On December 21, 2009, the City Council established CFD 2009-01 for the purpose of financing certain authorized public capital facilities (the "Facilities") within CFD 2009-01 as set forth in the Resolution of Formation No. 09-11366 and the Resolution deeming it necessary to incur bonded indebtedness No. 09-11367. Both resolutions were adopted by the City Council on December 21, 2009.

At the request of the property owner, the City Council initiated annexation proceedings to annex certain territory in the City to the CFD 2009-01 by adopting a Resolution of Intention to Annex Territory to Community Facilities District 2009-01 (San Marco) and to Levy a Special Tax in such Territory and Approving Annexation Map No. 1 on January 18, 2011.

CFD 2009-01 was formed in accordance with the terms of the Development Agreement between the City of Pittsburg and Developer and pursuant to the Mello Roos Act. The Facilities authorized to be acquired and constructed in and for CFD 2009-01 include various public infrastructure improvements such as street improvements, street lighting, public landscaping, traffic signals, sound walls, joint utility mains, storm drains, water facilities, sewer facilities, etc. In accordance with State law, public improvements may be financed in and for CFD 2009-01 to be funded by the special tax levied on both residential and non-residential property within CFD 2009-01 boundaries, including any territory annexed thereto. The special tax may fund the Facilities directly and may also pay debt service on bonds issued to finance the Facilities as well as costs incurred to form CFD 2009-01.

SUBCOMMITTEE FINDINGS

This item was reviewed by the Finance Subcommittee on December 16, 2022.

STAFF ANALYSIS

In fiscal year 2014/15, funds in the amount of $1,588,757 were paid to the Developer and $23,831 to the City for administration costs incurred for the design and construction of West Leland Road IIA project improvements.

In fiscal years 2017/18 through 2019/20, funds in the amount of $3,824,499.27 were paid to the Developer and $57,367 to the City for administration costs incurred for the design and construction of Subdivision 8519, San Marco Unit 6.

In fiscal years 2019/20 through 2021/22, funds in the amount of $2,338,981 were paid to the Developer and $35,085 to the City for administration costs incurred for the design and construction of West Leland Road IIB.

On October 27,2022, staff received two invoices totaling $6,695,799 from the Developer for Acquisition Improvement Reimbursements No. 4 in the amount of $2,587,592 and No. 5 in the amount of $4,108,207 for costs incurred to build public improvements in CFD 2009-01. As described in the attached memorandum from the City Engineer, staff reviewed the invoices and determined that the improvements had been constructed to the City's standards and the reimbursement requests were consistent with the City's Agreement with the Developer.

Funding is available to reimburse the Developer for CFD 2009-01 public improvement expenses in the amount of $1,500,000 and the City's administrative expenses in the amount of $22,500, leaving a balance due when tax assessment funds become available, which amounts to $5,195,799 to the Developer and an additional $77,937 to the City for administration. The Developer will continue to complete the infrastructure improvements and will submit an invoice in the future for improvements still to be completed.

ATTACHMENTS: Resolution
City Engineer's Approval of $6,695,799 in Payment of Funds from CFD 2009-01

Report Prepared By: Janielyn Bayona, Finance Division Manager

Reviewed by: Paul Rodrigues, Director of Finance

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Allocating Funding from the CFD 2009-01 Fund to Reimburse Developer for Public Improvement Expenses and the City's Administrative Expenses	))))	RESOLUTION NO. 22-

WHEREAS, on December 21, 2009, the Pittsburg City Council established Community Facilities District 2009-01, San Marco ("CFD 2009-01"); and

WHEREAS, prior to forming CFD 2009-01, the City of Pittsburg entered into a Deposit and Reimbursement Agreement ("Agreement") with the San Marco property owner and developer, Seecon Financial & Construction Co., Inc. dba Discovery Builders ("Developer") that requires the City to reimburse the Developer for public improvements constructed in the San Marco development from tax proceeds collected from CFD 2009-01; and

WHEREAS, the Developer incurred $6,695,799 in eligible expenses to construct public improvements in CFD 2009-01 and is seeking reimbursement of such expenses; and

WHEREAS, CFD 2009-01 has a current available fund balance of $1,698,000 to partially reimburse the Developer in the amount of $1,500,000 and reimburse the City in the amount of $22,500 for administrative expenses, leaving $5,195,799 due for reimbursement to the developer and $77,937 for City administration when tax assessment funds become available.

NOW, THEREFORE BE IT RESOLVED that the City Council approves reimbursing $1,500,000 to the Developer for CFD 2009-01 public improvement expenses and $22,500 to the City for administrative expenses.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 19th day of December 2022, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

Shanelle Scales-Preston, Mayor

ATTEST:

Alice E. Evenson, City Clerk

EXHIBIT B

FORM OF ACTUAL COST CERTIFICATE

COMMUNITY FACILITIES DISTRICT 2009-01 (San Marco)

CITY OF PITTSBURG, COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA

The undersigned, a duly authorized representative of Seecon Financial & Construction Co. , Inc. (the "Developer") is filing this Actual Cost Certificate pursuant to that certain Acquisition, Funding and Disclosure Agreement, dated as of April 5, 2010 (the "Agreement"). Capitalized terms used herein shall have the meanings assigned thereto in the Agreement. The undersigned, on behalf of the Developer, hereby certifies as follows:

1. The Developer hereby requests that the City of Pittsburg acquire the Acquisition Improvement(s) listed in Schedule I attached hereto.

2. The Actual Cost of the Acquisition Improvement(s) is listed in Schedule I hereto, and is supported by the documentation submitted to the City Engineer with this Certificate.

3. The Title Documents, title insurance policy (if applicable) and lien releases submitted with this certificate meet the requirements of the Agreement.

4. The Developer and all Affiliates thereof are current in the payment all due and payable property taxes and special taxes of the District on property owned by them within the District.

5. The Developer is otherwise in compliance with the Agreement.

Dated: : October 27, 2022

SEECON FINANCIAL &
CONSTRUCTION CO, INC.
a_California corporation

By: _____

Title: Authorized Agent

APPROVED
[check one]

☐ with modifications noted on Schedule I
☒ as submitted

_____
City Engineer of the City of Pittsburg

SCHEDULE I

Acquisition Improvement No.	Description	Actual Cost
4	San Marco Unit 7	$2,587,592

San Marco Unit #7 PUBLIC

Final Construction Cost - Land Development PUBLIC

Item No.	Item Description	QTY	Unit	Unit Cost	Extended Cost Rounded	Designer or Contractor
1	**Desgin/Engineering**					
	a. Preliminary Phase	1	LS		$28,406	Isakson
	b. Design Phase	1	LS		$97,800	Isakson
	c. Construction Phase	1	LS		$60,364	Isakson
	d. Utility Engineering	1	LS		$41,000	Lighthouse
	e. Environmental Engineering	1	LS		$2,150	Moore
2	**Grading**					
	a. Grading	1	LS		$3,186	Engeo
	b. Mass Grading	1	LS		$11,204	Engeo
	c. Site Improvements	1	LS		$46,200	Engeo
	d. Reports	1	LS		$7,830	Engeo
	e. Clear & Grub	1	LS		$5,218	Ghilotti
	f. Excavate & Grading	1	LS		$89,832	Ghilotti
	g. Base & Paving	1	LS		$381,240	Ghilotti
	h. Signs/Monument/Striping	1	LS		$18,468	Ghilotti
	i. Concrete - Curb & Cutter	1	LS		$136,417	Ghilotti
	j. Manholes, Grates	1	LS		$50,600	Ghilotti
	k. Errosion Control	1	LS		$18,479	Ghilotti
3	**Underground**					
	a. Joint Trench	1	LS		$115,482	A-S Pipelines
	b. PG&E/AT&T/ Cable Substrc.	1	LS		$65,375	A-S Pipelines
	c. Sewer	1	LS		$130,799	A-S Pipelines
	d. Conduit	1	LS		$29,698	A-S Pipelines
	e. Storm Drain	1	LS		$110,352	A-S Pipelines
	f. PG&E Gas & Elect. Systems	1	LS		$112,552	A-S Pipelines
	g. Street Light	1	LS		$37,390	A-S Pipelines
	h. Water System	1	LS		$201,120	A-S Pipelines
4	**Right of Way**	171,696	SF	$2	$343,392	
5	**Walls**	1	LS		$43,852	Sierra Precast
6	**Erosion/Dust Control**					
	a. Hydroseeding	1	LS		$14,077	Freedlun
	b. Erosion	1	LS		$3,311	Syar
	c. Erosion	1	LS		$430 .91	ATCO
	d. Erosion	1	LS		$2,523	Antioch Bldg. Mat.
	e. Trucking/Drain Rock	1	LS		$613	Skaggs
	Sub-Total				**$2,208,930**	

San Marco Unit #7 PUBLIC

Final Construction Cost - Land Development PUBLIC

Item No.	Item Description	QTY	Unit	Unit Cost	Extended Cost Rounded	Designer or Contractor
7	City Fees					
	a. Plan Check	1	LS		$20,992	City of Pittsburg
	b. Balance of Fees	1	LS		$61,964	City of Pittsburg
	c. Balance of GRD. PLN. Check	1	LS		$6,376	City of Pittsburg
	d. CCCFPD	1	LS		$1,125	CCCFPD
	f. Drainage District	1	LS		$129,936	CCC Flood Control
8	Bonds	1	LS		$15,303	Safeco
	Total - This Page				$235,696	
	Total - First Page				$2,228,677	
	Sub-Total				$2,464,373	
	5% Management Fee				$123,219	
	Total				$2,587,592	

EXHIBIT B

FORM OF ACTUAL COST CERTIFICATE

COMMUNITY FACILITIES DISTRICT 2009-01 (San Marco)

CITY OF PITTSBURG, COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA

The undersigned, a duly authorized representative of Seecon Financial & Construction Co. , Inc. (the "Developer") is filing this Actual Cost Certificate pursuant to that certain Acquisition, Funding and Disclosure Agreement, dated as of April 5, 2010 (the "Agreement"). Capitalized terms used herein shall have the meanings assigned thereto in the Agreement. The undersigned, on behalf of the Developer, hereby certifies as follows:

1. The Developer hereby requests that the City of Pittsburg acquire the Acquisition Improvement(s) listed in Schedule I attached hereto.

2. The Actual Cost of the Acquisition Improvement(s) is listed in Schedule I hereto, and is supported by the documentation submitted to the City Engineer with this Certificate.

3. The Title Documents, title insurance policy (if applicable) and lien releases submitted with this certificate meet the requirements of the Agreement.

4. The Developer and all Affiliates thereof are current in the payment all due and payable property taxes and special taxes of the District on property owned by them within the District.

5. The Developer is otherwise in compliance with the Agreement.

Dated: : October 27, 2022

SEECON FINANCIAL &
CONSTRUCTION CO. INC.
a_California corporation

By: _____

Title: Authorized Agent

APPROVED
[check one]

☐ with modifications noted on Schedule I
☐ as submitted

_____
City Engineer of the City of Pittsburg

SCHEDULE I

Acquisition Improvement No.	Description	Actual Cost
5	San Marco Unit 8	$4,108,207

San Marco Unit #8

Final Construction Cost - Land Development PUBLIC

Item No.	Item Description	QTY	Unit	Unit Cost	Extended Cost Rounded	Designer or Contractor
1	**Desgin/Engineering**					
	a. Design Phase	1	LS		$152,344	Isakson
	b. Construction Phase	1	LS		$104,221	Isakson
	d. Utility Engineering	1	LS		$42,600	Lighthouse
	e. Environmental Engineering	1	LS		$2,150	Moore
2	**Grading**					
	a. Grading	1	LS		$3,042	Engeo
	b. Mass Grading	1	LS		$90,500	Engeo
	c. Site Improvements	1	LS		$21,177	Engeo
	d. Reports	1	LS		$9,250	Engeo
	e. Clear & Grub	1	LS		$7,140	Ghilotti
	f. Excavate & Grading	1	LS		$581,993	Ghilotti
	g. Base & Paving	1	LS		$508,880	Ghilotti
	h. Signs/Monument/Striping	1	LS		$21,505	Ghilotti
	i. Site Concrete	1	LS		$78,277	Ghilotti
	j. Manholes, Grates	1	LS		$33,300	Ghilotti
	k. Curb & Gutter	1	LS		$102,812	Cemcon
	l. Erosion Control	1	LS		$24,974	Freedlun
3	**Underground**					
	a. Joint Trench	1	LS		$138,061	A-S Pipelines
	b. PG&E/AT&T/ Cable Substrc.	1	LS		$80,375	A-S Pipelines
	c. Sewer	1	LS		$241,133	A-S Pipelines
	d. Conduit	1	LS		$37,910	A-S Pipelines
	e. Storm Drain	1	LS		$131,794	A-S Pipelines
	f. PG&E Gas & Elect. Systems	1	LS		$174,416	A-S Pipelines
	g. Street Light	1	LS		$61,240	A-S Pipelines
	h. Water System	1	LS		$328,043	A-S Pipelines
4	**Right of Way**	237,625	SF	$2	$475,250	
5	**Walls**	1	LS		$136,057	Sierra Precast
6	**City Fees/Permit Fees**					
	a. Plan Check	1	LS		$27,365	City of Pittsburg
	b. Balance of Fees	1	LS		$82,389	City of Pittsburg
	c. Balance of GRD. PLN. Check	1	LS		$31,848	City of Pittsburg
	d. CCCFPD	1	LS		$1,296	CCCFPD
	e. Street Light Permit	1	LS		$1,331	PG&E
	f. Drainage District	1	LS		$167,268	CCC Flood Control
7	**Bonds**	1	LS		$12,637	Safeco

San Marco Unit #8 PUBLIC

Final Construction Cost - Land Development PUBLIC

	SUB-TOTAL				$3,912,578	
	5% Management Fee				$195,629	
	TOTAL				$4,108,207	

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of an Ordinance Amending Title 2 of the Pittsburg Municipal Code Title 2 Regarding City Commissions

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

On December 12, 2022, the City Council introduced and waived further reading of an Ordinance amending Pittsburg Municipal Code (PMC) Title 2 to be consistent with the Handbook for City Advisory Bodies adopted by the City Council on November 7, 2022. This will adopt the Ordinance.

FISCAL IMPACT

There is no fiscal impact associated with adoption of the ordinance.

RECOMMENDATION

City Council adopt the Ordinance amending PMC Title 2 of the Pittsburg Municipal Code.

BACKGROUND

This item was introduced and further reading of the Ordinance was waived amending PMC Title 2 related to the City's Commissions.

SUBCOMMITTEE FINDINGS

An ad hoc committee of the City Council worked with the City Clerk, City Attorney and Commission liaison staff to review the current handbook. The subcommittee agreed that after adoption of the revised Handbook, an amendment to the Municipal Code would be necessary.

STAFF ANALYSIS

After introduction of an ordinance, the City Council approves the action by adopting the ordinance by a majority vote at the next meeting. The ordinance becomes effective 30 days after the date of its adoption.

ATTACHMENT: Ordinance

Report Prepared By: Alice E. Evenson, City Clerk

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Amending Title 2 of the Pittsburg Municipal Code to Revise Requirements and Terms and Appointments to City Commissions

ORDINANCE NO. 22-1504

The Pittsburg City Council DOES ORDAIN as follows:

WHEREAS, advisory bodies play an important role in City governance by assisting the City Council in addressing specific issues in detail, and providing a conduit for information between the public and the City Council; and

WHEREAS, currently, the advisory bodies include the Community Advisory Commission, Historic Resources Commission, Housing Authority governing board, Planning Commission, Measure M/P Citizen Oversight Committee, Youth Advisory Commission and Sister Cities Committee; and

WHEREAS, the roles and responsibilities of each advisory body are set forth in the Pittsburg Municipal Code, and City Council resolution, and are subject to state law; and

WHEREAS, on November 7, 2022, the City Council by resolution adopted a Handbook for City Advisory Bodies as a training and guidance document for the City's advisory bodies; and

WHEREAS, the Planning Commission, Community Advisory Commission and Youth Advisory Commission are subject to bylaws adopted by the City Council to govern their meetings and activities.

NOW, THEREFORE, the City Council of the City of Pittsburg Does ORDAIN as follows:

(new language in ***bold italic***, deleted language in ~~strikethrough~~)

Section 1. Amendment. Section 2.04.060 of the Pittsburg Municipal Code is hereby amended as follows:

2.04.060 City commissions – Appointment – Removal from office of city commissioners – Conduct of business of city commissions.

A. Commission appointments shall be made by the city council. Unless the appointment involves filling a vacancy, the term of a newly appointed commissioner shall begin on July 1st***, except that the term of a newly appointed planning commissioner shall begin on the date of the second regular meeting in March***. The city council may remove, at its pleasure, any commissioner during his/her term of office, by a majority vote of the city council.

B. Commissioners who have reached their term limits, who resign or are removed from a commission by the city council must wait ~~one~~ ***two*** year***s*** before seeking reappointment to the same commission. The city council may adopt, by resolution, guidelines and requirements for the conduct of commission business.

Section 2. Amendment. Section 2.40.020 of the Pittsburg Municipal Code is hereby amended as follows:

2.40.020 Membership.

The city planning commission shall consist of seven voting members and three ex officio members, as follows:

A. The voting members of the city planning commission shall be appointed by the city council and shall be residents of the city;

B. No city officer, official, employee or member of the city council shall be appointed as a voting member of the planning commission;

C. The city planner, city attorney and city engineer shall be ex officio members of the planning commission and shall serve as members thereof during their official tenure;

D. ~~A planning commissioner shall serve no more than four consecutive, two-year terms in office. If a commissioner has completed four consecutive terms, then the commissioner is not eligible for reappointment to the planning commission until one year has passed; however, if a commissioner has served six years or less at the time their current term expires, then they are eligible for reappointment;~~
The term of office for members is four years. Members shall not serve more than two consecutive four-year terms. Members who have served six years or less at the time their terms expire are eligible for reappointment. After a member's second consecutive term expires, there must be at least a two-year break before that member may be appointed to the planning commission. The city council may reappoint members if there are no other applicants or if the council has already considered the current applicants and determined to reappoint a member whose term has exceeded the term limits.

~~E. Notwithstanding the term limits contained herein, if a commissioner's term has expired or is expiring and there is an insufficient number of applicants to fill all vacant seats on the commission, the city council shall be entitled, in its discretion, to reappoint one or more commissioners who would otherwise be ineligible to reapply under subsection (D) of this section. Nothing in this section shall require a commissioner to accept reappointment.~~

Section 3. Amendment. Section 2.50.020 is hereby amended as follows:

A. The commission shall consist of seven voting members selected from any sector of the city. All commissioners shall be appointed by and serve at the pleasure of the city council.

B. All candidates for membership shall be ~~registered voters~~ ***residents*** in the city and shall not be a current officeholder. The commissioners should be representative of the community as a whole, as determined by the city council.

C. ~~A community advisory commissioner shall serve no more than four, consecutive, two-year terms in office. If a commissioner has completed four terms, the commissioner is not eligible for reappointment to the community advisory commission until after one year has passed.~~

The term of office for members is four years. Members shall not serve more than two consecutive four-year terms. Members who have served six years or less at the time their terms expire are eligible for reappointment. After a member's second consecutive term expires, there must be at least a two-year break before that member may be appointed to the community advisory commission. The city council may reappoint members if there are no other applicants or if the council has already considered the current applicants and determined to reappoint an existing member whose term has exceeded the term limits.

~~D. If a commissioner is appointed to a vacant seat and serves less than two years of the unexpired seat, the appointed commissioner shall be eligible to serve two additional four-year terms in addition to completing the term of the vacant seat the appointed commissioner fills.~~

~~E. Notwithstanding the term limits contained herein, if a commissioner's term has expired or is expiring and there is an insufficient number of applicants to fill all vacant seats on the commission, the city council shall be entitled, in its discretion, to reappoint one or more commissioners who would otherwise be ineligible to reapply under subsection (C) of this section. Nothing in this section shall require a commissioner to accept reappointment.~~

Section 4. Amendment. Section 2.50.050 is hereby amended to read as follows:

2.50.050 Meetings.

Meetings of the commission ~~generally~~ shall be ~~conducted~~ ***held no less than 10 days during a calendar year and are generally conducted*** once each month at a city facility unless an alternate location is selected. Agendas shall be prepared by city staff and shall be properly posted and noticed as prescribed by law. Commission members shall attend all meetings or notify staff if they are unable to attend.

Section 5. Effective Date. This Ordinance shall be in full force and effect thirty (30) days after its adoption.

Section 6. Severability. If any section, subdivision, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions.

Section 7. Publication. The ordinance shall be posted and published in accordance with the California Government Code.

The foregoing ordinance was introduced at a meeting of the City Council of the City of Pittsburg held on December 12, 2022, and was adopted and ordered published at a meeting of the City Council held on January 17, 2023, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Establishing a Digital Signature Policy

MEETING DATE: December 19, 2022

EXECUTIVE SUMMARY

A digital signature policy would authorize the use of digital signatures to transact specified City business, which would expedite transactions, increase productivity, and reduce the burdens associated with obtaining manual or "wet" signatures.

FISCAL IMPACT

Costs for software for digital signatures are expected to be covered through existing systems, the pending Enterprise Resource Planning tools, or would be an added expenditure for licenses for software. It is anticipated the City will save costs for postage and overnight delivery of documents with wet signatures.

RECOMMENDATION

Adopt the Resolution establishing a digital signature policy.

BACKGROUND

The use of digital signatures by public agencies is allowed by California's Uniform Electronic Transactions Act (Civil Code Sections 1633.1 et seq.) and Government Code Section 16.5 in the place of manual or "wet" signatures for public agency documents, with limited exceptions

The Policy establishes that digital signatures are valid and effective on City records and documents so long as specified requirements regarding the security and integrity of electronic signatures are met. The Policy incorporates the requirements of Government Code Section 16.5: The digital signature must be 1) unique to the person using it; 2) capable of verification, 3) under the sole control of the person using it, 4) linked to data in such manner that if the data are changed, the digital signature is invalidated, and 5) conforms to the regulations established by the Secretary of State.

The Secretary of State regulations require that a public entity must use a technology determined by the State of California to be acceptable for use. The regulations further require the public entity to ensure that the level of security used to identify the signer of the document is sufficient for the transaction being conducted, the level of security used to transmit the signature is sufficient, the signature is created by an acceptable technology, and that if a certificate is required, the format used by the signer is sufficient for the security and interoperability needs of the public entity.

SUBCOMMITTEE FINDINGS

The item was not brought to a subcommittee.

STAFF ANALYSIS

The use of digital signatures is expected to increase City productivity by eliminating the need for physical circulation of documents for various signatures, and the time for mail and delivery of hard copies.

ATTACHMENTS:

Resolution
Electronic Signature Policy

Report Prepared By: Donna Mooney, City Attorney

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Establishing a Digital Signature Policy) RESOLUTION NO. 22-

WHEREAS, the use of digital signatures is allowed by California's Uniform Electronic Transactions Act (Civil Code Sections 1633.1 et seq.) and Government Code Section 16.5 in the place of manual or "wet" signatures for public agency documents, with limited exceptions; and

WHEREAS, the use of digital signatures is expected to streamline document review and execution, minimize the inefficient routing and mailing of physical documents, and improve City productivity; and

WHEREAS, the City seeks to establish a policy setting forth the requirements for the use of digital signatures consistent with State law.

NOW, THEREFORE BE IT RESOLVED that the City Council hereby establishes the Digital Signature Policy set forth in the attachment to this Resolution.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 19th day of December, 2022, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

Shanelle Scales-Preston, Mayor

ATTEST:

Alice E. Evenson, City Clerk

CITY OF PITTSBURG

DIGITAL SIGNATURE POLICY

This Policy establishes the requirements for the use of digital signatures in place of manual or "wet" signatures. This Policy is intended to enable the City to use digital signatures to the fullest extent allowed by law and does not limit the City's ability to use digital signatures except as set forth below. Nothing in this Policy shall prevent the use of wet-ink signatures. The City cannot require any third party to use a digital signature.

In any written transaction or communication with the City where a signature is required, any party may use a digital signature provided it complies with the requirements of this Policy, the Uniform Electronic Transactions Act (Civil Code Sections 1633.1 et seq.) and Government Code Section 16.5. This Policy does not supersede laws that require a handwritten signature.

To the extent allowed by law, the City accepts digital signatures as legally binding and equivalent to handwritten signatures to signify agreement.

For the purposes of this policy, "Digital signature" means an electronic identifier, created by computer, intended by the party using it to have the same force and effect as the use of a manual signature.

The parties to a City transaction must agree to conduct the transaction by electronic means with the use of a City-approved digital signature method that complies with applicable laws and regulations. Consistent with Government Code Section 16.5, the digital signature must be: 1) unique to the person using it; 2) capable of verification, 3) under the sole control of the person using it, 4) linked to data in such manner that if the data are changed, the digital signature is invalidated, and 5) in conformance with the regulations established by the Secretary of State. The City Manager is authorized to determine the particular technologies or vendors that satisfy state law. Staff should consult with the City Attorney to determine whether the law allows a digital signature to be used if not addressed in the list below.

This policy does not preclude the use of signature images (e.g., a scanned version of a signature placed in a document or other non-wet ink signatures applied via a PDF document reader) for non-legally binding or ceremonial documents as approved by the City Manager.

ALLOWED:

Digital signatures are acceptable on the following documents:

1. Ordinances and Resolutions
2. Contracts, including but not limited to contracts for goods and general services, contracts for public works projects, contracts for consulting services, contract amendments, purchase orders, outside counsel agreements, bidders list applications

3. Proposals in response to City Requests for Proposals
4. Settlement Agreements
5. Routine personnel transactions including but not limited to employment applications, personnel action forms, benefits elections, employment agreements, performance reviews
6. Reimbursement forms/agreements
7. Permits and Permit Applications including but not limited to Special Events
8. Requests for Appeal
9. Public records requests
10. Applications for appointment to commission or board
11. Other documents as approved by the City Manager

PROHIBITED:

Digital signatures are prohibited on the following documents:

1. Bonds including but not limited to labor and materials bonds, performance bonds
2. Real property purchase and sale agreements, grant deeds, quitclaim deeds, deeds of trust, and promissory notes.
3. Government claims
4. Documents requiring a notarized signature
5. Transactions requiring handwritten signatures pursuant to state or federal law

This Policy was established by City Council Resolution No. 22-____, adopted December 19, 2022.

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Allocating ARPA Funds and Approving a Consultant Agreement for an Infrastructure Needs Assessment for Project 1800—Citywide Alternative Fuel Infrastructure and Fleet Vehicle Upgrades

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The 117th United States Congress passed the American Rescue Plan Act of 2021 (ARPA), and President Joe Biden signed it into law on March 11, 2021. The City of Pittsburg's allotment of ARPA funding totals $16,290,477. The City Council proposed allocations to the various subcommittees, and the Finance Subcommittee prioritized $1,500,000 to be spent on fleet replacement with Electric Vehicle/Hydrogen (EV) emphasis. Project 1800—Citywide EV Infrastructure and Fleet Vehicle Upgrades (the "Project") is an important step toward complying with the California Air Resources Board (CARB) regulations setting California on a path to reduce climate-warming pollution.

FISCAL IMPACT

Pittsburg received ARPA funds, a portion of which will be used for this project. The proposed consulting services fee for this phase is $106,263 with a 10% contingency of $10,626 for a total consulting services fee of $126,889.

RECOMMENDATION

Staff recommends that the City Council allocate ARPA funds, approve the consulting project budget, and authorize the City Manager to execute a Consultant Services Agreement with ICF Incorporated, L.L.C. for Project 1800—Citywide Alternative Fuel Infrastructure and Fleet Vehicle Upgrades in an amount not to exceed $106,263.

BACKGROUND

The Governor's Executive Order N-79-20 sets goals for the conversion of vehicle fleets from internal combustion engines (ICE) to zero emission vehicles (ZE). CARB recently issued regulations setting California on a path to reduce climate-warming pollution. The new rules

establish a year-by-year roadmap so by 2035 all the new cars and light trucks sold in California will be ZE vehicles.

To comply with these rules, the City must perform a study and assess its existing infrastructure and improvement needs to accommodate the upcoming fleet transition from ICE to ZE vehicles.

On August 25, 2022, the Request for Proposal (RFP) was distributed to qualified professional consulting firms for an infrastructure needs assessment related to future municipal fleet electrification.

On October 5, 2022, eight (8) consultants submitted proposals. Our three (3) member Consultant Selection Committee reviewed each proposal, evaluated strengths and weaknesses, and independently assigned a weighted score. They then made a short list of firms with top scores and conducted virtual interviews.

On October 26, 2022, follow up virtual interviews were conducted with the short-listed firms. As the result, ICF Incorporated, L.L.C. was ranked as the most qualified based on the proposal submitted and the interview conducted.

SUBCOMMITTEE FINDINGS

The Finance Subcommittee has identified this type of project for specific funding and allocated $1,500,000 in ARPA funds to support them.

STAFF ANALYSIS

Presently the City has approximately 180 vehicles of various sizes and models as well as several facilities that need to be assessed and analyzed for their ability to support the future ZE fleet.

Prior to the release of the RFP, staff conducted outreach to several qualified consultants. Upon completing this outreach, the RFP was sent to several firms that had shown interest and were deemed capable of providing consulting services for the Project. The RFP was also shared with the design marketing outreach firm of Integrated Marketing Systems for further distribution within the design services community. In addition, the RFP was posted on the City's website for interested vendors to review.

ICF Incorporated, L.L.C was ranked as the most qualified based on the proposal submitted and interview conducted. The selection was based on their similar experience with other cities, their staff expertise, and previous history of providing high-quality consulting services to public entities.

ATTACHMENTS: Resolution
Budget Summary

Report Prepared By: Bruce Zaeni, Senior Civil Engineer

Project Budget Summary
Project 1800—Citywide Alternative Fuel Infrastucture and Fleet Vehicle Upgrade

Project Funding:	**American Rescue Plan Act of 2021 (ARPA)**	$1,500,000
	Funding Total	**$0**
Project Expenditures:		
Design: (Code 2122)	Phase 1- Infrastructure Needs Assessment -ICF Incorporated, LLC	$106,263
	Contingency (10%)	$10,626
	Subtotal	**$116,889**
Staff (Code 1101)	Project Management	$10,000
	Estimated Total Expenditures	**$126,889**

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Allocating ARPA Funds and Authorizing Execution of a Consultant Agreement to Conduct a Needs Assessment for Project 1800—Citywide Alternative Fuel Infrastructure and Fleet Vehicle Upgrades	)	RESOLUTION NO. 23-

WHEREAS, the 117th United States Congress passed the American Rescue Plan Act of 2021 (ARPA), and President Biden signed it into law on March 11, 2021; and

WHEREAS, the City of Pittsburg's allotment of ARPA funding totals $16,290,477; and

WHEREAS, on May 9, 2022, as part of the Fiscal Year 2022-23 budget workshop, the City Council proposed ARPA funding allocations to various subcommittees; and

WHEREAS, the Finance Subcommittee prioritized $1,500,000 to be spent on fleet replacement with electric vehicle and hydrogen fuel cell emphasis; and

WHEREAS, Project 1800—Citywide Alternative Fuel Infrastructure and Fleet Vehicle Upgrades (the "Project") is an important step toward complying with California Air Resources Board (CARB) regulations setting California on a path to reduce climate-warming pollution; and

WHEREAS, to comply with these regulations, the City must perform a study to assess its existing infrastructure and any improvement needs to accommodate the upcoming fleet transition from internal combustion engine to zero emission vehicles; and

WHEREAS, ICF Incorporated, L.L.C. was selected for the Project with a price proposal of $106,263 based on their experience with other needs assessment studies, their staff expertise, and their previous history of providing high-quality design services to public entities; and

WHEREAS, staff estimates the total cost for these consulting services including a 10% contingency to be $116,889; and

WHEREAS, staff requests the City Council allocate ARPA funds to fund the infrastructure needs assessment.

NOW, THEREFORE, BE IT RESOLVED, that the City Council hereby allocates ARPA funds and authorizes the City Manager to execute the agreement with ICF Incorporated, L.L.C. for an infrastructure needs assessment for Project 1800—Citywide Alternative Fuel Infrastructure and Fleet Vehicle Upgrades.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

CONSULTING SERVICES AGREEMENT BETWEEN
THE CITY OF PITTSBURG AND
ICF Incorporated, L.L.C.
Project No.1800
Citywide EV Infrastructure and Fleet Vehicle Upgarde

THIS Agreement ("Agreement") for consulting services is made by and between the City of Pittsburg, a municipal corporation ("City") and ICF Incorporated, L.L.C., a Delaware corporation ("Consultant") (together referred to as the "Parties") as of December 7, 2022 (the "Effective Date").

Section 1. SERVICES. Subject to the terms and conditions set forth in this Agreement, Consultant shall provide to City the services described in the Scope of Work attached as Exhibit A, and incorporated herein, at the time and place and in the manner specified therein.

1.1 **Term of Services.** The term of this Agreement shall begin on the Effective Date and shall end on December 31, 2024, or the date the Consultant completes the services specified in Exhibit A, whichever occurs first, unless the term of the Agreement is otherwise terminated or extended, as referenced herein.

1.2 **Standard of Performance.** Consultant shall perform all services required pursuant to this Agreement according to the standards observed by a competent practitioner of the profession in which Consultant is engaged.

1.3 **Assignment of Personnel.** Consultant shall assign only competent personnel to perform services pursuant to this Agreement. In the event that City, in its sole discretion, at any time during the term of this Agreement, requests in writing the reassignment of any such persons to ensure Consultant performs services in accordance with the Standard of Performance, Consultant shall, immediately upon receiving City's request, reassign such persons.

1.4 **Time.** Consultant shall devote such time to the performance of services pursuant to this Agreement as may be reasonably necessary to meet the standard of performance provided herein above and to satisfy Consultant's obligations hereunder.

Section 2. COMPENSATION. City hereby agrees to pay Consultant a sum not to exceed ($106,283), as set forth in Exhibit B, attached hereto and incorporated

herein for services to be performed and reimbursable expenses incurred under this Agreement. This dollar amount is not a guarantee that the City will pay that full amount to the Consultant but is merely a limit of potential City expenditures under this Agreement.

Consultant and City acknowledge and agree that compensation paid by City to Consultant under this Agreement is based upon Consultant's estimated costs of providing the services required hereunder, including salaries and benefits of employees and subcontractors of Consultant. Consequently, the parties further agree that compensation hereunder is intended to include the costs of contributions to any pensions and/or annuities to which Consultant and its employees, agents, and subcontractors may be eligible. City therefore has no responsibility for such contributions beyond compensation required under this Agreement.

2.1 **Invoices.** Consultant shall submit invoices, not more often than once a month during the term of this Agreement, based on the cost for services performed and reimbursable costs incurred prior to the invoice date. Invoices shall contain the following information, unless waived by the City Manager, or his or her designee:

- Serial identifications of progress bills; i.e., Progress Bill No. 1 for the first invoice, etc.
- The beginning and ending dates of the billing period;
- A Task Summary containing the original contract amount, the amount of prior billings, the total due this period, the balance available under the Agreement, and the percentage of completion;
- At City's option, for each work item in each task, a copy of the applicable time entries or time sheets shall be submitted showing the name of the person doing the work, the hours spent by each person, a brief description of the work, and each reimbursable expense;
- The total number of hours of work performed under the Agreement by Consultant and each employee, agent, and subcontractor of Consultant performing services hereunder;
- The Consultant's signature

2.2 **Monthly Payment.** City shall make monthly payments, based on invoices received, for services satisfactorily performed, and for authorized reimbursable costs incurred. City shall pay undisputed invoices that comply with the above requirements within 30 days from the receipt of the invoice.

2.3 **Final Payment.** Consultant shall submit its final invoice within 60 days of completing its services. Consultant's failure to submit its final invoice within this 60 day period shall constitute Consultant's waiver of any further billings to, or payments from, City.

2.4 **Reimbursable Expenses.** Reimbursable expenses, if any, are specified in Exhibit B and included in the total compensation referenced in Section 2. Expenses not listed in Exhibit B are not chargeable to, or reimbursable by, City.

2.5 **Payment of Taxes.** Consultant is solely responsible for the payment of all federal, state and local taxes, including employment taxes, incurred under this Agreement.

2.6 **Authorization to Perform Services.** The Consultant is not authorized to perform any services or incur any costs whatsoever under the terms of this Agreement until receipt of a written authorization from the City Manager, or his or her designee.

Section 3. FACILITIES AND EQUIPMENT. Except as set forth herein, Consultant shall, at its sole cost and expense, provide all facilities and equipment that may be necessary to perform the services required by this Agreement

Section 4. INSURANCE REQUIREMENTS. Before beginning any services under this Agreement, Consultant, at its own cost and expense, shall procure the types and amounts of insurance specified herein and maintain that insurance throughout the term of this Agreement. The cost of such insurance shall be included in the Consultant's bid or proposal. Consultant shall be fully responsible for the acts and omissions of its subcontractors or other agents.

4.1 **Workers' Compensation.** Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant in the amount required by applicable law. The requirement to maintain Statutory Workers' Compensation and Employer's Liability Insurance may be waived by the City upon written verification that Consultant is a sole proprietor and does not have any employees and will not have any employees during the term of this Agreement.

4.2 **Commercial General and Automobile Liability Insurance.**

4.2.1 **General requirements.** Consultant, at its own cost and expense, shall maintain commercial general and automobile liability insurance for the term of this Agreement in an amount not less than $2,000,000 per occurrence and $4,000,000 aggregate, combined single limit coverage for risks associated with the work contemplated by this Agreement.

4.2.2 **Minimum scope of coverage.** Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 (most recent edition) covering comprehensive General Liability on an "occurrence" basis. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (most recent edition) covering any auto (Code 1), or if Consultant has no owned autos, hired (code 8) and non-owned autos (Code 9). No endorsement shall be attached limiting the coverage.

4.2.3 **Additional requirements.** Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. The Commercial General and Automobile Liability Insurance shall cover on an occurrence basis.

b. City, its officers, officials, employees, agents, and volunteers shall be covered as additional insureds for liability arising out of work or operations on behalf of the Consultant, including materials, parts, or equipment furnished in connection with such work or operations; or automobiles owned, leased, hired, or borrowed by the Consultant. Coverage can be provided in the form of an endorsement to the Consultant's insurance at least as broad as CG 20 10 11 85, or both CG 20 10 10 01 and CG 20 37 10 01.

c. For any claims related to this Agreement or the work hereunder, the Consultant's insurance covered shall be primary insurance as respects the City, its officers, officials, employees, agents, and volunteers. Any

insurance or self-insurance maintained by the City, its officers, officials, employees, agents, or volunteers shall be excess of the Consultant's insurance and non-contributing.

d. The policy shall cover inter-insured suits and include a "separation of Insureds" or "severability" clause which treats each insured separately.

e. Consultant agrees to give at least 30 days prior written notice to City before coverage is canceled or modified as to scope or amount.

4.3 Professional Liability Insurance.

4.3.1 General requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals performing work pursuant to this Agreement in an amount not less than $1,000,000 per occurrence or claim covering the Consultant's errors and omissions.

4.3.2 Claims-made limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form:

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained, and evidence of insurance must be provided for at least five (5) years after completion of the Agreement or the work.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant must purchase an extended period coverage for a minimum of five (5) years after completion of work under this Agreement.

d. A copy of the claim reporting requirements must be submitted to the City for review prior to the commencement of any work under this Agreement.

4.4 All Policies Requirements.

4.4.1 Submittal Requirements. Consultant shall submit the following to City prior to beginning services:

a. Certificate of Liability Insurance in the amounts specified in this Agreement; and

b. Additional Insured Endorsement as required for the General Commercial and Automobile Liability Polices.

4.4.2 Acceptability of Insurers. All insurance required by this Agreement is to be placed with insurers with a Bests' rating of no less than A:VII.

4.4.3 Deductibles and Self-Insured Retentions. Insurance obtained by the Consultant shall have a self-insured retention or deductible of no more than $100,000.

4.4.4 Wasting Policies. No policy required herein shall include a "wasting" policy limit (i.e. limit that is eroded by the cost of defense).

4.4.5 Waiver of Subrogation. Consultant hereby agrees to waive subrogation which any insurer or contractor may require from Consultant by virtue of the payment of any loss. Consultant agrees to obtain any endorsements that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not the City has received a waiver of subrogation endorsement from the insurer.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Consultant, its employees, agents, and subcontractors.

4.4.6 Subcontractors. Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates

and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein, and Consultant shall ensure that City, its officers, officials, employees, agents, and volunteers are covered as additional insured on all coverages.

4.4.7 **Excess Insurance.** If Consultant maintains higher insurance limits than the minimums specified herein, City shall be entitled to coverage for the higher limits maintained by the Consultant.

4.5 **Remedies.** In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, City may, at its sole option: 1) obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement; 2) order Consultant to stop work under this Agreement and withhold any payment that becomes due to Consultant hereunder until Consultant demonstrates compliance with the requirements hereof; and/or 3) terminate this Agreement.

Section 5. INDEMNIFICATION AND CONSULTANT'S RESPONSIBILITIES.

5.1 **General Indemnification.** Consistent with California Civil Code Section 2782.8, Consultant shall, to the fullest extent permitted by law, indemnify, protect, defend and hold harmless City, and its employees, officials, and agents, from any and all demands, losses, claims, costs, liabilities, and expenses for any damage, injury, or death, including any and all administrative fines, penalties, or costs imposed as a result of an administrative proceeding, that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant, its officers, employees, agents, contractors, subconsultants, or any persons under its direction or control. If requested by City, Consultant shall defend any such suits at its sole cost and expense. If City elects to provide its own defense, Consultant shall reimburse City for any expenditures, including reasonable attorneys' fees and costs. Consultants' obligations under this section exist regardless of concurrent negligence or willful misconduct on the part of City or any other person; provided, however, that Consultant will not be required to indemnify, including the cost to defend, City for the proportion of liability a court determines does not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant, its officers, employees, agents, contractors, subconsultants, or any persons under its direction or control. This Section **5.1** shall survive any expiration or termination of this Agreement.

5.2 **PERS Indemnification.** In the event that Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of City, Consultant shall indemnify, defend, and hold harmless City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

Section 6. STATUS OF CONSULTANT.

6.1 **Independent Contractor.** At all times during the term of this Agreement, Consultant shall be an independent contractor and shall not be an employee of City.

6.2 **Consultant Not an Agent.** Except as City may specify in writing, Consultant shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Consultant shall have no authority, express or implied, pursuant to this Agreement to bind City to any obligation whatsoever.

Section 7. LEGAL REQUIREMENTS.

7.1 **Governing Law.** The laws of the State of California shall govern this Agreement.

7.2 **Compliance with Applicable Laws.** Consultant and any subcontractors shall comply with all laws applicable to the performance of the work hereunder. Consultant shall also, to the extent required by the California Labor Code, pay not less than the latest prevailing wage rates as determined by the California Department of Industrial Relations.

7.3 **Licenses and Permits.** Consultant represents and warrants to City that Consultant and its employees, agents, and any subcontractors have, and will maintain at their sole cost and expense, all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required to practice their respective professions. In addition to the foregoing, Consultant and any subcontractors shall obtain and

maintain during the term of this Agreement valid business licenses from City.

7.4 **Nondiscrimination and Equal Opportunity.** Consultant shall not discriminate, on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, genetic information, marital status, sex, sexual orientation, gender or gender identity, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Consultant under this Agreement. Consultant shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of any services that are the subject of this Agreement, including but not limited to the satisfaction of any positive obligations required of Consultant thereby.

Section 8. TERMINATION AND MODIFICATION.

8.1 **Termination.** Upon ten days' prior written notice, City may cancel this Agreement at any time and without cause upon such written notification to Consultant. In the event of termination, Consultant shall be entitled to compensation for services performed to the effective date of termination; City, however, may condition payment of such compensation upon Consultant delivering to City any or all documents, photographs, computer software, video and audio tapes, and other materials provided to Consultant or prepared by or for Consultant or the City in connection with this Agreement.

8.2 **Amendments.** The parties may amend this Agreement only by a writing signed by the parties hereto.

8.3 **Assignment and Subcontracting.** City and Consultant recognize and agree that this Agreement contemplates personal performance by Consultant and is based upon a determination of Consultant's unique personal competence, experience, and specialized personal knowledge. Moreover, a substantial inducement to City for entering into this Agreement was and is the professional reputation and competence of Consultant. Consultant may not assign this Agreement or any interest therein without the prior written approval of the City Manager, or his or her designee. Consultant shall not subcontract any portion of the performance contemplated and provided for herein, other than to

the subcontractors noted in the proposal, without prior written approval of the City Manager, or his or her designee.

8.4 **Survival.** All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating liability between City and Consultant, including but not limited to the provisions of Section 5, shall survive the termination of this Agreement.

8.5 **Options upon Breach by Consultant.** If Consultant materially breaches any of the terms of this Agreement, City's remedies shall include, but not be limited to, the following:

8.5.1 Immediately terminate the Agreement;

8.5.2 Retain the plans, specifications, drawings, reports, design documents, and any other work product prepared by Consultant pursuant to this Agreement;

8.5.3 Retain a different consultant to complete the work described in Exhibit A not finished by Consultant; or

8.5.4 Charge Consultant the difference between the cost to complete the work described in Exhibit A that is unfinished at the time of breach and the amount that City would have paid Consultant pursuant to Section 2 if Consultant had completed the work.

8.5.5 The remedies mentioned in this Agreement are not exclusive of any other right, power or remedy permitted by law. The City's failure or delay in exercising any remedy shall not constitute a waiver of such remedy or preclude the further exercise of City's rights.

Section 9. KEEPING AND STATUS OF RECORDS.

9.1 **Records Created as Part of Consultant's Performance.** All final versions of reports, data, maps, models, charts, studies, surveys, photographs, memoranda, plans, studies, specifications, records, files, or any other documents or materials, in electronic or any other form, that Consultant prepares or obtains pursuant to this Agreement and that relate to the matters covered hereunder shall be the property of the City. Consultant hereby agrees to deliver those documents to the City upon termination of the Agreement, and the City may use, reuse or

otherwise dispose of the documents without Consultant's permission. It is understood and agreed that the documents and other materials, including but not limited to those described above, prepared pursuant to this Agreement are prepared specifically for the City and are not necessarily suitable for any future or other use. City and Consultant agree that, until final approval by City, all data, plans, specifications, reports and other documents are confidential drafts and will not be released to third parties by Consultant without prior written approval of City.

9.2 **Consultant's Books and Records.** Consultant shall maintain any and all records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the City under this Agreement for a minimum of 3 years, or for any longer period required by law, from the date of final payment to the Consultant to this Agreement. All such records shall be maintained in accordance with generally accepted accounting principles and shall be made available for inspection, audit, and/or copying at any time during regular business hours, upon oral or written request of the City. Pursuant to Government Code Section 8546.7, the Agreement may be subject to the examination and audit of the State Auditor for a period of 3 years after final payment under the Agreement.

Section 10 MISCELLANEOUS PROVISIONS.

10.1 **Attorneys' Fees.** If a party to this Agreement brings any action, including an action for declaratory relief, to enforce or interpret the provision of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief to which that party may be entitled. The court may set such fees in the same action or in a separate action brought for that purpose.

10.2 **Venue.** In the event that either party brings any action against the other under this Agreement, the parties agree that trial of such action shall be vested exclusively in the state courts of California in Contra Costa County or in the United States District Court for the Northern District of California.

10.3 **Severability.** If a court of competent jurisdiction finds or rules that any provision of this Agreement is invalid, void, or unenforceable, the provisions of this Agreement not so adjudged shall remain in full force and effect. The invalidity in whole or in part of any provision of this

Agreement shall not void or affect the validity of any other provision of this Agreement.

10.4 **No Implied Waiver of Breach.** The waiver of any breach of a specific provision of this Agreement does not constitute a waiver of any other breach of that term or any other term of this Agreement.

10.5 **Successors and Assigns.** The provisions of this Agreement shall inure to the benefit of and shall apply to and bind the successors and assigns of the parties.

10.6 **Conflict of Interest.** Consultant may serve other clients, but none whose activities within the corporate limits of City or whose business, regardless of location, would place Consultant in a "conflict of interest," as that term is defined in the Political Reform Act, codified at California Government Code Section 81000 *et seq.*

Consultant shall not employ any City official in the work performed pursuant to this Agreement. No officer or employee of City shall have any financial interest in this Agreement that would violate California Government Code Sections 1090 *et seq.*

10.7 **Solicitation.** Consultant agrees not to solicit business at any meeting, focus group, or interview related to this Agreement, either orally or through any written materials.

10.8 **Notices.** Any notice, demand, request, consent or approval that either party is required to give the other pursuant to this Agreement, shall be in writing and may be given by either (i) personal service, or (ii) certified United States mail, postage prepaid, return receipt requested, Notice shall be effective upon personal delivery or delivery to the addresses specified below, as reflected on the receipt of delivery or return receipt, as applicable.

Consultant: ICF Incorporated, L.L.C.
1902 Reston Metro Plaza
Reston, VA 20190

Attn: Amy Bezdek, Contracts Administrator

City: City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565
Attn: Garrett Evans, City Manager

10.9 Professional Seal. Where applicable in the determination of the City Manager, or his or her designee, the first page of a technical report, first page of design specifications, and each page of construction drawings shall be stamped/sealed and signed by the licensed professional responsible for the report/design preparation. The stamp/seal shall be in a block entitled "Seal and Signature of Registered Professional with report/design responsibility."

10.10 Integration. This Agreement, including the scope of work attached hereto and incorporated herein as Exhibits A and B represents the entire and integrated agreement between City and Consultant and supersedes all prior negotiations, representations, or agreements, either written or oral. To the extent there are any inconsistences between this Agreement, the Exhibits, and Consultant's proposal, the Agreement shall control. To the extent there are any inconsistences between the Exhibits and the Consultant's Proposal, the Exhibits shall control.

Exhibit A Scope of Services
Exhibit B Compensation Schedule

10.11 Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be an original and all of which together shall constitute one agreement.

10.12 Construction of Agreement. Each party hereto has had an equivalent opportunity to participate in the drafting of the agreement and/or to consult with legal counsel. Therefore, the usual construction of an agreement against the drafting party shall not apply hereto.

10.13 No Third Party Beneficiaries. This Agreement is made solely for the benefit of the parties hereto, with no intent to benefit any third parties.

The Parties have executed this Agreement as of the Effective Date.

CITY OF PITTSBURG

Garrett Evans, City Manager

CONSULTANT

Amy Bezdek

Amy Bezdek, Contracts Administrator
ICF Incorporated, L.L.C.

Attest:

Alice Evenson, City Clerk

Approved as to Form:

Donna Mooney, City Attorney

EXHIBIT A

SCOPE OF SERVICES

This section presents our proposed work plan. Our approach includes all the activities described in the RFP and will deliver all the required work products. We have proposed a sequence of activities that differs slightly from the RFP in some regards in order to complete the scope in what we feel is the most logical and efficient manner.

Task 1: Project Management

Task 1 covers the project management activities that will span the entire contract. We will begin the project by first establishing a Project Development Team (PDT), subject to City approval, including key members of the ICF team, City staff, and other agency representatives that will provide guidance throughout the execution of the project, and ICF will work closely with to collect necessary data and gather the needed information. In establishing the PDT, we will work closely with the City's representative assigned to this project to make sure that the PDT is representing various stakeholders that will be impacted by this plan. Such group will ideally include City's agency leadership, facility managers, and fleet managers from various departments. Once the PDT is established, ICF will hold a kickoff meeting, to be attended by key members of the ICF team and the PDT. Working with City staff, ICF will prepare the meeting agenda, facilitate the meeting, and distribute notes after the meeting. While the agenda will include other items as well, ICF proposes that we use the kickoff meeting to discuss the City's goals and priorities with respect to fleet electrification. Through this discussion, it will be our aim to identify the City's key drivers for fleet electrification so that our team can apply those priorities appropriately to our analysis throughout the project. Following the kickoff meeting, we will prepare a draft Project Management Plan, including a structure of tasks and subtasks and a project schedule. The Project Management Plan will be designed as a living document to be updated throughout the project, as necessary.

Our entire project staff is dedicated to the development of high-quality deliverables that meet and exceed client expectations. We strive to deliver work products that are technically accurate and delivered according to the established project schedule. It is the responsibility of our management team to ensure that all services our employees and subcontractors provide are of the highest quality and consistent with program objectives, contractual requirements, and applicable laws, codes, and standards. As part of this task, we will also establish a quality control plan that includes:

- Establishing high-quality requirements for each task included in our scope of work
- Identifying and implementing appropriate quality measures that are aligned with all of City of Pittsburg quality control requirements
- Using peer reviews and senior technical experts for quality control reviews
- Developing a follow-through Corrective Action Log maintained by the ICF Project Manager (Sam Pournazeri) to ensure that after all issues are identified, and they are tracked until fully resolved
- Ensuring the management team promotes continuous improvement through open communication and continuing analysis of progress

ICF's Project Manager will also provide the PDT with a monthly progress report outlining the progress made so far, challenges encountered, and objectives for the following month. Also, in coordination with City's representative on this project, ICF will include supplementary documents developed through the course of the project into the monthly progress report. These supplementary documents may include preliminary and draft fleet transition, EV infrastructure, site/grid level load capacity analyses and upgrades, and funding and financing strategies. ICF's Project Manager will also lead regular monthly check-in meetings with City staff, which will include the presentation of

monthly progress reports. Throughout the contract, Sam Pournazeri, ICF's Project Manager, will be available to conduct site visits and assessments at City facilities, and ensure that ICF's final deliverables including the comprehensive infrastructure planning and solution for EV transformation meet the City needs and address the existing constraints and challenges in deploying EV charging infrastructure. Sam is based in ICF's San Francisco office. He will be also available to City staff, officials, and fleet managers on-site for key presentations, meetings, and briefings.

(1) Task 1 Deliverables

- Project kickoff meeting agenda and notes
- Project management plan
- Check-in meeting minutes

2) Task 2: Preliminary Investigation

a) Task 2.1: Vehicle Baseline

In Task 2, ICF will work with fleet managers from each of the City's fleets to collect data on the existing City vehicles. As a first step to developing a charging infrastructure plan, ICF will establish a baseline of the existing fleet. We will provide a data request form outlining the specific information to be collected on the City fleet (as well as take-home vehicles) at a vehicle-by-vehicle level, including the following:

Fleet Characteristics

- Vehicle type (e.g., sedan, pickup truck)
- Vehicle fuel type
- Make, model, model year
- In-service year
- Average daily mileage
- Time & frequency of use
- General purpose for vehicle use
- Current odometer reading
- Current fuel costs
- Current maintenance schedules
- Current maintenance costs
- Estimated service life

In addition to fleet operational characteristics, to the extent available, ICF will also collect data on fleet logistics including:

Depot Information

- Current dwell site
- Size of the depot
- Layout of the depot
- Asset ownership (owned, leased)
- Electrical capacity
- Utility tariff

Fleet Operation/Procurement/Logistics

- Brief overview of daily operations and unique challenges
- Current fueling site
- Fueling process
- Vehicle replacement schedule
- Maintenance practice
- Type of procurement (purchase, lease)

In addition to the data request form, ICF will interview fleet managers and a sample of drivers to obtain insights into the typical range of operating conditions for the vehicles, which may not be available or obvious within the data provided, as well as to better understand future fleet needs. The data solicited and information collected from interviews with the fleet managers on future fleet needs will be used to create an initial, business-as-usual vehicle replacement schedule. The replacement schedule will consider vehicles' age, mileage, maintenance cost, use case,

current conditions (e.g., operability), and typical service life. There may be opportunities to downsize or "right size" vehicles depending on how they are currently being used and the needs of drivers. ICF will coordinate and communicate with each fleet manager to determine if such opportunities exist.

b) Task 2.2: Charging Infrastructure Baseline

In addition to establishing a baseline of vehicle data, ICF will also collect data to establish a baseline on the City's charging infrastructure conditions. We will compile a comprehensive list of all known locations for EV charging infrastructure within the City's facilities. ICF will then make site visits of City facilities to check landscapes, and work with the City to confirm key information about each charger located at City-owned or leased facilities such as:

- Charging station street address (for this effort, ICF defines a charging station as a location that houses one or more chargers)
- Charger type (Level 2 or Direct Current Fast Charger)
- Number of ports per charger
- Number of chargers per station
- Availability of station (e.g., available, temporarily unavailable, or planned station)
- Accessibility of station (e.g., publicly available, private station, shared use)
- Price structure (e.g., free charging, pay for charging)
- Remote access (e.g., networked chargers, non-networked chargers)
- Station owner (e.g., City, private owner)

To complete the charging infrastructure baseline, we propose to also collect data on site-level and grid-level electrical equipment to understand the current capacity of the equipment for power delivery. We will make sure to work with the City staff to obtain and review available reports, maps, data, and records and to research existing underground and overhead utilities serving the project areas and their capacity to serve increased future loads. In collecting data on site-level electrical equipment, ICF will coordinate with the City and identify the proper points of contact, such as facility managers, building managers, and/or engineers that can provide us with capacity data on the electrical equipment at each City site which currently houses charging infrastructure. To obtain data on grid-level equipment, ICF will coordinate with PG&E to obtain data on key distribution equipment that services each site that currently houses charging equipment, such as transformers, feeders, and conductors. ICF will compile all collected vehicle and charging infrastructure information above into a memo and proceed to Task 3.

(1) Task 2 Deliverables

- Data request form
- Summary of interviews with City staff
- A memo summarizing baseline fleet and existing charging infrastructure in the City of Pittsburg's facilities

3) Task 3: Fleet Transition Planning

In Task 3, ICF will analyze the City fleet and develop a fleet EV transition plan and replacement schedule which will be necessary for developing charging infrastructure plans for the City. Importantly, ICF will only conduct this fleet assessment and EV transition plan if the City does not already have an EV transition plan and vehicle replacement schedule. In this task, ICF will also identify suitable zero-emission technologies for the fleet electrification and evaluate if fuel cell electric vehicles are needed to be implemented for some vehicle types, specifically heavy-duty vehicles.

As described in Task 1, ICF will use time in the project kickoff meeting to understand the City's top priorities with respect to fleet transition (e.g., alignment of CARB's Advanced Clean Fleet regulations, cost savings, emissions reductions, operational continuity, a goal for X% EV replacements, etc.). ICF will rely on these priorities and criteria to develop a fully integrated EV plan considering all three types of vehicle weight class (light-, medium-, and heavy-duty) of the City fleet and their lifespans, and will submit them for City staff review and consideration.

Once all necessary data has been collected via Task 2, ICF will use its proprietary Fleet Assessment Model to analyze the City fleets, characterize their operations, and develop tailored recommendations for the transition of fleet vehicles to EVs. ICF's Fleet Assessment Model is a robust tool that has been developed and refined over time for use with multiple government, utility, and fleet clients. Within its Fleet Assessment Model, ICF has a comprehensive database of over 500 electric vehicle models including BEV and PHEV options for light, medium, and heavy-duty vehicles with attribute values by vehicle type (e.g., sedan, pickup-truck, medium-duty vocational truck, heavy truck, refuse truck, transit bus, etc.) to deliver highly tailored fleet transition recommendations. ICF's EV Model Library is updated monthly to capture the latest EV models available and changes to equipment attributes and pricing. Originally developed for our partnership with National Grid's Fleet Advisory Program in Massachusetts, ICF has continued to improve the fleet model and supporting data to support over 50 other clients, such as the City and County of Honolulu, City of Laguna Beach, and City of Lodi as they sought to develop a plan for transitioning their Police, Fire, and Automotive Equipment Services departments to EVs.

ICF will use this model to deliver key recommendations at a vehicle-by-vehicle level and a fleet level. Outputs of the model will include the following:

- Recommended zero-emission technologies (battery electric or fuel cell electric vehicles)
- Recommended EV replacement makes and models
- Recommended replacement years
- A fleetwide phased vehicle replacement schedule
- Estimated emissions reductions from zero emission vehicle replacements
- Recommended charger types (e.g., Level 2 or DCFC)
- Total Cost of Ownership (TCO)

It is noteworthy to mention that ICF's Fleet Assessment Model offers an option to identify which existing vehicles offer the most cost-effective EV replacements across time. When determining the recommended vehicle replacement schedule, we will start with "low hanging fruit" cost-effective replacements while also staying mindful of the complexity and difficulty associated with replacing certain use cases. For example, in terms of EV technology readiness, light-duty vehicles are significantly ahead of the heavy-duty sector. So, while some of the heavy-duty applications may demonstrate better cost effectiveness, they may not end up being the focus of EV replacements early in the program due to limitations in technology availability and charging infrastructure. Aside from battery electric vehicles (BEVs), ICF will also explore opportunities for replacing heavy duty trucks with fuel cell electric vehicles (FCEVs). ICF will take note of these considerations and coordinate closely with the City as it develops the vehicle replacement schedule and develop a recommendation which strikes the best balance for the fleet given its goals and needs. **Error! Reference source not found.** below provides a flow chart laying out the process for developing EV replacement schedule and transition plan.

ICF sees Task 3 as an important first step to addressing the primary issue described in the City's RFP: infrastructure planning. To accurately determine the infrastructure needs for the City fleet, ICF will first develop a comprehensive fleet EV transition solution, which will provide important inputs to the infrastructure planning exercise, namely the power and energy demand, EVSE needs of recommended EV replacements and insight into the most optimal phasing of infrastructure development schedules.

(1) Task 3 Deliverables

- A memo summarizing results of the fleet assessment and recommendations for vehicle technology, electric vehicle replacement and overall fleet transition schedule.

4) Task 4: Charging Infrastructure Planning

Using the EV replacement recommendations generated in Task 3 as a basis, ICF will identify the power and energy demand, and EVSE needs for EVs to be adopted by the City fleet over time and develop one proposed primary charging infrastructure implementation scenario and one alternative scenario for consideration by the City. If fuel cell electric vehicles are identified to be more suitable for some vehicle types (e.g., certain heavy-duty vehicles), ICF will consider deployment of hydrogen fueling station (with known capacity and size) at a City facility. To develop recommendations, ICF proposes the following interrelated subtasks.

a) Task 4.1: Identify Charging Infrastructure Needs for City Fleet Vehicles

Using the fleet modeling results and recommendations developed in Task 3, we will identify sites will require new or upgraded charging infrastructure to service an all-electric City fleet, and number and types of EVSE. To conduct this work, we will start by establishing a baseline charging infrastructure needs scenario by assessing the charging energy and power required at each site where EV replacements are recommended and where EV operation is clustered. We will review information about the expected operations of vehicles at each site and compare that to key information on the EVs to estimate daily charging needs, such as the vehicles' energy efficiency, daily mileage or operation hours, battery capacity, maximum power acceptance rates, and charging time. Based on expected operating conditions and constraints, we will recommend specific charger types and power levels on a vehicle-by-vehicle basis.

Several outputs from Task 3 will be key inputs for developing charging infrastructure implementation strategies as part of this task, including the following:

- Which existing vehicles are recommended for replacement with EVs
- How much energy and power each EV will need to charge, as a function of:
    - Average daily energy consumption (in kilowatt-hours, kWh)
    - Vehicle battery energy capacity (kWh)
    - The duration of time that each vehicle has to charge between shifts and operations
    - The maximum power acceptance rate for each vehicle
- Where EV replacements will dwell
- What times of day each EV will be available to charge
- Whether or not smart/networked charging is desired
- Whether the fleet will utilize a charging management system or not

To determine the location of chargers, ICF will utilize information on vehicle dwell time, driving routes, parking locations, and the operational characteristics. In addition, ICF will consider ADA compliance needs when determining the location of chargers to ensure equipment or cords do not impede foot or wheelchair traffic. It needs to be noted, fleet vehicles are not necessarily to be charged at the locations where they are being parked. Similarly, depending on co-locations, charging infrastructure may be considered at sites that multiple City fleets could share and ICF will identify opportunities for shared use of EVSE among City fleet vehicles. ICF will identify cost-effective solutions to

charge vehicles at shared EVSE infrastructure. Using this information, ICF will develop a baseline charging infrastructure implementation scenario with rollout schedule that projects the following information:

- The projected number of chargers needed at each site to support the EV replacements over time
- The recommended locations of EV charging infrastructure
- The recommended type (e.g., Level 1, Level 2, DCFC) and power level (in kilowatts, kW) of chargers for each vehicle type
- The overall power need associated with charging infrastructure at each site

After developing the primary charging infrastructure needs scenario, ICF will develop an additional charging infrastructure needs scenario by altering key levers that may influence power demand, namely vehicle-to-charger ratio and whether or not smart charging is employed. ICF will review its fleet modeling results and recommendations to determine the highest possible vehicle-to-charger ratios that may be achieved while still ensuring reliability and successful daily operations. ICF will also incorporate an analysis of how the introduction of smart charging may reduce overall power demand by optimizing the amount of time that each vehicle can charge, thereby reducing demand charge. All analysis will be compiled into a primary charging infrastructure needs scenario and one alternative scenario for review by the City in Task 4.4.

If fuel cell electric vehicles are recommended as zero-emission technologies for some vehicle types in Task 3, ICF will include considerations and assessment of hydrogen station needs in this subtask. Similar to the identification of charging infrastructure needs, ICF will assess hydrogen demand based on vehicle operation and fuel efficiency and identify locations best suitable to serve the City fleet. ICF will also recommend hydrogen supply technologies based on the size of hydrogen station and potential expansion, either production on-site or trucked in liquid. It is worth noting that while fuel cell vehicles can replace gasoline or diesel vehicles without any changes of operation, the limited supply chain and available make/model on the market makes their total cost of ownership high. With more players participate from the supply side (e.g., Nikola Motor) and demand side (e.g., AC Transit and Port of Los Angeles) of the market, the technology could advance fast. ICF will closely look into the hydrogen powered vehicles and infrastructure as a potential option to transition the City's fleet to zero emission.

b) Task 4.2: Electrical Capacity Analysis & Potential Site/Grid Level Upgrades

Once the baseline and alternative scenarios are established and we have made recommendations for the number, types, output power levels, and locations of chargers to be deployed, our team will turn our focus to the facilities expected to host charging infrastructure. As a next step to developing a charging infrastructure implementation plan, we will review the capacity of the City's facilities to support the projected additional electrical load from charging EVs and identify potential site-level and distribution grid impacts of that additional load.

To identify potential grid impacts, our team will first coordinate with PG&E to review data that they already have on the capacity of existing distribution grid infrastructure. In coordination with PG&E, we will start by answering the following questions:

- How large is the electrical service from the utility for each relevant facility?
- How much electrical current is each facility consuming at existing peak power demand levels?
- How much electrical capacity is remaining on the utility-side of the meter at existing peak power demand levels?
- How much electrical capacity remains on the City's facility side of the meter?

Responses to these questions, will help us to gather the needed data to conduct the electrical capacity analysis at each facility and to determine any potential impacts to the electric grid. With an understanding of peak power demand and the voltage of service drops at each facility, our team will estimate the maximum current used at each facility at

peak power demand. This will then be subtracted from the size of existing electrical service to provide an estimate of how much electrical capacity is remaining on the utility-side of the meter. Our team will then compare that to the projected additional load from EV charging at each facility to determine whether each facility has sufficient utility-side capacity to accommodate chargers or if upgrades may be necessary.

To estimate electrical capacity on the City's side of the meter, our team will coordinate with City staff to identify what data it can provide on the existing capacity ratings of main electric panels at each facility. If the City is able to provide this information on electric panels, we will follow the same steps as above to compare projected additional EV charging load to the panel capacities. This will yield a rough determination of whether or not each panel is sized large enough (in capacity, amps) to accommodate the projected EV charging, or if upgrades may be necessary. The next step in this analysis is to take into account the existing load at each facility from appliances and equipment which are in regular use. In doing such analysis, we will leverage electricity usage records provided as part of the RFP package. With such data, ICF will compare the projected additional load from EV charging to the existing electrical service capacity from the utility, and to the overall capacity ratings of electric panels. Our team will not conduct a more detailed load study. Instead, our analysis will provide a baseline estimate of capacity which an electrical contractor can build upon with more granular load studies as the City moves toward implementation.[1] **Error! Reference source not found.** illustrates ICF's process for conducting the load capacity analysis at City's facilities.

Further, in determining infrastructure implementation strategies and strengthening the resilience (especially during power outages), the City will have the option to consider deploying distributed energy resources (DERs) such as solar power, energy storage, and backup generators. Deploying DERs would increase the upfront cost of infrastructure development compared to a scenario without them, but they offer several potential cost and resilience benefits that may be attractive to the City. DERs offer the potential of lower total capital costs for infrastructure development because they may allow the City to avoid costly utility grid upgrade costs. DERs also provide an additional supply of power in a way that could lower operating costs compared to purchasing that electricity from the utility during peak demand, potentially avoiding demand charges and high energy costs. Also, DERs can increase the resilience of facilities to enable reliable backup power during emergency response or power outages. ICF's has strong expertise on the use of DERs for EV charging. Using the results of prior analysis on 1) the projected additional load from EV charging, 2) estimates of grid capacity, and 3) estimates of facility capacity, we will work together to identify which facilities are projected to require electrical upgrades, and therefore may have an opportunity to consider deploying DERs. We will rely on ICF's experience, the extensive available literature, and industry examples to provide a high-level, qualitative discussion on what DER strategies could be implemented and the potential benefits they would bring.

c) Task 4.3: Develop Roll-Out Timeline and Cost Estimates for Charging Infrastructure Development

To advise the City on expectations for charging infrastructure development, ICF will develop roll-out timeline and cost estimates for each scenario. Depending on circumstances, the lead time for charging infrastructure development can be significantly longer than the lead time for vehicle procurement. Due to this, a well laid out electrification timeline that includes both vehicle procurement and infrastructure development is critical to minimizing time for implementation. In developing these schedules, ICF will ensure that there will be sufficient charging capacity available to support expected EV deployment, while at the same time, the City can spread the cost over time to facilitate funding the infrastructure build out. In developing the schedule, ICF will consider the upfront utility upgrade and site preparation investments needed during the initial phase, known as futureproofing, to ensure that there will be sufficient charging capacity available within each facility to expand charging equipment in future years without the

[1] If the City is unable to share ICF with data on the capacity ratings of electric panels at relevant facilities, site visits by a licensed electrical contractor may be required to obtain this data; however, our proposed approach and pricing estimate assumes that the City can provide this data and that no site visits will take place.

need for additional construction. For example, if a facility needs a total 10 chargers by 2030, it is more cost effective to build such capacity during the initial phase, while the charging equipment can be installed over multiple phases.

ICF will also produce comprehensive cost estimates for charging infrastructure development. Cost components to be factored into the analysis can be split into capital, operating, and maintenance costs. Key capital costs include the following:

- EVSE hardware (materials cost)
- EVSE installation
- Software (e.g., charging management / smart charging software)
- Make-ready costs (e.g., site preparation: electrical work and wiring, special work such as boring and trenching, special site and structural considerations, etc.)
- Distribution grid equipment and infrastructure upgrades

Operating costs are also critical to determining the business case of deploying EV charging infrastructure and they include the following:

- Cost of electricity based on rate tariffs used (we will use the Elec
- Demand charges
- Charger networking costs
- Charger data contract costs

Maintenance of EVSE needs to be considered in the infrastructure planning. To estimate maintenance cost, ICF will assess and make recommendations of the following items:

- Maintenance frequency
- Replacement timelines
- Labor cost for site visits and repair
- Hardware cost for EVSE replacement

All capital, operating, and maintenance costs are important factor in determining the business case of charging infrastructure. ICF will estimate capital costs across each infrastructure development scenario, as well as the ranges of possible operating and maintenance costs associated with each scenario. ICF will also develop cost estimates by location for each phase of infrastructure implementation across the entire charging infrastructure development timeline.

d) Task 4.4 Coordinate with the City to Prioritize Infrastructure Scenarios and Select a Final Recommendation

Once Tasks 4.1 through 4.3 are complete, ICF will produce a summary report that details all of the results across each infrastructure development scenario considered, and we will submit it to the PDT for review and consideration. In the summary report, we will explain the tradeoffs associated with each scenario in terms of cost, timeline, and environmental and emissions benefits. ICF also proposes to hold a meeting with the City to discuss the summary report, answer any questions they have, and to discuss their feedback. **Error! Reference source not found.** below illustrates a high-level summary of the steps we will take to accomplish Task 4. Once the City reviews the summary report and a final determination is made regarding which scenario to select as the final recommended infrastructure development plan, the project team will proceed to Task 5.

(1) Task 4 Deliverables

- A summary report detailing results across each infrastructure development scenario, to be submitted to the City for consideration. The report will include a summary of:
    - Proposed EVSE needs along with one alternative at each City facility.
    - The existing capacity of City facilities to and potential electrical system and grid upgrade needs
    - The recommended roll-out timeline to install EVSE, excepted usage trends, cost estimates by location for each phase of charging infrastructure deployment
- A meeting with the City to present results across each infrastructure development scenario and obtain feedback

5) Task 5: Funding and Financing Assistance

Following determining the vehicle replacement schedule and preparing the infrastructure development plan, ICF will develop a detailed funding and financing plan that recommends specific grants, rebates, or various utility programs for the vehicles and/or charging infrastructure in the project, as necessary, to minimize cost for the City to transition to all-electric fleet. ICF will leverage our experts' knowledge and work from similar past projects to develop a comprehensive list of applicable funding opportunities for EV charging infrastructure development. The plan will also include details on eligibility criteria, opportunities to stack funding, and public-private partnerships that can help minimize the cost of the City's transition to an all-electric fleet. In doing so, ICF will rely on the comprehensive Laws & Incentives database we maintain as part of the Alternative Fuel Data Center (AFDC), which includes nearly 1,000 records of laws, incentives, and programs related to EVs and EVSE, including those in California. Additionally, ICF will also closely coordinate with relevant federal (e.g., EPA, DOE), state (CARB, CEC), and local agencies (e.g., Bay Area AQMD) as well as local electric utility providers (e.g., PG&E) to formulate detailed funding strategies that can be utilized by the City to maximize the efficacy of these grant and rebate programs. Example of these grants and rebates include upcoming federal tax rebates, federal EV infrastructure grants provided through Infrastructure Investment and Jobs Act, the Low Carbon Transportation Investments and Air Quality Improvement Program administered by CARB, the Clean Transportation Program managed by the CEC, as well as local programs such as Charge! Program offered by the Bay Area AQMD, and EV Charge Network/Fleet Programs offered through PG&E.

As owners and operators of EVSE, the City can participate in the CARB's Low Carbon Fuel Standard (LCFS) market and generate LCFS credits for providing EV charging services. These credits can contribute meaningfully to the return on investment of installing EVSE at City facilities. Recognizing the current need to accelerate EV charging infrastructure, in some cases, CARB allows LCFS credits to be generated not just for EV charging activity but also for installing EVSE capacity at the location. This allows LCFS to provide incentive to install EVSE regardless of utilization while EV adoption increases. Meanwhile, as the fleet owner of EVs, the City could generate LCFS credits with the reported electricity used by City fleet vehicles. For example, Antelope Valley Transit Agency (AVTA) earned over $800,000 LCFS credits from using electric buses during one fiscal year. ICF will provide general guidance on LCFS registration and reporting.

Of course, incentive funding is only one form of coverage to aid in EV fleet transition and infrastructure investments. To potentially achieve cost saving through economies of scale and synergies with existing EV initiatives, our team will also discuss other financing opportunities including cooperative contract procurement and intermunicipal bulk procurement options in which multiple public entities collaborate in purchasing to increase their market power. This may include channels such as Sourcewell, Drive EV Fleets, National Purchasing Partners, and the National Association of State Procurement Officials. Our team will also provide recommendations on the use of "piggybacking," which entails leveraging the successful competitive bidding processes conducted by another government entity or by a mutual benefit organization to simplify adoption of green buying practices.

ICF will also explore financing mechanisms, especially for development of EV charging stations, the non-traditional as-a-service Public-Private Partnerships (P3s) options (e.g., infrastructure-as-a-service models where the service

provider take ownership of the charging infrastructure in return for significantly reduced or eliminated capital costs at a monthly fee). P3s involve a private partner who will finance initial capital costs of EV charging infrastructure, with private debt and equity, and receive returns on initial investment overtime once charging stations are available for use. Our team will assist the City in understanding potential P3 financing mechanisms including their risks and benefits.

In addition to developing a tailored funding and financing plan, ICF will also assist the City in applying for funding that the City may eventually pursue. ICF has an excellent track record of providing grant writing support, including research and coordination between stakeholders and working groups, state and local agencies and utilities. Specifically, we:

Understand the various grant programs available to our clients. Given our long history working with numerous funding programs, we can provide the City with the latest information and advice on how best to strategize based on how the process works. We also maintain excellent contacts with grant administrators to help our clients predict when notice of funding opportunities will open and close and how grant application requirements, available funding, and/or priorities may change from year to year.

Make grant applications detailed, thorough, and timely—and follow up when necessary. ICF experts will be able to help the City perform the groundwork to support a successful grant application process—determining project location, objectives and protocols; a description of activities, qualifications, and experience; permits needed; budget information and cost sharing; and project partners; and providing supplemental documentation complete with maps and graphics.

While it is not clear how many funding programs the City would like to pursue during the period of performance of this project, we will support the City with those funding application given the budget availability.

(1) Task 5 Deliverables

- A memo summarizing available and eligible fundings and financing plans for EVs and EVSE for the City.
- Assisting the City with funding applications

6) Task 6: Assessment of Overall Costs, Staffing Needs and Best Practices for Implementation of the Transition Plan

In Task 6, ICF will focus on: a) high level summary of all cost analysis from Task 3 and Task 4, b) general estimate of staffing needs (e.g., fleet managers, maintenance technician), and c) best practices to operate and maintain EV fleet.

a) Task 6.1: Cost Analysis

ICF will start this task by compiling the cost estimates produced during our fleet transition analysis in Task 3, and our charging infrastructure analysis in Task 4,. By the time our team reaches Task 6, we will have fully assessed the costs associated with replacing each existing vehicle with EVs (and fleetwide) (Task 3), as well as all the costs associated with infrastructure development (Task 4). This will include comparative TCO estimates which include capital and operating and maintenance costs over the lives of each vehicle (both ICE and EV replacement options). Cost analysis will be comparative to assess the difference in TCO between EV replacements and business-as-usual, ICE vehicle replacements. As mentioned, we will also include the costs to deploy and maintain charging infrastructure from Task 4 including the cost for potential site/grid level upgrades.

b) Task 6.2: Staffing Needs

Often the EV fleets require different workforce arrangement than traditional gasoline and diesel vehicle fleets. For example, while in general EVs require less maintenance and hence the City can shrink its fleet maintenance team,

the addition of chargers as well as charging management solutions will likely require a new set of staffing. ICF will identify key staffing and job functionalities to implement this plan and for the city to undergo a seamless transition to EV fleet.

c) Task 6.3: Best Practices to Operate and Maintain an EV Fleet

It is very likely that many of the existing drivers employed by the City of Pittsburg know little about EVs. Helping drivers to feel comfortable with the use of this new technology will be key. Such training could include instructions on how to charge vehicles, tools for locating charging stations, optimized charging guidelines, basics of eco driving, safety consideration, and the interaction with vehicle dashboard. As part of this task, we will prepare a training plan and provide recommendations on the education resources available for City staff who will operate an EV. The training plan will provide best practices on the basics of EVs (e.g., how they are different from conventional vehicles), charging guidelines (e.g., type of chargers), maintenance and service, safety considerations, eco-driving to preserve range, etc. In developing these training materials, we plan to offer separate trainings for operators of light duty versus heavy duty vehicles. These vehicles often have different charging guidelines, maintenance & service schedules, and safety consideration.

(1) Task 6 Deliverables

A memo summarizing:

a) overall cost of transition (capital, operation, and maintenance)
b) Staffing needs and workforce development
c) Best practices to operate and maintain EV fleets (i.e., training materials for City staff)

7) Task 7: Prepare and Deliver Draft and Final Plan

Following the completion of Tasks 2 through 6, ICF will compile the findings and develop a draft Plan for the City of Pittsburg. We will create a draft that includes all analysis from the previous tasks, including recommendations for charging infrastructure development to support the City fleet. The Plan will include specific details on locations for EV charging infrastructure, the number and type of EV chargers to be deployed, the needed site- and grid-level upgrades required for each host facility, budgeting needs, vehicle procurement strategies, as well as all other strategies and recommendations for infrastructure development and operation developed throughout the previous tasks. The plan will also identify the opportunities and constraints related to EV charging infrastructure development and will provide practical recommendations for the City to consider.

ICF will submit the draft Plan to the City for review and feedback by April 12, 2023, and then subsequently revise and submit a final Plan for approval by May 24, 2023. Both the draft and the final report will be sent electronically in Microsoft Word (*.doc or *.docx) format.

(1) Task 7 Deliverables

- A draft Plan to City by April 12, 2023
- A final Plan to City by May 24, 2023

EXHIBIT B

COMPENSATION SCHEDULE

Staff Classification	Hourly Rate	Hours								Estimated Price
		Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Total	
Project Director	$276.05	4	0	0	0	0	0	4	8	$2,208
Project Manager	$225.29	18	24	0	0	32	0	24	98	$22,078
Senior Consultant	$208.05	0	0	0	80	0	24	0	104	$21,637
Consultant	$117.65	0	0	40	0	0	0	0	40	$4,706
Analyst II	$126.04	0	40	0	140	60	64	80	384	$48,399
Analyst I	$71.86	0	0	80	0	0	0	0	80	$5,749
Senior Advisor	$188.11	4	0	0	0	0	0	4	8	$1,505
	Total	**26**	**64**	**120**	**220**	**92**	**88**	**112**	**722**	**$106,283**

EXHIBIT C

PROJECT SCHEDULE

Task Description	22-Dec	23-Jan	23-Feb	23-Mar	23-Apr	23-May
Task 1: Project Management	X					
Task 2: Preliminary Investigation	X					
Task 3: Fleet Transition Planning		X				
Task 4: Charging Infrastructure Planning			X			
Task 6: Funding and Financing Assistance				X		
Task 7: Cost, Staffing, and Best Practices				X		
Task 8: Draft & Final Report					X	X

CERTIFICATE OF COMPLIANCE WITH LABOR CODE § 3700

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

CONSULTANT

By: Amy Bezdek

Amy Bezdek, Contracts Administrator

POLICY NUMBER: 7352-29-55

COMMERCIAL AUTO
CA 20 48 10 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured:	ICF INTERNATIONAL, INC. ICF INCORPORATED, LLC
Endorsement Effective Date:	7/1/22

SCHEDULE

Name Of Person(s) Or Organization(s):

"ANY PERSON OR ORGANIZATION AS REQUIRED BY INSURED CONTRACT".

City of Pittsburg, its officers, officials, employees, and agents

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph **A.1.** of Section **II** – Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph **D.2.** of Section **I** – Covered Autos Coverages of the Auto Dealers Coverage Form.

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CHUBB®

Liability Insurance

Endorsement

Policy Period	JULY 1, 2022 TO JULY 1, 2023
Effective Date	JULY 1, 2022
Policy Number	3581-24-09 DTO
Insured	ICF INTERNATIONAL, INC. ICF INCORPORATED, LLC
Name of Company	GREAT NORTHERN INSURANCE COMPANY
Date Issued	JUNE 30, 2022

This Endorsement applies to the following forms:

GENERAL LIABILITY

Under Who Is An Insured, the following provision is added.

Who Is An Insured

Additional Insured - Scheduled Person Or Organization

Persons or organizations shown in the Schedule are **insureds**; but they are **insureds** only if you are obligated pursuant to a contract or agreement to provide them with such insurance as is afforded by this policy.

However, the person or organization is an **insured** only:

- if and then only to the extent the person or organization is described in the Schedule;
- to the extent such contract or agreement requires the person or organization to be afforded status as an **insured**;
- for activities that did not occur, in whole or in part, before the execution of the contract or agreement; and
- with respect to damages, loss, cost or expense for injury or damage to which this insurance applies.

No person or organization is an **insured** under this provision:

- that is more specifically identified under any other provision of the Who Is An Insured section (regardless of any limitation applicable thereto).
- with respect to any assumption of liability (of another person or organization) by them in a contract or agreement. This limitation does not apply to the liability for damages, loss, cost or expense for injury or damage, to which this insurance applies, that the person or organization would have in the absence of such contract or agreement.

Liability Endorsement
(continued)

Under Conditions, the following provision is added to the condition titled Other Insurance.

Conditions

Other Insurance – Primary, Noncontributory Insurance – Scheduled Person Or Organization

If you are obligated, pursuant to a contract or agreement, to provide the person or organization shown in the Schedule with primary insurance such as is afforded by this policy, then in such case this insurance is primary and we will not seek contribution from insurance available to such person or organization.

Schedule

Persons or organizations that you are obligated, pursuant to a contract or agreement, to provide with such insurance as is afforded by this policy.

City of Pittsburg, its officers, officials, employees, and agents

All other terms and conditions remain unchanged.

Authorized Representative

Workers' Compensation and Employers' Liability Policy

Named Insured ICF INTERNATIONAL INC. 9300 LEE HIGHWAY STE G130	Endorsement Number Policy Number Symbol: RWC Number: (23)7175-43-37
Policy Period 07-01-2022 **TO** 07-01-2023	Effective Date of Endorsement 07-01-2022
Issued By (Name of Insurance Company) ACE AMERICAN INSURANCE COMPANY	
Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.	

CALIFORNIA WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement applies only to the insurance provided by the policy because California is shown in Item 3.A. of the Information Page.

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule, but this waiver applies only with respect to bodily injury arising out of the operations described in the Schedule, where you are required by a written contract to obtain this waiver from us.

You must maintain payroll records accurately segregating the remuneration of your employees while engaged in the work described in the Schedule.

Schedule

1. (X) Specific Waiver
   Name of person or organization:

   City of Pittsburg, its officers, officials, employees, and agents

   ( ) Blanket Waiver
   Any person or organization for whom the Named Insured has agreed by written contract to furnish this waiver.

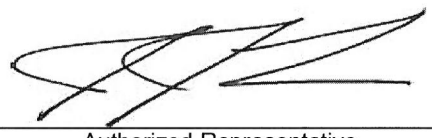
2. Operations:

   ALL OPERATIONS CONDUCTED BY AN INSURED PURSUANT TO SUCH WRITTEN CONTRACT

3. Premium:

   The premium charge for this endorsement shall be 1.0 percent of the California premium developed on payroll in connection with work performed for the above person(s) or organization(s) arising out of the operations described.

4. Minimum Premium: $0



Authorized Representative

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY) 11/01/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Aon Risk Services Northeast, Inc. New York NY Office One Liberty Plaza 165 Broadway, Suite 3201 New York NY 10006 USA	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): (800) 363-0105
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
ICF Incorporated LLC 1902 Reston Metro Plaza Reston VA 20190 USA	INSURER A: Great Northern Insurance Co.	20303
	INSURER B: ACE American Insurance Company	22667
	INSURER C: Federal Insurance Company	20281
	INSURER D: Continental Casualty Company	20443
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** 570096310991 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **Limits shown are as requested**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE / X OCCUR X Prod/Comp Ops Incl. GEN'L AGGREGATE LIMIT APPLIES PER: POLICY / X PRO-JECT / X LOC OTHER:			35812409 Package - Domestic	07/01/2022	07/01/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
C	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			7352-29-55 Automobile - All States	07/01/2022	07/01/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000
C	X UMBRELLA LIAB / X OCCUR EXCESS LIAB / CLAIMS-MADE DED / RETENTION			93630018 Umbrella Liability	07/01/2022	07/01/2023	EACH OCCURRENCE AGGREGATE	$5,000,000 $5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		71754337 Workers Compensation	07/01/2022	07/01/2023	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
D	E&O-MPL-Primary			652011911 E&O Includes Cyber	07/01/2022	07/01/2023	Each Claim Overall policy aggr	$1,000,000 $1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Professional Liability is a Claims Made policy. There is no Additional Insured status on the Professional Liability coverage.
Retroactive Date: 6/25/1999

City of Pittsburg, its officers, officials, employees, and agents are included as Additional Insured, as their interests may appear as respects to General Liability, and Automobile Liability

Where additional Insured status is granted and subject to the standard terms and conditions of the individual policies,

CERTIFICATE HOLDER

City of Pittsburg
Public Works Department
Engineering Division
65 Civic Avenue
Pittsburg, CA 94565 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services Northeast, Inc.

Holder Identifier :

Certificate No : 570096310991

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AGENCY CUSTOMER ID: 570000024256
LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services Northeast, Inc.	ICF Incorporated LLC
POLICY NUMBER: See Certificate Number: 570096310991	
CARRIER: See Certificate Number: 570096310991 / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

Additional Description of Operations / Locations / Vehicles:

coverage is Primary and Non-Contributory.

As respects Workers' Compensation, A Waiver of subrogation is included, but only to the extent permitted by law.

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OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution to Accept Project 5063—Bodega Drive Water System Loop as Complete and Authorize the City Engineer to File a Notice of Completion

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

Project 5063—Bodega Drive Water System Loop (the "Project") constructed a new 8-inch water main to connect an existing 8-inch water main in Bodega Drive to an existing 20-inch water main within a City utility easement. This Resolution will accept the construction contract as complete and authorize the City Engineer to file a Notice of Completion.

FISCAL IMPACT

The Project was funded with $400,000 from the Water Operations Fund (Reso 19-13729 and 22-14125), and it had an approved budget of $400,000.

After payment of all expenditures for design, construction, release of retention, and project close out, staff recommends that all remaining funds be returned to the funding source for use on future projects.

An estimated Project Budget Summary is attached to this staff report.

RECOMMENDATION

Staff recommends that the City Council adopt the attached resolution accepting the Project as complete and authorize the City Engineer to execute a Notice of Completion. Staff also recommends that all unspent funds be returned to the funding source for use on future projects.

BACKGROUND

On December 16, 2019, the City Council adopted Resolution 19-13729 approving the five-year capital improvement program for Fiscal Years 2019/20 through 2023/24 allocating $300,000 from the Water Operations Fund (Fund 501) to the Project.

On July 18, 2022, the City Council adopted Resolution 22-14125 approving the five-year capital improvement program for Fiscal Years 2022/23 through 2026/27 allocating an additional $100,000 from the Water Operations Fund (Fund 501) to the Project.

On August 15, 2022, the City Council adopted Resolution 22-14157 awarding a construction contract to Gold Coast Pipelines, Inc. in the amount of $116,455.

On October 17, 2022, the Contractor reached substantial completion of the Project, and the one-year warranty period began.

SUBCOMMITTEE FINDINGS

This item was not reviewed by a subcommittee.

STAFF ANALYSIS

The Project created a looped water system for the residents in the Hillsdale subdivision to reduce the number of affected houses in the event of a water shutoff.

During construction there was a total of one contract change order issued in the amount of $5,346.28.

The total anticipated expenditures for the Project are $259,500. After all Project expenditures are paid, the unexpended funds are recommended to be returned to the funding source for use on future projects.

The Project was completed on time and within the budget approved by the City Council.

ATTACHMENTS: Resolution
Budget Summary
Notice of Completion

Report Prepared By: Gabriel Piña, Associate Engineer

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adoption of a City Council Resolution Accepting Project 5063—Bodega Drive Water System Loop as Complete and Authorizing the City Engineer to File a Notice of Completion	RESOLUTION NO. 23-

WHEREAS, on December 16, 2019, the City Council adopted Resolution 19-13729 approving the five-year capital improvement program for Fiscal Years 2019/20 through 2023/24 allocating $300,000 from the Water Operations Fund (Fund 501) to Project 5063—Bodega Drive Water System Loop (the "Project"); and

WHEREAS, on July 18, 2022, the City Council adopted Resolution 22-14125 approving the five-year capital improvement program for Fiscal Years 2022/23 through 2026/27 allocating $100,000 from the Water Operations Fund (Fund 501) to the Project; and

WHEREAS, the Project constructed a new 8-inch water main to connect an existing 8-inch water main in Bodega Drive to an existing 20-inch water main in a city utility easement approximately 190 feet away; and

WHEREAS, on July 25, 2022, bids for construction of the Project opened, and Gold Coast Pipelines, Inc. was the lowest most qualified bidder with a base bid in the amount of $116,455; and

WHEREAS, on August 15, 2022, the City Council adopted Resolution 22-14157 accepting the plans and specifications and awarding a construction contract to Gold Coast Pipelines, Inc. in the amount of $116,455; and

WHEREAS, there was one contract change order in the amount of $5,346.28 for a total contract amount of $121,801.28; and

WHEREAS, on October 17, 2022, the one-year warranty period began; and

WHEREAS, the total anticipated expenditures for the Project including design, construction, and staff costs are $259,500, and the estimated remaining balance will be returned to the funding source for use on future projects; and

WHEREAS, staff requests that the City Council accept the Project as complete and authorize the City Engineer to file a Notice of Completion.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Pittsburg hereby accepts the Project as complete, and authorizes and directs the City Engineer to execute a Notice of Completion and file said document with the Office of the Recorder of the County of Contra Costa, State of California, within 10 days from the date hereof.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January 2023 by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST BY:

_____
Alice E. Evenson, City Clerk

Project Budget Summary

Project 5063—Bodega Drive Water System Loop

	Water Operations Fund (501)	(2019 Allocations)	$300,000
Project Funding:	Water Operations Fund (501)	(2022 Allocations)	$100,000
		Funding Total	**$400,000**

Project Expenditures:

Design:			
(Code 2122)	Consultant Design		$61,691
		Subtotal	$61,691
Miscellaneous:			
(Code 1399)	Advertising		
		Subtotal	$0
Construction:	Base Bid		$116,455
(Code 2281)	Construction Change Orders		$5,346
		Subtotal	$121,801
Staff Time:			
(Code 1101)	Salaries/Wages for Design and Construction		$38,000
		Subtotal	$38,000
Administrative			
Overhead:	Staff Cost During Design and Construction		$38,000
(Code 2372)		Subtotal	$38,000
		Estimated Expenditures Total	**$259,492**

Recording Requested By:
The City of Pittsburg

When Recorded Mail To:
Gabriel Piña, Associate Engineer
65 Civic Avenue
Pittsburg, CA 94565

EXEMPT FROM RECORDING FEES PER
GOVERNMENT CODE § 27383

SPACE ABOVE THIS LINE IS FOR RECORDER'S USE

NOTICE OF COMPLETION
Civil Code §§ 8182, 8184, 9204, and 9208

NOTICE IS HEREBY GIVEN THAT:

1. The undersigned is the agent of the owner of the Project described below.

2. Owner's full name is The City of Pittsburg ("City")

3. City's address is 65 Civic Ave, Pittsburg, CA 94565

4. The nature of City's interest in the Project is:
__ Fee Ownership __ Lessee _X_ Other: _Utility Easement Owner_

5. Construction work on the Project performed on City's behalf is generally described as follows: Constructed a new 8-inch water main to connect an existing 8-inch water main in Bodega Drive to an existing 20-inch water main within a City utility easement.

6. The name of the original Contractor for the Project is: Gold Coast Pipelines, Inc. located at 2025 East Leland Road, Pittsburg, CA.

7. The Project was accepted as complete on: January 17, 2023.

8. The Project is located at: The Northeast Corner of 2301 Range Road, Pittsburg, CA.

Verification: In signing this document, I, the undersigned, declare under penalty of perjury under the laws of the State of California that I have read this notice, and I know and understand the contents of this notice, and that the facts stated in this notice are true and correct.

_____ _____
Date and Place Signature

_____
Name and Title

EXEMPT FROM NOTARY ACKNOWLEDGMENT REQUIREMENTS PER GOVERNMENT CODE § 27287 AND CIVIL CODE § 9208

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Making Findings in Support of Continuing to Hold Public Subcommittee Meetings by Teleconference Pursuant to California Government Code Section 54953(e)

MEETING DATE:

EXECUTIVE SUMMARY

Assembly Bill 361 (AB 361) amended the Brown Act to allow local legislative bodies to continue to meet remotely during proclaimed states of emergency under specified conditions. Findings must be made every 30 days.

FISCAL IMPACT

There is no fiscal impact to the General Fund by this action.

RECOMMENDATION

The City Council adopt the attached resolution, continue in-person meetings with the exception of subcommittee meetings which will remain virtual.

BACKGROUND

Beginning in March 2020, Governor Newsom issued a series of Executive Orders aimed at containing the novel coronavirus. Among these were Executive Orders—N-25-20 and N-29-20 (collectively, the "Brown Act Orders") — that waived requirements in the Brown Act expressly or impliedly requiring the physical presence of legislative body members, staff, or the public at local agency meetings.

On June 11, 2021, the Governor issued Executive Order N-08-21, to begin winding down some of the prior measures that were adopted to respond to COVID-19. Notably, N-08-21 established an end date to the Brown Act Orders, effective September 30, 2021.

On September 16, Governor Newsom signed Assembly Bill 361 which amended the Brown Act to allow local legislative bodies to continue to meet remotely during proclaimed states of emergency under specified conditions and so long as certain findings are made by a majority of the legislative body. As detailed in the attached resolution, findings were made on December 12, 2022, and are effective for 30 days.

SUBCOMMITTEE FINDINGS

This item was not submitted to a subcommittee.

STAFF ANALYSIS

Local legislative bodies such as a city council that wish to continue meeting by teleconference must comply with the requirements of California Government Code Section 54953, which was amended by AB 361.

Specifically, newly amended Government Code Section 54953 requires the following procedures:

- Give notice and post agendas as otherwise required by the Brown Act;
- List on the agenda how the public can electronically attend and comment at the meeting. Note that a public agency is not required to offer an in-person option for the public to attend and comment at such a meeting;
- Provide an opportunity to comment in advance of and during the meeting;
- Allow a reasonable amount of time to register, if required, and comment on each agenda item or at least the amount of time allowed per agency meeting protocols, whichever is longer;
- No action may be taken during a disruption that inhibits the broadcast of the meeting or the public's ability to comment;
- All votes must be via rollcall;
- Comply with state and federal civil rights and non-discrimination laws; and
- Take all precautions to protect the statutory and constitutional rights of the public.

While it only applies in situations where the Governor has proclaimed a state of emergency, and not, for instance, when only a local health officer has declared an emergency, AB 361 provides an explicit avenue for local public agencies to meet remotely in the case of a public health, or other, emergency that inhibits the opportunity to meet in person. AB 361 provides the flexibility to meet by teleconference through December 31, 2023, unless extended.

The City Council resolution, if approved, would authorize teleconferenced meetings of subcommittees.

Making the findings would allow teleconferenced meetings for the next 30 days.

ATTACHMENTS: Resolution

Report Prepared By: Garrett Evans, City Manager

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Making Findings in Support of Continuing to Hold Public Subcommittee Meetings By Teleconference Pursuant to California Government Code Section 54953(e)	))))	RESOLUTION NO. 23-

WHEREAS, on March 4, 2020, the Governor of the State of California proclaimed a state of emergency due to COVID-19; and

WHEREAS, on March 10, 2020, the Contra Costa County Board of Supervisors issued an emergency proclamation to respond to COVID-19; and

WHEREAS, on March 16, 2020, the City Council proclaimed the existence of a local emergency in response to COVID-19; and

WHEREAS, on March 12, 2020, the Governor issued Executive Order N-25-20, which suspended specified requirements under the Brown Act with regard to teleconferenced meetings of legislative bodies during the period in which state or local public health officials have imposed or recommended measures to promote social distancing; and

WHEREAS, on March 17, 2020, the Governor issued Executive Order N-29-20, which modified and replaced the Brown Act language of Executive Order N-25-20, continuing to suspend specified requirements under the Brown Act for teleconferenced meetings of legislative bodies during the period in which state or local public health officials have imposed or recommended social distancing measures; and

WHEREAS on June 11, 2021, the Governor issued Executive Order N-08-21, which modified and replaced the Brown Act language of Executive Order N-29-20 and set forth an end date of September 30, 2021; and

WHEREAS, in September 2021 the State Legislature passed Assembly Bill 361, which was signed into law by the Governor on September 19, 2021; and

WHEREAS, AB 361 amended the Brown Act at Government Code Section 54953 to allow, until January 1, 2024, a legislative body to use teleconferencing without adhering to specified requirements so long as, among other circumstances, the meeting is held during a proclaimed state of emergency and state or local officials have imposed or recommended measures to promote social distancing, and so long as the legislative body reconsiders the circumstances every 30 days; and

WHEREAS, on September 20, 2021, the Contra Costa County Health Officer issued recommendations for public meetings, which recommendations include social distancing; and

WHEREAS, on October 4, 2021, and November 1, 2021, the City Council adopted a resolution authorizing teleconferenced meetings for the City Council, commissions, and subcommittees; and

WHEREAS, following an improvement in the incidence of COVID cases, the City Council adopted Resolutions on November 29, 2021, December 20, 2021, January 18, 2022, February 7, 2022, March 7, 2022, April 4, 2022, May 2, 2022, June 6, 2022, June 20, 2022, July 18, 2022, August 15, 2022, September 19, 2022, October 17, 2022, November 7, 2022, November 21, 2022 and December 12, 2022 to authorize meetings with public participation by teleconference and in-person attendance by members of the City Council and commissions, and otherwise fully teleconferenced meetings for subcommittees; and

WHEREAS, with the emergence of the Omicron variant, which may spread more easily than other variants, and in the wake of holiday gatherings of persons, the incidence of COVID increased markedly and then decreased but continues to be transmitted in the community.

NOW, THEREFORE BE IT RESOLVED that the City Council hereby makes the following findings:

1. The circumstances of the state of emergency have been reconsidered. The state of emergency declared by the Governor has not been terminated. The state of emergency declared by the County Board of Supervisors has not been terminated. The state of emergency declared by the City Council has not been terminated.

State or local officials continue to impose or recommend measures to promote social distancing. The County Health Official on October 4, 2022, reissued a recommendation for social distancing, among other recommendations, during public meetings.

BE IT FURTHER RESOLVED that the City Council hereby approves meetings of subcommittees to be held by teleconference in compliance with California Government Code Section 54953(e). As there are numerous subcommittees, some which are comprised of members of more than one legislative body, and meet frequently, for the protection of the health of attendees all subcommittee meetings are to be held by teleconference.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January, 2023, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of an Ordinance to Rescind and Amend Pittsburg Municipal Code Title 15, "Buildings and Construction," to Adopt by Reference the 2022 California Building Code, Residential Code, Electrical Code, Fire Code, Mechanical Code, Plumbing Code, Historical Building Code, Green Building Standards Code, Existing Building Code and Energy Code with State of California and Local Amendments

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The California Building Standards Code is published every three years and amends the California Code of Regulations, Title 24. These codes are commonly referred to as the California Building Code ("Codes") and include building, plumbing, mechanical, electrical, fire, energy, residential, historical, and green standards.

FISCAL IMPACT

There is no fiscal impact to the General Fund by this action.

RECOMMENDATION

City Council adopt the attached Ordinance to rescind and amend Chapters 1.12, 1.20, 15.08, 15.16, 15.18, 15.20, 15.22, 15.26, 15.28, 15.32, 15.60, and 15.64 of the Pittsburg Municipal Code.

BACKGROUND

The 2022 California Codes will take effect statewide on January 1, 2023. Building regulations or standards have the same force of law and are confirmed 180 days after their publication unless otherwise stipulated. This code applies to all occupancies in the State of California as annotated.

This is the second reading of an ordinance to rescind and amend sections of the Pittsburg municipal code to reflect the 2022 California Building Code, California Code of Regulations, Title 24, Part 2, Volumes 1 and 2, California Building Standards Commission, based upon the 2021 International Building Code as published by the International Code Council.

The 2022 California Electrical Code, California Code of Regulations, Title 24, Part 3, California Building Standards Commission, based upon the 2020 National Electrical Code as published by the National Fire Protection Association.

The 2022 California Mechanical Code, California Code of Regulations, Title 24, Part 4, California Building Standards Commission, based upon the 2021 Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials.

The 2022 California Plumbing Code, California Code of Regulations, Title 24, Part 5, California Building Standards Commission, based upon the 2021 Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials.

The 2019 California Historical Building Code, California Code of Regulations, Title 24, Part 8, as published by the California Building Standards Commission.

The 2022 Green Building Standards Code, California Code of Regulations, Title 24, Part 11, California Building Standards Commission as published by the International Code Council.

The 2022 California Existing Building Code, California Code of Regulations, Title 24, Part 10, California Building Standards Commission based upon the 2021 International Existing Building Code.

The 2022 Residential Code, California Code of Regulations, Title 24, Part 2.5, California Building Standards Commission, based upon the 2021 International Residential Building Code as published by the International Code Council.

The 2022 California Fire Code, California Code of Regulations, and Appendix Chapter 1, Administration, Title 24, Part 9 based on the 2021 International Fire Code published by the International Code Council.

The 2021 California Energy Code, Title 24, Part 6, California Building Standards Commission as published by the International Code Council.

The City may establish more restrictive building standards as reasonably necessary because of local climatic, geological, or topographical conditions. The proposed amendments are based upon these tangible conditions and past practice.

On December 12, 2022, the City Council introduced the ordinance at a special meeting, waived further reading and passed to second reading without comment or modification.

SUBCOMMITTEE FINDINGS

This item was not presented to a subcommittee.

STAFF ANALYSIS

Adoption of this ordinance formalizes the City's participation in enforcing the building codes as adopted by the State Building Standards Commission. This will provide necessary clarification regarding the adopted regulations governing property development, building construction and maintenance.

ATTACHMENTS: Proposed Ordinance to Adopt 2022 California Codes

Report Prepared By: Shelby Rose, Permit Center Supervisor

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Ordinance to Rescind and Amend Pittsburg Municipal Code Chapters 1.12, 1.20, 15.08, 15.16, 15.18, 15.20, 15.22, 15.26, 15.28, 15.32, 15.60,15.64 Which Adopts by Reference the Applicable 2022 California Codes	ORDINANCE NO. 22-1505

WHEREAS, the California Building Standards Code is published every three years and amends the California Code of Regulations, Title 24; and

WHEREAS, these codes are commonly referred to as the California Building Code ("Codes") and include building, plumbing, mechanical, electrical, fire, energy, residential, historical, and green standards; and

WHEREAS, the 2022 California Codes will take effect statewide on January 1, 2023; and

WHERAS, building regulations or standards have the same force of law and are confirmed 180 days after their publication unless otherwise stipulated; and

WHEREAS, this code applies to all occupancies in the State of California as annotated; and

WHEREAS, each city in California is required to adopt the California Building Standards Code and is authorized to do so by reference (Health and Safety Code §17922 and Government Code §50022.2); and

WHEREAS, the City may establish more restrictive building standards as reasonably necessary because of local climatic, geological, or topographical conditions; and

WHEREAS, the proposed amendments are based upon these tangible conditions and past practice, and

WHEREAS, adoption of this ordinance formalizes the City's participation in enforcing the building codes as adopted by the State Building Standards Commission. This will provide necessary clarification regarding the adopted regulations governing property development, building construction and maintenance; and

WHEREAS, the City has provided notice of, and taken all actions necessary for, the proposed adoption by reference of certain uniform State codes as set forth in this Ordinance and as required by Government Code section 50020 et. seq.

NOW, THEREFORE, the City Council of the City of Pittsburg DOES ORDAIN as follows:

SECTION 1. PRIOR ENACTMENTS REPEALED

All prior enactments of the City, which conflict with this Ordinance, are hereby repealed, effective upon the date on which this Ordinance becomes effective and operative.

SECTION 2. CONTINUING EFFECT

2.1 Notwithstanding Section 1 of the Ordinance, and solely for the purposes of this Section 2.1, this Ordinance shall be construed as a continuation of said prior enactments as the same may have been heretofore amended from time to time, and compliance therewith prior to the effective date hereof shall be deemed to be compliance with this Ordinance unless provided otherwise herein.

2.2 Except as specifically or by necessary implication required to the contrary by this Ordinance, no right or entitlement granted, or obligation imposed, or action or proceeding commenced or taken pursuant to a prior resolution or ordinance repealed or modified hereby shall be deemed to be invalidated, waived, terminated or otherwise affected by the enactment hereof.

SECTION 3. EFFECT OF ENACTMENT

Except as specifically provided herein, nothing contained in this Ordinance shall be deemed to modify or supersede any prior enactment of the City Council which addresses the same subject addressed herein.

SECTION 4. FINDINGS

4.1 The International Code Council (ICC) is a private organization which has been in existence for at least three (3) years.

4.2 The 2022 California Design Building Codes, the 2022 California Fire Code, the California Building Standards Code, and the California Fire Code Standards published by said organization, are a nationally recognized compilation of proposed rules, regulations, and standards of said organization.

4.3 The California Design Building Codes and the California Fire Code have been printed and published as a code in books form within the meaning of Section 50022.2 et seq., of the California Government Code and said code has been adopted and amended by the California Building Standards Commission into the California Code of Regulations (CCR) as Title 24, 2022 edition.

4.4 That one (1) copy of the 2022 California Design Building Codes based on the 2021 International Design Building Codes and one (1) copy of the 2022 California Fire Code based on the 2021 International Fire Code have been on file for use and examination by the public in the office of the Building Official prior to adoption of this Ordinance.

4.5 That the sections of the International Design Building Codes and California Building Code Standards may be referred to by the same number used in said published compilation preceded by the words “City of Pittsburg International Building Code Section” or “International Building Code Section” or “Building Code Section”. Said amendments to the California Building Standards Code under the California Design Building Codes shall be referred to in the same manner as listed above for ease of application.

4.6 That the sections of the California Fire Code may be referred to by the same number used in said published compilation preceded by the words "City of Pittsburg California Fire Code Section" or "California Fire Code Section" or "Fire Code Section". Said amendments to the California Building Standards Code under the California Fire Code shall be referred to in the same manner as listed above for ease of application.

4.7 Pursuant to Section(s) 17958.5(a) and (b) as well as Section 17958.7 of the California Health and Safety Code, the Section contained herein shall be submitted as the "Findings of Need" with regard to the specific California Design Building Codes and California Fire Code Ordinance Amendments adopted by the City of Pittsburg and addressed herein. Additional requirements and standards herein are necessary to properly protect the health, safety, and welfare of the existing and future residents as well as workers of the City of Pittsburg. Under the provisions of Section 17958.7 of the Health and Safety Code, local amendments shall be based on climatic, geological, or topographical conditions. The "Findings of Need" contained herein shall address each of these situations and shall present the local situation which singularly or in combination cause the established amendments to be adopted. Each such modification is identified as to which section such finding refers.

4.7.1 Life Safety: That the additional requirements and standard established herein are needed to properly protect the health, safety, life and limb, and welfare of existing and future residents, workers, and guests of the City of Pittsburg.

4.7.2 That these changes and modifications to the standards published in the California Design Building Codes and California Fire Code are reasonably necessary because of local climatic, geological, and topographical conditions. The following are hereby adopted as non-inclusive specific findings in respect to such local conditions and refer to amendments made to the California Design Building Codes, California Code of Regulations, Title 24, and International Fire Code as more particularly set forth below.

4.7.2.1. **Climatic Conditions:**

1. **Precipitation and Relative Humidity**

Conditions:

Precipitation ranges from 15 to 24 inches per year with an average of approximately 20 inches per year. 96% of precipitation falls during the months of October through April and four percent from May through September. This is a dry period of at least five months each year. Additionally, the area is subject to occasional drought. Relative humidity remains in the middle range most of the time. It ranges from 45-65% during spring, summer, fall, and from 60-90% in the winter. It occasionally falls as low as 15%.

Impact:

Locally experienced dry periods cause extreme dryness of untreated wood shakes and shingles on buildings and non-irrigated grass, brush, and weeds, which are often near buildings with wood roofs and sidings. Such dryness causes these materials to ignite very readily and burn rapidly and intensely.

Because of dryness, a rapidly burning grass fire or exterior building fire can quickly transfer to other buildings by means of radiation or flying brands, sparks, and embers. A small fire can rapidly grow to a magnitude beyond the control capabilities of the Fire District resulting in an excessive fire loss.

2. **Temperature**

Conditions:

Temperatures have been recorded as high as 114° F. Average summer highs are in the 90° range, with average maximums of 105° F.

Impact:

High temperatures cause rapid fatigue and heat exhaustion of firefighters, thereby reducing their effectiveness and ability to control large building and wildland fires.

Another impact from high temperatures is that combustible building material and non-irrigated weeds, grass, and brush are preheated, thus causing these materials to ignite more readily and burn more rapidly and intensely. Additionally, the resultant

higher temperature of the atmosphere surrounding the materials reduces the effectiveness of the water being applied to the burning materials. This requires that more water be applied, which in turn requires more Fire District resources in order to control a fire on a hot day. High temperatures directly contribute to the rapid growth of fires to an intensity and magnitude beyond the control capabilities of the Fire District.

3. **Winds**

Conditions:

Prevailing winds in the area are from the south or southwest in the mornings and from the north or northwest in the afternoons. However, winds are experienced from virtually every direction at one time or another. Velocities are generally in the 14 mph to 23 mph ranges, gusting to 25 to 35 mph. 40 mph winds are experienced occasionally and winds up to 55 mph have been registered locally. During the winter half of the year, strong, dry, gusty winds from the north move through the area for several days creating extremely dry conditions.

Impact:

Winds such as those experienced locally can and do cause fires, both interior and exterior, to burn and spread rapidly. Fires involving non-irrigated weeds, grass, and brush can grow to a magnitude and be fanned to intensity beyond the control capabilities of the Fire District very quickly even by relatively moderate winds. During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. When such fires are not controlled, they can extend to nearby buildings, particularly those with untreated wood shakes or shingles. In building fires, winds can literally force fires back into the building and can create a blow torch effect, in addition to preventing “natural” ventilation and cross-ventilation efforts.

Winds of the type experienced locally also reduce the effectiveness of exterior water streams used by the Fire District on fires involving large interior areas of buildings, fires which have vented through windows and roofs due to inadequate built-in fire protection and fires involving wood shake and shingle building exteriors. Local winds will continue to be a definite factor towards causing major fire losses to buildings not provided with fire resistive roof and siding materials and buildings with inadequately separated interior areas or lacking automatic fire protection systems. National statistics frequently

cite wind conditions, such as those experienced locally, as a major factor where conflagrations have occurred.

4.7.2.2 **Topographlic Conditions:**

Development has occurred and continues to occur in Pittsburg at a rapid pace. Traffic congestion occurs during certain peak business hours, weekends, and on holidays along main thoroughfares. (Information provided by the Transportation Engineering Division of the Public Works Department).

The distance between fire stations, and the response time in our city compared to the time when flashover generally occurs creates a need for on-site fire suppression capability in all structures, and the need for specific turning radius and turnaround requirements for fire apparatus. In order to accommodate fire equipment during emergency response, we find that fire apparatus roads, grades, turning radius and turnaround dimensions are required as set forth herein.

Conditions:

Vegetation: The service area of the Contra Costa County Fire Protection District has a varied topography and vegetative cover. A conglomeration of flat lands, hills, and ridges make up the terrain. Development has occurred on the flat lands in the District and in the past 15 years development has spread into the hills, valleys, and ridge lands of the District. Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas adjacent to built-up locations six to eight months of each year. Many of these areas frequently experience wildland fires, which threaten nearby buildings, particularly those with wood roofs, or sidings. This condition can be found throughout the Fire District, especially in those fully developed areas and those areas marked for future development.

Surface Features: The arrangement and location of natural and manmade surface features, including hills, creeks, canals, freeways, housing tracts, commercial development, fire stations, streets, and roads, combine to limit efficient response routes for Fire District resources into and through many areas.

Buildings, Landscaping and Terrain: Many of the “newer” large buildings and building complexes have access and landscaping features or designs which preclude, or greatly limit, efficient approach or operational access to them by Fire District vehicles. In addition, the presence of security gates, roads of inadequate width and grades which are too steep for Fire

District vehicles create an adverse impact on fire suppression efforts.

When Fire District vehicles cannot gain access to buildings involved with fire, the potential for complete loss is realized. Difficulty reaching a fire site often requires additional fire personnel and resources to successfully and safely mitigate the event. Access problems often result in severely delaying, misdirecting, or making fire and smoke control efforts unsuccessful.

4.7.2.3 **Geological Conditions:**

Pittsburg, CA has a very high earthquake risk, with a total of 3,904 earthquakes since 1931. The USGS database shows that there is a 97.98% chance of a major earthquake within 50km of Pittsburg, CA within the next 50 years. The largest earthquake within 30 miles of Pittsburg, CA was a 6.0 Magnitude in 2014.

Within the 20 miles of the City of Pittsburg, there are four (4) earthquake faults; the Concord Fault, Clayton Fault, Davis Fault, and the Kirby Hills Fault. There are also other faults in the immediate adjacent areas. In the event of a severe earthquake these faults present the potential for catastrophic damage including fire, damage to roadways, and other impairments of emergency apparatus (Fault information from California Division of Mines and Geology). This finding supports our modifications to the California Design Building Codes and the California Fire Codes.

Seismicity

Conditions:

Contra Costa County is located in Seismic Risk Zone 4, which is the worst earthquake area in the United States. Buildings and other structures in Zone 4 can experience major seismic damage. Contra Costa County is in close proximity to the San Andreas Fault and contains all or portions of the Hayward, Calaveras, Concord, Antioch, Mt. Diablo, and other lesser faults. A 4.1 earthquake with its epicenter in Concord occurred in 1958, and a 5.4 earthquake with its epicenter also in Concord occurred in 1955. The Concord and Antioch faults have a potential for a Richter 6 earthquake and the Hayward and Calaveras faults have the potential for a Richter 7 earthquake. Minor tremblers from seismic activity are not uncommon in the area.

The fire environment of a community is primarily a combination of two factors: the area's physical geologic characteristics and a historic pattern of urban-suburban development. These two factors, alone and combined, create a mixture of environments which ultimately determines the area's fire protection needs. The Fire District has 3 distinct areas. They are: the West, which includes the City of San Pablo and the communities of North Richmond, El Sobrante, and East Richmond Heights: the Central, which includes the Cities of Lafayette, Martinez, Pleasant Hill, Concord, Walnut Creek, Clayton, and the communities of Clyde, Pacheco, Alhambra Valley, and Alamo; and the East, which includes the Cities of Antioch and Pittsburg and the community of Bay Point.

Because of the size of the Contra Costa County Fire Protection District (304 square miles), the characteristics of the fire environment changes from one location to the next. Therefore, the District has not one, but a number of fire environments, each of which has its individual fire protection needs from two major oil refineries, to heavy industrial facilities, freeways, rail lines, waterways, port facilities, wildland areas, urban and suburban town settings, and major downtown areas.

Interstates 80 and 680, State Highways 4, 24, and 242, Bay Area Rapid Transit District (BART), and major thoroughfares travel throughout the district. There are 2 major rail lines which run through the district. An overpass or underpass crossing collapse would alter the response route and time for responding emergency equipment. This is due to the limited crossings of the major highways and rail lines.

Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities, which, in turn, cause power failures while at the same time starting fires throughout the Fire District. The occurrence of multiple fires will quickly deplete existing fire district resources; thereby reducing and/or delaying their response to any given fire. Additionally, without electrical power, elevators, smoke management systems, lighting systems, alarm systems, and other electrical equipment urgently needed for building evacuation and fire control in large buildings without emergency generator systems would be inoperative, thereby resulting in loss of life and/or major fire losses in such buildings.

Impact:

A major earthquake could severely restrict the response of the Fire District and its capability to control fires involving buildings of wood frame construction, with ordinary wood shake and

shingle exteriors, or with large interior areas not provided with automatic smoke and fire control systems.

Soil Conditions

The area is replete with various soils, which are unstable, clay loam and alluvial fans being predominant. These soil conditions are moderately to severely prone to swelling and shrinking, are plastic, and tend to liquefy. Throughout the Fire District, the topography and development growth has created a network of older, narrow roads. These roads vary from gravel to asphalt surface and vary in percent of slope, many exceeding twenty (20) percent. Several of these roads extend up through the winding passageways in the hills providing access to remote, affluent housing subdivisions. Many of these roads are private with no established maintenance program. During inclement weather, these roads are subject to rock and mudslides, as well as down trees, obstructing all vehicle traffic. It is anticipated that during an earthquake, several of these roads would be practically impassable. This finding supports our modifications to the California Design Building Codes and the California Fire Codes

SECTION 5. California Building Code

Chapter 15.08 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.08
California Building Code

Sections:

15.08.010 Adoption
15.08.040 Amendments to Appendix Chapter 1, Administration.

15.08.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the building code of the city the 2022 California Building Code (CBC), California Code of Regulations, Title 24, Part 3, and Appendices (based on the 2021 International Building Code published by the International Code Council.)

B. One copy of the CBC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CBC as set forth in this chapter. In addition, all subsequent supplements to the CBC and related publications are adopted by reference.

15.08.040 Amendments to Appendix Chapter 1, Administration.

Set forth below are the local amendments, additions, and deletions to the administrative portion of the 2022 California Building Code. Chapter and section numbers used herein are those of Chapter 1 of the 2022 California Building Code.

Section 107.5, Retention of Construction Documents, is hereby amended to read:

Section 107.5 Retention of Construction Documents. The building division of the City of Pittsburg shall maintain an official copy, which may be on microfilm or other type of photographic copy of the plans of every building, during the life of the building, for which the department issued a building permit. “Building Division” means the department, bureau, or officer charged with the enforcement of laws or ordinances regulating the erection, construction, or alteration of buildings. Except for plans of a common interest development as defined in Section 1351 of the Civil Code, plans need not be retained after 180 days of completion for:

(a) Single or multiple dwellings not more than two stories and basement in height.

(b) Garages and other structures appurtenant to buildings described under subdivision (a).

(c) Farm or ranch buildings.

(d) Any one-story building where the span between bearing walls does not exceed 25 feet.

The exemption in this subdivision does not apply to a steel frame or concrete building.

Section 109.4 is hereby added to read:

Section 109.4 Work Commencing Before Permit Issuance. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to a fee established by the building official that shall be in addition to the required permit fees.

Section 109.5, Related Fees, is hereby amended to read:

Section 109.5 “Fees” Reinspection’s. If reinspection’s are required, fees for the same may be assessed in accordance with Section 109.

To obtain a re-inspection, the permittee shall pay any assessed re-inspection fee. In those instances where the building official has assessed a re-inspection fee, the building inspector shall perform no additional inspections of the work until the required fee has been paid.”

SECTION 6. California Electrical Code

Chapter 15.16 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.16
California Electrical Code

Sections:

15.16.010 Adoption.
15.16.020 Electrical permit – Applicant qualifications.

15.16.040 Amendments, additions, and deletions to the National Electrical Code.
15.16.050 Violation – Penalty.
15.16.060 Small residential rooftop solar energy system review process.
15.16.070 Expedited electric vehicle charging station permitting.

15.16.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the electrical code of the city the 2022 California Electrical Code (CEC), California Code of Regulations, Title 24, Part 3, and Appendices (based on the 2021 National Electrical Code published by the National Fire Protection Association).

B. One copy of the CEC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CEC as set forth in this chapter. In addition, all subsequent supplements to the CEC and related publications are adopted by reference.

15.16.020 Electrical permit – Applicant qualifications.

No permit shall be issued to any person to do or cause to be done any electrical work regulated by this chapter, unless such applicant qualifies under one of the following conditions:

A. Applicant possesses a valid, unexpired, and unrevoked electrical contractor's license issued to him or her under the applicable provisions of the Business and Professions Code of the state; or

B. Applicant is the bona fide owner of the premises, which premises consists of a single-family dwelling, duplex, or a single unit in a condominium complex used exclusively for living purposes, and all accessory buildings thereto; provided, that the owner or a member of his/her immediate family shall perform all labor pursuant to the permit.

15.16.040 Amendments, additions, and deletions to the 2021 National Electrical Code.

Set forth below are the local amendments, additions, and deletions to the 2022 California

Electrical Code. Chapter and section numbers used herein are those of the 2021 California Electrical Code.

Section 89.108.8, Appeals Board, is replaced by Section 113, Board of Appeals, of Appendix Chapter 1 of the 2022 California Building Code.

Article 100, Definitions, is hereby amended by the addition of the following words or phrases:

“CITY” or “THE CITY” shall refer to the City of Pittsburg as the text requires.

“CITY COUNCIL” shall refer to the City Council of the City of Pittsburg.

“ELECTRICAL CONTRACTOR” shall refer to a contractor in possession of a valid license issued in accordance with the provisions of the California Contractors State License Board.

“ELECTRICAL INSPECTOR” shall refer to the Building Official of the City of Pittsburg or his or her authorized representative.

“ELECTRICAL WORK” shall refer to the installation, construction, maintenance, and repair of electrical equipment.

“PERSON” shall refer to a natural person, his or her heirs, executors, administrators, or assignees, and also includes a firm, partnership, or corporation, its or their successors or assignees, or the agent of any of the aforesaid.

“SINGLE FAMILY DWELLING” shall refer to a residential building containing one or two dwelling units.

15.16.050 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both.

15.16.060 Small residential rooftop solar energy system review process. Share

A. The following words and phrases as used in this section are defined as follows:

“Electronic submittal” means the utilization of one or more of the following:

1. E-mail.

2. The Internet.

3. Facsimile.

“Small residential rooftop solar energy system” means all of the following:

1. A solar energy system that is no larger than 10 kilowatts alternating current nameplate rating or 30 kilowatts thermal.

2. A solar energy system that conforms to all applicable state fire, structural, electrical, and other building codes as adopted or amended by the city and paragraph (iii) of subdivision (c) of Section 714 of the Civil Code, as such section or subdivision may be amended, renumbered, or redesignated from time to time.

3. A solar energy system that is installed on a single or duplex family dwelling.

4. A solar panel or module array that does not exceed the maximum legal building height as defined by the authority having jurisdiction.

“Solar energy system” has the same meaning set forth in paragraphs (1) and (2) of subdivision (a) of Section 801.5 of the Civil Code, as such section or subdivision may be amended, renumbered, or redesignated from time to time.

B. Section 65850.5 of the California Government Code provides that, on or before September 30, 2015, every city, county, or city and county shall adopt an ordinance that creates an expedited, streamlined permitting process for small residential rooftop solar energy systems.

C. Section 65850.5 of the California Government Code provides that in developing an expedited permitting process, the city, county, or city and county shall adopt a checklist of all requirements with which small rooftop solar energy systems shall comply to be eligible for expedited review. The building official is hereby authorized and directed to develop and adopt such checklist. (Note: Your city may adopt an ordinance that modifies the checklists and standards found in the California Solar Permitting Guidebook due to unique climatic, geological, seismological, or topographical conditions.)

D. The checklist shall be published on the city’s Internet website. The applicant may submit the permit application and associated documentation to the city’s building division by personal, mailed, or electronic submittal together with any required permit processing and inspection fees. In the case of electronic submittal, the electronic signature of the applicant on all forms, applications and other documentation may be used in lieu of a wet signature. (Or, if the city will not accept electronic signature, the reasons for the inability to accept electronic signatures must be described.)

E. Prior to submitting an application, the applicant shall:

1. Verify to the applicant’s reasonable satisfaction through the use of standard engineering evaluation techniques that the support structure for the small residential rooftop solar energy system is stable and adequate to transfer all wind, seismic, and dead and live loads associated with the system to the building foundation; and

2. At the applicant’s cost, verify to the applicant’s reasonable satisfaction using standard electrical inspection techniques that the existing electrical system including existing line, load, ground, and bonding wiring as well as main panel and subpanel sizes are adequately sized, based on the existing electrical system’s current use, to carry all new photovoltaic

electrical loads.

F. For a small residential rooftop solar energy system eligible for expedited review, only one inspection shall be required, which shall be done in a timely manner and may include a consolidated inspection by the building official and fire chief. (Note: A separate fire inspection may be performed if your city does not have an agreement in place with your local fire authority to conduct a fire safety inspection on behalf of the fire authority.) If a small residential rooftop solar energy system fails inspection, a subsequent inspection is authorized; however, the subsequent inspection need not conform to the requirements of this subsection.

G. An application that satisfies the information requirements in the checklist, as determined by the building official, shall be deemed complete. Upon receipt of an incomplete application, the building official shall issue a written correction notice detailing all deficiencies in the application and any additional information required to be eligible for expedited permit issuance.

H. Upon confirmation by the building official of the application and supporting documentation being complete and meeting the requirements of the checklist, the building official shall administratively approve the application and issue all required permits or authorizations. Such approval does not authorize an applicant to connect the small residential rooftop energy system to the local utility provider's electricity grid. The applicant is responsible for obtaining such approval or permission from the local utility provider.

15.16.070 Expedited electric vehicle charging station permitting.

A. The ordinance codified in this section shall be known as the city of Pittsburg electric vehicle charging station permit expediting ordinance. The terms, phrases, and words used in this section shall be construed in compliance with the definitions set forth by California Government Code Section 65850.7.

B. Electric vehicle charging stations which qualify for expedited permit processing, pursuant to Government Code Section 65850.7, shall be subject to the administrative permitting procedures set forth in this section.

C. Expedited Review Process. Consistent with Government Code Section 65850.7, the building official shall implement an expedited administrative permit review process for electric vehicle charging stations and adopt a checklist of all requirements with which electric vehicle charging stations shall comply in order to be eligible for expedited review. The expedited administrative permit review process and checklist may refer to the recommendations in the checklist prescribed by the most current version of the "Plug-In Electric Vehicle Infrastructure Permitting Checklist" of the "Zero-Emission Vehicles in California: Community Readiness Guidebook" published by the Governor's Office of Planning and Research. The city's adopted checklist shall be published on the city's website.

D. Electronic Submittals. Consistent with Government Code Section 65850.7, the building official shall allow for electronic submittal of permit applications covered by this section and associated supporting documentation. In accepting such permit applications, the building

official shall also accept electronic signatures on all forms, applications, and other documentation in lieu of a wet signature by any applicant.

E. Association Approval. Consistent with Government Code Section 65850.7, the building official shall not condition the approval for any electric vehicle charging station permit on the approval of such a system by an association, as that term is defined by Civil Code Section 4080.

F. Permit Application Processing. A permit application that satisfies the information requirements in the city's adopted checklist shall be deemed complete and be promptly processed. Upon confirmation by the building official that the permit application and supporting documents meet the requirements of the city-adopted checklist, and are consistent with all applicable laws, the building official shall, consistent with Government Code Section 65850.7, approve the application and issue all necessary permits. Such approval does not authorize an applicant to energize or utilize the electric vehicle charging station until approval is granted by the city. If the building official determines that the permit application is incomplete, he or she shall issue a written correction notice to the applicant, detailing all deficiencies in the application and any additional information required to be eligible for expedited permit issuance.

G. Technical Review. It is the intent of this section to encourage the installation of electric vehicle charging stations by removing obstacles to permitting for charging stations so long as the action does not supersede the building official's authority to address higher priority life-safety situations. If the building official makes a finding based on substantial evidence that the electric vehicle charging station could have a specific adverse impact upon the public health or safety, as defined in Government Code Section 65850.7, the city may require the applicant to apply for a use permit."

SECTION 7. Historical Building Code

Chapter 15.18 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.18
Historical Building Code

Sections:

15.18.010 Adoption.
15.18.020 Violation – Penalty.

15.18.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the historical code of the city the 2022 California Historical Building Code (CHBC), California Code of Regulations, Title 24, Part 8 (as published by the California Building Standards Commission).

B. One copy of the CHBC is on file with the Building Division for use and examination by the public, along with changes, additions and deletions relating to sections of the CHBC as set forth in this chapter, in addition, all subsequent supplements to the CHBC and related publications are adopted by reference.

15.18.020 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both."

SECTION 8. California Fire Code

Chapter 15.20 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.20
California Fire Code

15.20.010 Adoption.
15.20.020 Enforcement.
15.20.040 Amendments.

15.20.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the fire code of the city the 2022 California Fire Code (California Code of Regulations, and Appendix Chapter 1, Administration, Title 24, Part 9 (based on the 2021 International Fire Code published by the International Code Council)).

B. One copy of the CFC is on file with the city clerk for use and examination by the public, along with changes, additions and deletions relating to sections of the CFC as set forth in this chapter. In addition, all subsequent supplements to the CFC and related publications are adopted by reference.

15.20.020 Enforcement.

A. The provisions of this chapter shall be enforced by the Contra Costa County fire protection district (district) under the direction of the fire chief and/or the chief building official of the city. The fire chief or his duly authorized agents may issue citations for violations of the district ordinances as adopted by the city in the same manner as a county or city is authorized to do so by Chapter 5-C (commencing with Section 853.5, Title 3, Part 2) of the Penal Code.

B. A report of the fire activities within the city shall be made annually and transmitted to the city manager by the Contra Costa County fire protection district. It shall contain all proceedings under this code, with such statistics as the fire chief deems necessary.

15.20.040 Amendments.

Chapter and section numbers used below are those of the 2022 California Fire Code.

A. Chapter 1, Scope and Administration.

Section 101.1 is amended to read:

> 101.1 Title. This code is the Fire Code of the Contra Costa County Fire Protection District and is hereinafter referred to as “this code.”

Section 102.1 is amended to add item 5, to read:

> 5. Where not otherwise limited by law, the provisions of this code shall apply to vehicles, ships, and boats that are permanently affixed to a specific location within the boundaries of this jurisdiction.

Section 105.5 is amended to read:

> 105.5 Required operational permits. The fire code official is authorized to issue operational permits for the operations set forth in Chapter 1, Sections 105.5.1 through 105.5.63.

Section 105.5.33 is amended to read:

105.5.33 Motor Fuel Dispensing Facilities. An operational permit is required for the operation of automotive, marine, and fleet motor fuel dispensing facilities, including for sites that allow mobile fueling from a service provider to the general public, fueling of motor vehicles at approved locations from a tank vehicle and limited or temporary fueling operations for special events (fueling of watercraft from shore, piers, floats, or barges).

Section 105.5.40 is amended to read:

> 105.5.40 Cannabis/Plant Extraction Related System(s)/Operations. An operational permit is required for any of the following cannabis/plant extraction related systems operations.
>
> 1. Cultivation
> 2. Plant Extraction Systems
> 3. Testing/Lab
> 4. Manufacturing
> 5. Distribution

6. Carbon Dioxide Systems or volatile solvent

Section 105.5 is amended by adding Sections105.5.52 through 105.5.63 to read:

105.5.52 Wood products. An operational permit is required to store chips, hogged material, wood or other combustible pallets, lumber, or plywood in excess of 200 cubic feet (6 m3).

Section 105.5 is amended by adding Sections 105.5.55 through 105.5.63 to read:

105.5.55 Asbestos removal. A permit is required to conduct asbestos-removal operations regulated by Section 3319

105.5.56 Automobile Wrecking or Dismantling Yard. An operation permit is, required for all automobile wrecking yards, automobile dismantling operations, and similar operations.

105.5.57 Christmas tree sales. A permit is required to use a property for the purpose of selling cut Christmas trees

105.5.58 Firework aerial display. A permit is required to conduct a firework display regulated by California Code of Regulations, Title 19, and Chapter 56 of this code

105.5.59 Model rockets. A permit is required to sell model rocket motors or launch model rockets pursuant to California Code of Regulations, Title 19, Division 1, Article 17. Permits issued in accordance with this section are for the site and are effective as long as site conditions have not changed.

105.5.60 Temporary Occupancy. A permit is required for any temporary occupancy.

105.5.61 Temporary water supply. A permit is required to use a temporary water supply for construction of residential projects or subdivisions pursuant to Section 3313.1.

105.5.62 Tire storage. A permit is required to store more than 1,000 cubic feet (28.3m3) of tires inside buildings pursuant to Chapter 34.

105.5.63 Indoor Growing Operation. A permit is required to operate an indoor growing operation.

Exception: Agricultural Greenhouses in an agricultural zone.

Section 105.6 is amended to read:

105.6 Required operational permits. The fire code official is authorized to issue operational permits for the operations set forth in Chapter 1, Sections 105.6.1 through 105.6.29.

Section 105.6.25 is amended by adding Sections105.6.25 through 105.6.29 to read:

105.6.25 Access for Fire Apparatus. Plans shall be submitted, and a permit is required to install, improve, modify, or remove public or private roadways, driveways, and bridges for which Fire District access is required by the Fire Code.

105.6.26 Construction, Substantial Alteration, Additions of a Building for Which a Building Permit is Required. Plans shall be submitted to the fire code official for all land developments or for the construction, substantial alteration, additions or renovation of a building within the jurisdiction where a building permit is required.

Exception: Non-sprinklered Group R-3 Occupancies where work does not involve a substantial addition or substantial alteration.

105.6.27 Land Development, Subdivisions. Plans shall be submitted to the fire code official for all land developments or improvements proposed within the jurisdiction that involve the subdivision of land.

105.6.28 Water Supply for Fire Protection. Plans shall be submitted to the fire code official for the purpose of determining whether adequate water supplies, fire hydrants, and associated systems are provided for all facilities, buildings, or portions of buildings either constructed or moved into the District pursuant to Section 507.

105.6.29 Land Development. Plans shall be submitted to the fire code official for all land developments or improvements proposed within the jurisdiction.

105.7 Responsibility of permittee. Construction permits shall be presumed by the Fire District, Fire Department to incorporate all of the work that the applicant or the applicant’s agent, employees, or contractors shall carry out. Work performed shall be in accordance with the approved plans and with all requirements of this code and any other laws or regulations applicable thereto. No Fire District approval shall relieve or exonerate any person from the responsibility of complying with the provisions of this code nor shall any vested rights be created for any work performed in violation of this code.

Section 112.4 is added to read:

112.4 Violation Penalties. Every person who violates any provision of this fire code is guilty of an infraction or misdemeanor in accordance with health and safety Code Section 13871 and Government Code Section 53069.4. The imposition of one penalty for any violation shall not excuse the violation or permit the continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified, each ten (10) days that prohibited conditions are maintained shall constitute a separate offense. The application of the aforesaid penalty shall not be held to prevent the enforced removal of prohibited conditions.

B. Chapter 2, Definitions.

Section 202 is amended by adding the following definitions to read:

Administrator. Shall mean the Fire Chief

Aerial Pre-Plans. An overhead layout of a parcel that contains structure(s) that identifies specific first responder related items to assist in effectively managing incidents and events for the protection of occupants, responding personnel, property, and the environment. The preplan shall be developed in accordance with a format approved by the AHJ. Preplan symbols shall comply with AHJ or the latest edition of NFPA 170 (Standard for Fire Safety and Emergency Symbols), and NFPA 1620 (Standard for Pre-Incident Planning).

All-weather driving surface. A roadway with a minimum surface finish that is designed to carry the imposed weight loads of fire apparatus.

Automobile Dismantling or Wrecking Yard. The operation of dismantling or removing parts from salvaged vehicles including engines or engine parts.

Wrecking Yard. An area that stores or dismantles salvaged vehicles.

Board of Directors. The Contra Costa County Board of Supervisors as the governing body of the Crockett-Carquinez Fire Protection District and the Contra Costa County Fire Protection District.

Board of Fire Commissioners. An advisory commission appointed by the Board of Directors to act as set forth in this ordinance and by resolutions of the Board of Directors.

Combustible Material. Rubbish, litter, or material of any kind other than hazardous vegetation that is combustible and endangers the public safety by creating a fire hazard as determined by the fire code official.

Defensible Space. The area adjacent to a structure or dwelling as determined by the fire code official where wildfire prevention or protection practices are implemented to provide the key point of defense from an approaching wildfire or to minimize the spread of a structure fire to wildlands or surrounding areas.

Driveway. A private roadway that provides access to no more than two (2) single-family dwellings.

Fire Apparatus Access Road. A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term that includes, but is not limited to a fire lane, public street, private street, driveway, parking lot lane, and access roadway.

Fire Code Official. The Fire Chief or a duly authorized representative, or other person as may be designated by law, appointment or delegation and charged with the administration and enforcement of this code.

Firebreak. A continuous strip of land upon and from which all combustible material hazardous vegetation or other growth has been removed to bare mineral soil to stop or prevent the extension of fire from one area to another.

Fire Trail. A graded firebreak of sufficient width, surface, and design to provide access for personnel and equipment to suppress and to assist in preventing a surface extension of fires. Must be able to support the safe travel of a Type 3 Fire Apparatus.

Fuel Break. A strategically located block or strip, on which a cover of dense, heavy, or combustible vegetation has been changed to one of lower fuel volume or reduced combustibility, as an aid to fire control. Fuel breaks require annual and recurring maintenance.

Hazardous Vegetation. Vegetation that is combustible and endangers the public safety by creating a fire hazard including but not limited to seasonal and recurrent grasses, weeds, stubble, brush, dry leaves, dry needles, dead, dying or diseased trees and any other vegetation as determined by the fire code official.

Key Box or Knox Box. (Underwriters Laboratory) UL "Listed" box, size and style, approved by the Fire Code Official or designee that meets the requirements and uses the same security key code adopted by the Fire Department

Ladder Fuel. Fuel that provides vertical continuity between surface fuel and canopy fuel strata, increasing the likelihood that fire will carry from surface fuel into the crowns of shrubs and trees.

Nuisance Fire Alarm. The activation of any fire protection or alarm system which results in the response of the Fire District and is caused by malfunction, improper maintenance, negligence, or misuse of the system by an owner, occupant, employee, or agent, or any other activation not caused by excessive heat, smoke, fire, or similar activating event.

Ornamental Landscaping. Decorative plants growing within a tended garden or yard which are appropriately irrigated, maintained, and located to provide aesthetic decoration and functional utility, such as privacy screening, shade, weed suppression and erosion control. The use of fire- resistant plants and the removal of fire hazardous vegetation will enhance fire safety.

Person. Includes any agency of the county, city, district or other local public agency and any individual, firm, association, partnership, business trust, corporations, limited liability company, or company.

Public Nuisance. A declaration by the fire code official that the presence of combustible materials on any parcel creates a fire hazard or threat to public safety (Health and Safety Code 14875 and 14876) or any violation of this code.

Priority Hazard Zone. An area where the threat from wildfire is severe due to proximity to open space, topography, degree of space, density of homes and/or amount of

vegetation (native and ornamental), and/or other conditions favorable to fast moving fires.

Response Time. The elapsed time from receipt of call to the arrival of the first unit on scene.

Rubbish. Waste matter, litter, trash, refuse, debris, and dirt on streets or private property in the jurisdiction, which is or when dry may become a fire hazard. See combustible material.

Rural Area. An area generally designated for agricultural or open space uses with parcels more than 10 acres (4.046873ha) in size.

Rural Residential Area. An area generally designated for single-family residential use with parcels between three (1.2140619ha) and 10 (4.046873ha) acres in size.

Sprinkler Alarm and Supervisory System (SASS). A Dedicated Function Fire Alarm System located at the protected premise installed specifically to monitor sprinkler water-flow alarm, valve supervisory, and general trouble conditions where a Building Fire Alarm is not required.

Streets. Includes alleys, parkways, driveways, sidewalks, and areas between sidewalks and curbs, highways, public right of ways, private road, paper street and easements.

Substantial Addition. The addition of new gross floor area exceeds fifty percent of the existing gross floor area, and the total new gross floor area is 5,000 square feet or greater.

Substantial Alteration. Where fifty percent or greater of the linear length of the wall of the building (exterior and interior) and fifty percent of the roof are removed or replaced within a one-year period.

Temporary Fire Department Access Road for Construction. An approved temporary roadway for emergency vehicle uses during construction of residential subdivision projects.

Temporary Fire Department Access Road for Construction of One (1) Residential (R3) Unit. A temporary roadway for emergency vehicle uses during construction of an individual residential (R3) structure where a fire department access road is required as part of the project.

Temporary Water Supply. Water stored for firefighting purposes in an approved aboveground tank during combustible construction.

Tree Litter. Any limbs, bark, branches, and/or leaves in contact with other vegetation or left to gather on the ground.

Weeds. All weeds growing upon streets or private property in the jurisdiction, including any of the following:

1. Weeds that bear seeds of a fluffy nature or are subject to flight.

2. Sagebrush, chaparral (including Chamise, Coyote Brush/Greasewood, Brooms, and Buckwheat), and any other brush or weeds that attain such large growth as to become, when dry, a fire menace to adjacent improved property.

3. Weeds that are otherwise noxious or dangerous.

4. Poison oak and poison sumac when the conditions of growth constitute a menace to public health.

5. Dry grass, brush, tree litter, litter, or other flammable materials that endanger the public safety by creating a fire hazard.

C. Chapter 3, General Precautions Against Fire.

Section 304.1.2 is amended to read:

> 304.1.2 Vegetation. Hazards created by the growth of weeds, grass, vines, trees, or other growth capable of being ignited and endangering property shall be mitigated in accordance with Section 320.

Section 304.3.5 is added, to read:

> 304.3.5 Clothes Dryers. Clothes dryers shall be frequently cleaned to maintain the lint trap, mechanical and heating components, vent duct, and associated equipment free from accumulations of lint and combustible materials.

Section 308.1.4, Exception 1, is amended to read:

> Exception 1. Residential Occupancies.

Section 324 is added to Chapter 3, to read:

SECTION 324 Exterior Hazard Control.

324.1 Subsurface Fires.

> 324.1.1 Peat Fire. It is the duty of each person, firm corporation, or association not to permit a peat fire or a fire involving combustible vegetable matters under the surface of the natural ground to remain upon the property. It is hereby declared that it is the duty of any person as herein defined to take all necessary precautions to extinguish any subsurface fire involving peat or vegetable material at the owner's own cost and expense.
>
> 324.1.2 Fire Suppression Costs. If there exists upon the lands or property of any person as herein defined a subsurface fire involving the burning or combustion of peat, vegetable matter, or vegetation, and the owner or occupant thereof has not

taken reasonable precautions within a reasonable time to extinguish or minimize such fire or combustion, the Fire District may, in addition to its regular duties to extinguish or minimize such fire or combustion, go upon the lands of any person as herein defined and extinguish such fire or combustion. Any costs incurred by the Fire District in fighting the fire and for the cost of proving rescue or emergency medical services shall be a charge against the property owner. The charge shall constitute a debt of the property owner and is collectable by the jurisdiction incurring those costs in the same manner as in the case of an obligation under a contract, express or implied. (See Health and Safety Code, §13009.)

Section 325 is added to Chapter 3, to read:

SECTION 325 Automobile Wrecking Yards,

325.1 General. The operation of automobile wrecking yards shall be in accordance with this section.

325.2 Definitions. The following terms are defined in Chapter 2:

Automobile Dismantling

Automobile Wrecking Yard

325.3 Requirements.

325.3.1 Permits. An operational Fire code permit is required as in Section 105.6.53.

325.3.2 Fire Apparatus Access Roads. Fire apparatus access roads shall be constructed throughout the site in accordance with this code and shall be maintained clear of all vehicles and stored items.

325.3.3 Welding and Cutting. Welding and cutting operations shall be conducted in an approved location, clear of all flammable liquids and combustible materials, including weeds, tires, and all other debris.

325.3.4 Housekeeping. Combustible rubbish accumulated on site shall be collected and stored in approved containers, rooms, or vaults of noncombustible materials. Combustible vegetation, cut or uncut, shall be removed when determined by the fire code official to be a fire hazard.

325.3.5 Fire Protection. Offices, storage buildings, and vehicles used for site operations shall each be provided with at least one portable fire extinguisher with not less than a 4-A: 40-B-C rating. When required by the fire code official, additional fire extinguishers shall be provided.

325.3.6 Tire Storage. Tires shall be stored in racks or in a manner as approved by the fire code official.

325.3.6.1 Distance from Water Supply. Tire storage shall be located on-site and no

further than 500 feet from a fire hydrant or an approved water supply as determined by the fire code official.

325.3.7 Storage Piles. Storage piles shall be located a minimum of 20 feet from property lines and shall have an unobstructed access road on all sides of not less than 20 feet.

325.3.8 Burning Operations. The burning of salvaged vehicles and salvaged or waste materials is prohibited.

325.3.9 Motor Vehicle Fluids. Motor vehicle fluid shall be drained from salvaged vehicles when such liquids are leaking onto the ground and prior to dismantling or removing engine/motor parts.

325.3.9.1 Mitigation of Leaking Fluids. Precautions shall be taken to prevent fluids from salvaged vehicles from leaking onto the ground. Supplies or equipment capable of mitigating leaks from fuel tanks, crankcases, brake systems, and transmissions shall be kept available on site. Single-use plugs, diking, and absorbent materials shall be disposed of as hazardous waste and removed from the site in a manner in accordance with federal, state, and local requirements.

325.3.10 Fuel Tanks. Fuel tanks of salvaged vehicles shall be emptied of all flammable (gasoline, diesel) fuels in an approved manner and stored in approved tanks.

325.3.10.1 Repair of Vehicle Fuel Tanks. The repair of fuel tanks, including cutting, welding, or drilling of any kind is prohibited.

325.3.11 Lead Acid Batteries. Lead acid batteries shall be removed from all salvaged vehicles and stored in an approved manner in a location approved by the fire code official.

D. Chapter 4, Emergency Planning and Preparedness.

Section 401.5 is added to read:

401.5.1 Nuisance Fire Alarm fee. A fee may be charged for false and/or nuisance fire alarms in accordance with a fee schedule adopted by the Board of Directors.

Section 401.10 is added to read:

401.10 Aerial Pre-Plans. For all new construction the fire official is authorized to require a fire aerial pre-plan to be prepared by an approved vendor at the cost of the developer.

Section 401.11 is added to read:

401.11 Standby Personnel. Where, in the opinion of the fire code official or Fire Chief, it is essential for public safety in a place of assembly, or any other place

where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest, or activity, the owner, agent, or lessee shall provide standby personnel as required and approved by the fire code official or Fire Chief. If the activity requires fire watch, fire watch shall be provided in accordance with Sections 403.11.1.1 and 403.11.1.2 Standby personnel needed for EMS standby shall be provided in accordance with Contra Costa County EMS Protocols.

E. Chapter 5, Fire Service Features.

Section 503.1.4 is added to read:

503.1.4 Access to Open Spaces. When access to open land or space, or to fire trail systems maintained for public or private use, is obstructed by new development of any kind, the developer shall provide alternate acceptable access into the area that is sufficient to allow access for fire personnel and apparatus. The alternate means of access must be approved by the fire code official.

Section 503.1.5 is added to read:

503.1.5 Existing Fire Trail Systems Shall Be Maintained. When conditions make maintenance of existing trails impractical, alternate means of access shall be provided and requires approval by fire code official.

Section 503.2.1 is amended by adding the following exception:

Exception: A minimum sixteen (16) foot wide driveway is acceptable for access to one or two single-family dwellings.

Section 505.3 is added to read:

505.3 Street names and addressing. Street names and addressing shall be submitted for review and approval to the fire code official, whose approval will not be unreasonably withheld. The purpose of the review is to verify that new street names and addressing will not duplicate existing street names and addressing.

F. Chapter 6, Building Services and Systems.

Section 605.3.1 is added to read:

605.3.1 Spark Arrestors. All chimneys attached to any appliance or fireplace that burns solid fuel shall be equipped with an approved spark arrestor per CBC 2113.9.2

H. Chapter 9, Fire Protection Systems.

Section 901.6.3 is amended to read:

901.6.3 Records. Records of all system inspections, tests, and maintenance

required by the reference standards shall be submitted to a third-party electronic record keeping service as chosen by the fire district.

Section 902 is amended to add:

Substantial Addition or Expansion.

Section 902.1 is amended to add:

Substantial Addition. The addition of new gross floor area exceeds fifty percent of the existing gross floor area, and the total new gross floor area is 5,000 square feet or greater.

Substantial Alteration. Where fifty percent or greater of the linear length of the wall of the building (exterior and interior) and fifty percent of the roof area removed or replaced within a one- year period.

Section 903.2.1.1 is amended to read:

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for Group A-1 occupancies where one of the following conditions exists:

1. The fire area exceeds 5000 square feet.

2. The fire area has an occupant load of 300 or more.

3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

4. The fire area contains a multi-theater complex.

Section 903.2.1.3 is amended to read:

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for fire areas containing Group A-3 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet.

2. The fire area has an occupant load of 300 or more.

3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

4. The structure exceeds 10,000 square feet, contains more than one fire area containing exhibition and display rooms, and is separated into two or more buildings by fire walls of less than four-hour fire resistance rating without openings.

Section 903.2.1.4 is amended to read:

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided for fire areas containing Group A-4 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet.

2. The fire area has an occupant load of 300 or more.

3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

Section 903.2.2 is amended in its entirety, to read:

903.2.2 Group B. An automatic sprinkler system shall be provided for Group B occupancies and intervening floors of the building where the fire area exceeds 5,000 square feet.

903.2.2.1 Ambulatory care facilities. An automatic sprinkler system shall be installed throughout the entire floor containing an ambulatory care facility where either of the following conditions exist at any time:

1. Four or more care recipients are incapable of self-preservation.

2. One or more care recipients that are incapable of self-preservation are located at other than the level of exit discharge serving such a facility.

3. In buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic sprinkler system shall be installed throughout the entire floor as well as all floors below where such care is provided, and all floors between the level of ambulatory care and the nearest level of exit discharge, the level of exit discharge, and all floors below the level of exit discharge.

Exception: Floors classified as an open parking garage are not required to be sprinklered.

Section 903.2.3 is amended to read:

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 2,000 square feet in area.

   Exception: An automatic sprinkler system is not required in any Group E Day Care Facility less than 5,000 square feet

2. The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area.

3. The Group E fire area has an occupant load of 300 or more.

4. In rooms or areas with special hazards such as laboratories, vocational shops, and. other such areas where hazardous materials in quantities not exceeding the maximum allowable quantity are used or stored.

5. Throughout any Group E structure greater than 4,000 square feet in area, which contains more than one fire area, and which is separated into two or more buildings by fire walls of less than 4•hour fire resistance rating without openings.

6. For public school state-funded construction projects, see Section 903.2.19.

7. For public school campuses, Kindergarten through 12th grade, see

Section 903.2.4 is amended in its entirety to read:

903.2.4 Group F.

903.2.4. Group F-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 fire area exceeds 5,000 square feet.

2. A Group F-1 fire area is located more than three stories above grade plane.

3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 10,000 square feet.

4. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeding 2,500 square feet.

Section 903.2.4.4 is added to read:

903.2.4.4 Group F-2. An automatic sprinkler system shall be provided throughout all buildings containing a Group F-2 occupancy greater than 5,000 square feet.

Section 903.2.7 is amended to read:

903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M fire area exceeds 5,000 square feet.

2. A Group M fire area is located more than three stories above grade plane.

3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 10,000 square feet.

4. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet.

5. The structure exceeds 10,000 square feet, contains more than one fire area containing a Group M occupancy, and is separated into two or more buildings by fire walls less than 4-hour fire-resistance rating without openings.

Section 903.2.8 is amended to read:

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all Group R occupancies. An automatic sprinkler system shall be installed in new manufactured homes, new mobile homes, and multifamily manufactured homes with two dwelling units, including those located in mobile home parks, in accordance with Title 25 of the California Code of Regulations.

Section 903.2.8.1.1 is amended to read:

903.2.8.1.1 Group R-3 Substantial Addition or Expansion. An automatic sprinkler system shall be provided throughout all existing Group R-3 dwellings where either of the following occurs

1. Substantial Addition. The addition of new gross floor area exceeds fifty percent of the existing gross floor area, and the total new gross floor area is 3,600 square feet.

2. Substantial Alteration. Where fifty percent or great of the linear length of the wall of the building (exterior and interior) and fifty percent of the roof are removed or replaced within a one-year period.

Section 903.2.9 is amended to read:

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 5,000 square feet.

2. A Group S-1 fire area is located more than three stories above grade plane.

3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 10,000 square feet.

4. A Group S-1 occupancy used for the storage of upholstered furniture or

mattresses exceeding 2,500 square feet.

Section 903.2.9.1 is amended to read:

903.2.9.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406.8 of the California Building Code, as shown:

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 5,000 square feet.

2. Buildings not more than one story above grade plane, with a fire area containing a repair garage exceeding 5,000 square feet.

3. Buildings with repair garages servicing vehicles parked in basements.

4. A Group S-1 fire area used for the repair of commercial motor vehicles where the fire area exceeds 5,000 square feet.

Section 903.2.10 is amended in its entirety to read:

903.2.10 Group S-2.

903.2.10.1 Group S-2 parking garages. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.6 of the California Building Code where either of the following conditions exists:

1. Where the fire area of the enclosed garage exceeds 5,000 square feet.

2. Where the enclosed parking garage is located beneath other occupancy groups. Exception: Enclosed parking garages located beneath Group R-3 occupancies.

3. Where the fire area of the open parking garage, in accordance with Section 406.5 of the California Building Code, exceeds 48,000 square feet.

Section 903.2.10.3 is added to read:

Section 903.2.10.3 Group S-2 Low Hazard Storage. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-2 occupancy exceeding 5,000 square feet.

Exception: Open parking garages, including canopies and photovoltaic panel systems with open parking underneath, shall meet automatic sprinkler system requirements in accordance with the 2022 California Building Code and 2022 California Fire Code without local amendment.

Section 903.3.1.1.4 is added to read:

903.3.1.1.4 Undeclared Use. In buildings of undeclared use with floor to structure height greater than 14 feet, the fire sprinkler system shall be designed to conform to Extra Hazard Group I design density. In buildings of undeclared use with floor to structure height less than .14 feet, the fire sprinkler system shall be designed to conform to Ordinary Group II design density. Where a subsequent occupancy requires a system with greater capability, it shall be the responsibility of the owner ‘and/or the occupant to upgrade the system.

Section 903.3.1.3 is amended to read:

903.3.1.3 Sprinkler Systems for One- and Two- family dwellings. Automatic sprinkler systems for one- and two- family dwellings shall be permitted to be installed in accordance with sections 903.3.1.3.1

903.3.1.3.1 Pipe limitations. Where CPVC pipe is installed above the insulation or is otherwise located in an unconditioned space, such as in an attic space, or a garage without conditioned living space above, CPVC pipe shall be adequately insulated to a minimum of R-19 value, or equivalent, or pipe shall be limited to Type K or L copper, or ferrous piping.

Section 903.3.5.3 is added to read:

903.3.5.3 Non-permissible Water Supply Storage. Swimming pools and ponds shall not be considered water storage for the purposes of Section 903.3.5.

Section 903.3.9 is amended to read:

903.3.9. Floor control valves. Individual floor control valves and waterflow detection assemblies shall be provided for each floor in multi-floor buildings at an approved location.

Exception: Group R-3 and R-3.1 Occupancies.

Section 903.4.2 is amended to read:

903.4.2 Alarms. One approved audible and visual device shall be connected to every automatic sprinkler system at an approved location. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Audible and visual alarm devices shall be provided on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

Section 903.6.1 and 903.6.2 are added to read:

903.6.1 Substantial Addition or Expansion. An automatic sprinkler system shall be provided throughout all existing buildings where a substantial addition or expansion occurs, and the total fire area of the structure exceeds 5,000 square feet. Group R-3 substantial additions or expansions shall comply with Section 903.2.8.1.

903.6.2 Change of occupancy classification. Any existing building that undergoes a change of occupancy classification into a higher hazard category shall comply with the requirements of Section 903.2. Relative hazard categories of occupancy groups shall be established based upon the Heights and Areas Hazard Categories of Table 912.5 of the current edition of the International Existing Building Code, as published by the International Code Council. The requirements of Section 903.2 shall not be required when a change of occupancy classification is made to an equal or lesser hazard category. Group L occupancies shall be considered a relative hazard of 1 (highest hazard). R-3 occupancies shall be considered a relative hazard of 4 (lowest hazard).

Section 907.4.4 is added to read:

907.4.4 Monitoring of other fire systems. In buildings equipped with a fire alarm system or sprinkler alarm and supervisory service (SASS) system, where other fire suppression or extinguishing systems are installed in the building (including but not limited to commercial kitchen suppression systems, pre-action fire suppression systems, dry chemical systems, and clean agent systems), these other suppression systems shall be monitored by the SASS dedicated function fire alarm system and transmitted as a specific signal to the Central Station. The system shall be monitored in compliance with Section 907.6.5.

Section 907.5.2.3.1 is amended to read:

907.5.2.3.1 Public and common areas. Visible alarm notification appliances shall be provided in public use areas and common use areas, including but not limited to:

1. Sanitary facilities including restrooms, bathrooms, shower rooms and locker rooms.

2. Corridors, hallways, aisles with shelving and/or fixtures obstructing the required light intensity for that area.

3. Music practice rooms.

4. Band rooms.

5. Gymnasiums.

6. Multipurpose rooms.

7. Occupational shops.

8. Occupied rooms where ambient noise impairs hearing of the fire alarm.

9. Lobbies.

10. Meeting/Conference rooms.

11. Classrooms.

12. Medical exam rooms.

13. Open office areas.

14. Sales floor areas.

15. Break or lunch rooms.

16. Copy or work rooms.

17. Computer server rooms exceeding 200 sq. ft.

18. File or Storage rooms exceeding 200 sq. ft.

Section 907.6.6 is amended to read:

907.6.6 Monitoring of fire alarm systems. A fire alarm system required by this chapter, or by the California Building Code, shall be monitored by a UL-listed Central Station service in accordance with NFPA 72 and this code.

Exception: Monitoring by a UL listed central station is not required for:

1. Single and multiple station smoke alarms required by section 907.2.11.

2. Group I-3 occupancies shall be monitored in accordance with section 907.2.6.3.4.

3. Residential Day Care Facilities (occupancy load of 14 or less).

4. One- and two- family dwellings.

5. Residential Care Facilities licensed by the state with an occupant load of 6 or less.

6. Occupancies with a local fire alarm system that will give an audible and visible signal at a constantly attended location, as approved by the Fire Code Official.

Section 907.6.7 is added to read:

907.6.7 Certification. New fire alarm systems shall be UL-Certified. A Certificate of Completion and other documentation as listed in NFPA 72 shall be provided for all new fire alarm system installations. It is the responsibility of the building owner or owner's representative to obtain and maintain a current and valid Certificate.

Section 907.6.7.1 is added to read:

907.6.7.1 Posting of Certificate. The UL Certificate shall be posted in a durable

transparent cover within three feet of the fire alarm control panel within 45 days of the final acceptance test/inspection.

I. Chapter 10, Means of Egress.

Section 1028.5.1 is added to read:

1028.5.1 Exit discharge surface. Exterior exit pathway surfaces shall be suitable for pedestrian use in inclement weather and shall terminate at a public way as defined in the California Building Code.

J. Chapter 33, Fire Safety During Construction and Demolition.

Section 3303.1.2 is added to read:

3303.1.2 Amendments. Amendments may be required to an approved site safety plan if deemed necessary by both the building official and fire official, based on previous fires or hazards that occurred on site or occurring within the jurisdiction.

Section 3303.1.3 is added to read:

3303.1.3 Site Security Requirements. Site security requirements include the following if deemed necessary by both the building official and fire official:

1. Controlled access points

2. Site fencing, up to 12 feet in height with tamper sensors and security wires on top

3. Security guards, full-time 24/7 presence on-site, to perform fire watch and patrols

4. Detection check points located throughout the buildings for fire watch and patrol verification

5. Security camera coverage throughout the site with motion detection notifications

6. Identify measures taken to prevent tampering with security cameras and motion sensors

7. Necessary lighting throughout the project site

Section 3319 Asbestos Removal is added to read:

3319.1 General. Operations involving removal of asbestos or asbestos-containing materials from buildings shall be in accordance with Section 3319.

Exception: Section 3319 does not apply to the removal of asbestos from:

1. Pumps, valves, gaskets and similar equipment.

2. Pipes, ducts, girders or beams that have a length less than 21 linear feet (6400 mm).

3. Wall or ceiling panels that have an area of less than 10 square feet (0.93 m2) or a dimension of less than 10 linear feet (3048 mm).

4. Floor tiles when their removal can be completed in less than four hours.

5. Group R-3 occupancies.

3319.2 Notification. The fire code official shall be notified 24 hours prior to the commencement and closure of asbestos-removal operations. The permit applicant shall notify the building official when asbestos abatement involves the removal of materials that were used as a feature of the building's fire resistance.

3319.3 Plastic Film. Plastic film that is installed on building elements shall be flame resistant as required for combustible decorative material, in accordance with Section 807.

3319.4 Signs. Approved signs shall be posted at the entrance, exit and exit-access door, decontamination areas and waste disposal areas for asbestos-removal operations. The signs shall state that asbestos is being removed from the area, that asbestos is a suspected carcinogen, and that proper respiratory protection is required. Signs shall have a reflective surface. Lettering shall be a minimum of2 inches (51 mm) high.

K. Chapter 50, Hazardous Materials – General Provisions.

Section 5001.5.1 is amended to add item 10 and 11 to read as follows:

10. Fire Department related safety equipment

A. Fire alarm control panel (FACP)

B. Sprinkler riser

C. Fire Department Connection (FDC)

D. Knox Box location

E. Gas valve shutoff

F. Electrical main shutoff

G. Water shutoff

H. Elevator equipment room

11. A Site Fire/Explosion/Hazardous material Release Analysis Assessment. A Fire Protection engineer (FPE) stamped risk assessment is required for each possible hazard risk associated with fire, explosion, smoke, and toxicity associated with the possible incident at a facility that is identified as a bulk transfer/process/storage facility. Refer to NFPA 550 & 551 for references.

Section 5001.5.3 is added to read:

5001.5.3 Emergency response support information. Floor plans, material safety data sheets, Hazardous Materials Management Plans (HMMP), Hazardous Material Inventory Statements (HMMIS), and other information must be stored at a readily accessible location, as determined by the fire code official. This location may be in cabinets located outside of facilities or buildings. Information may be required to be maintained in a specific electronic media format to facilitate computer aided dispatching.

Section 5003.9.1.2 is added to read:

5003.9.1.2 Documentation. Evidence of compliance with provisions of this chapter as well as with state and federal hazardous material regulations shall be maintained on site and available for inspection by fire department personnel.

L. Chapter 56, Explosives and Fireworks.

Section 5601.1.3 is added to read:

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited within the jurisdiction or District.

Exceptions:

1. The use of fireworks for fireworks displays, pyrotechnics before a proximate audience, pyrotechnic special effects in motion pictures, television, theatrical, or group entertainment productions as allowed by Title 19, Division 1, Chapter 6 Fireworks reprinted in Section 5608 and the Health and Safety Code Division 11.

2. Snap caps and Party Poppers classified by the State Fire Marshal as pyrotechnic devices.

Section 5601.2.2 is amended to read:

5601.2.2 Sale and retail display. No person shall construct a retail display or offer for sale any explosives, explosive materials, or fireworks within the jurisdiction.

Exception: Snap Caps and Party Poppers classified by the State Fire Marshall as pyrotechnic devices.

5601.2.4 is amended to read:

5601.2.4 Financial responsibility. Before a permit is issued pursuant to Section 5601.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of $2,000,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicated a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.

Exception: Fireworks in accordance with California Code of Regulations, Title 19, Division 1 Chapter 6. See Section 5608.

Section 5601.9 is added to read:

5601.9 Prohibited and Limited Acts. The storage of explosive materials is prohibited in any central business district and in all zoning districts except districts zoned for industrial or agricultural uses. In districts where the storage of explosive materials is permitted, the quantities of explosives and distances shall be in accordance with California Fire Code Section 5601.8.

M. Chapter 57, Flammable and Combustible Liquids.

Section 5703.3.1 is added to read:

5703.3.1 Facility Site Fire/Explosion/Hazardous Material Release Analysis Assessment. A fire Protection engineer (FPE) stamped risk assessment is required for each possible hazard risk associated with fire explosion, smoke, and toxicity associated with the possible incident at a facility that is identified as a bulk transfer/process/storage facility when required by the fire official. Refer to NFPA 550 & 551 for references.

Section 5704.2.9.6.1 is amended to read:

5704.2.9.6.1 Locations where above-ground tanks are prohibited. The storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited in all zoning districts except districts zoned for commercial, industrial, or agricultural uses.

Exception: Protected above-ground tanks for the purpose of emergency power generator installations in areas zoned commercial, industrial, agricultural, central business district, rural or rural residential, and for facilities on an individual basis consistent with the intent of this provision. Tank size shall not exceed 500 gallons (1892.706 L) for Class I or II liquids, or 1,000 gallons (3785.412 L) for Class III liquids.

Section 5706.2.4.4 is amended to read:

5706.2.4.4 Locations where above-ground tanks are prohibited. Storage of Class I and II liquids in above-ground tanks is prohibited in all zoning districts except

districts zoned for commercial, industrial, or agricultural use.

N. Chapter 58, Flammable Gases and Flammable Cryogenic Fluids.

Section 5806.2 is amended to read:

> 5806.2 Limitation. The storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited in any area which is zoned for other than industrial use.
>
> Exception: Liquid hydrogen fuel systems in compliance with section 5806.3 or 5806.4.

O. Chapter 61, Liquefied Petroleum Gases.

Section 6103.2.1.7 is amended in its entirety to read:

6103.2.1.7 Use for food preparation. Individual portable L-P containers used, stored, or handled inside a building classified as a Group A or Group B occupancy for the purposes of cooking, food display, or a similar use, shall be limited in size to one quart capacity and shall be of an approved type. The number of portable containers permitted will be at the discretion of the fire code official. LP-gas appliances used for food preparation shall be listed for such use in accordance with the California Mechanical Code and NFPA 58.

Section 6104.2 is amended to read:

6104.2 Maximum capacity within established limits. The storage of liquefied petroleum gas is prohibited in any central business district and in all zoning districts except districts zoned for commercial, industrial, rural, or agricultural uses. The aggregate capacity of any one installation used for the storage of liquefied petroleum gas shall not exceed a water capacity of 2,000 gallons (7570 L).

P. Chapter 80, Referenced Standards.

Chapter 80 is amended by adding the following referenced standards:

> NFPA 3 (2021): Recommended Practice for Commissioning of Fire Protection and Life Safety Systems.
>
> NFPA 850 (2020): Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations.

Chapter 80 is further amended by amending the NFPA 13D (2022) (Standard for the Installation of Sprinkler Systems in One- and Two- Family Dwellings and Manufactured Homes) standard as follows:

Section 7.7.1 is added to read:

7.7.1 Where CPVC pipe is installed above the normal insulation in an unconditioned

space, such as in an attic space, or a garage without conditioned living space above, CPVC pipe shall be adequately insulated to a minimum R-19 value, or equivalent, or pipe shall be limited to Type K or L copper, or ferrous piping.

Section 8.3.5.1.2 is amended to read:

8.3.5.1.2 Where fuel-fired equipment is below or on the same level as occupied areas of the dwelling unit, at least one quick-response intermediate temperature sprinkler shall be installed above the equipment or at the wall separating the space with the fuel-fired equipment from the occupied space. In unconditioned spaces, CPVC pipe shall be adequately insulated to a minimum R-19 value, or equivalent, or pipe shall be limited to Type K or L copper, or ferrous piping.

Q. Appendix B, Fire-Flow Requirements for Buildings.

Section B105.2 is amended to read:

TABLE B105.2
Required Fire-Flow for Buildings Other
Than One- and
Two-Family Dwellings, Group R-3 and
R-4 Buildings and Townhouses

AUTOMATIC SPRINKLER SYSTEM (DESIGN STANDARD)	MINIMUM FIRE-FLOW (GALLONS PER MINUTE)	FLOW DURATION (HOURS)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the California Fire Code	50% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the California Fire Code	50% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute= 3.785 Lim
a. The reduced fire-flow shall be not less than 1,500 gallons per minute.

R. Appendix C, Fire Hydrant Locations and Distribution.

Table C102.1 is amended as follows:

The title of Table C102.1 is amended to read:

TABLE C102.1 REQUIRED NUMBER AND SPACING OF FIRE HYDRANTS (footnote h and J)

The heading of the fourth column of Table C102.1 to read:

MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT. (d,f,g,i)

Footnotes “i” and “j” are added to Table C102.1, to read:

i. A fire hydrant shall be provided within 250 feet of a fire trail access point off a public or private street.

j. For infill projects within existing single-family residential developments, Section 507.5.1 applies.

S. Appendix D, Fire Apparatus Access Roads.

Section D102.1 is amended to read:

D102.1 Access and loading. Facilities, buildings, or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete, or other approved all-weather driving surface capable of supporting the imposed load of fire apparatus weighing at least 74,000 pounds (34,473 kg) in accordance with CalTrans Design Standard HS-20-44.

Exception: Driveways serving one or two single-family dwellings may be constructed of an alternate surface material, providing the imposed weight load design minimums are met and the grade does not exceed 10 percent.

Section D103.1 is deleted in its entirety.

Section D103.2 is amended to read:

D103.2 Grade. Fire department access roadways having a grade of between 16 percent and 20 percent shall be designed to have a finished surface of grooved concrete sufficient to hold a 44,000-pound (19 958 kg) traction load. The grooves in the concrete surface shall be 1/2 inch (13 mm) wide by 1/2 inch (13 mm) deep and 1 1/2 inch (38 mm) on center and set at a 30-to-45-degree angle across the width of the roadway surface. No grade shall exceed 20 percent, nor shall the cross slope exceed 8%, unless authorized in writing by the fire code official.

Section D103.2.1 is added to read:

D103.2.1 Angles of approach and departure. The angles of approach and departure for any means of access shall not exceed 10 percent at 10 feet of the grade break.

Section D103.3 is amended to read:

D103.3 Turning radius. Based on a minimum unobstructed width of 20 feet, a fire apparatus access roadway shall be capable of providing a minimum standard turning radius of 25 feet (7620 mm) inside and 45 feet (13716 mm) outside.

Figure D103.1 is amended to read:

Figure D103.1

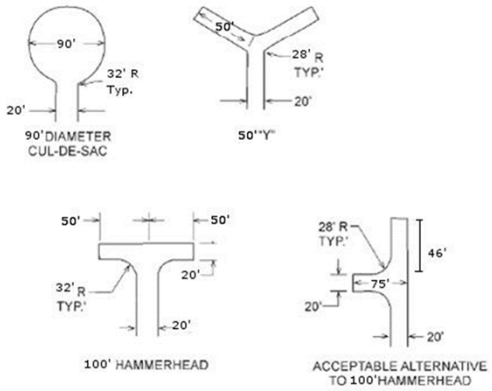

Figure D103.1 Dead-end Fire Apparatus Access Road Turnaround

Table D103.4 is amended to read:

Table D103.4 REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS

LENGTH (feet)	MINIMUM WIDTH (feet)	TURNAROUNDS REQUIRED
0-150	20[a]	None required
151 - 750	20[a]	100-foot Hammerhead, SO-foot "Y", 75-foot Shunt or 90-foot- diameter cul-de-sac in accordance with figure D103.1
Over 750	Special approval required[b]	

a. A driveway with a minimum width of 16 feet is acceptable for access to no more than two single-family dwellings.

b. Any fire apparatus access roadway or driveway that is approved to be less than 20 feet wide and to exceed 750 feet in length shall have outsets or turnouts every 300 feet along the length of the road or driveway, or at locations approved by the fire code official. Each outset or turnout shall be of the following dimensions: an 8-foot-wide turnout that extends at least 40 feet in length.

Section D103.5 is amended as follows:

Criteria 1 of Section D103.5 is amended to read:

1. The minimum clear width shall be 20 feet (6096 mm).

Exception: For access to one or two single-family dwellings, 16 feet clear width is acceptable.

Criteria 9 is added to Section D103.5 to read:

9. All gates shall be installed and located a minimum of 30 feet off the street.

Section D103.6.1 is amended to read:

D103.6.1 Roads less than 28 feet in width. Fire apparatus access roads less than 28 feet wide shall be posted on both sides as fire lane.

Section D103.6.2 is amended to read:

D103.6.2 Roads 28 feet in width or greater, but less than 36 feet in width. Fire apparatus access roads 28 feet wide or greater, but less than 36 feet wide, shall be posted on one side of the road as a fire lane.

Section D106.1 is amended by deleting the exception and to read:

D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 dwelling units shall be provided with two separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3.

Section D106.2 is deleted in its entirety."

SECTION 9. GREEN BUILDING STANDARDS CODE

Chapter 15.22 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.22
GREEN BUILDING STANDARDS CODE

Sections:

15.22.010 Adoption.
15.22.020 Violation – Penalty.

15.22.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the green building code of the city the 2022 California Green Building Standards Code (CGBSC), California Code of Regulations, Title 24, Part 11 (as published by the California Building Standards Commission).

B. One copy of the CGBSC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CGBSC as set forth in this chapter. In addition, all subsequent supplements to the CGBSC and related publications are adopted by reference.

15.22.020 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both."

SECTION 10. CALIFORNIA RESIDENTIAL CODE

Chapter 15.26 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.26
CALIFORNIA RESIDENTIAL CODE

Sections:

15.26.010 Adoption.
15.26.020 Violation – Penalty.

15.26.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the residential code of the city the 2022 California Residential Code (CRC), California Code of Regulations, Title 24, Part 2.5 (based upon the 2021 International Residential Code as published by the International Code Council).

B. One copy of the CRC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CRC as set forth in this chapter. In addition, all subsequent supplements to the CRC and related publications are adopted by reference.

15.26.020 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both."

SECTION 11. CALIFORNIA MECHANICAL CODE

Chapter 15.28 of Title15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.28
CALIFORNIA MECHANICAL CODE

Sections:

15.28.010 Adoption.
15.28.020 Applicant qualifications – Mechanical permit.
15.28.030 Adoption, Appendix Chapter 1, Administration.
15.28.040 Amendments, additions and deletions to the mechanical code.
15.28.050 Violation – Penalty.

15.28.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the mechanical code of the city the 2022 California Mechanical Code (CMC), California Code of Regulations, Title 24, Part 4, and Appendices (based on the 2021 Uniform Mechanical Code published by the International Association of Plumbing and Mechanical Officials).

B. One copy of the CMC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CMC as set forth in this chapter. In addition, all subsequent supplements to the CMC and related publications are adopted by reference.

15.28.020 Applicant qualifications – Mechanical permit.

No permit shall be issued to any person to do or cause to be done any mechanical installations or related work regulated by this chapter unless such applicant qualifies under one of the following conditions:

A. Applicant possesses a valid, unexpired, and unrevoked mechanical contractor's license issued to him or her under the applicable provisions of the Business and Professions Code of the state; or

B. Applicant is the bona fide owner of the premises, which premises consists of a single-family dwelling, duplex or single unit in a condominium complex used exclusively for living purposes, and all accessory buildings thereto; provided, that the owner or a member of his/her immediate family shall perform all labor pursuant to the permit.

15.28.030 Adoption, Appendix Chapter 1, Administration.

Appendix Chapter 1, Administration, 2022 California Building Code (Code of Regulations, Title 24, Part 2, Volume 2) is hereby adopted as the administrative chapter for the

mechanical code for the city of Pittsburg.

15.28.040 Amendments, additions, and deletions to the mechanical code.

Set forth below are the local amendments, additions, and deletions to the 2022 California Mechanical Code. Chapter and section numbers used herein are those of the 2022 California Mechanical Code.

Appendix Chapter 1 is hereby adopted as the administrative chapter for this code. Reference is made to the Appendix Chapter 1, Administration, of the 2022 California Building Code, which is based on the 2021 International Building Code as published by the International Code Conference and amended by the city of Pittsburg. Where there is a conflict between administrative requirements of each code, the administrative requirements of the building code shall prevail.

Section 101.0, Title. The first sentence of Section 101.1 is hereby amended to read:

Section 101.1 This ordinance may be cited and shall be known as the “Mechanical Code of the City of Pittsburg.”

Section 104.5, Permit Issuance, is hereby amended to read:

Section 104.5.1 Applicant Qualifications. No permit shall be issued to any person to do or cause to be done any plumbing work regulated by this chapter unless such applicant qualifies under one of the following:

A. Applicant possesses a valid, unexpired, and unrevoked plumbing contractor’s license issued to him/her under the applicable provisions of the Business and Professions Code of the state; or

B. Applicant is the bona fide owner of the property, which property consists of a single-family dwelling, duplex or single unit in a condominium complex used exclusively as a dwelling, and all accessory buildings thereto; provided, that the owner or a member of his/her immediate family shall perform all labor pursuant to the permit.

Section 203, Definition of Terms, is hereby amended to read:

ADMINISTRATIVE AUTHORITY shall mean the City Building Official of the City of Pittsburg or his or her duly authorized representative.

“CITY OF” or “THE CITY” shall refer to the City of Pittsburg as the text may require. “CITY COUNCIL” shall refer to the City Council of the City of Pittsburg.

15.28.050 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both.”

SECTION 12. CALIFORNIA PLUMBING CODE

Chapter 15.28 of Title 15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.32
CALIFORNIA PLUMBING CODE

Sections:

15.32.010 Adoption.
15.32.020 Permit – Applicant qualifications – Plumbing permit.
15.32.030 Backflow prevention valve.
15.32.040 Adoption, Appendix Chapter 1, Administration.
15.32.050 Amendments, additions, and deletions to the Uniform Plumbing Code.
15.32.060 Violation – Penalty.

15.32.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the plumbing code of the city the 2022 California Plumbing Code (CPC), California Code of Regulations, Title 24, Part 5, and Appendices (based on the 2021 Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials).

B. One copy of the CPC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CPC as set forth in this chapter. In addition, all subsequent supplements to the CPC and related publications are adopted by reference.

15.32.020 Permit – Applicant qualifications – Plumbing permit.

No permit shall be issued to any person to do or cause to be done any plumbing work regulated by this chapter unless such applicant qualifies under one of the following:

A. Applicant possesses a valid, unexpired, and unrevoked plumbing contractor's license issued to him or her under the applicable provisions of the Business and Professions Code of the state; or

B. Applicant is the bona fide owner of the premises, which premises consists of a single-family dwelling, duplex or single unit in a condominium complex used exclusively for living purposes, and all accessory buildings thereto; provided, that the owner or a member of his/her immediate family shall perform all labor pursuant to the permit.

15.32.030 Backflow prevention valve.

All buildings and structures shall be protected from backflow of sewage by installing an approved type of backflow valve or device installed at the required sewer cleanout on the

lower end of the building drain. The installation of this device shall be approved by the building official.

15.32.040 Adoption, Appendix Chapter 1, Administration.

Appendix Chapter 1, Administration, 2022 California Building Code (Code of Regulations, Title 24, Part 2, Volume 2) is hereby adopted as the administrative chapter for the building codes for the city of Pittsburg.

15.32.050 Amendments, additions, and deletions to the Uniform Plumbing Code.

Set forth below are the local amendments, additions, and deletions to the 2022 California Plumbing Code. Chapter and section numbers used herein are those of the 2022 California Plumbing Code.

Reference is made to the Appendix Chapter 1, Administration, of 2022 California Building Code, which is based on the 2021 International Building Code as published by the International Code Conference and amended by the city of Pittsburg. Where there is a conflict between administrative requirements of each code the administrative requirements of the building code shall prevail.

Section 101.0, Title. The first sentence of Section 101.0 is hereby amended to read:

> Section 101.0, Title. This ordinance may be cited and shall be known as the "Plumbing Code of the City of Pittsburg."

Section 103.3, Permit Issuance, is hereby amended to read as follows:

Section 103.3 Permit Issuance.

> 103.3.1 Applicant Qualifications. No permit shall be issued to any person to do or cause to be done any plumbing work regulated by this chapter unless such applicant qualifies under one of the following:
>
> C. Applicant possesses a valid, unexpired and unrevoked plumbing contractor's license issued to him/her under the applicable provisions of the Business and Professions Code of the state; or
>
> D. Applicant is the bona fide owner of the property, which property consists of a single-family dwelling, duplex or single unit in a condominium complex used exclusively as a dwelling, and all accessory buildings thereto; provided, that the owner or a member of his/her immediate family shall perform all labor pursuant to the permit.

Section 203, Definition of Terms, is amended by adding:

> ADMINISTRATIVE AUTHORITY shall mean the City Building Official of the City of Pittsburg or his or her duly authorized representative.

"CITY OF" or "THE CITY" shall refer to the City of Pittsburg as the text may require.

"CITY COUNCIL" shall refer to the City Council of the City of Pittsburg.

15.32.060 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both."

SECTION 13. CALIFORNIA EXISTING BUILDING CODE

Chapter 15.60 of Title15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

"Chapter 15.60
CALIFORNIA EXISTING BUILDING CODE

Sections:

15.60.010 Adoption.
15.60.020 Violation – Penalty.

15.60.010 – Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the existing building code of the city the 2022 Existing Building Code (CEBC), California Code of Regulations, Title 24, Part 10 (based upon portions of the 2021 International Existing Building Code published by the International Code Council).

B. One copy of the CEBC is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the CEBC as set forth in this chapter. In addition, all subsequent supplements to the CEBC and related publications are adopted by reference.

15.60.020 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both."

SECTION 14. CALIFORNIA ENERGY CODE

Chapter 15.64 of Title15 of the City of Pittsburg Municipal Code is hereby repealed and replaced in its entirety to read as follows:

“Chapter 15.64
CALIFORNIA ENERGY CODE

Sections:

15.64.010 Adoption.
15.64.020 Violation – Penalty.

15.64.010 Adoption.

A. Pursuant to Sections 50022.1 to 50022.10, inclusive, of the Government Code, the city council adopts and enacts as the energy code of the city the 2022 California Energy Code, California Code of Regulations, Title 24, Part 10 (as published by the California Building Standards Commission).

B. One copy of the California Energy Code is on file with the building division for use and examination by the public, along with changes, additions and deletions relating to sections of the California Energy Code as set forth in this chapter. In addition, all subsequent supplements to the California Energy Code and related publications are adopted by reference.

15.64.020 Violation – Penalty.

A violation of any provision under this chapter is punishable as a misdemeanor and upon conviction may be punished by a fine not more than $1,000 or by imprisonment in the county jail for not more than six months, or both.”

SECTION 15. SEVERABILITY

If any section, subsection, subdivision, paragraph, sentence, clause, or phrase in this chapter or any part thereof is for any reason held to be unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the meaning portions of this chapter or any part thereof. The city council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase thereof irrespective of the fact that any one or more subsection, subdivision, paragraphs, sentences, clauses, or phrases be declared unconstitutional, invalid, or ineffective.

SECTION 16. PUBLICATION

The ordinance shall be posted and published in accordance with the California Government Code.

The foregoing ordinance was introduced at a meeting of the City Council of the City of Pittsburg held on, December 12, 2022, and was adopted and ordered published at a meeting of the City Council held on January 17, 2023, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Authorizing the Execution of a Design Consultant Services Agreement for Project 2038—HSIP 10 Citywide Roadway Improvements

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The City has been awarded a Highway Safety Improvement Program (HSIP) 10 Grant in the amount of $2,965,700 for Project 2038—Citywide Roadway Improvements. This project includes the assessment and analysis of the existing conditions of traffic signage and striping for arterial roads throughout the City, and the preparation of plans, specifications, and a cost estimate suitable for public bidding. This resolution will authorize a Consultant Services Agreement with Kimley-Horn in the amount of $176,856.15 for project design.

FISCAL IMPACT

The Project is funded with $2,965,700 from the HSIP 10 Grant, and the design fee is $176,856.15.

RECOMMENDATION

Staff recommends that the City Council adopt the attached resolution authorizing a Consultant Services Agreement with Kimley-Horn for project design in an amount not to exceed $176,856.15.

BACKGROUND

On August 28, 2020, staff applied to the California Department of Transportation (Caltrans) for a grant from the Highway Safety Improvement Program (HSIP) 10 for traffic safety studies and improvements at multiple locations in the City.

On March 30, 2021, Caltrans notified staff that the City's grant application was approved in the amount of $2,965,700.

On August 16, 2021, the City Council adopted Resolution 21-13978 accepting the HSIP 10 Grant.

On November 3, 2022, the City released the Request for Proposals for design services.

On November 29, 2022, City received three proposals. The proposals were evaluated on each firm's qualifications, their understanding of project requirements, the defined scope, and their design approach.

SUBCOMMITTEE FINDINGS

This item was not reviewed by a subcommittee.

STAFF ANALYSIS

Project 2038—HSIP 10 Citywide Roadway Improvements includes a roadway safety sign and striping audit, installation of new fluorescent street signs, and improvements to edge-line and centerline striping on 15 roadways.

Roadways slated to receive improvements include segments of Railroad Avenue, Kirker Pass Road, Willow Pass Road, Bailey Road, Pittsburg-Antioch Highway, East Leland Road, Loveridge Road, Buchanan Road, West 10th Street, East 10th Street, Harbor Street, North Parkside Drive, California Avenue, Century Boulevard, and East 14th Street.

This project is essential to help increase safety for motorists on the City's roadways.

ATTACHMENTS: Resolution
Design Agreement
Budget Summary

Report Prepared By: Andrew Peters, Assistant Engineer

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adoption of a City Council Resolution Authorizing the Execution of a Design Consultant Services Agreement for Project 2038—HSIP 10 Citywide Roadway Improvements	)))))	RESOLUTION NO. 23-

WHEREAS, on August 28, 2020, staff applied to the California Department of Transportation (Caltrans) for a grant from the Highway Safety Improvement Program (HSIP) 10 for traffic safety studies and improvements at multiple locations in the City. The grant will fund Project 2038—HSIP 10 Citywide Roadway Improvements (the "Project"), which includes a roadway safety sign and striping audit, installation of new fluorescent street signs, and improvements to edge-line and centerline striping on 15 roadways; and

WHEREAS, the Project includes design and installation of roadway signage and striping to portions of Railroad Avenue, Kirker Pass Road, Willow Pass Road, Bailey Road, Pittsburg-Antioch Highway, East Leland Road, Loveridge Road, Buchanan Road, West 10th Street, East 10th Street, Harbor Street, North Parkside Drive, California Avenue, Century Boulevard, and East 14th Street; and

WHEREAS, on August 16, 2021, the City Council adopted Resolution 21-13978 accepting the grant award in the amount of $2,965,700; and

WHEREAS, on November 3, 2022, the City released the Request for Proposals for the Project; and

WHEREAS, on November 29, 2022, the City received three proposals. The proposals were evaluated on each firm's qualifications, their understanding of project requirements, the defined scope, and their design approach; and

WHEREAS, Kimley-Horn was chosen based on their design, and their fee of $176,856.15 was within the project budget.

NOW, THEREFORE, BE IT RESOLVED, that the City Council hereby authorizes the City Manager to execute a Consultant Services Agreement with Kimley-Horn in an amount not to exceed $176,856.15 for the design Project 2038—HSIP 10 Citywide Roadway Improvements.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January 2023 by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Shanelle Scale-Preston, Mayor

ATTEST BY:

_____
Alice E. Evenson, City Clerk

Exhibit A - Project Budget Summary
Project 2038-HSIP 10 Citywide Roadway Improvements

Project Funding

	Highway Safety Improvement Program 10 Grant	$2,965,700
	Funding Total	**$2,965,700**

Project Expenditures:

Design (Code 2122)	Design Engineering Consultant		$176,856
		Subtotal	$176,856
Staff Time (Code 1101)	Staff Design Management		$15,000
		Subtotal	$15,000
Admin Overhead (Code 2372)	Staff Design Management		$4,000
		Subtotal	$4,000
		Estimated Total Expenditures	**$195,856**
		Remaining Balance	**$2,769,844**

CONSULTING SERVICES AGREEMENT BETWEEN THE CIT OF PITTSBURG AND KIMLE-HORN AND ASSOCIATES, INC

THIS Agreement ("Agreement") for consulting services is made by and between the City of Pittsburg, a municipal corporation ("City") and imley-Horn and Associates, Inc., a California Corporation ("Consultant") (together referred to as the "Parties") as of anuary 17, 2023 (the "Effective Date").

Section 1 SERVICES. Subject to the terms and conditions set forth in this Agreement, Consultant shall provide to City the services described in the Scope of Work attached as Exhibit A, and incorporated herein, at the time and place and in the manner specified therein.

1 1 Term of Services The term of this Agreement shall begin on the Effective Date and shall end on **January 17, 2024,** or the date the Consultant completes the services specified in Exhibit A, whichever occurs first, unless the term of the Agreement is otherwise terminated or extended, as referenced herein.

1 2 Standard of Performance Consultant shall perform all services required pursuant to this Agreement according to the standards observed by a competent practitioner of the profession in which Consultant is engaged.

1 3 Assignment of Personnel Consultant shall assign only competent personnel to perform services pursuant to this Agreement. In the event that City, in its sole discretion, at any time during the term of this Agreement, requests in writing the reassignment of any such persons to ensure Consultant performs services in accordance with the Standard of Performance, Consultant shall, immediately upon receiving City's request, reassign such persons.

1 4 Time Consultant shall devote such time to the performance of services pursuant to this Agreement as may be reasonably necessary to meet the standard of performance provided herein above and to satisfy Consultant's obligations hereunder.

Section 2 COMPENSATION City hereby agrees to pay Consultant a sum not to exceed One Hundred Seventy -Six Thousand and Eight Hundred Fifty-Six Dollars and Fifteen Cents $(176,856.15), as set forth in Exhibit B, attached hereto and incorporated herein for services to be performed and reimbursable expenses incurred under this Agreement. This dollar amount is not a guarantee that the City will pay that full amount to the Consultant, but is merely a limit of potential City expenditures under this Agreement.

Consultant and City acknowledge and agree that compensation paid by City to Consultant under this Agreement is based upon Consultant's estimated costs of providing the services required hereunder, including salaries and benefits of employees and subcontractors of Consultant. Consequently, the parties further agree that compensation hereunder is intended to include the costs of contributions to any pensions and/or annuities to which Consultant and its employees, agents, and subcontractors may be eligible. City therefore has no responsibility for such contributions beyond compensation required under this Agreement.

2.1 Invoices. Consultant shall submit invoices, not more often than once a month during the term of this Agreement, based on the cost for services performed and reimbursable costs incurred prior to the invoice date. Invoices shall contain the following information, unless waived by the City Manager, or his or her designee.

- Serial identifications of progress bills. i.e., Progress Bill No. 1 for the first invoice, etc.
- The beginning and ending dates of the billing period.
- A Task Summary containing the original contract amount, the amount of prior billings, the total due this period, the balance available under the Agreement, and the percentage of completion.
- At City's option, for each work item in each task, a copy of the applicable time entries or time sheets shall be submitted showing the name of the person doing the work, the hours spent by each person, a brief description of the work, and each reimbursable expense.
- The total number of hours of work performed under the Agreement by Consultant and each employee, agent, and subcontractor of Consultant performing services hereunder.
- The Consultant's signature.

2.2 Monthly Payment. City shall make monthly payments, based on invoices received, for services satisfactorily performed, and for authorized reimbursable costs incurred. City shall pay undisputed invoices that comply with the above requirements within 30 days from the receipt of the invoice.

2.3 Final Payment. Consultant shall submit its final invoice within 60 days of completing its services. Consultant's failure to submit its final invoice within this 60 day period shall constitute Consultant's waiver of any further billings to, or payments from, City.

2.4 **Reimbursable Expenses.** Reimbursable expenses, if any, are specified in Exhibit B and included in the total compensation referenced in Section 2. Expenses not listed in Exhibit B are not chargeable to, or reimbursable by, City.

2.5 **Payment of Taxes.** Consultant is solely responsible for the payment of all federal, state and local taxes, including employment taxes, incurred under this Agreement.

2.6 **Authorization to Perform Services.** The Consultant is not authorized to perform any services or incur any costs whatsoever under the terms of this Agreement until receipt of a written authorization from the City Manager, or his or her designee.

Section 3. FACILITIES AND EQUIPMENT. Except as set forth herein, Consultant shall, at its sole cost and expense, provide all facilities and equipment that may be necessary to perform the services required by this Agreement

Section 4. INSURANCE REQUIREMENTS. Before beginning any services under this Agreement, Consultant, at its own cost and expense, shall procure the types and amounts of insurance specified herein and maintain that insurance throughout the term of this Agreement. The cost of such insurance shall be included in the Consultant's bid or proposal. Consultant shall be fully responsible for the acts and omissions of its subcontractors or other agents.

4.1 **Workers' Compensation.** Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant in the amount required by applicable law. The requirement to maintain Statutory Workers' Compensation and Employer's Liability Insurance may be waived by the City upon written verification that Consultant is a sole proprietor and does not have any employees and will not have any employees during the term of this Agreement.

4.2 **Commercial General and Automobile Liability Insurance.**

4.2.1 **General requirements.** Consultant, at its own cost and expense, shall maintain commercial general and automobile liability insurance for the term of this Agreement in an amount not less than $2,000,000 per occurrence and $4,000,000 aggregate, combined single limit coverage for risks associated with the work contemplated by this Agreement.

4.2.2 **Minimum scope of coverage** Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 (most recent edition) covering comprehensive General Liability on an "occurrence" basis. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (most recent edition) covering any auto (Code 1), or if Consultant has no owned autos, hired (code 8) and non-owned autos (Code 9). No endorsement shall be attached limiting the coverage.

4.2.3 **Additional requirements** Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy

a. The Commercial General and Automobile Liability Insurance shall cover on an occurrence basis.

b. City, its officers, officials, employees, agents, and volunteers shall be covered as additional insureds for liability arising out of work or operations on behalf of the Consultant, including materials, parts, or equipment furnished in connection with such work or operations or automobiles owned, leased, hired, or borrowed by the Consultant. Coverage can be provided in the form of an endorsement to the Consultant's insurance at least as broad as CG 20 10 11 85, or both CG 20 10 10 01 and CG 20 37 10 01.

c. For any claims related to this Agreement or the work hereunder, the Consultant's insurance covered shall be primary insurance as respects the City, its officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, agents or volunteers shall be excess of the Consultant's insurance and non-contributing.

d. The policy shall cover inter-insured suits and include a "separation of Insureds" or "severability" clause which treats each insured separately.

e. Consultant agrees to give at least 30 days prior written notice to City before coverage is canceled or modified as to scope or amount.

4.3 Professional Liability Insurance.

4.3.1 General requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals performing work pursuant to this Agreement in an amount not less than $1,000,000 per occurrence or claim covering the Consultant's errors and omissions.

4.3.2 Claims-made limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form.

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the Agreement or the work.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant must purchase an extended period coverage for a minimum of five (5) years after completion of work under this Agreement.

d. A copy of the claim reporting requirements must be submitted to the City for review prior to the commencement of any work under this Agreement.

4.4 All Policies Requirements.

4.4.1 Submittal Requirements. Consultant shall submit the following to City prior to beginning services.

a. Certificate of Liability Insurance in the amounts specified in this Agreement and

b. Additional Insured Endorsement as required for the General Commercial and Automobile Liability Polices.

4.4.2 Acceptability of Insurers. All insurance required by this Agreement is to be placed with insurers with a Bests' rating of no less than A.VII.

4.4.3 **Deductibles and Self-Insured Retentions.** Insurance obtained by the Consultant shall have a self-insured retention or deductible of no more than $100,000.

4.4.4 **Wasting Policies.** No policy required herein shall include a "wasting" policy limit (i.e. limit that is eroded by the cost of defense).

4.4.5 **Waiver of Subrogation.** Consultant hereby agrees to waive subrogation which any insurer or contractor may require from Consultant by virtue of the payment of any loss. Consultant agrees to obtain any endorsements that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not the City has received a waiver of subrogation endorsement from the insurer.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Consultant, its employees, agents, and subcontractors.

4.4.6 **Subcontractors.** Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein, and Consultant shall ensure that City, its officers, officials, employees, agents, and volunteers are covered as additional insured on all coverages.

4.4.7 **Excess Insurance.** If Consultant maintains higher insurance limits than the minimums specified herein, City shall be entitled to coverage for the higher limits maintained by the Consultant.

4.5 **Remedies.** In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, City may, at its sole option 1) obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement 2) order Consultant to stop work under this Agreement and withhold any payment that becomes due to Consultant hereunder until Consultant demonstrates compliance with the requirements hereof and/or 3) terminate this Agreement.

Section 5. INDEMNIFICATION AND CONSULTANT'S RESPONSIBILITIES.

5.1 **General Indemnification**. Consistent with California Civil Code Section 2782.8, Consultant shall, to the fullest extent permitted by law, indemnify, protect, defend and hold harmless City, and its employees, officials, and agents, from any and all demands, losses, claims, costs, liabilities, and expenses for any damage, injury, or death, including any and all administrative fines, penalties, or costs imposed as a result of an administrative proceeding, that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant, its officers, employees, agents, contractors, subconsultants, or any persons under its direction or control. If requested by City, Consultant shall defend any such suits at its sole cost and expense. If City elects to provide its own defense, Consultant shall reimburse City for any expenditures, including reasonable attorneys' fees and costs. Consultants' obligations under this section exist regardless of concurrent negligence or willful misconduct on the part of City or any other person provided, however, that Consultant will not be required to indemnify, including the cost to defend, City for the proportion of liability a court determines does not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant, its officers, employees, agents, contractors, subconsultants, or any persons under its direction or control. This Section **5.1** shall survive any expiration or termination of this Agreement.

5.2 **PERS Indemnification** In the event that Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of City, Consultant shall indemnify, defend, and hold harmless City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

Section 6. STATUS OF CONSULTANT.

6.1 **Independent Contractor** At all times during the term of this Agreement, Consultant shall be an independent contractor and shall not be an employee of City.

6.2 **Consultant Not an Agent** Except as City may specify in writing, Consultant shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Consultant shall have no authority, express or implied, pursuant to this Agreement to bind City to any obligation whatsoever.

Section 7 LEGAL REQUIREMENTS

7.1 Governing Law. The laws of the State of California shall govern this Agreement.

7.2 Compliance with Applicable Laws. Consultant and any subcontractors shall comply with all laws applicable to the performance of the work hereunder. Consultant shall also, to the extent required by the California Labor Code, pay not less than the latest prevailing wage rates as determined by the California Department of Industrial Relations.

7.3 Licenses and Permits. Consultant represents and warrants to City that Consultant and its employees, agents, and any subcontractors have, and will maintain at their sole cost and expense, all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required to practice their respective professions. In addition to the foregoing, Consultant and any subcontractors shall obtain and maintain during the term of this Agreement valid business licenses from City.

7.4 Nondiscrimination and Equal Opportunity. Consultant shall not discriminate, on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, genetic information, marital status, sex, sexual orientation, gender or gender identity, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Consultant under this Agreement. Consultant shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of any services that are the subject of this Agreement, including but not limited to the satisfaction of any positive obligations required of Consultant thereby.

Section 8 TERMINATION AND MODIFICATION

8.1 Termination. Upon ten days' prior written notice, City may cancel this Agreement at any time and without cause upon such written notification to Consultant. In the event of termination, Consultant shall be entitled to compensation for services performed to the effective date of termination. City, however, may condition payment of such compensation upon Consultant delivering to City any or all documents, photographs, computer software, video and audio tapes, and other materials provided to

Consultant or prepared by or for Consultant or the City in connection with this Agreement.

8.2 **Amendments.** The parties may amend this Agreement only by a writing signed by the parties hereto.

8.3 **Assignment and Subcontracting.** City and Consultant recognize and agree that this Agreement contemplates personal performance by Consultant and is based upon a determination of Consultant's unique personal competence, experience, and specialized personal knowledge. Moreover, a substantial inducement to City for entering into this Agreement was and is the professional reputation and competence of Consultant. Consultant may not assign this Agreement or any interest therein without the prior written approval of the City Manager, or his or her designee. Consultant shall not subcontract any portion of the performance contemplated and provided for herein, other than to the subcontractors noted in the proposal, without prior written approval of the City Manager, or his or her designee.

8.4 **Survival.** All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating liability between City and Consultant, including but not limited to the provisions of Section 5, shall survive the termination of this Agreement.

8.5 **Options upon Breach by Consultant.** If Consultant materially breaches any of the terms of this Agreement, City's remedies shall include, but not be limited to, the following:

8.5.1 Immediately terminate the Agreement;

8.5.2 Retain the plans, specifications, drawings, reports, design documents, and any other work product prepared by Consultant pursuant to this Agreement;

8.5.3 Retain a different consultant to complete the work described in Exhibit A not finished by Consultant; or

8.5.4 Charge Consultant the difference between the cost to complete the work described in Exhibit A that is unfinished at the time of breach and the amount that City would have paid Consultant pursuant to Section 2 if Consultant had completed the work.

8.5.5 The remedies mentioned in this Agreement are not exclusive of any other right, power or remedy permitted by law. The City's failure or

delay in exercising any remedy shall not constitute a waiver of such remedy or preclude the further exercise of City's rights.

Section 9 KEEPING AND STATUS OF RECORDS

9.1 Records Created as Part of Consultant's Performance. All final versions of reports, data, maps, models, charts, studies, surveys, photographs, memoranda, plans, studies, specifications, records, files, or any other documents or materials, in electronic or any other form, that Consultant prepares or obtains pursuant to this Agreement and that relate to the matters covered hereunder shall be the property of the City. Consultant hereby agrees to deliver those documents to the City upon termination of the Agreement, and the City may use, reuse or otherwise dispose of the documents without Consultant's permission. It is understood and agreed that the documents and other materials, including but not limited to those described above, prepared pursuant to this Agreement are prepared specifically for the City and are not necessarily suitable for any future or other use. City and Consultant agree that, until final approval by City, all data, plans, specifications, reports and other documents are confidential drafts and will not be released to third parties by Consultant without prior written approval of City.

9.2 Consultant's Books and Records. Consultant shall maintain any and all records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the City under this Agreement for a minimum of 3 years, or for any longer period required by law, from the date of final payment to the Consultant to this Agreement. All such records shall be maintained in accordance with generally accepted accounting principles and shall be made available for inspection, audit, and/or copying at any time during regular business hours, upon oral or written request of the City. Pursuant to Government Code Section 8546.7, the Agreement may be subject to the examination and audit of the State Auditor for a period of 3 years after final payment under the Agreement.

Section 10 MISCELLANEOUS PROVISIONS

10.1 Attorneys' Fees. If a party to this Agreement brings any action, including an action for declaratory relief, to enforce or interpret the provision of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief to which that party may be entitled. The court may set such fees in the same action or in a separate action brought for that purpose.

10.2 **Venue**. In the event that either party brings any action against the other under this Agreement, the parties agree that trial of such action shall be vested exclusively in the state courts of California in Contra Costa County or in the United States District Court for the Northern District of California.

10.3 **Severability**. If a court of competent jurisdiction finds or rules that any provision of this Agreement is invalid, void, or unenforceable, the provisions of this Agreement not so adjudged shall remain in full force and effect. The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision of this Agreement.

10.4 **No Implied Waiver of Breach**. The waiver of any breach of a specific provision of this Agreement does not constitute a waiver of any other breach of that term or any other term of this Agreement.

10.5 **Successors and Assigns**. The provisions of this Agreement shall inure to the benefit of and shall apply to and bind the successors and assigns of the parties.

10.6 **Conflict of Interest**. Consultant may serve other clients, but none whose activities within the corporate limits of City or whose business, regardless of location, would place Consultant in a "conflict of interest," as that term is defined in the Political Reform Act, codified at California Government Code Section 81000 *et seq.*

Consultant shall not employ any City official in the work performed pursuant to this Agreement. No officer or employee of City shall have any financial interest in this Agreement that would violate California Government Code Sections 1090 *et seq.*

10.7 **Solicitation**. Consultant agrees not to solicit business at any meeting, focus group, or interview related to this Agreement, either orally or through any written materials.

10.8 **Notices**. Any notice, demand, request, consent or approval that either party is required to give the other pursuant to this Agreement, shall be in writing and may be given by either (i) personal service, or (ii) certified United States mail, postage prepaid, return receipt requested, Notice shall be effective upon personal delivery or delivery to the addresses specified below, as reflected on the receipt of delivery or return receipt, as applicable.

Consultant imley-Horn and Associates, Inc.
555 Capitol Mall, Suite 300
Sacramento, CA 95814

City City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565
ATTN City Manager

10 9 Professional Seal Where applicable in the determination of the City Manager, or his or her designee, the first page of a technical report, first page of design specifications, and each page of construction drawings shall be stamped/sealed and signed by the licensed professional responsible for the report/design preparation. The stamp/seal shall be in a block entitled "Seal and Signature of Registered Professional with report/design responsibility."

10 10 Integration This Agreement, including the scope of work attached hereto and incorporated herein as Exhibits A and B represents the entire and integrated agreement between City and Consultant and supersedes all prior negotiations, representations, or agreements, either written or oral. To the extent there are any inconsistences between this Agreement, the Exhibits, and Consultant's proposal, the Agreement shall control. To the extent there are any inconsistences between the Exhibits and the Consultant's Proposal, the Exhibits shall control.

Exhibit A Scope of Services
Exhibit B Compensation Schedule

10 11 Counterparts This Agreement may be executed in multiple counterparts, each of which shall be an original and all of which together shall constitute one agreement.

10 12 Construction of Agreement Each party hereto has had an equivalent opportunity to participate in the drafting of the agreement and/or to consult with legal counsel. Therefore, the usual construction of an agreement against the drafting party shall not apply hereto.

10 13 No Third Party Beneficiaries This Agreement is made solely for the benefit of the parties hereto, with no intent to benefit any third parties.

The Parties have executed this Agreement as of the Effective Date.

CIT□ OF PITTSBURG	**CONSULTANT**
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
Garrett Evans, City Manager	Matthew D. Weir, P.E, T.E, PTOE, RSP

Attest□

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Alice Evenson, City Clerk

Approved as to Form□

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Donna Mooney, City Attorney

E□HIBIT A

SCOPE OF SERVICES

E□HIBIT B

COMPENSATION SCHEDULE

CERTIFICATE OF COMPLIANCE WITH LABOR CODE 3700

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

CONS LTANT

By _____

Title _____

2784982.1

PROPOSAL FOR

Professional Services for Contract 2021-18 CITYWIDE ROADWAY IMPROVEMENTS

Project 2038

Prepared for:

City of Pittsburg California

Prepared by:

Kimley»Horn

Expect More. Experience Better.

Cover Letter

November 29, 2022

555 Capitol Mall
Suite 300
Sacramento, CA 95814
TEL 916.859.3617

Bruce Zaeni, P.E.
City of Pittsburg Public Works Department
65 Civic Avenue
Pittsburg, CA 94565

RE: Proposal for Citywide Roadway Improvements Project (Project 2038)

Dear Mr. Zaeni and Members of the Selection Committee:

The City of Pittsburg's recent endeavor to inventory and evaluate the horizontal curves within the City's roadway network creates a unique opportunity to proactively improve safety for the motoring public. We understand that you have numerous arterial and collector routes where a horizontal curve exists but do not have horizontal alignment warning signs or advisory speed plaques. Through your own evaluation, you have determined that all horizontal curves within the City must be surveyed and analyzed to determine the need for appropriate warning signing in order for the City's roads to be in compliance with California's Manual on Uniform Traffic Control Devices (CA MUTCD) requirements. This project uniquely positions you to comprehensively address this important safety consideration using distinct, proven data inventory and analysis techniques to evaluate and enhance these signs. The Kimley-Horn team has the experience, tools, and availability to provide the City with the expertise and level of service this project requires.

Our team brings extensive recent experience working with seven other Northern California agencies on their Roadway Safety Sign Audit (RSSA) projects which included similar horizontal curve analyses: Marin County, Monterey County, Stanislaus County, Placer County, Nevada County, Calaveras County, and City of Sunnyvale. We are excited about the opportunity to bring our deep RSSA knowledge and experience to your project. Through our work on these projects—experience unique to the Kimley-Horn team—we are able to offer the City the benefit of our team's continually evolving data collection and signing attribute processing, streamlined data exchange between team members, and curve warning data evaluation.

The Kimley-Horn team offers the City a proven approach to completing this project. Through our well-established partnership with **Mark Thomas & Company, Inc.**, we propose to collect the majority of the field data electronically. This approach dramatically reduces the amount of required field time and manual data collection while establishing a thorough inventory for use on this and future projects. We propose the use of Rieker's electronic ball-bank equipment and a Curve Advisory Reporting System (CARS) to seamlessly collect curve data—all while traveling the corridors once in each direction at prevailing speeds. By limiting the amount of time required to collect the data through this automated process, we will be more available to appropriately evaluate and recommend prioritized safety improvements within the budget and schedule constraints of the project.

Our project manager, **Robert Paderna, P.E., RSP$_1$**, brings over 17 years of focused experience in traffic and safety analyses, traffic design, and traffic operations–all of which are vital to the successful completion of this project. Robert is supported by a team of experts, each of whom has direct experience with the services required to successfully complete this project.

We appreciate your consideration of our team and approach to assisting the City of Pittsburg with this important safety project. Robert will lead our project team and will be the primary point of contact for the City. He can be reached at the address on the previous page, by phone at 916.859.3610, or via email at robert.paderna@kimley-horn.com.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Robert V. Paderna, P.E., RSP$_1$
Project Manager/Associate

Matthew D. Weir, P.E., T.E., PTOE, RSP$_1$
Vice President/Principal-in-Charge

**Matthew Weir is an officer of Kimley-Horn and is fully authorized to contractually bind the firm.*

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1. Introduction

Project Understanding

The City of Pittsburg has identified the need to perform a comprehensive inventory and evaluation of existing traffic signage and striping along 14 roadway segments within the City in an effort to improve roadway safety. As part of the development of this project, the City identified specific segments along the 14 project roadways (listed below) in which regulatory and warning signage is to be inventoried and evaluated to identify appropriate improvements to be in compliance with the California Manual on Uniform Traffic Control Devices (CA MUTCD) requirements and guidance. Based on our preliminary desktop review of a few curves included in the project, existing warning signage appears to be located too close to the beginning of curves and would need to be relocated to provide sufficient advanced warning distance. The outcome of this project will provide recommended improvements including sign replacement, relocation, removal, and installation of new signs where missing based on guidance in the CA MUTCD.

Through our unique experience on several Roadway Safety Signing Audit (RSSA) and other safety projects, Kimley-Horn has developed an efficient and accurate approach to performing data collection and signing and striping attribute processing, curve warning sign assessment, and development of recommendations. This unique approach is highlighted by the use of Rieker's electronic ball-bank equipment and a Curve Advisory Reporting System (CARS) to collect curve data. Furthermore, our team has developed a streamlined approach to performing the sign data analysis and development of recommendations. The Scope of Work in Section 3 outlines our proposed approach, tasks, and deliverables.

Project Locations:

1. Railroad Avenue
2. Kirker Pass Road
3. Willow Pass Road/West 10th Street
4. Bailey Road
5. Pittsburg-Antioch Highway
6. East Leland Road
7. Loveridge Road
8. Buchanan Road
9. East 10th Street
10. Harbor Street
11. North Parkside Drive
12. California Avenue
13. Century Boulevard
14. East 14th Street

2. Qualifications of Firm and Assigned Staff

Firm Description

Incorporated in 1967, Kimley-Horn is a full-service planning, civil engineering, and environmental firm with more than 6,100 employees nationwide. With a well-established local presence through our five Northern California offices—Sacramento, San Jose, San Mateo, Pleasanton, and Oakland—and with more than 600 staff in California, we support all phases of projects, from the initial planning stages through final design and construction administration. We provide our clients with the local knowledge and responsiveness of a small organization, backed by the extensive resources of a nationally ranked engineering firm staffed by committed project managers and technical and support staff who believe in personalized client service.

Our long-term association with public municipalities has provided us with comprehensive project experience and knowledge. We offer complete traffic and civil engineering services in-house and have completed thousands of traffic engineering and operations projects ranging from major area-wide signal systems involving hundreds of intersections to single intersection safety audits, designs, and analyses. In summary, Kimley-Horn offers in-house expertise for the following general service areas:

- Traffic Operations and Safety Studies
- Signing and Pavement Marking Studies and Plans
- Traffic Calming
- Civil Roadway Engineering
- Structural Engineering and Design
- Intelligent Transportation Systems (ITS) Planning and Design

Project Team

Through a combination of effective project management and technical expertise, Kimley-Horn has a long history of achieving successful results. We understand that when you choose a consultant, you are looking to choose the people who will bring you technical expertise, hands-on experience with similar projects, and the commitment to a high standard of quality and client service to make your project as successful as you have envisioned. That's why we've carefully considered the composition of our team, identifying only the most qualified personnel with recent, relevant project experience to be able to work with you.

Our team will be led by **Robert Paderna, P.E., RSP$_1$**, a successful project manager known as a "go-to" resource to local agencies requiring a traffic engineering consultant to provide quality, expedient transportation services. Robert has over 17 years of experience working with members of the proposed project team. He will be the primary point of contact with the City and will lead a talented group of in-house transportation specialists to assist the City on this project. In addition, he will direct, oversee, and review all work completed by our subconsultant, Mark Thomas.

Our organizational chart is provided below. This chart identifies our key staff and their individual areas of responsibility. If selected, the team identified below will be dedicated to this project from start to finish. Resumes for key team members—highlighting their qualifications and experience with similar projects in the past 10 years—are provided on the following page.

***SUBCONSULTANTS**
Mark Thomas & Company, Inc.

Robert Paderna, P.E., RSP1

Project Manager

Professional Credentials

- Bachelor of Science, Civil Engineering, San Jose State University
- Professional Engineer in California #73262

Robert has over 17 years of experience in transportation and traffic engineering projects throughout Northern California. His recent experience includes managing several Roadway Safety Sign Audits (RSSAs) throughout the state, as well as engineering and traffic surveys, local roadway safety plans, traffic calming, pedestrian facilities planning and design, preparation of PS&E for traffic signals (new and modified), signing and striping, street and highway lighting, traffic operations systems/ITS, and traffic control. Robert is skilled in the application of CA-MUTCD guidelines, ADA guidelines, Caltrans' HDM and Standard Plans.

Relevant Experience

- **Traffic Sign Inventory and RSSA, Marin County, CA** – Project Manager for an HSIP funded project for the inventory, assessment, and development of recommendations for regulatory and warning signage along 21 arterial roadways and 37 collector roadways. The Kimley-Horn and Mark Thomas team collected sign attribute data along all project roadways by driving the approximately 163-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data is being collected using an electronic ball-bank indicator mounted in the scan vehicle. A sign retroreflectivity evaluation will be performed using a nighttime visual assessment method conducted by certified staff. Kimley-Horn will evaluate the sign attributes of approximately 2,000 regulatory and curve warning signs to determine whether they are in compliance with the current CA-MUTCD. As part of the evaluation, the data collected will be used to make recommendations and develop exhibits which denote removal, relocation, replacement, and installation of new signs.
- **HSIP Grant Design of Striping, Curve Assessments, and Signage, Stanislaus County, CA** – Project Manager for a project to address systemic traffic safety issues along 177 miles of County roadways in Stanislaus County. Recently the County was awarded two HSIP grants that allow the County to analyze these traffic issues and enhance visibility along their roadway network. Our team is assisting the County with data collection, engineering design, and preparation of 100% contract documents consisting of PS&E for the curve assessments, signage, and striping for the project. In addition, our team is providing environmental studies to assist the County to obtain required state and federal environmental permits and authorizations and to meet the requirements of the HSIP grant funding.
- **Countywide RSSA, Monterey County, CA** – Deputy Project Manager for a countywide project funded by an HSIP grant that allows the County to proactively address roadway safety through systemic warning sign enhancements along 29 roadways. This grant represents only one of a select number of HSIP grants awarded by Caltrans for the purpose of performing an RSSA. The project includes approximately 250-miles along which regulatory and warning signs are being inventoried, and limited consideration is being given to stopping and corner sight distance at roadway/driveway connections and stopping/passing sight distance analyses. This RSSA project provides the County with the opportunity to avoid "spot treatments" which have a tendency to miss similar conditions that may exist elsewhere in the network. Other similar situations likely have an equal potential for collisions which may not have occurred yet. Accordingly, this RSSA process is intended to identify these similar locations and recommend similar safety solutions.
- **RSSA and Sign Upgrade, Placer County, CA** – Deputy Project Manager for a comprehensive RSSA and Sign Upgrade project. This project, just the second project of its type funded through

Caltrans' HHSIP, proactively addressed roadway safety, with an emphasis on signing along critical transportation facilities. The Kimley-Horn team collected sign locations and other key attributes for each of the study segments by driving the approximately 175-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. This RSSA project provided the County with the opportunity to avoid "spot treatments" which have a tendency to miss similar conditions that may exist elsewhere in the network. Other similar conditions have an equal potential for collisions which may not have occurred yet. Accordingly, this RSSA process has identified these similar locations and recommended similar safety solutions.

- **RSSA Phase I and II, Nevada County, CA** – Deputy Project Manager for both phases of this RSSA project. Through an HSIP grant, this project proactively addressed roadway safety, with an emphasis on signing, along critical transportation facilities. The Kimley-Horn team collected sign locations and other key attributes for each of the study segments by driving the approximately 50-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. Through evaluation, the final recommendations were divided into two phases, the first removing 318 signs and replacing 221 signs. The second phase included relocating 11 signs and installing 403 new signs.
- **Engineering Study to Recommend and Evaluate Existing Advisory Speed at Horizontal Curves Citywide in Compliance with CA-MUTCD, Sunnyvale, CA** – Project Manager. Kimley-Horn supported the City of Sunnyvale in performing a comprehensive inventory and evaluation of horizontal curves and associated regulatory and warning signage throughout the City. The Kimley-Horn team collected sign attribute data along all project roadways, along with simultaneously collecting ball-bank data using a Rieker Curve Advisory Reporting System (CARS) and electronic ball-bank indicator. We performed the sign evaluation to determine whether the signage was in compliance with the current CA MUTCD requirements and recommendations. As an outcome of our evaluation, we developed sign recommendations which included sign relocation, replacement, and installation of new signs.
- **Citywide Uncontrolled Crossings Evaluation and Prioritization, San Rafael, CA** – Project Manager. Kimley-Horn supported the City of San Rafael with the evaluation and prioritization of pedestrian safety improvements at 50 uncontrolled crosswalks throughout the City. We collected traffic counts and performed extensive field work, including sight distance measurements and assessment of street lighting during nighttime conditions. Utilizing the data collected, Kimley-Horn developed scoring criteria to rank each of the study locations and prioritize near- and long-term improvements. The scoring criteria included collisions, sight distance, proximity to schools and senior centers, 85th percentile travel speeds, pedestrian volumes, bicycle volumes, delay, street lighting conditions, and community feedback. Kimley-Horn also developed an Uncontrolled Crosswalk Treatment Toolbox guidance document which identified a menu of pedestrian safety-related improvements ranging from high-visibility crosswalk striping and signage to installation of High Intensity Activated Crosswalk (HAWK) signals. The toolbox was used to identify specific improvements at each of the uncontrolled crosswalk study locations.

Matt Weir, P.E., T.E., PTOE, RSP$_1$

Principal-In-Charge

Matt is a transportation professional with more than 20 years of experience in the planning and design of traffic engineering projects. His primary experience includes safety studies, traffic operations studies, traffic impact analyses, traffic signal design, parking planning, signal timing development and ITS planning. He has been responsible for the development of multiple comprehensive roadway safety assessments, including signing and striping, signal and timing, and Safe Routes to Schools projects. Matt has proven experience in managing projects similar to the City's project, a strong familiarity with CA-MUTCD standards, and an overall commitment to roadway safety.

Professional Credentials

- Master of Science, Civil Engineering (Transportation Systems), Georgia Institute of Technology
- Bachelor of Science, Civil Engineering, Clemson University
- Professional Engineer in California #70216
- Traffic Engineer in California #2424
- Professional Traffic Operations Engineer #2827

Relevant Experience

- **Traffic Sign Inventory and RSSA, Marin County, CA** – Principal-in-Charge for an HSIP funded project for the inventory, assessment, and development of recommendations for regulatory and warning signage along 21 arterial roadways and 37 collector roadways. The Kimley-Horn and Mark Thomas team collected sign attribute data along all project roadways by driving the approximately 163-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data is being collected using an electronic ball-bank indicator mounted in the scan vehicle. A sign retroreflectivity evaluation will be performed using a nighttime visual assessment method conducted by certified staff. Kimley-Horn will evaluate the sign attributes of approximately 2,000 regulatory and curve warning signs to determine whether they are in compliance with the current CA-MUTCD. As part of the evaluation, the data collected will be used to make recommendations and develop exhibits which denote removal, relocation, replacement, and installation of new signs.
- **HSIP Grant Design of Striping, Curve Assessments, and Signage, Stanislaus County, CA** – Principal-in-Charge for a project to address systemic traffic safety issues along 177 miles of County roadways in Stanislaus County. Recently the County was awarded two HSIP grants that allow the County to analyze these traffic issues and enhance visibility along their roadway network. Our team is assisting the County with data collection, engineering design, and preparation of 100% contract documents consisting of PS&E for the curve assessments, signage, and striping for the project. In addition, our team is providing environmental studies to assist the County to obtain required state and federal environmental permits and authorizations and to meet the requirements of the HSIP grant funding.
- **Engineering Study to Recommend and Evaluate Existing Advisory Speed at Horizontal Curves Citywide in Compliance with CA-MUTCD, Sunnyvale, CA** – Principal-in-Charge. Kimley-Horn supported the City of Sunnyvale in performing a comprehensive inventory and evaluation of horizontal curves and associated regulatory and warning signage throughout the City. The Kimley-Horn team collected sign attribute data along all project roadways, along with simultaneously collecting ball-bank data using a Rieker Curve Advisory Reporting System (CARS) and electronic ball-bank indicator. We performed the sign evaluation to determine whether the signage was in compliance with the current CA MUTCD requirements and recommendations. As an outcome of our evaluation, we developed sign recommendations which included sign relocation, replacement, and installation of new signs.

- **RSSA and Sign Upgrade, Placer County, CA** – Project Manager for a comprehensive RSSA and Sign Upgrade project. This project, just the second project of its type funded through Caltrans' HHSIP, proactively addressed roadway safety, with an emphasis on signing along critical transportation facilities. The Kimley-Horn team collected sign locations and other key attributes for each of the study segments by driving the approximately 175-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. This RSSA project provided the County with the opportunity to avoid "spot treatments" which have a tendency to miss similar conditions that may exist elsewhere in the network. Other similar conditions have an equal potential for collisions which may not have occurred yet. Accordingly, this RSSA process has identified these similar locations and recommended similar safety solutions.
- **RSSA Phase I and II, Nevada County, CA** – Project Manager for both phases of this RSSA project. Through an HSIP grant, this project proactively addressed roadway safety, with an emphasis on signing, along critical transportation facilities. The Kimley-Horn team collected sign locations and other key attributes for each of the study segments by driving the approximately 50-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. Through evaluation, the final recommendations were divided into two phases, the first removing 318 signs and replacing 221 signs. The second phase included relocating 11 signs and installing 403 new signs.
- **Countywide RSSA Project, Calaveras County, CA** – Principal-in-Charge for a project to address systemic traffic safety issues along approximately 220 miles of County roadways in Calaveras County. Recently, the County was awarded an HSIP grant that allows the County to comprehensively evaluate regulatory and warning signage along their roadway network. Our team is assisting the County with data collection, sign evaluation and development of recommendations, engineering design, and preparation of plans, specifications, and engineer's estimate of probable construction costs (PS&E). In addition, we are completing environmental studies to assist the County with obtaining required state and federal environmental permits and authorizations and to meet the requirements of the HSIP grant funding.
- **Safety Assessment of East Natoma Street and Blue Ravine Road, Folsom, CA** – Project Manager for this traffic engineering project identifying multimodal safety improvements along the East Natoma Street and Blue Ravine Road corridors. As part of this project, our team has implemented robust, automated data collection methods including Mobile LiDar for sign inventory/analysis and intersection sight distance (ISD) analysis; Rieker's Curve Advisory Reporting System (CARS) for automated ball bank analysis along horizontal curves; and field testing of High Friction Surface Treatment (HFST). This comprehensive and cost-effective approach to data collection, coupled with application of sound civil and traffic engineering principles, has enabled us to produce a comprehensive safety assessment of both roadway corridors. As part of the assessment, Kimley-Horn performed traffic signal control warrants, traffic operations analysis, comprehensive review of historical collision data, and conducted field observations in support of development of recommended multi-modal safety improvements. The results of the safety assessment with conceptual level exhibits illustrating recommended improvements will be documented in a Final Project Report.

Curtis Yee, EIT

Deputy Project Manager

Curtis is a transportation analyst with experience in transportation design throughout Northern California. Curtis has worked on projects in which he supported tasks including data collection, temporary traffic control, and preparing PS&E for traffic signals, communications, and street lighting. He is proficient in AutoCAD, AGI, and Synchro. He is also adept in application of California Manual on Uniform traffic Control Devices (CAMUTCD) guidelines and Caltrans Standard Plans and Specifications.

Professional Credentials

- Bachelor of Science, Civil Engineering, California Polytechnic State University, San Luis Obispo
- Engineer-in-Training (EIT) #163265

Relevant Experience

- **HSIP Grant Design of Striping, Curve Assessments and Signage, Modesto, CA** – Analyst. Kimley-Horn is currently working with the County of Stanislaus to address their systemic traffic safety issues along 177 miles of County roadways. Recently the County was awarded two Highway Safety Improvement Program (HSIP) grants that allow the County to analyze these traffic issues and enhance visibility along their roadway network. Our team is assisting the County with data collection, engineering design and preparation of 100% contract documents consisting of plans, specifications, and cost estimates (PS&E) for the Curve Assessments, Signage, and Striping for the project. In addition, our team is providing environmental studies to assist the County to obtain required State and Federal environmental permits and authorizations and to meet the requirements of the HSIP grant funding.
- **Engineering Study to Recommend and Evaluate Existing Advisory Speed at Horizontal Curves Citywide in Compliance with CA-MUTCD, Sunnyvale, CA** – Analyst. Kimley-Horn supported the City of Sunnyvale in performing a comprehensive inventory and evaluation of horizontal curves and associated regulatory and warning signage throughout the City. The Kimley-Horn team collected sign attribute data along all project roadways, along with simultaneously collecting ball-bank data using a Rieker Curve Advisory Reporting System (CARS) and electronic ball-bank indicator. We performed the sign evaluation to determine whether the signage was in compliance with the current CA MUTCD requirements and recommendations. As an outcome of our evaluation, we developed sign recommendations which included sign relocation, replacement, and installation of new signs.
- **Horizontal Curve Assessment, Riverside County, CA** – Project Engineer. Kimley-Horn has been selected to assist the County of Riverside to inventory and evaluate the horizontal curves within the County's roadway system. Project objectives include improving driver awareness and overall safety for the motoring public. There are numerous roadways throughout the County with horizontal curves that do not have horizontal alignment warning signs and/or advisory speed plaques installed in conformance with the latest CA MUTCD requirements.
- **HSIP Cycle 9 Hybrid Pedestrian Beacon Design Services, Vallejo, CA** – Analyst. The City of Vallejo was awarded an HSIP grant to improve pedestrian safety at five critical, uncontrolled crossings by installing new Pedestrian Hybrid Beacons (PHB), or HAWK signals. The HAWK signal design includes traffic signal controller cabinets, service enclosures, communications, signal poles and mast arms, PHB signal heads, signage, pedestrian push buttons, pull boxes, conduits, and conductors. Several locations were right-of-way constrained and required reconstruction of curb ramps to conform with current ADA design standards. Kimley-Horn's design also accommodated a future road diet along the Springs Road corridor where the current

four-lane undivided cross section would be modified to a three-lane cross section with Class II bike lanes. Signal heads and loop detectors were designed to accommodate the ultimate lane configuration with road diet.

- **Safety Assessment of East Natoma Street and Blue Ravine Road, Folsom, CA** – Analyst. Kimley-Horn provided traffic engineering services to identify multi-modal safety improvements along the East Natoma Street and Blue Ravine Road corridors. As part of this project, our team implemented robust, automated data collection methods including Mobile LiDar for sign inventory/analysis and intersection sight distance (ISD) analysis; Rieker's Curve Advisory Reporting System (CARS) for automated ball bank analysis along horizontal curves; and field testing of High Friction Surface Treatment (HFST). This comprehensive and cost-effective approach to data collection, coupled with application of sound civil and traffic engineering principles, enabled Kimley-Horn to produce a comprehensive safety assessment of both roadway corridors. As part of the assessment, Kimley-Horn performed traffic signal control warrants, traffic operations analysis, comprehensive review of historical collision data, and conducted field observations in support of development of recommended multi-modal safety improvements. The results of the safety assessment with conceptual level exhibits illustrating recommended improvements were documented in a Final Project Report.
- **Citywide Signal Upgrade and Pedestrian Improvements Project, Watsonville, CA** – Analyst. Kimley-Horn supported the City of Watsonville with preparation of plans, specifications, and estimate (PS&E) for pedestrian improvements and traffic signal upgrades at 23 signalized intersections. The City was awarded Highway Safety Improvement Program (HSIP) funds to design and construct the improvements geared to improve pedestrian safety and accessibility. Improvements included curb ramp reconstruction, replacement of pedestrian push buttons to accessible pedestrian signals (APS), replacement of pedestrian heads to countdown heads, relocation of traffic signal poles and pedestrian push buttons, and intersection restriping.

MATT STRINGER, PLS

DIVISION MANAGER - SURVEY

EDUCATION
BS in Land Surveying, Oregon Institute of Technology, 2022

REGISTRATION
CA PLS 8151

Matt has more than 24 years of experience; including assets inventory, control, topographic, right of way, and boundary surveys. Matt worked with Kimley Horn on the first Roadway Safety Sign Audit projects in California. Matt's team helped develop and implement the merge of technologies that have successfully delivered more than 10 RSSA and 6 sign inventory projects in California, including Caltrans districts, Counties and Cities. Many of the survey reports produced on these projects undergo State review for accuracy and procedures.

REPRESENTATIVE PROJECTS

ROADWAY SAFETY SIGNING AND STRIPING AUDIT, MONTEREY COUNTY

Project manager for Monterey County RSSA project along 250 Centerline miles. The project includes the collection of mobile LiDAR and the extraction of approximately 4000 signs. This involved creating survey route maps for data collection, creating and managing project data in a geodatabase format, and managing quality control during extraction and for the final sign inventory. Additional data collection included sign retro-reflectivity via the FHWA nighttime visual assessment method as well as digital ball bank data acquisition and curve advisory speed reporting using the Rieker CARS system on around 1,000 curves.

ROAD SAFETY SIGN AUDIT PHASE 2, NEVADA COUNTY

Survey manager for the Nevada County RSSA along 130 Centerline miles. Tasks include directing subconsultants for the collection of Mobile LiDAR (MLS) for the extraction of approximately 2,800 signs, and digital retroreflectivity assessments using a handheld retroreflecometer. These tasks involved acquiring base data and creating survey route maps for data collection, the creation of a project geodatabase to manage project datasets, and quality control for the project data inventories. Other tasks included the collection of curve advisory speed data using the Rieker CARS system on all project centerlines totaling around 800 curves. Additionally, performed advanced spatial queries for sign and curve location analysis.

TRAFFIC SIGN INVENTORY AND RSSA, MARIN COUNTY

Project manager responsible for the inventory and assessment of existing signage for the development of recommendations for regulatory and warning signage along 21 arterial roadways and 37 collector roadways. His team collected various sign attribute data along all project roadways by driving the approximately 163-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ballbank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. A sign retroreflectivity evaluation was performed using a nighttime visual assessment method conducted by certified staff.

HSIP ROAD SIGN SAFETY IMPROVEMENT PROGRAM, NEVADA COUNTY

Project manager responsible for oversight of the extraction of sign inventory from mobile LiDAR data, including compiling retro reflectivity and sign condition assessment. Project included 900 signs over 50 centerline miles. Managed complete data collection with multiple sensors on one vehicle to conduct data collection in one day. Sensors included 360 degree panoramic cameras, LiDAR survey points, ball bank and GPS. Oversaw extraction of fourteen attributes per sign, including position, type, color, orientation, size, distance from ETW and condition of sign and post. Coordinated with sub consultants to receive and validate inventory data.

Relevant Project Experience

The following projects demonstrate our team's successful history of completing comparable projects for other local agencies. These descriptions clearly show that the Kimley-Horn team has the necessary qualifications, commitment strength, and technical capabilities to fulfill all the services specified and required to successfully accomplish the work.

Traffic Sign Inventory and RSSA, Marin County, CA

Marin County secured an HSIP grant for the inventory, assessment, and development of recommendations for regulatory and warning signage along 21 arterial roadways and 37 collector roadways. The Kimley-Horn and Mark Thomas team collected various sign attribute data along all project roadways by driving the approximately 163-miles once in both directions using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. A sign retroreflectivity evaluation will be performed using a nighttime visual assessment method conducted by certified staff. Kimley-Horn evaluated the sign attributes of approximately 2,000 regulatory and curve warning signs to determine whether they are in compliance with the current CA-MUTCD. As part of the evaluation, we used the data collected to make recommendations and develop exhibits which denote removal, relocation, replacement, and installation of new signs.

Engineering Study to Recommend and Evaluate Existing Advisory Speed at Horizontal Curves Citywide in Compliance with CA-MUTCD, Sunnyvale, CA

Kimley-Horn supported the City of Sunnyvale in performing a comprehensive inventory and evaluation of horizontal curves and associated regulatory and warning signage throughout the City. The Kimley-Horn team collected sign attribute data along all project roadways, along with simultaneously collecting ball-bank data using a Rieker Curve Advisory Reporting System (CARS) and electronic ball-bank indicator. We performed the sign evaluation to determine whether the signage was in compliance with the current CA MUTCD requirements and recommendations. As an outcome of our evaluation, we developed sign recommendations which included sign relocation, replacement, and installation of new signs.

HSIP Grant Design of Striping, Curve Assessments, and Signage, Stanislaus County, CA

Kimley-Horn is currently working with the County of Stanislaus to address their systemic traffic safety issues along 177 miles of County roadways. Recently the County was awarded two HSIP grants that allow the County to analyze these traffic issues and enhance visibility along their roadway network. Our team is assisting the County with data collection, engineering design and preparation of 100% contract documents consisting of plans, specifications, and cost estimates (PS&E) for the Curve Assessments, Signage, and Striping for the project. In addition, our team is providing environmental studies to assist the County to obtain required State and Federal environmental permits and authorizations and to meet the requirements of the HSIP grant funding.

Countywide RSSA, Monterey County, CA

Monterey County was awarded an HSIP grant that allows the County to proactively address roadway safety through systemic warning sign enhancements along 29 roadways. This grant represents only one of a select number of HSIP grants awarded by Caltrans for the purpose of performing an RSSA. Kimley-

Horn and Mark Thomas are working together on this project, which includes approximately 250-miles along which regulatory and warning signs are being inventoried. Additionally, an assessment of existing passing zones along the project roadways are being conducted as part of the project. This RSSA project provides the County with the opportunity to avoid “spot treatments” which have a tendency to miss similar conditions that may exist elsewhere in the network. Other similar situations likely have an equal potential for collisions which may not have occurred yet. Accordingly, this RSSA process is intended to identify these similar locations and recommend similar safety solutions.

Countywide RSSA Project, Calaveras County, CA

This project address systemic traffic safety issues along approximately 220 miles of County roadways in Calaveras County. Recently, the County was awarded an HSIP grant that allows the County to comprehensively evaluate regulatory and warning signage along their roadway network. Our team is assisting the County with data collection, sign evaluation and development of recommendations, engineering design, and preparation of plans, specifications, and engineer’s estimate of probable construction costs (PS&E). In addition, we are completing environmental studies to assist the County with obtaining required state and federal environmental permits and authorizations and to meet the requirements of the HSIP grant funding.

RSSA Phase I and II, Nevada County, CA

Nevada County capitalized on HSIP funding for Phase I and Phase II RSSA projects that proactively addressed roadway safety, with an emphasis on signing, along critical transportation facilities. The Kimley-Horn and Mark Thomas team collected sign locations and other key attributes for each of the study segments by driving the approximately 180 total miles using a mobile LiDAR scanner mounted on a scan vehicle. Simultaneously, ball-bank data was collected using an electronic ball-bank indicator mounted in the scan vehicle. The Phase I study was ultimately confirmed to include 48.3 miles, 898 existing signs of which 228 were Regulatory, 593 were Warning, and 77 were other. Through evaluation, the final recommendations were included removing 318 signs, replacing 221 signs, relocating 11 signs, and installing 403 new signs. The Phase II study, which is ongoing, included 130 miles with 2,817 existing signs. These RSSA projects provide the County with the opportunity to avoid “spot treatments” which have a tendency to miss similar conditions that may exist elsewhere in the network. Similar conditions likely have an equal potential for collisions which may not have occurred yet. Accordingly, this RSSA process has identified these similar locations and recommend similar safety solutions.

RSSA and Sign Upgrade, Placer County, CA

Kimley-Horn and Mark Thomas teamed together to address roadway safety in Placer County along 62 key corridors identified as having deficiencies where run-off-the-road type collisions have been the primary crash type. The approximately 175 miles of roadways are dispersed, with a concentration in the vicinity of the I-80 corridor in the western portion of the County. Through the award of an HSIP grant, this project evaluated critical roadway corridors for safety, focusing on roadway warning signage (warning, school, and specific object markers). This RSSA process provided the County with the opportunity to avoid “spot treatments” which have a tendency to miss similar conditions that may exist elsewhere in the network. Similar conditions likely have an equal potential for crashes, which may not have yet occurred. Accordingly, this comprehensive RSSA process was intended to identify these similar locations and recommend systemic safety solutions across the 62 corridors.

Sign locations and other key attributes for each of the study segments were collected by driving the approximately 175-miles, once in each direction, using an IP-S2 Compact Plus Mobile Scanner mounted

on a scan vehicle. The scan data was collected in a method consistent with GIS level accuracy and did not provide survey-grade data quality. Simultaneously, ball-bank data was collected using a Rieker CARS mounted in the scan vehicle. Under a separate effort, Retroreflectivity data was also collected. For this effort, the study corridors were driven once in each direction at nighttime to collect the sign retroreflectivity data.

The existing sign inventory documented 2,604 existing warning signs, 182 school signs, and 353 object markers (3,139 total). Through the evaluation of the existing signs, 423 had no change, 1,414 signs were indicated for removal, 1,009 signs were indicated to be replaced, and 293 signs were noted for relocation. In conclusion, a total of 1,916 new signs were recommended bringing to total project signs to 5,055. The County authorized preparation of Plans, Specifications, and Engineer's Estimate (PS&E) for the sign recommendations.

RSSA, Moreno Valley, CA

Kimley-Horn is assisting the City of Moreno Valley with this HSIP funded project to analyze traffic safety and implement identified recommendations along two corridors: Ironwood Avenue from Lasselle Street to Nason Street and Kitching Street from Sunnymead Boulevard to Alessandro Boulevard. Kimley-Horn will facilitate an RSA and RSSA. The recommendations identified in the RSSA will be environmentally cleared through NEPA.

3. Work Statement

Detailed Scope of Services

TASK 1 – PROJECT MANAGEMENT

1.1 Project Management

This task includes general project administration, including management of project staff and subconsultants, quality assurance and quality control, and project accounting. This Scope of Service is anticipated to be completed over a period of 6 months.

1.2 Meetings

Upon receipt of a Notice to Proceed, Kimley-Horn will coordinate and attend a project kick-off meeting with City staff. The primary purpose of this coordination step will be to review project scope, confirm the City's expectations, to identify and discuss analysis criteria, to establish mutually acceptable project schedules, and collect information from the City (listed in Task 2.1 below).

Additionally, this task includes attendance at up to 5 monthly project development team (PDT) meetings. We will collaborate with the City to identify members of the PDT. The purpose of the PDT is to facilitate internal City stakeholder coordination during the Project, to advise other City departments and relevant external agencies of Project status, and to obtain stakeholder input, if necessary. Meeting participation includes preparation, coordination, attendance, and documentation.

1.3 Develop QA/QC Plan

At the onset of the project, Kimley-Horn will prepare and implement a project specific quality control/quality assurance (QC/QA) plan that will outline QC/QA procedures for project deliverables,

budgets, and schedules. Kimley-Horn's formal QC/QA program is based upon assigning experienced, senior professionals, who are otherwise qualified to conduct a particular project, to serve only in a quality control role. Our depth allows us to provide such personnel, and their role provides the project with a fresh perspective and critical eye. This benefits the project in obvious, numerous ways. Our internal QC/QA program is anticipated to include:

- An internal kickoff meeting will be held with key team members to clearly define scope of services, subtask responsibilities, schedules (including QC/QA reviews), and critical milestones and goals.
- Supporting calculations, text, or data used to develop a project element will be signed and dated by the individual involved when the work is performed.
- All telephone conversations and meetings will be documented, and accurate files of all correspondence and memoranda will be maintained.
- Documents will be reviewed and/or checked by our Quality Review Team who are not directly performing the work.
- The project manager will check for clarity, accuracy, completeness, and scope compliance. Any follow-up activity required will be noted and initiated as appropriate.
- The project manager will maintain an inventory of comments received during the course of the project. This data will be fed into our checklist system, which will identify the person responsible for dealing with the comment, the schedule for addressing the comment, and the status of disposition.
- The QC/QA program will include reviews conducted prior to all submittals at each stage in the project.

Task 1 Deliverables:

- Monthly progress reports and invoices
- Kickoff meeting agenda and summary
- PDT meeting agendas and summaries
- Quality control/quality assurance plan

TASK 2 – PRELIMINARY INVESTIGATION AND MAPPING

2.1 Data Collection from City

Kimley-Horn shall be entitled to rely on the completeness and accuracy of all information provided by the City. The City shall provide all information requested by Kimley-Horn during the project, including but not limited to the following:

- Existing speed limits for all project roadways
- Crash data for all project roadways
- Available GIS files including roadway centerline, speed limits, crash data, etc.

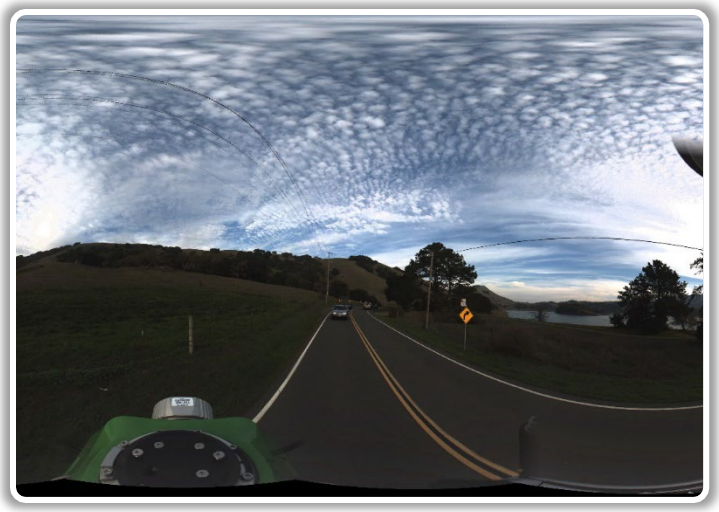
2.2 Field Review of Existing Signs

The Kimley-Horn team will perform the following activities to collect the existing field data necessary to complete this evaluation. These efforts are based on the following primary assumptions:

- Up to approximately 23 miles along 14 roadways are included in this evaluation.
- Engineering and traffic studies to establish speed limits are not included.
- The regulatory and warning signs proposed to be included in the Scope of Services are listed below. Data collection and extraction for up to 700 signs are included in this task.

The following sign and post attributes will be collected:

1. GPS coordinates (coordinates: latitude and longitude; allowable positional variation from actual sign and sign post location will yield an accuracy of +/- 3 feet, on the axis parallel to the roadway and ensuring correctness in both sequential order and position relative to the road, while maintaining relative positional accuracy between signs and posts
2. Sign designation: CA-MUTCD code will be listed (for example, R1-1 for a standard stop sign).
3. Sign variation: Notation of variation for certain MUTCD signage (e.g., 35 mph, right/left curve, etc.)
4. Sign panel size: In general, the panel size will be derived from type specifications in the MUTCD. However, when more than one standard size is acceptable, panel size should be verified. All panel sizes will be reported at an accuracy tolerance of +/- 3".
5. Sign orientation: cardinal direction sign faces (north, northeast, east, etc.)
6. Sign placement: left, right, overhead, median as seen by motorist in travel lane
7. Position on post: top, middle, bottom, in the rare occasion more than 3 signs are on one post, a designation will be used to allow distinguishing the horizontal sign order
8. Lateral distance of sign: measured from edge of traveled way to the left-edge of sign.
9. Height of sign: measured from ground at edge of traveled way to the bottom edge of sign. Measurements shall be recorded to the bottom of each sign where there are multiple signs on a single post
10. Sign condition: good, bent, twisted, faded/illegible, vandalized (stickers/graffiti), holes, view obscured
11. Sign photos: 360-degree snapshots from mobile scan, for both context and image of sign
12. Post type: utility pole, mast arm, U-channel, galvanized round, 4x4 wood, non post-wall, etc.
13. Post number: quantity of posts for sign structure
14. Post shared: yes/no, are there multiple signs on the post
15. Post condition: good, twisted, bent, leaning
16. Date of inventory: the date on which the signpost was inventoried



The following are the proposed data collection activities:

- **Site observations by registered engineer(s):** The primary purpose of this effort will be to observe existing conditions and data collected using other methods. A portion of this effort may be completed at night.

- **Sign inventory using mobile LiDAR scanning:** Mounted to the bed of a pickup truck, the field vehicle will travel lanes in both directions of the entire project area. This survey will enable the identification of sign attributes, as well as a rich data set that includes roadway conditions and features such as pavement type, lane widths, above ground utility locations, striping, etc. The scan data will be collected in a method consistent with GIS level accuracy and will not provide survey-grade accuracy. This method allows relatively accurate measurements of distances from edge of traveled way (ETW) and paved shoulders.

- **Horizontal curve evaluation using CARS electronic ball-bank indicator system:** Rieker's Curve Advisory Reporting System (CARS) will be mounted to the Mobile LiDAR pickup truck to enable efficient collection of robust horizontal curve data. This system is FHWA and MUTCD compliant, and includes integrated GPS to geographically correlate curve radius, superelevation, location date and time. To provide accurate data, all project road segments undergoing curve analysis will have CARS ball-bank data collected for two passes in each direction. We will collect and process ball bank measurements utilizing the Rieker CARS system (up to 30 curves), including:
  - Curve radius
  - Location of BC (Latitude and Longitude)
  - Location of EC (Latitude and Longitude)
  - Advisory speed
  - Date and time of observations
- **Retroreflectivity assessments** will be conducted upon project signage concurrently with CARS curve digital ball bank data collection. MT will utilize staff trained by the UC Berkeley ITS Technology transfer program in the Visual Nighttime Inspection Method to gather FHWA approved sign retroreflectivity assessments. Information will include:
  - Location (Latitude & Longitude)
  - MUTCD Sign Type
  - Retroreflectivity Assessment

2.3 Field Review of Existing Striping

To facilitate assessment of existing striping, centerline and edge line striping will be extracted from LiDAR point cloud data collected as part of Task 2.1. Striping will be classified by detail type and location.

Kimley-Horn will perform site observations to note striping conditions in the field. Additionally, we will collect video footage along all project roadways using a vehicle mounted camera during daytime and nighttime data collection activities.

This scope of services includes road striping inventory for up to seven (7) centerline project miles. Data gathered as part of this task will be reviewed and will inform our recommendations (Task 3).

Task 2 Deliverables:

- Electronic sign inventory with sign attribute data (MS Excel)
- GIS shapefile(s)
- Photo inventory of all existing signs along project roadways

TASK 3 – ANALYSIS AND DESIGN

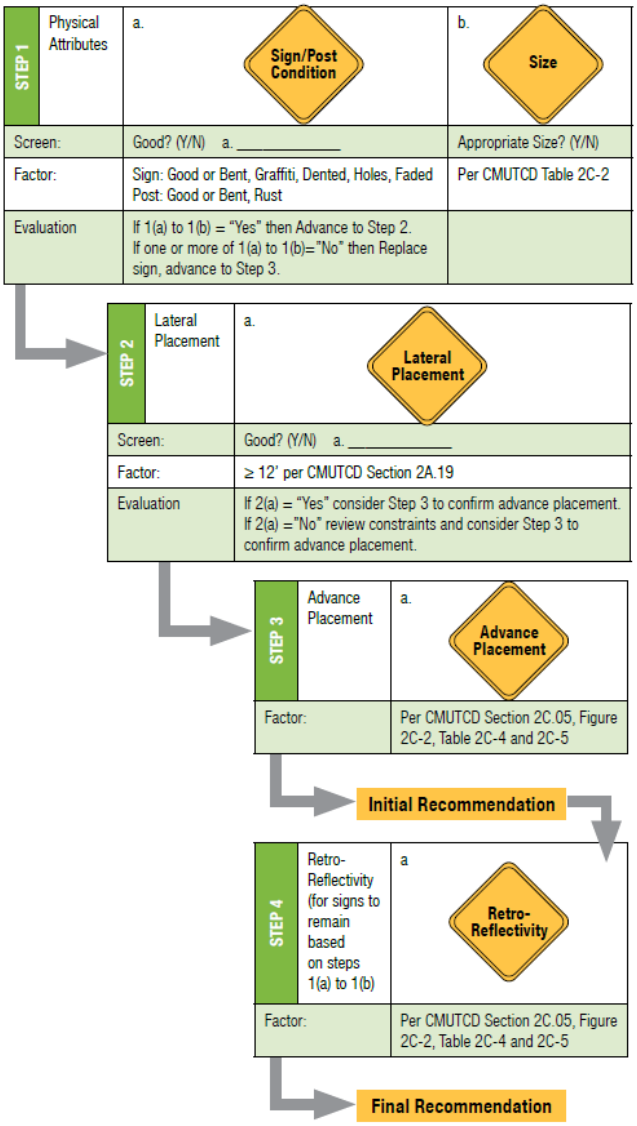
3.1 Sign Evaluation and Recommendations

Using the existing, readily available City speed data (per Task 2.1), and based on field observations and review of the attributes collected in Task 2.2, the Kimley-Horn team will perform an evaluation of the existing warning signing along the project roadways. This evaluation will be primarily based on current published standards, guidance, and requirements per the California Manual on Uniform Traffic Control Devices (CMUTCD), 2014 Edition, Caltrans' Highway Design Manual, and other applicable City of Pittsburg and/or Caltrans design standards.

This focus of this evaluation will be prioritized as follows:

- Deficient locations as determined by field observations, visual evidence, and/or information provided by the City.
- Locations with severe horizontal and/or vertical curvature.
- All others with a focus on uniform application of improvements and enhancements.

Through our experience on the other HSIP-funded RSSA (Placer County, Nevada County, Monterey County, Stanislaus County, and Marin County) projects, we have been able to develop the general sequence of evaluation criteria depicted in the flowchart (see right). Each warning sign will be evaluated based on its physical attributes (sign/post conditions, size, and retroreflectivity), lateral placement (proximity to edge of traveled way), and advance placement of particular horizontal and/or vertical roadway geometric conditions.



3.2 Striping Inventory Review

Kimley-Horn will review existing centerline and edge line striping extracted from the LiDAR survey along all project roadways. The purpose of this review of existing striping is to note design assumptions and recommendations for replacement of striping with enhanced wet-night visibility thermoplastic striping in conformance with the 2022 Caltrans Standard Plans and Special Provisions. The enhanced wet night visibility thermoplastic striping utilizes specialized glass beads to increase nighttime visibility of traffic striping.

Additionally, we will review and evaluate the readily apparent surface condition of the existing striping based on visual assessment during daytime and nighttime conditions from the video footage collected (Task 2).

3.3 Recommendations Documentation

Kimley-Horn will prepare a draft project report in which the following information will be included:

- Overview of existing conditions including field observations, sign inventory findings, horizontal curve data, roadway striping conditions, and retroreflectivity information.
- Prioritized list of improvements, including cost estimates, anticipated to include both relocations/modifications to existing conditions, and recommendations for new devices.

- Conceptual exhibits (65% design plans) depicting existing conditions and recommended improvements.

The draft project report and 65% plans will be submitted electronically (in PDF format) to the City for review and comment. Additionally, Kimley-Horn will prepare plans, specifications, and opinion of probable construction costs (OPCC) for implementation of the warning sign and striping recommendations. The preparation of PS&E will be performed in accordance with applicable, published standards included in the latest versions of the California MUTCD, City of Pittsburg Design Standards and Specifications, Caltrans Highway Design Manual (HDM), and Caltrans Standard Plans and Standard Special Provisions.

The proposed scope of services does not include utility coordination and potholing services. Based on our experience on previous RSSA projects which involved installation of new (or relocated) roadside signs along multiple roadways, utility coordination and potholing were not conducted as part of the preliminary engineering phase. Instead, the contractor was relied upon to coordinate with underground service alert (USA) to confirm underground utilities and/or pothole at proposed sign locations during the construction phase. Signs recommended as part of this project will be shown in its approximate location, but actual locations will need to be determined in the field to account for current field conditions and constraints (i.e. utilities).

Similarly, this task does not include the collection of topographic surveys for the purposes of completing the requested services. Based on our extensive experience, the above-noted data collection methodology (mobile LiDAR) enables an efficient and adequately accurate level of existing “survey” information to support the needs of this project. Accordingly, this scope of services does not include the collection of topographic surveys.

Lastly, in an effort to streamline the plan production effort, and consistent with our well-established workflow from our other HSIP RSSA projects, the plans will be generated using GIS rather than CAD. The primary justification for this approach is that the GIS platform is the superior tool for the preparation of the signing/striping audit and provides the functionality needed to display and assess the various survey attributes. We have an established process by which we produce GIs exhibits that are formatted in a manner similar to traditional CAD plan sheets and have had success with other agencies bidding these plan sheets. The example below demonstrates the intended presentation of this project’s plan sheets.

Kimley-Horn will produce a final project report with 95% plans based on one set of consolidated, non-conflicting comments received from the City on the draft report and 65% plans. We will prepare and submit an electronic copy (in PDF format). The final report deliverables will also include a GIS layer in which the attributes of the corridors’ signs are provided.

3.5 Preparation of Final PS&E

Kimley-Horn will prepare and submit final PS&E to the City for review and approval. We will respond to one set of consolidated, non- conflicting comments on the 95% PS&E. Written responses will be provided for each comment.

Task 3 Deliverables:

- Draft project report (PDF format)
- 65% signing and striping plans (PDF format)
- Final project report (PDF format and one hardcopy)
- 95% signing and striping plans, special provisions, and estimate (PDF format)
- Final signing and striping plans, special provisions, and estimate (PDF format)

TASK 4 – PROCESSING AND APPROVAL ASSISTANCE

Kimley-Horn will assist the City with LAPM submittals including Request for Authorization (RFA) packages, utility certification, right-of-way certification, and PS&E certification. It is anticipated that the City will need assistance with completing forms (Exhibits) in LAPM Chapters 3, 6, 7, 12, 13, 14, and 15. This task will also include coordination with Caltrans pertaining to the determination of appropriate Federally Participating Cost-eligible work items.

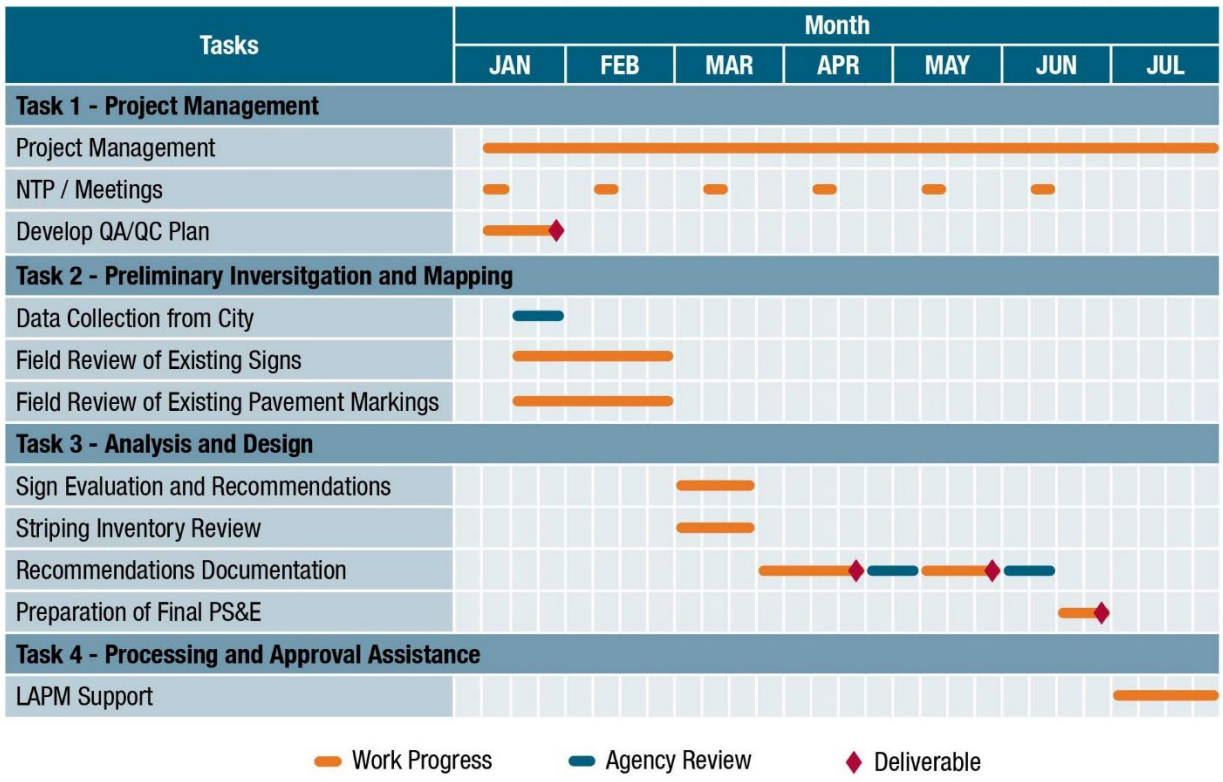
This task includes up to 36 hours of LAPM support.

Task 4 Deliverables:

- RFA packages
- Utility and right-of-way certifications
- PS&E certification

4. Schedule

Please view below for our project schedule, which identifies tasks and subtasks, proposed work periods, milestones, and completion dates, as well as anticipated meeting dates. It is our intent to review this schedule with the City at the start of the project and make any desired adjustments and track the project work as a progress schedule by providing regular updates.



5. Total Budget and Fee

Please view Kimley-Horn's breakdown of budgeted hours and fee proposal in the separate sealed envelope.

6. Subconsultants

Mark Thomas & Company

Beginning as a survey company in 1927, Mark Thomas provides civil engineering, planning, surveying, and asset inventory services to clients throughout California. As a California corporation, their stability throughout the years is founded on their strong reputation for delivering projects of all sizes and types, ranging from small agency projects to multi-million-dollar regional transportation facilities. This reputation is realized through the efforts of 250 team members within 12 offices that are strategically located to support the communities in which they live.

Mark Thomas is experienced at combining data collection and GIS to prepare asset inventories. They use GIS software to create and develop infrastructure databases for municipalities and community service districts. These GIS databases have included feature classes with attributes and metadata for individual appurtenances such as road signs, valves, meters, manholes, etc. as well as parcel layers, district boundaries, and aerial imagery.

They used this approach on Nevada County's RSSA Phase I project, Placer County's Roadway Safety Audit and Sign Upgrade, asset inventory for the City of Alameda, RSSA for four other counties, and curve assessment and sign inventory for five Caltrans districts. These projects combine technology for data collection and management to present a thorough picture of the assets and roadway system.

Through these projects, they continually look for opportunities to improve the process, further enhancing their cost-effective approach. Mark Thomas has collected data for more than 1,500 centerline miles and 25,000 signs.

SECTION A- REQUEST FOR PROPOSALS

Professional Services For

Contract 2021-18
Citywide Roadway Improvements
Project 2038

Highway Safety Improvement Program (HSIP) 10

Sealed proposals (3 printed and bound copies) and an electronic file copy in PDF format (by email) must be received **before 2:00 PM on Tuesday November 29, 2022** by the City of Pittsburg, Public Works Department Engineering Division, Attn: Bruce Baeni, P.E., 65 Civic Avenue Pittsburg, CA 94565. Email address: bzaeni@pittsburgca.gov

1. Solicitation documents are available from the City's website. Please see the solicitation documents for complete details and proposal requirements.

2. Proposer shall honor proposal prices for One Hundred Twenty (120) days or for the stated contract period, whichever is longer.

3. Proposals must include this Request for Proposal form and be signed by the proposer's authorized representative. This signature acknowledges the proposer has read and understands the requirements contained on pages 1 through 10, Attachments A,B,C,D and E and Exhibit A, B and C.

4. The last day proposers may submit questions will be prior **to 2:00 PM, Friday November 18, 2022**. Questions shall be submitted electronically via email to bzaeni@pittsburgca.gov. Answers may be provided at the sole discretion of the city and will be distributed electronically to all proposers.

5. The specifications in this notice shall be considered a part of any contract made pursuant thereto.

I have, read, understood, and agree to the terms and conditions on all pages of this proposal. The undersigned agrees to furnish the commodity or service stipulated on this proposal as stated above.

Company: Kimley-Horn and Associates, Inc.

Address: 555 Capitol Mall, Suite 300, Sacramento, CA 95814

Name (Print): Matthew D. Weir, P.E.

Company Phone No.: 916.858.5800

Signature

Vice President

Title of Person Signing Proposal

ATTACHMENT A

CIT OF PITTSBURG DISCLOSURE STATEMENT

The following information must be disclosed

1. List the names of all persons having a financial interest in the Request for ualifications

   NOT APPLICABLE

2. If any person identified pursuant to No. 1 above is a corporation or partnership, list the names of all individuals owning more than ten percent of the shares in the corporation or owning any partnership interest in the partnership.

   NOT APPLICABLE

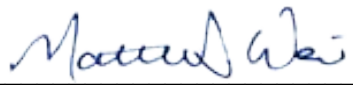
3. If any person identified pursuant to No. 1 above is a non-profit organization or a trust, list the names of any persons serving as a director of the non-profit organization or as a trustee or beneficiary or trustor of the trust.

   NOT APPLICABLE

4. Has the offeror had more than $250.00 worth of business transacted with any member of the City of Pittsburg staff, boards, commissions, committees, and Council within the past twelve months If yes, please indicate the person(s) with whom you have conducted business.

   NO

NOTE Attach additional pages as necessary.



Signature of Offeror

Matthew D. Weir, P.E., Vice President, Kimley-Horn and Associates, Inc.

Print or Type Name of Offeror

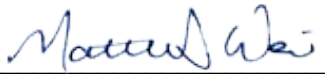
November 29, 2022

Date

ATTACHMENT B

EQUAL OPPORTUNIT□/AFFIRMATIVE ACTION STATEMENT

The offeror hereafter described will not discriminate against any employee or applicant for employment because of race/color, national origin, sex, sexual preference, religion, age, or handicapped status in employment or the provisions of services.



Signature

Matthew D. Weir, P.E., V.P., Kimley-Horn and Associates, Inc.

Typed Name and Title

ATTACHMENT C

DESIGNATION OF SUB-CONTRACTORS, SUPPLIER AND VENDOR

Listed below are the names and locations of the places of business of each sub-contractor, supplier, and vendor who will perform work or labor or render service in excess of ½ of 1 percent, or $10,000 (whichever is greater) of the prime CONTRACTOR's total bid. The bidder shall list all subcontractors (both DBE and non-DBE) in accordance with Section 2-1.054 of the Standard Specifications and per Title 49, Section 26.11 of the Code of Federal Regulations.

<table>
<tr><td colspan="2">Sub-contractor Name: Mark Thomas & Company, Inc. Age of Firm: 95 years
Annual Gross Receipts: < $1million ; <$5million ;
<$10million ; <$15million ; >$15million ✓</td><td>Portion of Work & Dollar Value:
DBE certified? Yes/No: No
If YES, list DBE#:</td></tr>
<tr><td colspan="3">Location and Place of Business 701 University Avenue, Suite 200 Sacramento, CA 95825
(include business address)</td></tr>
<tr><td>LICENSE NO. Not Applicable
DIR NO. 1000016549</td><td>EXP. DATE: / / Not Applicable</td><td>PHONE: (916) 381-9100</td></tr>
<tr><td colspan="2">Sub-contractor Name: Age of Firm: _____
Annual Gross Receipts: < $1million ; <$5million ;
<$10million ; <$15million ; >$15million</td><td>Portion of Work & Dollar Value:
DBE certified? Yes/No
If YES, list DBE #:</td></tr>
<tr><td colspan="3">Location and Place of Business:
(include business address)</td></tr>
<tr><td>LICENSE NO.
DIR NO.</td><td>EXP. DATE: / /</td><td>PHONE ( )</td></tr>
</table>

ATTACHMENT D

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, the Bidder shall complete, underpenalty of perjury, the following questionnaire□

Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever been disqualified, removed, or otherwise preventedfrom bidding on, or completing a federal, state, or local government project because of violation of a law of safety regulation□

YES_____ NO ✓

If YES, explain the circumstances in the following space□

_____

_____

_____

_____

(Attach additional sheet, if necessary.)

GOVERNMENT CODE SECTION 10232 STATEMENT

In accordance with Government Code Section 10232, the Bidder hereby states, underpenalty of perjury, that no more than one final unappealable finding of contempt of courtby a federal court has been issued against the Bidder within the immediately precedingtwo (2) year period due to the Bidder's failure to comply with an order of a federal courtwhich orders the Bidder to comply with an order of the National Labor Relations Board.

Note□The above Statement and □uestionnaire are part of the Proposal. Signingthis proposal on the signature portion thereof shall also constitute signature of this Statement and □uestionnaire.

Bidders are cautioned that making false certification may subject the certifier tocriminal prosecution.

ATTACHMENT E

NONCOLLUSION AFFIDAVIT

(Public Contract Code Section 7106)

NONCOLL□SION DECLARATION TO BE EXEC□TED BY BIDDER AND S□BMITTED WITH BID

The undersigned declares□

I am the Matt Weir, Vice President of Kimley-Horn and Associates, Inc., the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly, or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California thatthe foregoing is true and correct and that this declaration is executed on

11/29/2022 □date□, at Sacramento □city□, CA □state□.

Note□The above Noncollusion Affidavit is part of the proposal. Signing this proposal on the signature portion thereof shall also constitute signature of this noncollusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

CONTACT

Robert Paderna, P.E.

robert.paderna@kimley-horn.com

916.859.3610

555 Capitol Mall, Suite 300
Sacramento, CA 95814

Kimley»Horn

www.kimley-horn.com

CITY OF PITTSBURG
Citywide Roadway Improvements
Project 2038 - HSIP 10

			Kimley-Horn and Associates, Inc.										
194.54%	Overhead%	Name	Robert Paderna	Randy Durrenberger	Matt Weir	Sr. Professional II	Sr. Professional I	Professional	Analyst II	Analyst I	Project Support		
194.38%	Overhead% w/o FCCM	Category/Title	Project Manager	QC/QA	Principal-in-Charge								
10%	Fee%	Direct Rate	$79.76	$117.56	$94.00	$84.67	$74.65	$54.88	$43.08	$39.31	$32.52	Total Hours	Total Cost
		Billing Rate	$258.40	$380.87	$304.54	$274.31	$241.85	$177.80	$139.57	$127.36	$105.36		
Task 1	**Project Management**		**27**	**4**	**4**			**17**			**8**	**60**	**$ 13,584.01**
1.1	Project Management		10								8	18	$ 3,426.91
1.2	Meetings		15		4			15				34	$ 7,761.22
1.3	Develop QA/QC Plan		2	4				2				8	$ 2,395.88
Task 2	**Preliminary Investigation and Mapping**		**8**					**6**	**12**	**6**		**32**	**$ 5,573.00**
2.1	Data Collection from City		4					6		6		16	$ 2,864.55
2.2	Field Review of Existing Signs		2						6			8	$ 1,354.23
2.3	Field Review of Existing Striping		2						6			8	$ 1,354.23
Task 3	**Analysis and Design**		**44**	**6**	**12**		**10**	**78**	**128**	**128**		**406**	**$ 67,762.78**
3.1	Sign Evaluation and Recommendations		8		2		6	18	32	32		98	$ 15,869.41
3.2	Striping Inventory Review		8		2		4	12	24	24		74	$ 12,183.52
3.3	Recommendations Documentation (Draft/Final Report, 65/95% Plans)		18	4	4			36	52	52		166	$ 27,673.81
3.4	Preparation of Final PS&E		10	2	4			12	20	20		68	$ 12,036.04
Task 4	**Processing and Approval Assistance**		**6**			**12**	**12**					**30**	**$ 7,744.37**
	TOTAL HOURS		**85**	**10**	**16**	**12**	**22**	**101**	**140**	**134**	**8**	**528**	
	Subtotal Labor:		**$ 21,964.41**	**$ 3,808.69**	**$ 4,872.63**	**$ 3,291.75**	**$ 5,320.69**	**$ 17,957.71**	**$ 19,539.76**	**$ 17,065.67**	**$ 842.86**		**$ 94,664.17**
	Other Direct Costs												**$ 82,191.98**
	Labor Escalation												$ 473.32
	Travel/Mileage												$ 300.00
	Mark Thomas (Data Collection)												$ 81,418.66
	TOTAL NOT TO EXCEED COST:												**$ 176,856.15**

CITY OF PITTSBURG
Citywide Roadway Improvements
Project 2038 - HSIP 10

			Subconsultant - Mark Thomas and Company													
		Name	Matt Stringer	Brandon Benton	Erik Keethe	Arturo Dominguez	Annie Kumar	Robert Lunden	Kevin Yep	Phillip Ortiz	Jose Valdez	Jazmina Plant	Jamie Gerow	Jacque Thompson		
150.75%	Overhead %	Category/Title	Principal	Project Manager	Surveyor	Sr. Survey Technician	Sr. Survey Technician	Survey Technician	Survey Technician	Survey Technician	Survey Technician	Sr. Project Coordinator	Project Coordinator	Sr. Project Accountant		
10%	Fee%	Direct Rate	$120.00	$83.85	$40.56	$35.20	$31.00	$29.50	$24.88	$34.60	$27.14	$42.84	$39.75	$40.18		
		Billing Rate	$330.99	$231.28	$111.87	$97.09	$85.51	$81.37	$68.63	$95.44	$74.86	$118.16	$109.64	$110.83	Total Hours	Total Costs
Task 1	Project Management		8	4	16							8	2	4	42	$ 6,970.93
Task 2	Preliminary Investigation and Mapping				16		2	16		24	24				82	$ 7,349.96
Task 3	Analysis and Design				24	4		12	4						44	$ 4,324.27
Task 4	Processing and Approval Assistance														0	$ -
	TOTAL HOURS		8	4	56	4	2	28	4	24	24	8	2	4	168	
	Subtotal Labor:		$ 2,647.92	$ 925.12	$ 6,264.98	$ 388.36	$ 171.01	$ 2,278.31	$ 274.50	$ 2,290.45	$ 1,796.61	$ 945.31	$ 219.28	$ 443.31		$ 18,645.16
	Other Direct Costs															$ 62,773.50
	Hotel and Per Diem															$ 956.00
	TREKK															$ 59,100.00
	Mileage															$ 187.50
	Rieker CARS															$ 2,530.00
	TOTAL COST:															$ 81,418.66

Exhibit 10-H1 Cost Proposal
Cost-Plus-Fixed Fee or Lump Sum or Firm Fixed Price Contracts
(Design, Engineering and Environmental Studies)

Note: Mark-ups are Not Allowed ☑ Prime Consultant ☐ Subconsultant ☐ 2nd Tier Subconsultant

Consultant Kimley-Horn and Associates, Inc.

Project No. _____ Contract No. 2021-18 Date 11/28/2022

DIRECT LABOR

Classification/Title	Name	Hours	Actual Hourly Rate	Total
Project Manager	Robert Paderna	85	$79.76	$ 6,779.60
QC/QA	Randy Durrenberger	10	$117.56	$ 1,175.60
Principal-in-Charge	Matt Weir	16	$94.00	$ 1,504.00
Sr. Professional II	TBD	12	$84.67	$ 1,016.04
Sr. Professional I	TBD	22	$74.65	$ 1,642.30
Professional	TBD	101	$54.88	$ 5,542.88
Analsyt II	TBD	140	$43.08	$ 6,031.20
Analyst I	TBD	134	$39.31	$ 5,267.54
Project Support	TBD	8	$32.52	$ 260.16
			$0.00	$ -
			$0.00	$ -

LABOR COSTS

a) Subtotal Direct Labor Costs $ 29,219.32

b) Anticipated Salary Increases (see Anticpated Salary Increases page for calculation) $ 146.10

c) **TOTAL DIRECT LABOR COSTS** [(a) + (b)] **$ 29,365.42**

INDIRECT COSTS

d) Fringe Benefits (Rate: 0.00%) e) Total Fringe Benefits [(c) x (d)] $ -

f) FCCM (Rate: 0.16%) g) FCCM [(c) x (f) $ 46.98

h) Overhead (Rate: 194.38%) i) Overhead [(c) x (h)] $ 57,080.50

j) **TOTAL INDIRET COSTS** [(e) + (g) + (i)] **$ 57,127.48**

FIXED FEE k) **TOTAL FIXED FEE** [(c) + (e) + (i)* fixed fee 10%] **$ 8,644.59**

l) **CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE**

Description of Item	Quatity	Unit	Unit Cost	Total
Travel/Mileage			$0.00	$ 300.00
			$0.00	$ -
			$0.00	$ -
			$0.00	$ -

l) **TOTAL OTHER DIRECT COSTS** **$ 300.00**

m) **SUBCONSULTANTS' COSTS**

Subconsultant 1: Mark Thomas & Company, Inc. $ 81,418.66

Subconsultant 2: $

Subconsultant 3: $

Subconsultant 4: $

(m) TOTAL SUBCONSULTANS' COSTS **$ 81,418.66**

(n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] **$ 81,718.66**

TOTAL COST [(c) + (j) + (k) + (n)] **$ 176,856.15**

Exhibit 10-H1 Cost Proposal

Actual Cost-Plus-Fixed Fee or Lump Sum or Firm Fixed Price Contracts
(Calculations for Anticipated Salary Increases)

1. Calculate average hourly rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
$ 29,219.32	/	528	=	$55.34	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all periods (Increase the Average hourly rate for a period by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$55.34	+	5%	=	$58.11	Year 2 Avg Hourly Rate
Year 2	$58.11	+	5%	=	$61.01	Year 3 Avg Hourly Rate
Year 3	$61.01	+	5%	=	$64.06	Year 4 Avg Hourly Rate
Year 4	$64.06	+	5%	=	$67.27	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each period by total h

	Estimated % Completed Each Period		Total Hours per Cost Proposal		Total Hours per Period	
Year 1	90.00%	*	528	=	475.2	Estimated Hours Year 1
Year 2	10.00%	*	528	=	52.8	Estimated Hours Year 2
Year 3	0.00%	*	528	=	0	Estimated Hours Year 3
Year 4	0.00%	*	528	=	0	Estimated Hours Year 4
Year 5	0.00%	*	528	=	0	Estimated Hours Year 5
Total	100%		Total	=	528	

4. Calculate Total Costs including Escalation (Multiply average hourly rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated Hours (calculated above)		Cost Per Period	
Year 1	$55.34	*	475.2	=	$26,297.39	Estimated Hours Year 1
Year 2	$58.11	*	52.8	=	$3,068.03	Estimated Hours Year 2
Year 3	$61.01	*	0	=	$0.00	Estimated Hours Year 3
Year 4	$64.06	*	0	=	$0.00	Estimated Hours Year 4
Year 5	$67.27	*	0	=	$0.00	Estimated Hours Year 5

Total Direct Labor Cost with Escalation	=	$29,365.42	
Direct Labor Subtotal before escalation	=	$29,219.32	
Estimated total of Direct Labor Salary	=	**$146.10**	Transfer to Page 1

Period 1 = Contract inception through 6/30/23 Period 2 = 7/1/23 through 6/30/24
Period 3 = 7/1/24 through 6/30/25 Period 4 = 7/1/25 through 6/30/26 Period 5 = 7/1/26 through 6/30/27

Exhibit 10-H1 Cost Proposal

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in

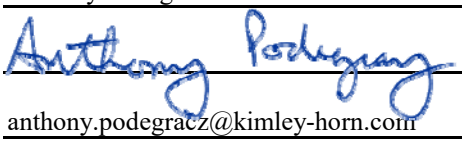
1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Procedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management, and Administration of
6. 48 Code of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.

Local governments are responsible for applying only cognizant agency approved or Caltrans accepted Indirect Cost

Prime Consultant or Subconsultant Certifying:

Name: Anthony Podegracz Title*: Vice President

Signature:  Date of Certification (mm/dd/yyyy): 11/28/2022

Email: anthony.podegracz@kimley-horn.com Phone Number: 916-858-5800

Address: 555 Capitol Mall, Suite 300 Sacramento CA 95814

*An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

Engineering Services

Exhibit 10-H1 Cost Proposal
Cost-Plus-Fixed Fee or Lump Sum or Firm Fixed Price Contracts
(Design, Engineering and Environmental Studies)

Note: Mark-ups are Not Allowed ☐ Prime Consultant ☑ Subconsultant ☐ 2nd Tier Subconsultant

Consultant Mark Thomas and Company Inc.

Project No. 2038 Contract No. 2021-18 Date 11/22/2022

DIRECT LABOR

Classification/Title	Name	Hours	Actual Hourly Rate	Total
Principal	Matt Stringer	8	$120.00	$ 960.00
Project Manager	Brandon Benton	4	$83.85	$ 335.40
Surveyor	Erik Keethe	56	$40.56	$ 2,271.36
Sr. Survey Technician	Arturo Dominguez	4	$35.20	$ 140.80
Sr. Survey Technician	Annie Kumar	2	$31.00	$ 62.00
Survey Technician	Robert Lundeen	28	$29.50	$ 826.00
Survey Technician	Kevin Yep	4	$24.88	$ 99.52
Survey Technician	Phillip Ortiz	24	$34.60	$ 830.40
Survey Technician	Jose Valdez	24	$27.14	$ 651.36
Intern	Daniel Rodriguez	0	$18.00	$ -
Intern	Dominic DeGennaro	0	$18.00	$ -
Intern	Muhammad Omari	0	$20.00	$ -
Sr. Project Coordinator	Jazmina Plant	8	$42.84	$ 342.72
Project Coordinator	Jamie Gerow	2	$39.75	$ 79.50
Sr. Project Accountant	Jacque Thompson	4	$40.18	$ 160.72

LABOR COSTS

a) Subtotal Direct Labor Costs $ 6,759.78

b) Anticipated Salary Increases (see Antcipated Salary Increases page for calculations) $ -

c) **Total Direct Labor Costs** [(a) + (b)] **$ 6,759.78**

INDIRECT COSTS

d) Fringe Benefits (Rate: 92.57%) e) Total Fringe Benefits [(c) x (d)] $ 6,257.53

f) Overhead (Rate: 58.18%) g) Overhead [(c) x (f) $ 3,932.84

h) General and Administrative (Rate:) i) Gen & Admin [(c) x (h)] $ -

j) **Total Indirect Costs** [(e) + (g) + (i)] **$ 10,190.37**

FIXED FEE

k) **TOTAL FIXED FEE** [(c) + (j)]* fixed fee 10%] **$ 1,695.01**

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quatity	Unit	Unit Cost	Total
Hotel and Per Diem	4	1	$239.00	$ 956.00
TREKK	1	1	$59,100.00	$ 59,100.00
Mileage	300	1	$0.625	$ 187.50
Rieker CARS	1	1	$2,530.00	$ 2,530.00

l) **TOTAL OTHER DIRECT COSTS** **$ 62,773.50**

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1: $

(m) TOTAL SUBCONSULTANS' COSTS **$ -**

(n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] **$ 62,773.50**

TOTAL COST [(c) + (j) + (k) + (n)] **$ 81,418.66**

Exhibit 10-H1 Cost Proposal

Actual Cost-Plus-Fixed Fee or Lump Sum or Firm Fixed Price Contracts
(Calculations for Anticipated Salary Increases)

1. Calculate average hourly rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
$ 6,759.78	/	168	=	$40.24	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all periods (Increase the Average hourly rate for a period by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$40.24	+	0%	=	$40.24	Year 2 Avg Hourly
Year 2	$40.24	+	0%	=	$40.24	Year 3 Avg Hourly
Year 3	$40.24	+	0%	=	$40.24	Year 4 Avg Hourly Rate
Year 4	$40.24	+	0%	=	$40.24	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each period by total hours)

	Estimated % Completed Each Period		Total Hours per Cost Proposal		Total Hours per Period	
Year 1	100.00%	*	168	=	168	Estimated Hours Year 1
Year 2	0.00%	*	168	=	0	Estimated Hours Year 2
Year 3	0.00%	*	168	=	0	Estimated Hours Year 3
Year 4	0.00%	*	168	=	0	Estimated Hours Year 4
Year 5	0.00%	*	168	=	0	Estimated Hours Year 5
Total	100%		Total	=	168	

4. Calculate Total Costs including Escalation (Multiply average hourly rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated Hours (calculated above)		Cost Per Period	
Year 1	$40.24	*	168	=	$6,759.78	Estimated Hours Year 1
Year 2	$40.24	*	0	=	$0.00	Estimated Hours Year 2
Year 3	$40.24	*	0	=	$0.00	Estimated Hours Year 3
Year 4	$40.24	*	0	=	$0.00	Estimated Hours Year 4
Year 5	$40.24	*	0	=	$0.00	Estimated Hours Year 5

Total Direct Labor Cost with Escalation	=	$6,759.78	
Direct Labor Subtotal before escalation	=	$6,759.78	
Estimated total of Direct Labor Salary Increase	=	**$0.00**	Transfer to Page 1

Exhibit 10-H1 Cost Proposal

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Procedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management, and Administration of
6. 48 Code of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.

Local governments are responsible for applying only cognizant agency approved or Caltrans accepted Indirect Cost

Prime Consultant or Subconsultant Certifying:

Name: Matt Stringer Title*: Principal

Signature: Date of Certification (mm/dd/yyyy): 11/22/2022

Email: mstringer@markthomas.com Phone Number:

Address:

*An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

OFFICE OF THE CITY MANAGER/EXECUTIVE DIRECTOR
65 Civic Avenue
Pittsburg, CA 94565

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution Allocating Fiscal Year 2022-23 Measure M Sales Tax Funds to Park and Street Maintenance Projects

MEETING DATE: January 17, 2023

EXECUTIVE SUMMARY

The City Council approved the Fiscal Year 2022-23 City Operating Budget with $750,000 from Measure M sales tax revenue appropriated for projects in the City's parks and road repairs. If approved, the resolution will allocate these funds to one new and eight existing projects.

FISCAL IMPACT

The resolution will allocate $750,000 to nine park, street maintenance and construction projects identified on the Project Appropriation List Table. This is an eligible use for Measure M sales tax funds.

RECOMMENDATION

Staff recommends that the City Council adopt the resolution allocating $750,000 from Measure M revenues among various park and street projects as identified on the Project Appropriation List Table.

BACKGROUND

In 2012, the City faced decreasing revenues, including a 26 percent decrease in sales and property taxes since 2008, amounting to a loss of approximately $2.6 million annually.

On June 5, 2012, to avoid reductions in vital City services, the City Council placed Measure P on the ballot to temporarily increase the City's sales tax. Pittsburg's voters approved Measure P with a 73.69% approval and the City began collecting the new sales tax in October 2012.

In June 2016, an election to extend the Measure P sales tax was placed upon the ballot, now referred to as Measure M. The measure was approved by voters with an approval of 81.31%. It identified public safety, gang prevention, job creation, Senior Center operations, road repairs, youth programs and maintaining other City services to receive the funds from the sales tax.

On June 20, 2022, the City Council adopted Resolution 22-14107 approving the Fiscal Year 2022-23 City Operating Budget. The resolution provided for the appropriation of $750,000 from FY 2022-23 Measure M funds to park and street maintenance projects.

SUBCOMMITTEE FINDINGS

The Project Appropriation List was presented at the following subcommittees:

Finance Subcommittee, September 21, 2022
Infrastructure—Transportation Subcommittee, October 26, 2022
Measure M Citizens Oversight Committee, December 2, 2022

STAFF ANALYSIS

Public Works staff has identified in the table below eight existing and one new Measure M projects and proposed allocations of FY 2022-23 Measure M funds.

Each year, the Measure M Citizens Oversight Committee reviews staff's budget plan to verify funds are used consistent with requirements of the ballot measures and make recommendations to the City Council for future uses of these revenues.

Project Number and Title	2020-21 Appropriation	2021-22 Appropriation	2022-23 Appropriation	Proposed Project Budget
2002—Landscape Median & Row Maintenance	100,000	100,000	75,000	275,000
2003—Sidewalk Replacement	10,000	50,000	50,000	110,000
2030—Striping	25,000	50,000	75,000	150,000
2031—Crack Seal	25,000	100,000	125,000	250,000
2032—Parking Lot Resurfacing	75,000	0	0	75,000
2033—Rubberized Cape Seal	0	150,000	75,000	225,000
2034—Pavement Repairs	35,000	100,000	50,000	185,000
2035—Road Mantenance Preparation	120,000	100,000	125,000	345,000
2036—Willow Pass On-Ramp - COMPLETE	75,000	0	0	75,000
3001—Park Maintenance	0	100,000	25,000	125,000
3016—De Anza Park Exercise Stations - COMPLETE	15,000	0	0	15,000
Project # TBD— City Park Tree Safety Maintenance	0	0	150,000	150,000
TOTAL	**480,000**	**750,000**	**750,000**	**1,980,000**

ATTACHMENTS: Resolution

Report Prepared By: Sharon Paz, Administrative Analyst II

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Adoption of a City Council Resolution)
Allocating Fiscal Year 2022-23 Measure) RESOLUTION NO. 23-
M Sales Tax Funds to Parks and Street)
Maintenance Projects)

WHEREAS, on June 20, 2022, the City Council adopted Resolution 22-14107, approving the Fiscal Year 2022-23 City Operating Budget; and

WHEREAS, the resolution provided for appropriation of $750,000 from Fiscal Year 2022-23 Measure M funds to streets maintenance to be committed for Measure M projects and activities; and,

WHEREAS, consistent with direction from the City Council's Finance Subcommittee on September 21, 2022, and recommendations from the Measure M Citizens Oversight Committee on December 2, 2022, staff identified 9 park and street maintenance projects to receive these Fiscal Year 2022-23 funds; and,

WHEREAS, a Project Appropriation List Table for Fiscal Year 2022-23 of requested project allocations is included in the staff report accompanying this Resolution.

NOW, THEREFORE BE IT RESOLVED by the City Council of the City of Pittsburg hereby approves the allocation of $750,000 in Measure M funds to parks and street maintenance projects as identified on the Project Appropriation List Table.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 17th day of January 2023, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Shanelle Scales-Preston, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk