



**CITY OF PITTSBURG  
PLANNING COMMISSION MEETING AGENDA**

**SEPTEMBER 22, 2020**

**CITY HALL COUNCIL CHAMBER  
65 CIVIC AVENUE, PITTSBURG, CA**

**PUBLIC ADVISORY:**

**THE CITY COUNCIL CHAMBER WILL NOT BE OPEN TO THE PUBLIC**

Pursuant to Section 3 of Executive Order N-29-20, issued by Governor Newsom on March 17, 2020, the regular meeting of the Planning Commission for September 22, 2020 will be conducted telephonically through Zoom and broadcast live through Granicus on the City's website which can be located on the [Streaming Media](#) page. If you do not have internet access, the meeting will also be available to the public in a listening-only mode via telephone call-in line. To listen to the meeting, dial 1 (669) 900-6833. When prompted, dial in the Webinar ID, 878 5261 8967 and Password, 086252.

Please be advised that pursuant to the Executive Order, and to ensure the health and safety of the public by limiting human contact that could spread the COVID-19 virus, the Council Chamber will not be open for the meeting. Planning Commissioners will be participating telephonically and will not be physically present in the Council Chamber.

Comments can be submitted via email to [meetingcomments@ci.pittsburg.ca.us](mailto:meetingcomments@ci.pittsburg.ca.us). If you wish to have your comments read to the Planning Commissioners during the appropriate Public Comment period, please indicate in the Subject Line "FOR PUBLIC COMMENT" and list the item number you wish to comment on. If your comment is for a non-agenda item, indicate "FOR PUBLIC COMMENT – NON-AGENDA." Comments that you want read to the Commission will be subject to the three-minute time limitation (approximately 350 words). In the event the Commission receives a high-volume response, read-in comments may be subject to a shortened time limitation of two minutes (approximately 250 words). Written comments that are only to be provided to the Planning Commission and not read at the meeting will be distributed to the Commissioners prior to the meeting if received by 5:00 p.m. the date of the meeting. Comments via text and social media (Facebook, Twitter, etc.) will not be accepted. Just as in a live meeting inside the Council Chamber, only one comment per agenda item per person is allowed. If you comment more than once on a particular topic, only the first email will be read aloud.

The City of Pittsburg thanks you in advance for taking all precautions to prevent spreading the COVID 19 virus.



## City of Pittsburg Planning Commission Agenda

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**September 22, 2020**

**City Hall Council Chamber  
65 Civic Avenue, Pittsburg, CA 94565**

**Regular Meeting  
7:00 P.M.**

**Planning Commission Members**

**Sarah Foster, Chair  
Christopher Moreno, Vice-Chair  
Dr. Trinh Nguyen, Commissioner  
Wolfgang Croskey, Commissioner  
James Coniglio, Commissioner  
Punita Bhasin, Commissioner  
Elissa Robinson, Commissioner**

**Any member of the public who wishes to address the Commission should complete a Speaker's Card, available on the public counter below the dais.** Please note on the card the agenda item number, or, for items not listed on this agenda, a brief description of the issue on which you would like to address the Commission. Give the completed form to the Minutes Clerk or a staff member, who will give the card to the Commission Chair. The Chair will invite the speaker(s) to the podium at the appropriate time during the meeting. Each individual will be given three minutes to address the Commission, unless additional time is allowed as provided for spokespersons. Prior to speaking, each speaker is requested to state his or her name and business and city of residence in a clear and audible tone of voice. For items listed under the "Public Hearings" or "Commission Consideration" portions of this agenda, the public hearing or public comment period will follow a brief presentation on the item by Planning Department staff and/or the project applicant.

**A decision by the Planning Commission is not final until the appeal period expires 10 calendar days after the date the decision occurred.** The applicant, City Council member(s), City Manager, or any affected person may appeal the denial, approval, recommendation, or any condition of approval of an item within the 10-day appeal period. A completed appeal form and the applicable filing fee must be filed with the City Planner, 65 Civic Avenue, Pittsburg. The appeal form must include the name and address of the appellant and state the reasons for the appeal. The appeal will be set for City Council consideration and appropriate public notification given.

**The Commission requests that you refrain from disruptive conduct during the meeting and that you observe the order and decorum of the Council Chamber.** Please turn off or set to vibrate all cellular phones, and refrain from making personal, impertinent or slanderous remarks. Boisterous or disruptive behavior while the Commission is in session, and the display of signs in a manner that violates the rights of others or prevents others from watching or fully participating in the Planning Commission meeting is considered counterproductive and will not be tolerated, and the Commission Chair can order any person who engages in such conduct to leave the Council Chamber.



**CALL TO ORDER**

**ROLL CALL**

**PLEDGE OF ALLEGIANCE**

**DELETIONS, WITHDRAWALS OR CONTINUANCES**

**COMMENTS FROM THE AUDIENCE**

**CONSENT**

1. **Minutes**  
Minutes of September 8, 2020

**PUBLIC HEARINGS**

2. **K2 Pure Solutions Chlorine Rail Transportation Curtailment Project, AP-18-1313 (UP, DR)**  
This is a public hearing on a request for: 1) design review approval of plans to install a liquid chlorine rail tank car loading station at the existing K2 Pure Solutions ECU and Bleach Plant; and 2) approval of a use permit amendment to allow operation of the new loading station. The K2 plant is located at 950 Loveridge Road in the IG (General Industrial) District. Assessor's Parcel No. 073-222-039.

**COMMISSION CONSIDERATIONS**

3. **San Marco Villas III Apartments, AP-20-1498 (DR)**  
This is a continued public hearing on a request for approval of a design review application to construct a 270-unit extension, consisting of eleven new three story buildings and one clubhouse, to the existing San Marco Villas apartment complex located at the northwest corner of West Leland Road and San Marco Boulevard with access off of Villa Drive. The project site consists of approximately 14.92 acres and is zoned PD (Planned Development, City Council Ordinance No. 12-1362) District. APN: 091-050-047.

**ZONING ADMINISTRATOR REPORTS**

**STAFF COMMUNICATIONS**

**COMMITTEE REPORTS / COMMISSION COMMENTS**

**ADJOURNMENT OF PLANNING COMMISSION MEETING**

## **NOTICE TO PUBLIC**

### **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 citizens. 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 Commission 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)

### **GENERAL INFORMATION**

Copies of the open session agenda packets that are distributed to the Planning Commission are on file in the office of the Planning Department, 65 Civic Avenue, Pittsburg, California, and are available for public inspection, beginning no fewer than 72 hours in advance of the meeting, during normal business hours (8:00 a.m. – 5:00 p.m., Monday through Friday, except city holidays). Additionally, if any reports or documents that are public records are distributed to the Planning Commission fewer than 72 hours before the meeting, those reports and documents will also be available for public inspection in the city's Planning Department and at the Commission meeting. The Pittsburg Library is also provided a full agenda packet for your convenience. As a courtesy, the agenda is also located on the city's website at [www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us).

**MINUTES  
OF A REGULAR MEETING  
OF THE  
PITTSBURG PLANNING COMMISSION**

**September 8, 2020**

Pursuant to Section 3 of Executive Order N-29-20, issued by Governor Newsom on March 17, 2020, the regular meeting of the Planning Commission for September 8, 2020 was conducted telephonically through Zoom with broadcasting live through Granicus on the City's website. Please be advised that pursuant to the Executive Order, and to ensure the health and safety of the public by limiting human contact that could spread the COVID-19 virus, the Council Chamber was not open for the meeting. Council Members participated telephonically or through Zoom and were not physically present in the Council Chamber.

Chair Foster called the meeting of the Pittsburg Planning Commission to order at 7:00 p.m. on Tuesday, September 8, 2020, in the Council Chamber at City Hall, 65 Civic Avenue, Pittsburg, California via Zoom teleconference.

**ROLL CALL**

Present: Chair Foster, Vice-Chair Moreno, Commissioners Nguyen, Croskey, Coniglio, Bhasin, Robinson

Staff: City Attorney Donna Mooney, Community Development Director Jill Hecht, City Engineer Richard Abono, Planning Manager/ Secretary Kristin Pollot, Associate Planner Trishia Caguiat, Senior Engineer Paul Reinders, Assistant Planner John Dacey, Deputy City Clerk Amanda McVey, Administrative Coordinator Shelby Rose

**PLEDGE OF ALLEGIANCE**

Vice-Chair Moreno led the Pledge of Allegiance.

**DELETIONS / WITHDRAWALS / CONTINUANCES**

Item 3, Villas III Apartments at San Marco (Village B and C), AP-20-1498 (DR), was continued to a date uncertain.

On motion by Commissioner Bhasin to continue this item to a date uncertain and seconded by Commissioner Moreno to approve and carried by the following vote:

AYES: Bhasin, Moreno, Nguyen, Foster  
NAYES: Coniglio, Croskey, Robinson  
ABSTAIN: None  
ABSENT: None

## **COMMENTS FROM THE AUDIENCE**

Joanna Bermudez-Hernandez, Pittsburg, inquired about more accessible COVID-19 testing for the residents of Pittsburg.

## **CONSENT**

### 1. Minutes of August 25, 2020

On motion by Commissioner Moreno and seconded by Commissioner Robinson to approve the Minutes of August 25, 2020 and carried by the following vote:

|          |                                                             |
|----------|-------------------------------------------------------------|
| AYES:    | Bhasin, Coniglio, Croskey, Moreno, Nguyen, Robinson, Foster |
| NAYES:   | None                                                        |
| ABSTAIN: | None                                                        |
| ABSENT:  | None                                                        |

## **PUBLIC HEARING**

### 2. Ruby Smoke Shop & More, AP-20-1517 (UP)

A public hearing on a request for approval of a use permit to operate a smoke shop at 3829 Railroad Avenue in the CN (Neighborhood Commercial) District.

Assessor's Parcel No. 088-072-055

Assistant Planner Dacey gave a presentation on the item.

Chair Foster opened the public hearing.

Applicant Qassem Ali spoke on behalf of this project.

Comments were received through email from the following and were read aloud:

Fort Knox Self Storage, Pittsburg  
Ben Sakai, Pittsburg

There being no one to speak further to the item, Chair Foster closed the public hearing.

On motion by Commissioner Moreno and seconded by Commissioner Nguyen to deny the application and carried by the following vote:

|          |                                                  |
|----------|--------------------------------------------------|
| AYES:    | Bhasin, Coniglio, Croskey Moreno, Nguyen, Foster |
| NAYES:   | None                                             |
| ABSTAIN: | None                                             |
| ABSENT:  | None                                             |

## **STAFF COMMUNICATIONS**

Planning Manager / Secretary Pollot suggested the Commission convene to next regular meeting of Tuesday, September 22, 2020.

## **COMMITTEE REPORTS / COMMISSIONER COMMENTS**

Commissioner Croskey recommends a training session for Planning Staff and the Commission to discuss the monitoring of use permits.

Commissioner Moreno brought attention to a survey for Opportunity Zone.

## **ADJOURNMENT**

The meeting was adjourned at 8:46 p.m. to September 22, 2020.

Respectfully Submitted,

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Kristin Pollot, AICP, Secretary

**From:** [Amanda McVey](#)  
**To:** [Shelby Rose](#)  
**Subject:** FW: Public comment September 8th  
**Date:** Tuesday, September 8, 2020 4:52:32 PM

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**From:** Joanna Hernandez <joannayq76@gmail.com>  
**Sent:** Thursday, September 3, 2020 9:00 PM  
**To:** meetingcomments <meetingcomments@ci.pittsburg.ca.us>  
**Subject:** Public comment September 8th

**\*\*External Sender: Use caution before opening links or attachments\*\***

Hello ,

I wanted to know why isn't there more accessible COVID 19 testing for residence of Pittsburg? As a community we should be organizing more testing locations. We organize Tuesday food truck's so let's organized Tuesday testing.

I hope this can be done !

Joanna Bermudez-Hernandez

**Please excuse brevity and typos, sent from my iPhone.**

FORT KNOX SELF STORAGE  
3865 RAILROAD AVENUE  
PITTSBURG, CA 94565  
925-439-1145

September 8, 2020

To: City of Pittsburg  
Planning Commission

Re: For Public Comment at Meeting on September 8, 2020  
On Item 2. Ruby Smoke Shop & More

Dear Planning Commission,

We are against the approval of a Use Permit to operate a Smoke Shop at 3829 Railroad Avenue. The prior use for this site was also a Smoke Shop. We had nothing but problems with this type of business including:

1. Constant trash around the property.
2. Partying and drinking during and after business hours around the site. Their customers would use our parking lot in front of our main office as a gathering place. The next morning we would usually find broken beer bottles, empty cans, trash and vomit.
3. Playing of loud music after hours. As they partied they played loud music disturbing the residents in the residential neighborhood behind our property.
4. Parking against the fire zone red curb. We continually told them this was for ingress and egress and was a fire lane. Their customers ignored us.
5. Vandalizing property and burning rubber in our parking lot.

Attached you will find a number of pictures from a few separate incidents.

These problems occurred almost every weekend. The police were called numerous times and we made a number of complaints. Eventually the Smoke Shop hired a security guard, but this did not help much.

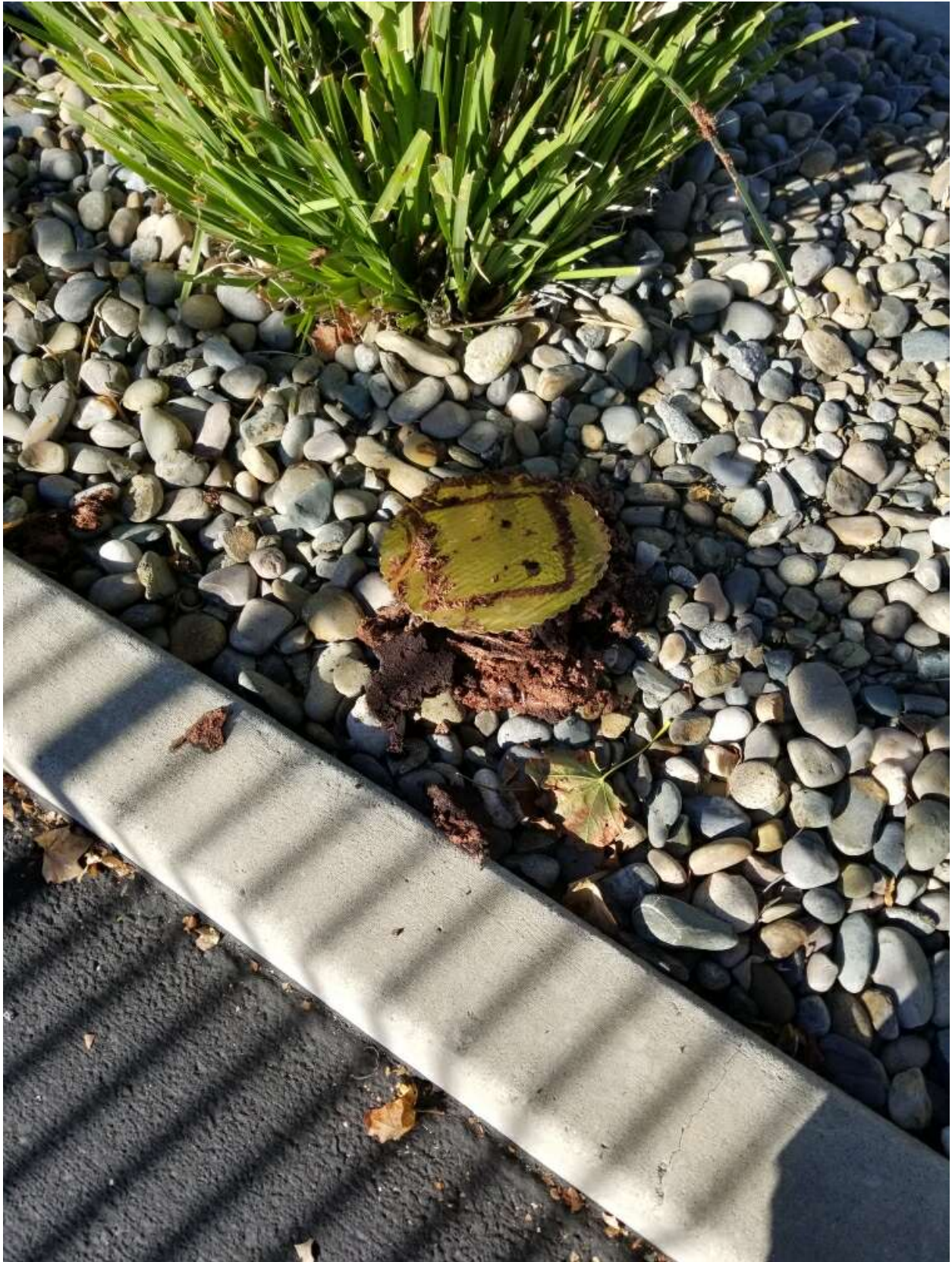
Due to our past experience with this type of business, we ask that you do not approve a Use Permit for this site for a Smoke Shop.

Respectfully,

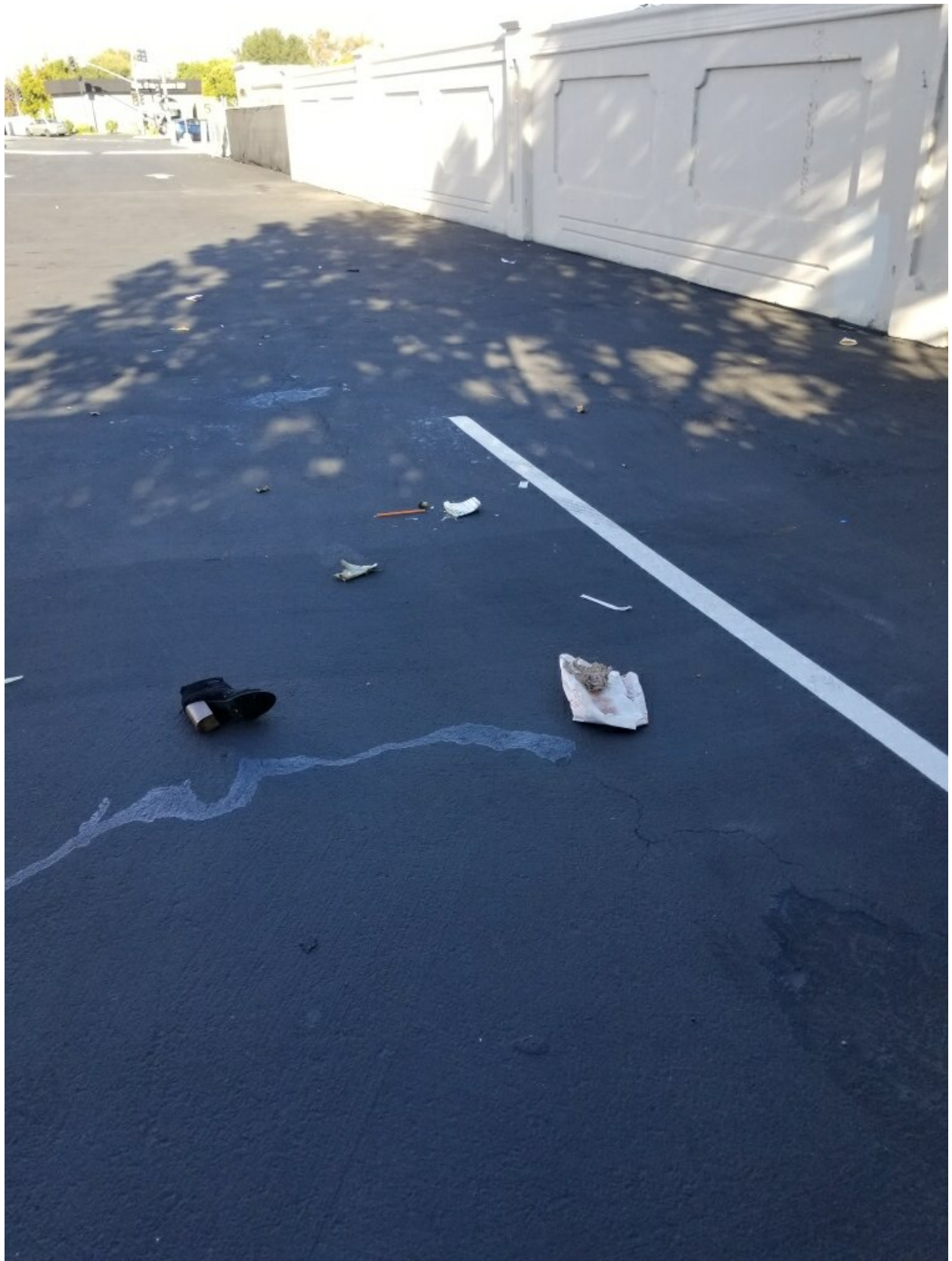
Fort Knox Self Storage











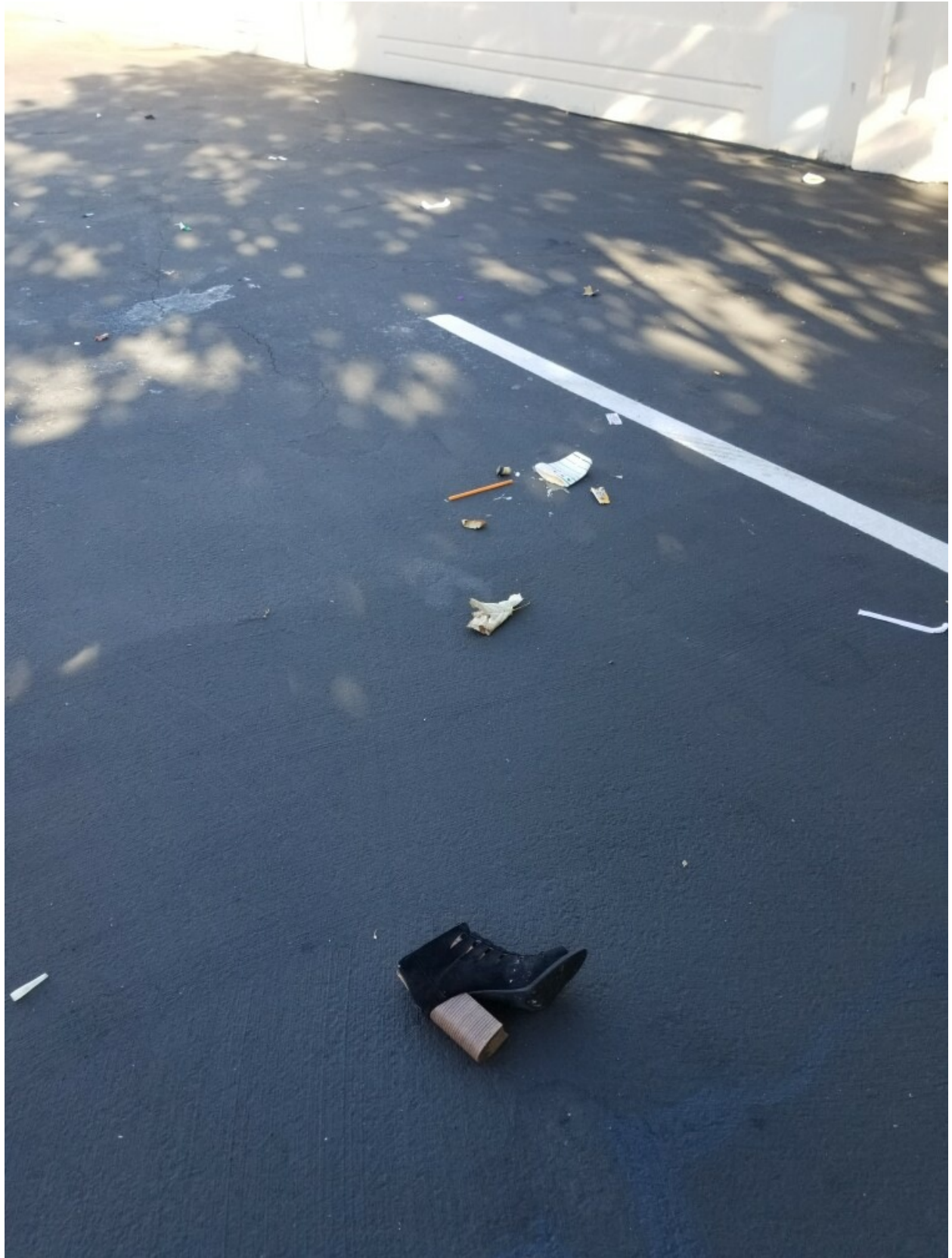










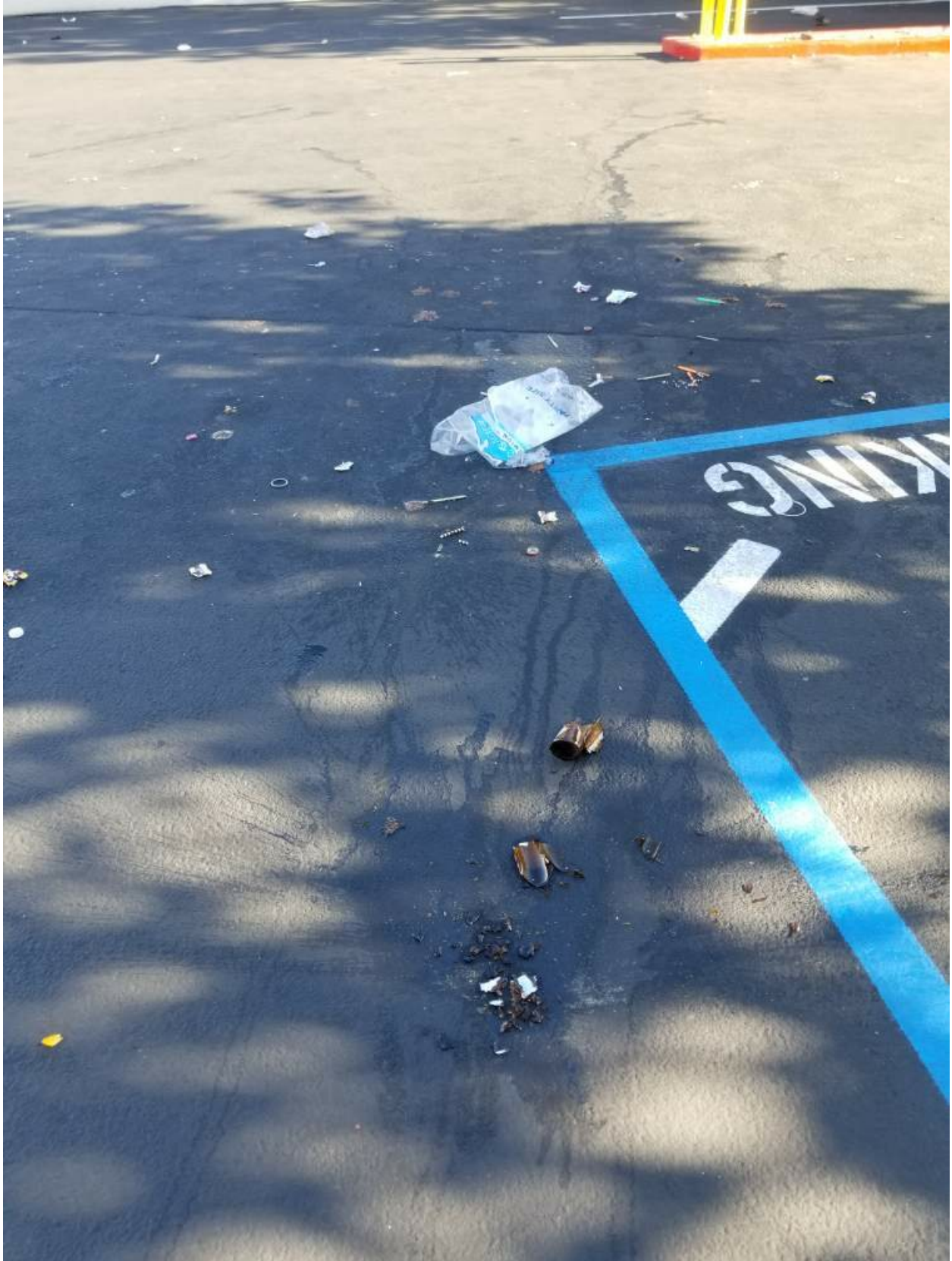


























**From:** [Amanda McVey](#)  
**To:** [Shelby Rose](#)  
**Subject:** FW: [SPAM] Item 2, 9/8 Meeting  
**Date:** Tuesday, September 8, 2020 4:52:15 PM

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**From:** bsakai@tutanota.com <bsakai@tutanota.com>  
**Sent:** Tuesday, September 8, 2020 2:46 PM  
**To:** meetingcomments <meetingcomments@ci.pittsburg.ca.us>; PlanningCommissioner <PlanningCommissioner@ci.pittsburg.ca.us>  
**Subject:** [SPAM] Item 2, 9/8 Meeting

**\*\*External Sender: Use caution before opening links or attachments\*\***

Commissioners,

My name is Ben Sakai and I urge you to consider denying the use permit for Ruby Smoke Shop. Yes, Pittsburg needs more businesses, but it needs the RIGHT kind of businesses. We should welcome offices, restaurants, and most retailers with open arms, but when it comes to potential nuisance properties it should be a different story.

Nuisance properties are community institutions that tend to exacerbate crime. Past research has helped identify some of these establishments - they include motels, pay day lenders, and liquor stores. A recent study published in *Preventative Medicine* by the University of California, Riverside now adds tobacco shops to the list of potential nuisance institutions.

The study focused on violent and property crime data from South Los Angeles, an urban community containing Los Angeles County's highest concentration of African Americans, adults without high school education, and residents living in poverty.

The study was data-driven and it concluded that tobacco shops are likely nuisance properties that associate with crime and violence within low-income urban communities of color. The study is relevant to Pittsburg and this use permit application because Pittsburg shares many the study area's characteristics. According to the US Census Bureau, 59% of our population is Latinx, Black, or African American. Twenty percent of our residents are without a high school education and around 13% live in poverty.

As you consider this application, please ask yourself:

1. What are this neighborhood needs? How does a smoke shop meet those needs?
2. What's the track record of smoke shops in Pittsburg? Should we review Pittsburg Police data before making a decision?
3. Ruby Lounge's business permit was revoked due to loitering outside the business. Why should we expect a different outcome at the same location from a similar business?
4. Does the minimal tax revenue from this business outweigh the risk of increased crime?

5. Would another smoke shop do more to attract quality businesses or detract from that objective?

This particular location should raise more concern than others. It's at the southerly edge of Railroad Avenue where there's less traffic and there's a large distance between the street and the front door. These factors could make it even more difficult for the community to observe and report what goes on at this establishment.

I hope you have a healthy conversation about this application tonight... I'd like to leave you with a telling statement from a gang interventionist that participated in the UC Riverside study. He stated "smoke shops are bad. They're the new liquor stores. That's where the gangs hang out now." Commissioners, please continue making decisions that create attractive places where WE (not gangs) want to hang out!

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Ben Sakai  
Pittsburg Resident

**Link to UC Riverside Study:**

<http://ridley-thomas.lacounty.gov/wp-content/uploads/2018/03/Prev-Med-Proof.pdf>

**CITY OF PITTSBURG  
PLANNING COMMISSION  
STAFF REPORT  
September 22, 2020**

**ITEM: K2 Pure Solutions Chlorine Rail Transportation Curtailment Project, AP-18-1313 (UP, DR)**

ORIGINATED BY: David Kahn, K2 Pure Solutions, 950 Loveridge Road, Pittsburgh, CA. 94565

SUBJECT: This is a public hearing on a request for: 1) design review approval of plans to install a liquid chlorine rail tank car loading station at the existing K2 Pure Solutions ECU and Bleach Plant; and 2) approval of a use permit amendment to allow operation of the new loading station. The K2 plant is located at 950 Loveridge Road in the IG (General Industrial) District. Assessor's Parcel No. 073-222-039.

RECOMMENDATION:

Staff recommends the Planning Commission adopt Resolution No. 10159, approving Planning Application No. 18-1313, subject to conditions.

BACKGROUND:

In 2009, the Planning Commission adopted a mitigated negative declaration and granted a use permit and design review approval (Resolution No. 9813) for construction of the K2 Pure Solutions ECU and Bleach Plant Project at the Dow Chemical Pittsburgh Facility, which is now known as the Corteva Agriscience Pittsburgh Facility. The K2 plant was subsequently completed and is now being used to manufacture caustic soda, chlorine, hydrogen, bleach, and hydrochloric acid.

Back in 2016, the Commission granted design review approval for the K2 Pure Solutions Ramp Up to Full Capacity Project (Resolution No. 10027). The 2016 approval allowed installation of additional equipment at the K2 plant, increasing its maximum daily production capacity from 300 Electrochemical Units (ECU) per day to 400 ECUs per day. An ECU is a ratio of 1.1 tons of sodium hydroxide (caustic soda), 1 ton of chlorine, and 0.03 tons of hydrogen produced.

The K2 plant delivers chlorine gas to Corteva through a 750-foot-long pressurized pipeline. Corteva uses the chlorine gas as a raw material for several crop protection products manufactured at its Pittsburgh facility, including fungicides, herbicides, and insecticides. Prior to construction of K2's plant, Corteva imported all of its chlorine in liquid form via rail tank car from a supplier located in Texas. Today, the K2 plant provides Corteva with roughly 99% of its annual chlorine supply. The remaining amount is still imported from Texas when the K2 plant is shut down for inspection, maintenance, or repair.

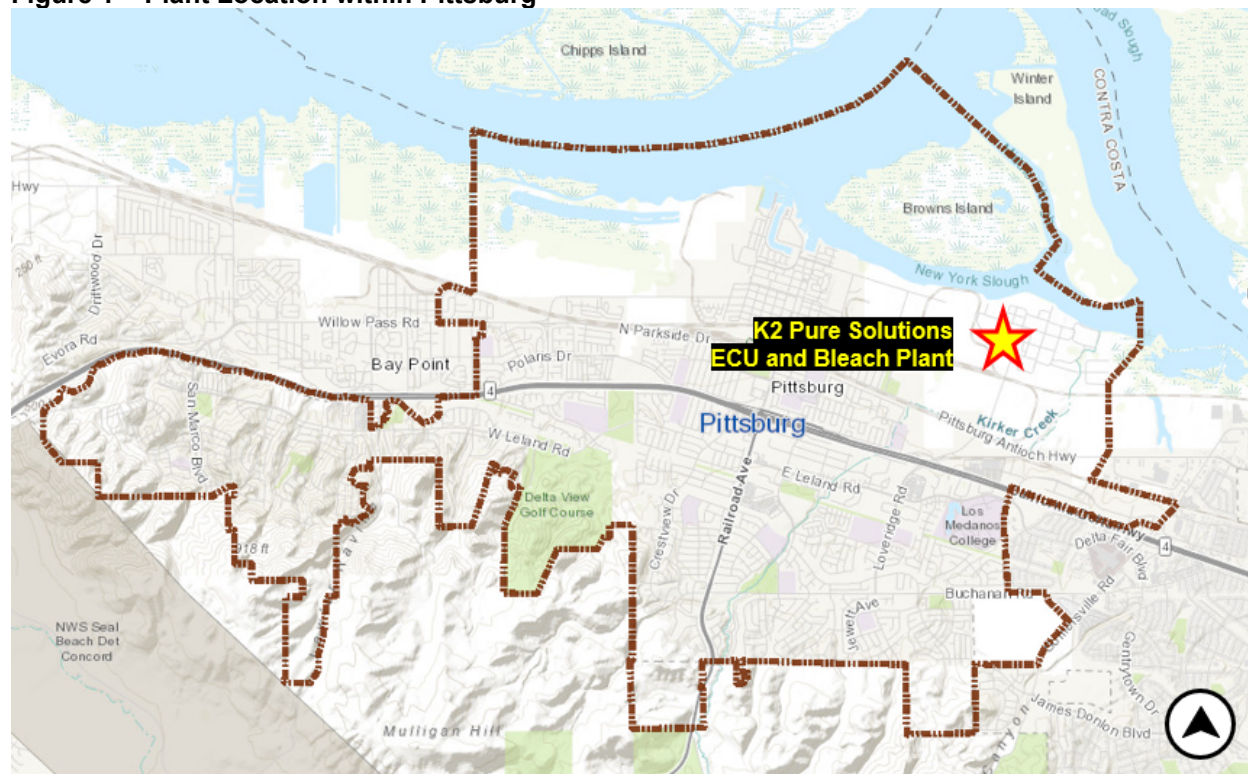


**PROJECT DESCRIPTION:**

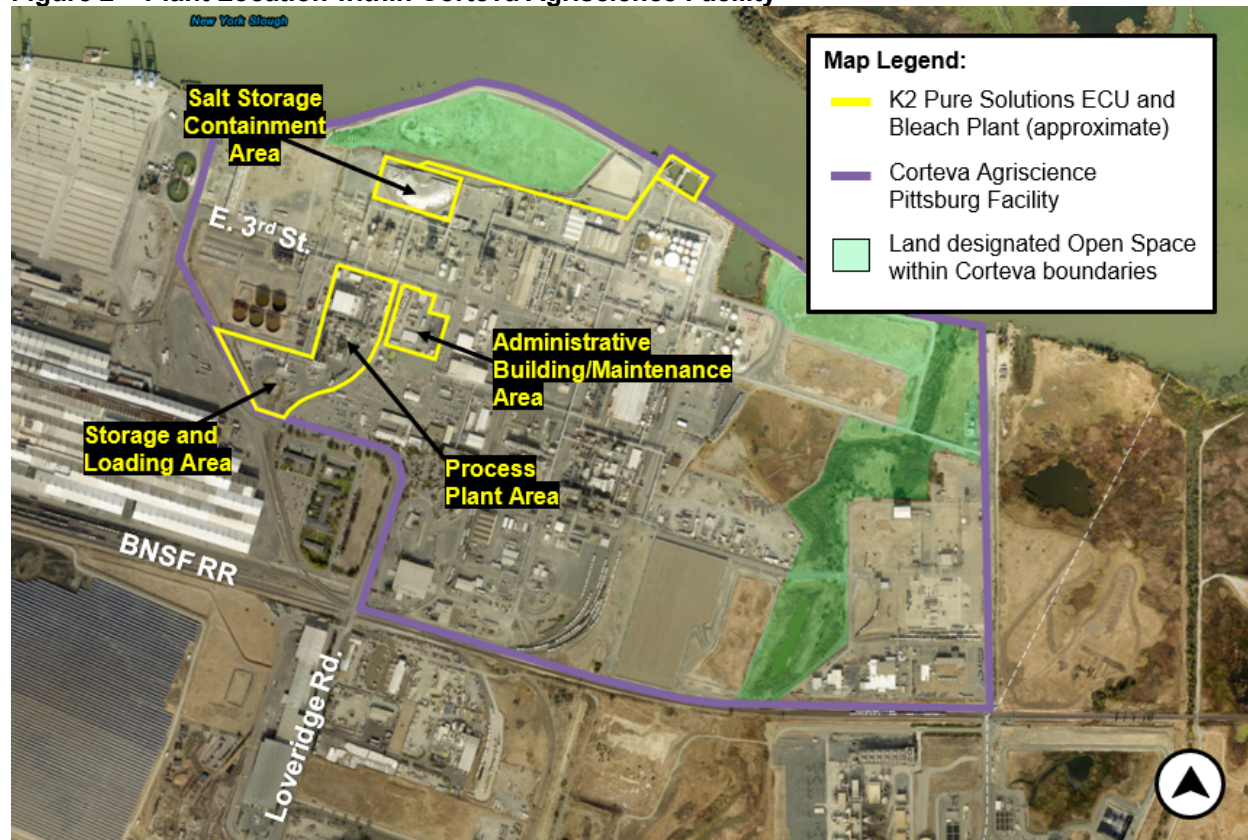
**Existing Conditions:** The K2 plant is located within the boundaries of the Corteva facility and it covers approximately 12.96 acres. K2 leases the land from Corteva, but it owns and operates the ECU and bleach plant. The plant generally consists of four areas – a 2.29-acre administrative/maintenance area; a 4.01-acre process plant area; a 4.31-acre storage and loading area; and a 2.35-acre salt storage containment area. Throughout these areas, there are several tanks, material handling equipment, chemical reactors, mixing and separation equipment, pipes, pumps, loading stations, computer control centers, and other equipment necessary for the plant's manufacturing operations.

The K2 plant operates 24-hours a day, seven-days-a-week and it employs 24 operators, two operations specialists, and one operations manager. K2's employees have access to parking in the administrative building/maintenance area of the plant. Due to their industrial nature, the K2 plant and surrounding Corteva facility have minimal landscaping. The landscaped areas are concentrated along Loveridge Road. Figure 1 below shows the plant's location within Pittsburg and Figure 2 on the next page shows the plant's location within the Corteva facility. Figure 1 also shows the areas within the Corteva facility that are designated 'Open Space' under the General Plan and contain limited marshlands. Figure 3 (also on the next page) is a photo of the plant's storage and loading area. The storage and loading area is the only area of the plant that is visible from the public right-of-way on Loveridge Road.

**Figure 1 – Plant Location within Pittsburg**



**Figure 2 – Plant Location within Corteva Agriscience Facility**



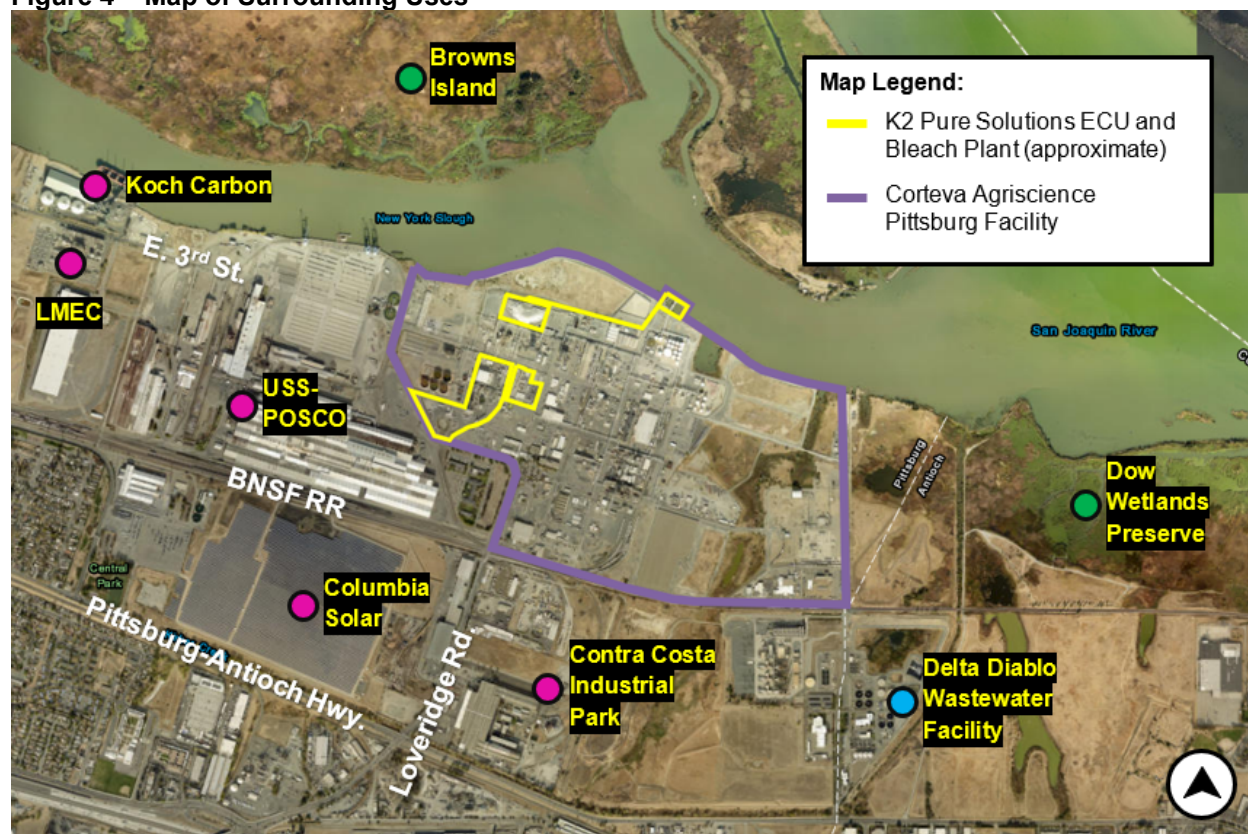
**Figure 3 – Plant's Storage and Loading Area (photo taken from terminus of Loveridge Road)**





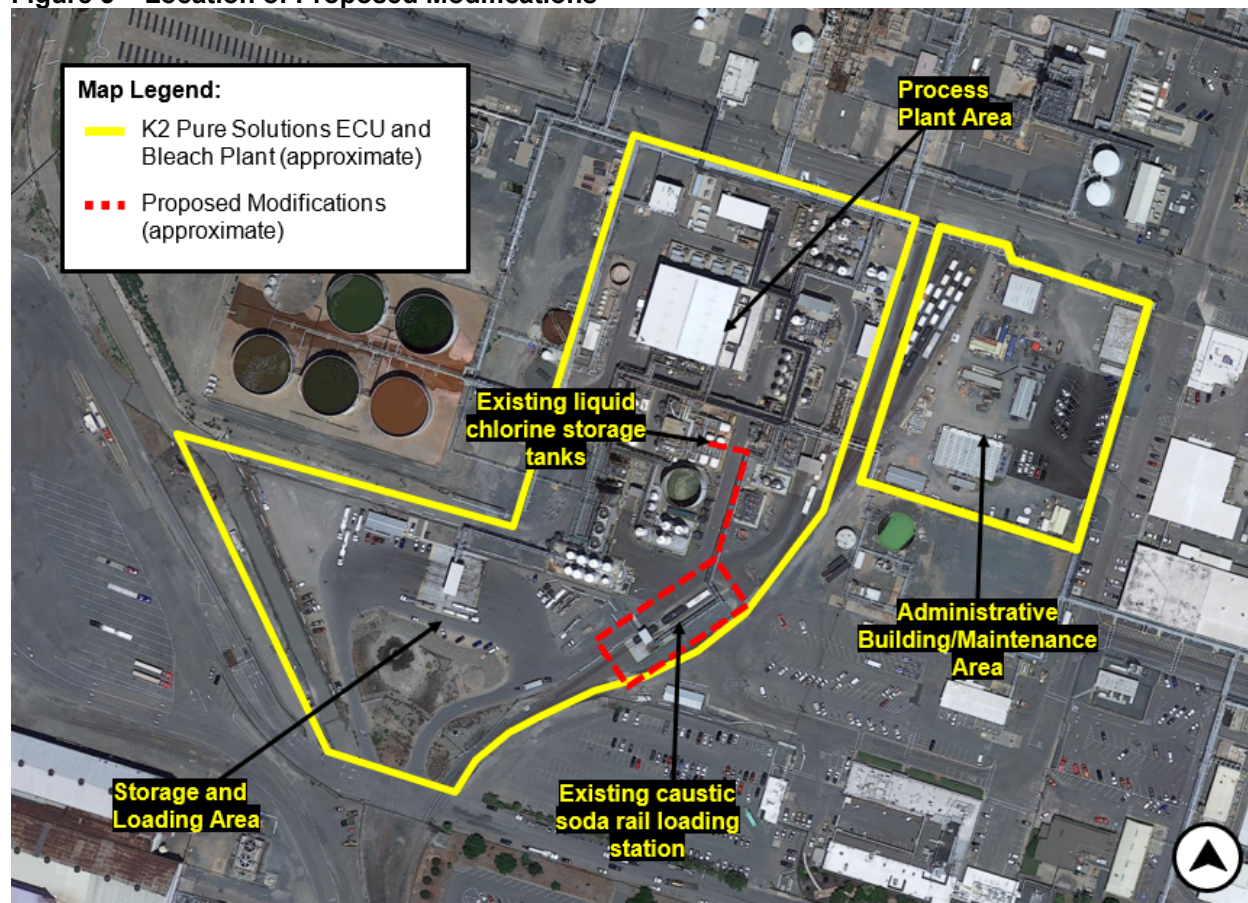
Surrounding Land Uses: Figure 4 below is a map of the land uses located around the K2 plant and Corteva facility. The surrounding area has a heavy industrial character. To the northwest, Koch Carbon operates a terminal for bulk commodities including petroleum coke, sulfur, coal, cement, salt, pulp, recovered paper, and lumber. In the same direction, Calpine operates a 518-megawatt, natural gas-fired co-generation plant called the Los Medanos Energy Center (LMEC). To the southwest, USS-POSCO Industries runs a mill specializing in flat rolled steel and Columbia Solar Energy manages a 20-megawatt solar farm covering 115 acres. To the far southeast in Antioch, Delta Diablo operates a wastewater treatment plant which treats approximately 13 million gallons of wastewater per day. The nearest residential use is located over half a mile southwest of the K2 plant in what is known as Pittsburg's "Central Addition".

**Figure 4 – Map of Surrounding Uses**

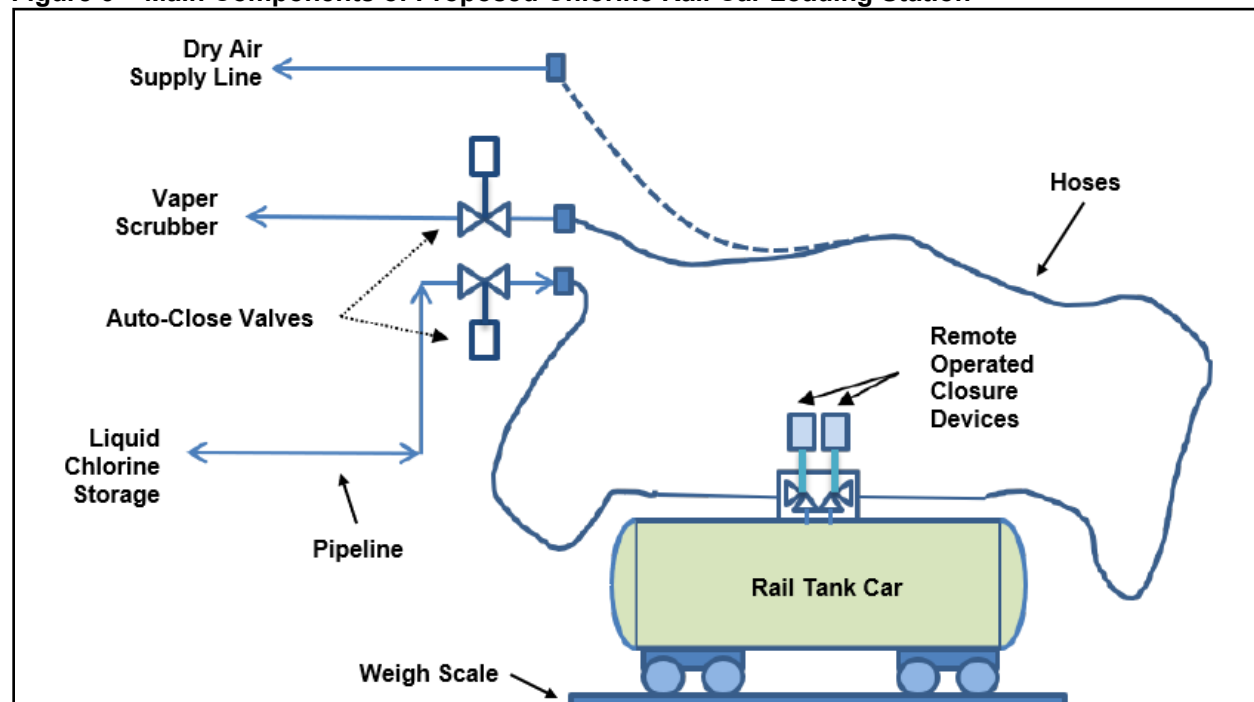


Proposed Project: The proposed project would create a new liquid chlorine rail tank car loading station next to the existing caustic soda rail loading station which is located in the plant's storage and loading area. The new station would be designed based on publications from the Chlorine Institute. The Institute supports the chlor-alkali industry in advancing safe, secure, environmentally compatible, and sustainable production, distribution, and use of chlorine and other chemicals. The main components of the new station would include a 700-foot pipeline, several connection hoses, a dry air supply line, a chlorine vapor scrubber, auto-close valves, remote operated closure devices, and a weighing scale. Figure 5 on the next page shows where the proposed modifications would occur. Figure 6 illustrates the new station's components.

**Figure 5 – Location of Proposed Modifications**



**Figure 6 – Main Components of Proposed Chlorine Rail Car Loading Station**





The new pipeline would transfer liquid chlorine between the existing storage tanks located in the plant process area and the new rail car loading station. The dry air supply line would be installed to empty a rail tank car during an emergency or when it needs preventative maintenance. The auto-close valves and remote operated closure devices would be strategically placed to shut down the station in the event of an emergency. The vapor scrubber would contain and neutralize chlorine vapors in response to a gas leak or other system failure. Derails or stops would be used to prevent rail tank cars from coming into contact with other tank cars.

Construction of the proposed project is estimated to take eight to ten weeks. It is important to note that the proposed project would not increase the plant's maximum daily chlorine production capacity. The plant would continue producing up to 200 tons of liquid chlorine per day. Implementation of the proposed project would enable K2 to begin transferring some of that liquid chlorine into rail tank cars which would be stockpiled intermittently throughout the year and sent to Corteva during shutdowns at the plant. K2 anticipates that it would need to load or unload a maximum of 66 rail tank cars per year to cover Corteva's demand for chlorine during shutdowns. A new 130-horsepower switcher engine would be used to move rail tank cars between K2's plant and the Corteva facility.

#### GENERAL PLAN/CODE COMPLIANCE:

General Plan: The K2 plant is designated 'Industrial' under the Pittsburg General Plan. This land use designation is intended to provide sites for manufacturing, processing, and general services. The General Plan includes two goals that specifically apply to the 'Northeast River' subarea where the K2 plant is located. Goal 2-G-12 calls for maintaining the industrial use and character of the area and Goal 2-G-13 looks to protect sensitive marshland habitats along the New York Slough. The K2 Pure Solutions Chlorine Rail Transportation Curtailment Project would be consistent with the General Plan designation and goals. It would enhance an existing manufacturing use that maintains the industrial character of the area and would not disturb any of the open space or marshland areas located within the Corteva facility boundaries.

Zoning: The K2 plant is zoned 'IG (General Industrial) District'. The plant falls under the land use classification of 'heavy manufacturing' as defined by Pittsburg Municipal Code (PMC) section 18.08.100(C). Any use falling under this classification requires approval of a use permit prior to operation in the IG District. Design review is also required for projects involving new construction in the IG District (PMC section 18.54.100).

As mentioned in the background section of this report, the Commission adopted a mitigated negative declaration and granted a use permit and design review approval for the K2 plant back in 2009. A subsequent design review approval was granted in 2016 that allowed the installation of equipment necessary for the plant to operate at the maximum daily production capacities approved under the existing use permit. The chlorine rail tank car loading station proposed under the K2 Pure Solutions Chlorine Rail Transportation Curtailment Project is not an activity that was considered as part of the

plant's original use permit. Therefore, a use permit amendment is required under PMC section 18.28.060. Design review is also required for the structures and equipment associated with the new loading station.

Property Development Regulations: The development regulations for properties in the IG District are set forth in PMC Table 18.54.115. Since no roof-covered structures are proposed, the only development regulations that apply to the K2 Pure Solutions Chlorine Rail Transportation Curtailment Project are the minimum setbacks and the maximum height for structures. The proposed project would comply with these regulations. The minimum setbacks are as follows: front yard – 25 feet; side yard – none; and rear yard – none. The new liquid chlorine rail tank car loading station to be installed under the proposed project is setback over 370 feet from the front property line along Loveridge Road. The maximum height for structures in the IG District is 50 feet<sup>1</sup>. The tallest structure that would be installed as part of the project would be about 28 feet tall.

Parking: The plant's original use permit and design review approval require K2 to provide at least six off-street parking spaces within the plant's storage and loading area. Within the storage and loading and administrative building/maintenance areas, there are several asphalt or compacted gravel surfaces that currently provide a greater quantity of parking for employees and visitors than was originally required. The proposed project would not require additional parking because it does not involve any new occupiable buildings.

Required Findings – Design Review: In accordance with PMC section 18.36.220(B), design review approval may be granted if the Commission can make findings that:

- A. the structure conforms with good taste, good design and in general contributes to the character and image of the City as a place of beauty, spaciousness, balance, taste, fitness, broad vistas, and high quality;
- B. the structure will be protected against exterior and interior noise, vibrations and other factors that may tend to make the environment less desirable;
- C. the exterior design and appearance of the structure is not of inferior quality as to cause the nature of the neighborhood to materially depreciate in appearance and value;
- D. the structure is in harmony with proposed developments on land in the general area; and
- E. the application conforms with the criteria set forth in any applicable City adopted Development Review Design Guidelines.

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<sup>1</sup> PMC section 18.54.120 allows an increase over the maximum height allowance in the IG District equal to the number of additional feet the structure is set back from each property line beyond the minimum yard requirements, up to a maximum height of 75 feet.

Required Use Permit Findings: In accordance with PMC section 18.16.040, a use permit amendment may be granted only if the Commission can make findings that the proposed use:

1. is in accord with the objective of the Zoning Ordinance, the purposes of the land use district in which it is located and is appropriate to the specific location;
2. is not detrimental to the health, safety, and general welfare of the City;
3. will not adversely affect the orderly development of property within the City;
4. will not adversely affect the preservation of property values and the protection of the tax base and other substantial revenue sources within the City;
5. is consistent with the objectives, policies, general land uses, and programs specified in the general plan and applicable specific plan;
6. will not create a nuisance or enforcement problem within the neighborhood;
7. will not encourage marginal development within the neighborhood;
8. will not create a demand for public services within the City beyond that of the ability of the City to meet in light of taxation and spending restraints imposed by law;
9. is consistent with the City's approved funding priorities; and
10. if located within the pedestrian commercial (CP) district, will support the goals of creating a vibrant, economically prosperous, visually interesting, and engaging pedestrian-oriented atmosphere along the primary downtown corridor.

Environmental Review: The proposed project is subject to the California Environmental Quality Act (CEQA), and the State CEQA Guidelines (Public Resources Code section 21080). Pursuant to the provisions of the State CEQA Guidelines, an Initial Study was prepared for the project. Based on the analysis in the study, staff determined that the proposed project could not have a significant effect on the environment, and subsequently, a draft Negative Declaration was prepared. A copy of the Negative Declaration is provided as Exhibit A of Attachment 1 and is also available on the City's website at: [www.ci.pittsburg.ca.us/publicreviews](http://www.ci.pittsburg.ca.us/publicreviews).

On October 16, 2019, a Notice of Intent (NOI) to Consider Adoption of a Negative Declaration was distributed to the public for a 60-day review period<sup>2</sup>, consistent with CEQA Guidelines section 15105(b). Public distribution of the NOI included delivery to

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<sup>2</sup> The initial 30-day comment period was extended to December 19, 2019 to allow interested parties additional time to review the application file.



the County Clerk's Office, posting on the City's website, and direct mailing to all interested parties and owners/occupants of the properties directly contiguous with the project, in accordance with CEQA Guidelines section 15072. The City received two comment letters prior to the close of the comment period. The first letter was from the Bay Area Air Quality Management District (BAAQMD) (see Attachment 4) and the second was from Adams Broadwell Joseph & Cardozo (see Attachment 5) on behalf of their client Safe Fuel and Energy Resources California (SAFER CA).

BAAQMD's letter informs the City and applicant that certain elements of the proposed project would require permits from the District. Since BAAQMD's letter does not address the proposed Negative Declaration, it does not require a response. The SAFER CA letter requests that the proposed Negative Declaration be withdrawn and that an Environmental Impact Report (EIR) be prepared instead. Staff has prepared a document (see Attachment 6) which responds to the comments in the letter received from SAFER CA.

Public Notice: On or prior to September 12, 2020, notice of the September 22, 2020, public hearing was posted at City Hall, near the proposed project site, and on the 'Public Notices' section of the city's website; and was mailed via first class or electronic mail to the applicant, to the property owner, to owners of property located within 800 feet of the Corteva Agriscience Pittsburg Facility, to local service agencies expected to provide services to the project, and to individuals who had previously filed written request for such notice, in accordance with PMC section 18.14.010 and Government Code section 65091.

#### ANALYSIS:

Staff believes the Commission can make the required design review and use permit findings to approve the K2 Pure Chlorine Rail Transportation Curtailment Project for the following reasons:

- The project would have a utilitarian look which would be appropriate for the industrial area where the K2 plant and other similar operators are located.
- The project would comply with the minimum setbacks and height requirements established for the IG District.
- K2 would continue conforming with all the applicable conditions of approval contained in Resolution No. 9813, including Condition No. 57 which requires: 1) implementation of Preventative Control Measures to reduce impacts related to chlorine and other hazardous waste releases during routine transport; 2) installation of equipment and implementation of programs to minimize the potential of a leak to occur; and 3) installation of engineering controls to minimize the potential consequence if a release were to occur.

- K2 would be required to submit a revised Risk Management Plan (RMP) to the Contra Costa Health Services – Hazardous Materials Programs (CCHSHMP) prior to operation of the project. K2's existing RMP on file with the CCHSHMP provides a detailed analysis of the potential accident factors at the plant. The RMP also identifies mitigation measures to reduce the potential for accidental releases of chlorine. The revised RMP would provide an analysis of potential accident factors associated with the new chlorine rail tank car loading station and identify additional mitigation measures as appropriate.
- The project would be consistent with site's 'Industrial' General Plan land use designation and the General Plan's goals and policies for the 'Northeast River' subarea. It would enhance an existing manufacturing use that contributes to the industrial character of the area (Goal 2-G-12) and would not disturb any of the open space or marshland areas (Goal 2-G-13) located within the Corteva facility boundaries.
- The project would be consistent with General Plan Goal 10-G-9 which seeks to minimize the risk to life and property from the transportation of hazardous materials like chlorine. The project would eliminate Corteva's reliance on imported chlorine from a Texas facility that is approximately 1,500 miles away.
- The project would also be consistent with the General Plan economic development objectives (General Plan, page 6-2) which support retention and expansion of the City's manufacturing base and encourage employment growth. The K2 plant currently employs 32 plant operators and it supports operations at the Corteva facility. Corteva is one Pittsburg's largest manufacturers with 350 employees as of 2014.

ACTION REQUIRED:

Move to adopt Resolution No. 10159, approving Planning Application No. 18-1313, subject to conditions.

ATTACHMENTS:

1. Proposed Resolution No. 10159
  - a. Exhibit A - Initial Study/Negative Declaration
2. Project Plan
3. Public Hearing Notice
4. BAAQMD Comment Letter, dated November 19, 2019
5. SAFER CA Comment Letter
6. City of Pittsburg Responses to SAFER CA Comment Letter
7. Presentation Slides

Prepared by: Hector J. Rojas, AICP, Senior Planner

PROPOSED  
BEFORE THE PLANNING COMMISSION OF THE CITY OF PITTSBURGH

|                                             |   |                      |
|---------------------------------------------|---|----------------------|
| Resolution Granting Design Review           | ) |                      |
| Approval and Use Permit Amendment for       | ) |                      |
| Installation of a Liquid Chlorine Rail Tank | ) |                      |
| Car Loading Station at 950 Loveridge        | ) | Resolution No. 10159 |
| Road, for “K2 Pure Solutions Chlorine Rail  | ) |                      |
| Transportation Curtailment Project, AP-18-  | ) |                      |
| 1313 (UP, DR).”                             | ) |                      |

- A. In 2009, the Planning Commission adopted a mitigated negative declaration and granted a use permit and design review approval (Resolution No. 9813) for construction of the K2 Pure Solutions ECU and Bleach Plant Project at the Dow Chemical Pittsburgh Facility (now known as the Corteva Agriscience Pittsburgh Facility). The K2 plant was subsequently completed and is now being used to manufacture caustic soda, chlorine, hydrogen, bleach, and hydrochloric acid. The K2 plant is located at 950 Loveridge Road in the IG (General Industrial) District. Assessor's Parcel No. 073-222-039.
- B. In 2016, the Planning Commission granted design review approval for the K2 Pure Solutions Ramp Up to Full Capacity Project (Resolution No. 10027). The 2016 approval allowed installation of additional equipment at the K2 plant, increasing its maximum daily production capacity from 300 Electrochemical Units (ECU) per day to 400 ECUs per day. An ECU is a ratio of 1.1 tons of sodium hydroxide (caustic soda), 1 ton of chlorine, and 0.03 tons of hydrogen produced.
- C. The K2 plant delivers chlorine gas to Corteva through a 750-foot-long pressurized pipeline. Corteva uses the chlorine gas as a raw material for several crop protection products manufactured at its Pittsburgh facility, including fungicides, herbicides, and insecticides. Prior to construction of K2's plant, Corteva imported all of its chlorine in liquid form via rail tank car from a supplier located in Texas. Currently, the K2 plant provides Corteva with roughly 99% of its annual chlorine supply. The remaining amount is still imported from Texas when the K2 plant is shut down for inspection, maintenance, or repair.
- D. On February 7, 2018, David Kahn, on behalf of K2 Pure Solutions, filed Planning Application No. 18-1313, requesting: 1) design review approval of plans to install a liquid chlorine rail tank car loading station at the existing K2 plant; and 2) approval of a use permit amendment to allow operation of the new loading station.



- E. The proposed project is subject to the California Environmental Quality Act (CEQA), and the State CEQA Guidelines (Public Resources Code section 21080). Pursuant to the provisions of the State CEQA Guidelines, an Initial Study was prepared for the project. Based on the analysis in the study, staff determined that the proposed project could not have a significant effect on the environment, and subsequently, a draft Negative Declaration was prepared.
- F. On or prior to September 12, 2020, notice of the September 22, 2020, public hearing was posted at City Hall, near the proposed project site, and on the 'Public Notices' section of the city's website; and was mailed via first class or electronic mail to the applicant, to the property owner, to owners of property located within 800 feet of the Corteva Agriscience Pittsburg Facility, to local service agencies expected to provide services to the project, and to individuals who had previously filed written request for such notice, in accordance with PMC section 18.14.010 and Government Code section 65091.
- G. On September 22, 2020, the Planning Commission held a public hearing on Planning Application No. 18-1319, at which time oral and/or written testimony was considered.

## Section 2. Findings

- A. Based on the Planning Commission Staff Report entitled, "K2 Pure Solutions Chlorine Rail Transportation Curtailment Project, AP-18-1313 (UP, DR)," and based on all the information contained in the Planning Division files on the project, incorporated herein by reference and available for review in the Planning Division located at 65 Civic Avenue in Pittsburg, and based on all written and oral testimony presented at the meeting, the Planning Commission finds that:
  - 1. All recitals above are true and correct and are incorporated herein by reference.
  - 2. The Negative Declaration for the proposed project was prepared in compliance with Public Resources Code section 21000 et seq. and the Planning Commission has independently reviewed and considered the information contained therein.

## Design Review:

- 3. The proposed project structures and equipment will:
  - a) Conform with good taste, good design and in general will contribute to the character and image of the City as a place of beauty, spaciousness, balance, taste, fitness, broad vistas, and high-quality, in that their utilitarian design is appropriate for the area's industrial character.
  - b) Be protected against exterior and interior noise, vibrations and other factors that may tend to make the environment less desirable, in that they will comply with all applicable building and fire codes.

- c) Not be of inferior quality as to cause the nature of the neighborhood to materially depreciate in appearance and value, in that their utilitarian design is appropriate for the area's industrial character and there are several other similar structures and equipment already located at the K2 plant, the Corteva facility, and other properties throughout the IG District.
  - d) Be in harmony with proposed development on land in the general area, in that there are currently no new development projects proposed on adjacent properties.
  - e) Be consistent with existing developments in the area. Properties in the general vicinity are also utilized for heavy industrial purposes, including the Koch Carbon Bulk Terminal, Los Medanos Energy Center, USS-POSCO Steel Mill, Columbia Solar Energy Farm, and Delta Diablo Wastewater Treatment Plant.
4. The City's Development Review Design Guidelines (DRDGs) are intended to provide guidance for new signage, parking lots, and occupiable structures with architectural elements such as walls, roofs, and fenestration. The DRDGs do not apply to the proposed project because it does not include any signage, parking lot improvements, or occupiable structures.

Conditional Use Permit Amendment:

5. The proposed new use will:
- a) Be in accordance with the objectives of the Zoning Ordinance, the purpose of the land use district in which it is located and is appropriate to the specific location, in that it is a conditionally permitted use in the IG District and complies with the minimum setbacks and height requirements in PMC Table 18.54.115.
  - b) Not be detrimental to the health, safety, and general welfare of the City, in that it will meet health and safety requirements of the Pittsburg Community Development Department, the Contra Costa Fire Protection District, Bay Area Air Quality Management District, and Contra Costa Health Services – Hazardous Materials Programs. The proposed use will also conform to all applicable conditions of approval contained in Resolution No. 9813, including Condition No. 57 which requires: 1) implementation of Preventative Control Measures to reduce impacts related to chlorine and other hazardous waste releases during routine transport; 2) installation of equipment and implementation of programs to minimize the potential of a leak to occur; and 3) installation of engineering controls to minimize the potential consequence if a release were to occur.
  - c) Not adversely affect the orderly development of property within the City, in that it will be located near other heavy industrial uses, including a terminal for bulk commodities (Koch Carbon); a 518-megawatt, natural gas-fired co-generation plant (Los Medanos Energy Center); a steel mill (USS-POSCO Industries); a 20-

megawatt solar farm (Columbia Solar Energy); and a wastewater treatment plant (Delta Diablo).

- d) Not adversely affect the preservation of property values and the protection of the tax base and other substantial revenue sources within the City, in that it will occupy a site that is specifically zoned for industrial activity and will allow continued investment within the K2 plant.
  - e) Be consistent with site's 'Industrial' General Plan land use designation and the General Plan's goals and policies for the 'Northeast River' subarea. The proposed use will enhance an existing manufacturing use that contributes to the industrial character of the area (Goal 2-G-12) and will not disturb any of the open space or marshland areas (Goal 2-G-13) located within the Corteva facility boundaries. The proposed use will also be consistent with the General Plan economic development objectives (General Plan, page 6-2) which support retention and expansion of the City's manufacturing base and encourage employment growth. The K2 plant currently employs 27 people and it supports critical operations at the Corteva facility. Corteva is one Pittsburg's largest manufacturers with 350 employees as of 2014.
  - f) Not create a nuisance or enforcement problem within the neighborhood, in that it will be required to meet performance standards, as set forth by PMC chapter 18.82, which are intended to address ongoing safety, noise, odor, and maintenance concerns.
  - g) Not encourage marginal development within the neighborhood, in that the kind of structures and equipment associated with the use are not considered to be low quality or unattractive within a heavy industrial zone.
  - h) Not create a demand for public services within the City beyond that of the ability of the City to meet in light of taxation and spending restraints imposed by law, in that it will have access to existing infrastructure, including fire, police, and water.
  - i) Not be inconsistent with the City's approved funding priorities, in that it will not require City funding to operate.
  - j) Not be located in the pedestrian commercial (CP) district.
- B. The staff report entitled, "K2 Pure Solutions Chlorine Rail Transportation Curtailment Project, AP-18-1313 (UP, DR)," dated September 22, 2020, is referenced hereto as additional support for the findings.

### Section 3. Decision

Based on the findings set forth above, the Planning Commission hereby adopts the Negative Declaration in Exhibit A of this resolution and approves Planning Application No. 18-1313, subject to the following conditions:

*Planning Conditions:*

1. **Conformity with Project Plan:** The project shall be constructed in substantial conformity with the project plan submitted on February 7, 2018, except as may be hereinafter modified. Any major changes to the project plan shall be subject to review and approval by the Planning Commission at the City Planner's discretion.
2. **Existing Use Permit:** All conditions from Planning Commission Resolution No. 9813 shall remain in effect. The project shall conform to all applicable conditions of approval contained in that resolution, including Condition No. 57 which requires: 1) implementation of Preventative Control Measures to reduce impacts related to chlorine and other hazardous waste releases during routine transport; 2) installation of equipment and implementation of programs to minimize the potential of a leak to occur; and 3) installation of engineering controls to minimize the potential consequence if a release were to occur.
3. **Annual Rail Tank Car Fillings:** The liquid chlorine rail tank car loading station shall have a maximum of 66 loading or offloading operations per year. The rail tank cars loaded or offloaded shall have a maximum capacity of 90-tons each.
4. **Rail Tank Car Storage:** Rail tank cars that are loaded with chlorine from the K2 facility shall be prohibited from leaving the K2/Corteva site. Loaded tank cars shall only be utilized by the Corteva Agrisciences Pittsburg Facility for their emergency back-up operations, on an as-needed basis.
5. **BAAQMD Permits:** The applicant shall obtain all required permits (Authority to Construct/Permit to Operate) from the Bay Area Air Quality Management District prior to construction of the project.
6. **Risk Management Plan:** The applicant shall submit a revised Risk Management Plan (RMP) per requirements of the California Accidental Release Prevention (CalARP) Program regulation (California Code of Regulations Title 19, Division 2, Chapter 4.5, Section 2750) and EPA Risk Management Program (RMP) (40 CFR Part 68) to the Contra Costa Health Services – Hazardous Materials Programs (CCHSHMP) prior to operation of the project. The revised RMP shall include an updated Offsite Consequence Analysis (OCA) with the proposed project as an alternative release scenario.
7. **Lighting:** Any lighting installed for the project shall be arranged to reflect light away from adjoining properties and public rights-of-way. In general, lighting fixtures shall be shielded to prevent glare on adjoining properties and public rights-of-way.
8. **Archaeological Best Management Practice (BMP):** During grading operations, a qualified archaeological monitor shall be present to ensure that no Native American artifacts are destroyed during ground-disturbing activities.
9. **Geology and Soils BMP:** If grading requires earth moving of more than 1 foot of depth, boring samples shall be taken to determine underlying soil content. A geotechnical



monitor shall be present to observe soil conditions during grading if the depth of soil disturbance is less than one foot. This BMP of boring or geotechnical monitoring, subject to the 1 foot depth threshold, shall be implemented during all ground disturbance.

10. Heat, Humidity, and Odors: The project shall not produce an unreasonable, disturbing, or unnecessary emission of heat, humidity, or odors at the property line of the site that causes material distress, discomfort or injury to the average person (PMC sections 18.82.035 and 18.82.045).
11. Noise: The project shall comply with PMC chapter 9.44 (Noise).
12. Site Maintenance. The site shall be kept clean and free of all litter, debris and refuse at all times.
13. Payment of Sales Tax: The applicant or their subcontractor(s) shall record with the California Board of Equalization a nexus or additional location within the City of Pittsburg to ensure that any and all sales taxes paid shall be recorded and paid to the City of Pittsburg. The applicant or subcontractor(s) shall add a new location to an existing account or ensure the seller of goods and materials subject to sales tax have registered a location within the City of Pittsburg with the Board of Equalization.

#### *Engineering Conditions – Fees:*

14. Improvement and Grading Plan Review fees: The applicant shall provide an initial payment for review of the grading and improvement plans with the first submittal. These fees are based on the engineer's estimated costs for site improvements and grading, which shall be submitted with the plans. The improvement plan check fee is 7% of the cost of the improvements. The grading plan check fee is 2.5% of the cost for grading, or it may be based upon cubic yards of earth disturbance as set forth in the City's Master Fee Schedule. Fifty percent (50%) of these total fees are to be paid with the initial submittal of plans and engineer's cost estimate. These initial payments will be credited towards the final fees as determined at engineering permit. The remainder of the fees shall be due payable prior to issuance of an engineering permit.
15. Improvement and Grading Inspection fees: The applicant shall pay the improvement and/or grading inspection fee(s) to the Engineering Division prior to the issuance of a single parcel development permit. The current improvement inspection fee is 6.75% of the engineer's estimated cost for improvements. The grading inspection fee is 3% of the engineer's estimated cost of grading. The grading inspection fee may also be based upon an approved engineer's estimate of total cubic yards, according to the current schedule of grading fee charges as set forth in the City's Master Fee Schedule.

#### *Engineering Conditions – Required Submittals:*

16. Improvement Plans: The applicant shall submit five (5) copies of the improvement plans to the Engineering Division for review and approval. The plans shall be prepared by a registered civil engineer, to include but not be limited to the following:

- Site Plan
- Grading and Drainage Plan
- Utilities Plan
- Erosion and Sedimentation Control Plan
- Geotechnical Report
- Engineer's Estimate

17. Geotechnical Report: The applicant shall submit a current geotechnical report that supports the design features incorporated into this project including, but not limited to, grading activities, compaction requirements, utility construction, slopes, retaining walls, and roadway sections. The geotechnical report shall be submitted to the Engineering Division for review prior to the approval of any civil plans and/or the issuance of a site development permit.
18. Engineer's Estimate: The applicant shall submit an engineer's estimate to the Engineering Division for review and approval together with the initial engineering plans. The engineer's estimate shall include all costs associated with the site development improvements, excluding those costs associated with the construction of any building structures.

*Engineering Conditions – General:*

19. Outdoor Cleaning: The business owner shall ensure that detergents/degreasers are never used in the process of outdoor cleaning, and that employees use dry cleanup methods whenever possible.
20. Industrial General Discharge Permit: The applicant shall obtain an Industrial Discharge Permit from the State Water Resources Control Board, or a Notice of Non-Applicability as appropriate for the new proposed operations of this facility.
21. PCB and Mercury Containing Equipment: Equipment and materials containing polychlorinated biphenyls (PCBs) and mercury shall be prohibited. These substances accumulate in fish and may cause serious adverse health effects to people and wildlife that eat fish. The City has an obligation to reduce the discharge and control all potential sources of PCBs and Mercury in the environment as mandated in the City's NPDES Stormwater permit Order No. R2-2015-0049.
22. Compliance with PMC: All grading work shall be done in accordance with the provisions of Chapter 15.88 of the Pittsburgh Municipal Code. All site development shall comply with Title 12 (Streets, Sidewalks, and Utilities), Title 13 (Water and Sewers), and Title 15 (Buildings and Construction) of the Pittsburgh Municipal Code as determined by the City Engineer. Issuance of a Site Development Permit will be required whereby specific engineering requirements will be made as conditions of approval.

*Standard Conditions:*

23. Grounds for Revocation: Operation in a manner inconsistent with the description in the staff report for this project, violation of a zoning regulation or condition of this resolution, existence of a public nuisance, or conviction of a federal or state law or city ordinance in connection with the operation of the use shall be grounds for revocation of this use permit (PMC section 18.28.100).
24. Standard Conditions of Development: The Standard Conditions of Development as adopted by the Pittsburg Planning Commission by Resolution No. 8931 shall apply as conditions of approval for this project as applicable. Where there is a conflict between the Standard Conditions of Development and the project-specific conditions identified in this resolution, the specific conditions of this resolution shall govern.
25. Other Agency Requirements: The applicant shall comply with all the requirements of the City of Pittsburg Community Development Department, Contra Costa County Fire Protection District, Contra Costa Health Services – Hazardous Materials Programs, Bay Area Air Quality Management District, and all other applicable local, state and federal agencies. It is the responsibility of the applicant to contact each local, state, or federal agency for requirements that may pertain to this project.
26. Indemnification: The applicant agrees to indemnify, defend, and hold harmless the City, its officials, officers, employees, agents and consultants from any and all administrative, legal or equitable actions or other proceedings instituted by any person challenging the validity of this project approval, subsequent project approval, or other action arising out of, or in connection with, this project approval. The parties shall cooperate in defending such action or proceeding. The parties shall use reasonable efforts to select mutually agreeable defense counsel but, if the parties cannot reach agreement, the City may select its own legal counsel at applicant's sole cost and expense. The applicant may select its own legal counsel to represent the applicant's interests at the applicant's sole cost and expense. The applicant shall pay for City's costs of defense, whether directly or by timely reimbursement to the City on a monthly basis. Such costs shall include, but not be limited to, all court costs and attorneys' fees expended by the City in defense of any such action or other proceeding, plus staff and City Attorney time spent responding to and defending the claim, action or proceeding.
27. Expiration of Approval: Use permit amendment and design review approval shall expire on September 22, 2022, unless the use has been legally established prior to the expiration date, or a written request for an extension is filed with the Planning Division prior to the expiration date and subsequently approved by the Planning Commission.

Section 4. Effective Date

This resolution shall take effect immediately upon its adoption.

On motion by Commissioner \_\_\_\_\_, seconded by Commissioner \_\_\_\_\_, the foregoing resolution was passed and adopted the 22<sup>nd</sup> day of September 2020, by the Planning Commission of the City of Pittsburg, California by the following vote:

AYES:

NAYES:

ABSTAIN:

ABSENT:

I hereby certify that the above Resolution No. 10159 was adopted by the Planning Commission of the city of Pittsburg on September 22, 2020.

\_\_\_\_\_  
KRISTIN POLLOT, AICP, SECRETARY  
PITTSBURG PLANNING COMMISSION



# K2 Pure - Chlorine Rail Transportation Curtailment

Public Draft  
Initial Study

October 2019

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Prepared for:



City of Pittsburgh

Prepared by:

Brezack & Associates Planning

## PROJECT DESCRIPTION

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### K2 Pure Solutions Chlorine Rail Transportation Curtailment

#### Introduction

The applicant of the proposed project, K2 Pure Solutions (K2), owns and operates an existing Chlor-Alkali production facility that is located within the Corteva Agriscience (Corteva) facility boundaries in Pittsburg, California. The K2 facility produces chlorine for use by Corteva. The current production capacity was previously analyzed in the City of Pittsburg's 2009 *Mitigated Negative Declaration for the Proposed K2 Pure Solutions ECU and Bleach Plant Project*.

A change in facility operations occurred during the K2 Full Utilization Project in which K2 requested Design Review approval from the City to add equipment that would allow the facility to operate at the previously approved capacity of 400 Electrochemical Units (ECU)<sup>1</sup> per day up from 300 ECU per day which was the plant's constructed capacity. In 2016, the City, under Resolution #10027, approved the Design Review.

The K2 proposed Chlorine Rail Transportation Curtailment Project includes:

- Addition of a new chlorine loading facility;
- Addition of approximately 700 feet of pipeline connecting the existing chlorine storage to the chlorine loading facility;
- A dry air supply line for offloading the tank car; and
- Addition of a vapor scrubber at proposed chlorine loading facility.

#### Proposed Objectives

The objectives of the proposed project are:

- Install liquid chlorine rail car loading facility at K2 Pittsburg to fully support Corteva's onsite agrichemical production;
- Enable Corteva to eliminate existing offsite liquid chlorine transport by rail to the Pittsburg Corteva facility; and
- Increase operational flexibility enabling scheduled production outages for equipment maintenance and reducing unplanned outages by allowing for more consistent routine preventative maintenance durations thus increasing safety and operational reliability.

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<sup>1</sup> An ECU is a ratio of 1.1 tons of sodium hydroxide, 1 ton of chlorine, and 0.03 tons of hydrogen produced.

## Existing Setting

The proposed project is within the existing footprint of the Corteva Facility at 901 Loveridge Road in the City of Pittsburg, Contra Costa County, California. K2 is a material manufacturer and supplier for the manufacturing activities that occur at Corteva. The Corteva manufacturing facility is comprised of several individual chemical-manufacturing plants. Each chemical manufacturing plant includes tanks, material handling equipment, chemical reactors, mixing and separation equipment, pipes, pumps, loading and unloading stations, computer control centers, and other equipment necessary for its chemical manufacturing operations. Interconnections between one or more of Corteva's manufacturing plants are accomplished by piping to efficiently transfer materials that are reclaimed, reused, or further developed in the manufacturing process. In some cases, raw and intermediate materials are transferred throughout the Corteva Facility by truck and railcar.

The Corteva Facility is located along the Suisun Bay adjacent to New York Slough, a deepwater channel that provides ship access to inland ports, including the ports of Sacramento and Stockton. The facility is bounded by Loveridge Road and USS-POSCO, a steel company, to the west and an undeveloped Corteva-owned parcel of land to the east. Further to the east of the Corteva Facility is the Dow Wetlands Preserve, a 251-acre Corteva-owned habitat for wildlife and fish. Figure 1 provides the location of the proposed project and the surrounding area.

Across the slough to the north is Browns Island, a 595-acre regional shoreline preserve and refuge for aquatic birds managed by the East Bay Regional Park District with restricted access. Adjacent to Browns Island across the slough from the facility is Winter Island home of the California Department of Water Resources' Winter Island Tidal Habitat Restoration Project.

Burlington Northern Santa Fe (BNSF) Railway tracks are located adjacent to the southern part of the Corteva Facility and connect to Corteva-owned railroad tracks that bisect the Corteva Facility. Directly south of the Corteva Facility is an area of undeveloped land interspersed with industrial and manufacturing facilities. Columbia Solar Energy, LLC is located southwest between the Pittsburg-Antioch Highway and the BNSF Railroad. Approximately 0.5 mile south of the tracks is the Pittsburg-Antioch Highway, which generally runs in an East-West direction. Union Pacific Railroad (UPRR) tracks are adjacent to the south side of the Pittsburg-Antioch Highway.

## Project Area Land Use and Development

The Pittsburg General Plan (City of Pittsburg, 2001) designates approximately 1,585-acres as the "Northeast River Planning Subarea." This subarea is primarily characterized by established, large-scale heavy industrial operations. The Corteva Facility is situated in the northeastern portion of the Northeast River Planning Subarea.

The Pittsburg General Plan indicates the entire Corteva Facility has a land use designation of *Industrial* and is zoned IG (General Industrial) District. The IG designation is the City's heavy industry zoning district that allows for a range of manufacturing, industrial processing, and general services.

## **Proposed Project Setting**

The proposed project site is located on land within the existing manufacturing site owned by Corteva. The K2 facility is located on 12.96 acres. All activities associated with the proposed project would be contained within APN 073-220-039. The applicant currently leases the proposed project site from Corteva.



Figure 1: Project Area and Regional Location



## Existing Operations

K2 is authorized under its City of Pittsburgh use permit (Planning Commission Resolution No. 9813) to produce onsite a maximum daily quantity of the following:

- 465 tons of hydrochloric acid,
- 200 tons of liquid chlorine,
- 385 tons of 100% caustic soda, and
- 11.5 tons of hydrogen gas.

K2 delivers gaseous chlorine to Corteva by pressurized pipeline, for Corteva to use on demand. When K2 is shut down for maintenance or repairs, Corteva uses liquid chlorine stored onsite in railcars received from a facility located in Texas. Today, roughly 99% of Corteva's chlorine demand on the site is supplied via a dedicated pipeline by K2. The other roughly 1% of chlorine that Corteva uses when K2 is unable to supply due to planned or unplanned downtime is shipped via railcars from Texas to the Pittsburgh facility.

Chlorine monitoring equipment is present throughout the site. The facility operates 24-hours per day. The K2 facility employs 32 operators working in rotating shifts of four people per shift.

There is an existing fence along the Corteva Facility's border with Loveridge Road. Corteva security gates are located at the south end of the proposed project area, along Loveridge Road. K2 employees enter the plant through the existing Corteva employee vehicle access gate at 901 Loveridge Road.

## Proposed Project Description

The proposed project consists of the construction and operation of a new onsite chlorine rail loading station with associated vapor scrubber and connecting pipeline located at K2's existing Chlor-Alkali production facility.

## Construction of Proposed Project

The construction footprint of the proposed project is within the K2 leased property and is shown on Figure 2. Construction would be completed within 8-10 weeks. It would require 3-6 construction workers on average for the duration of construction.

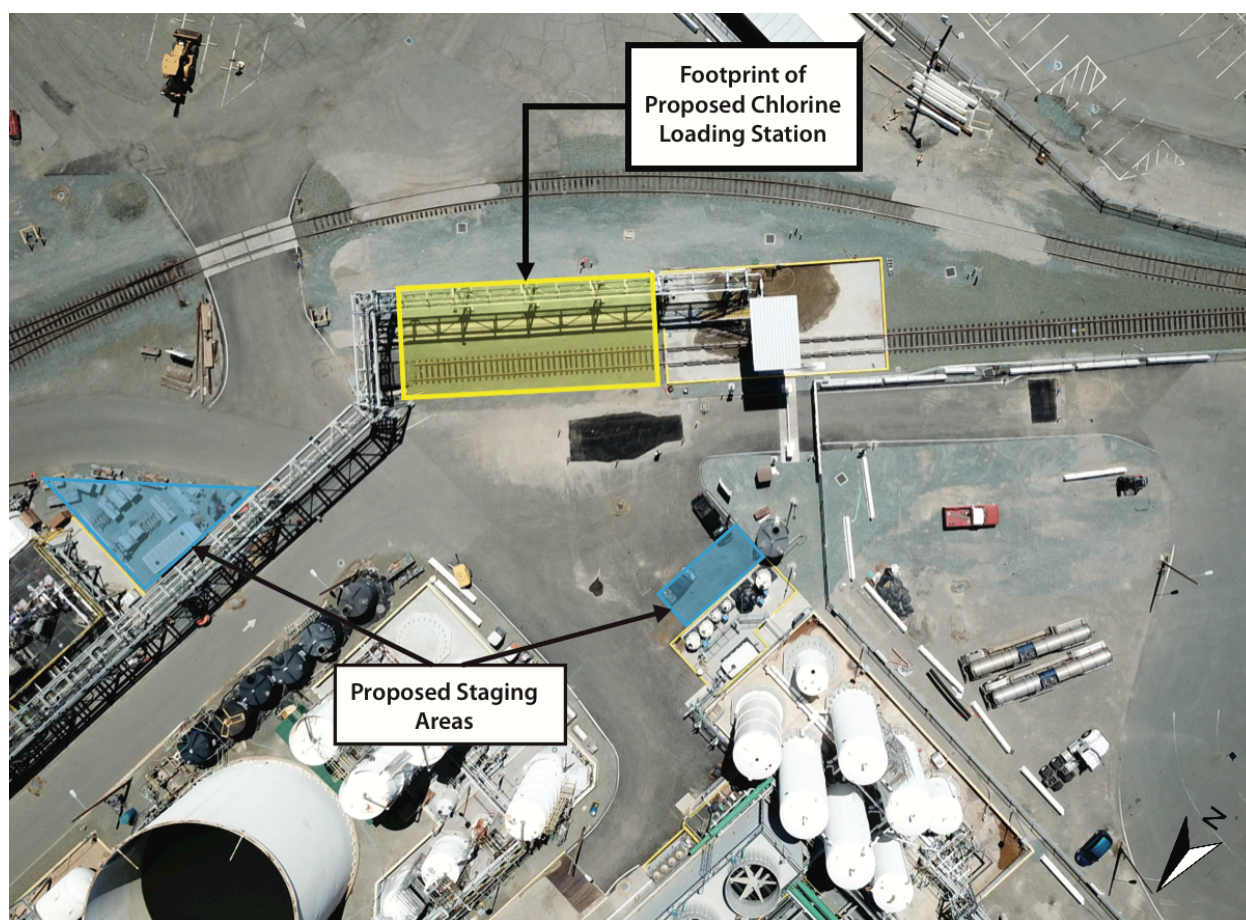
There would be some grading associated with the installation of a new cement slab constructed at the chlorine loading station. The grading and slab would be less than 1,000 sq. ft. During the grading operations, a qualified archaeological monitor would be present to ensure that no Native American artifacts are destroyed during ground-disturbing activities. Also, recommendations from the Hultgren Tillis 2016 Geotechnical Report Update (Appendix B), that includes monitoring and/or testing of geotechnical aspects of the work for earthwork site preparation and appropriate fill materials, would be implemented as a best management practice for the project area. Depending on the grading details identified in the final design, if the grading requires earth moving of more than 1 foot of depth, boring samples would be taken to determine underlying soil



content. A monitor would be present to observe soil conditions during grading if the depth of soil disturbance is less than 1 foot.

No surface / storm water drainages would be altered by the proposed project. Approximately 700 feet of pipeline from an existing fixed chlorine storage tank to the rail car loading facility would be constructed. Additionally, a dry air pipeline would be installed to facilitate offloading of the tank car by pressurized dry air for emergency response as well as to facilitate preventative maintenance activities for K2's existing chlorine storage system. The pipeline would be aboveground to facilitate regular inspection, testing, and preventative maintenance on the pipeline per industry standard mechanical integrity protocols. The rail car loading facility would be assembled on the cement slab with pre-fabricated components.

**Figure 2: Project Footprint and Construction Staging**



### Construction Best Management Practices

In the approximately ten years that K2 has been operation in Pittsburg, California they have become familiar with several required best management practices (BMPs) to be incorporated into all their approved projects. Two of the BMPs are associated with ground disturbing activities during construction.

Policies are in place with the City for protection of archaeological resources. BMPs related to inadvertent exposure of pre-historic or historic-era archaeological resources include having a qualified archeological monitor present during all grading, and to address inadvertent discoveries of cultural resources. Documentation from the qualified archeological monitor would be developed for these ground-disturbing activities.

In addition, monitoring and/or testing geotechnical aspects of the work for earthwork site preparation and use of appropriate fill materials is also an onsite BMP. Bay Mud covered with up to 20 feet of sand clays and silts with slab bricks and other debris are present in the project area (Hultgren-Tillis Engineers, 2008). Depending on the grading details identified in the project's final design, if grading requires earth moving of more than 1 foot of depth, boring samples would be taken in advance of the grading to determine underlying soil content. If the grading activities are a foot or less in depth, the construction contractor would follow the standard practice of having a geotechnical monitor onsite to document underlying surface conditions. These BMPs are documented at the time of occurrence.

### **Proposed Operations**

The proposed project would modify the current operations by having K2 load liquid chlorine into railcars stored onsite for Corteva's use when the K2 facility is offline. The proposed project would not change the onsite operations but would move loading of the railcars with chlorine onsite rather than have it delivered via railcar from Texas. This would nearly eliminate the approximately 1,500 miles of transit of chlorine by rail with rail cars filled at the proposed chlorine loading station. The amount of rail cars onsite with chlorine would not be altered with the proposed project.

K2 is proposing to load the railcars at scheduled times during the year. The proposed project anticipates a maximum of 66 railcar loading or offloading operations annually thus enabling Corteva to eliminate importing chlorine shipped by railcar from Texas. It would take approximately six hours per rail car to fill with chlorine. This reduction of chlorine shipments for Corteva would increase railcar maintenance and movement onsite. However, no increase to chlorine production capacity would occur with operation of the proposed project. Raw materials and energy consumption would be minimally increased as a result of the proposed project because the chlorine production limits would remain the same. The minimal increase in energy consumption would be associated with lighting of the loading facility and instrumentation.

The K2 chlorine railcar loading system would be designed and operated employing safe, proven, and Chlorine Institute recommended equipment including automated valves and pressure transmitters, motion detectors, auto shut offs and Coriolis metering for accurate mass flow measurement. Specifically, at least two remote emergency stop buttons would be strategically located to shut down the system in the event of an emergency during the loading process. A dry air supply would also be installed to facilitate the unloading of a railcar in the event of an emergency need to deinventory a railcar. This unloading capability would also allow K2 to perform preventative maintenance activities that require 100% evacuation of K2's current chlorine storage

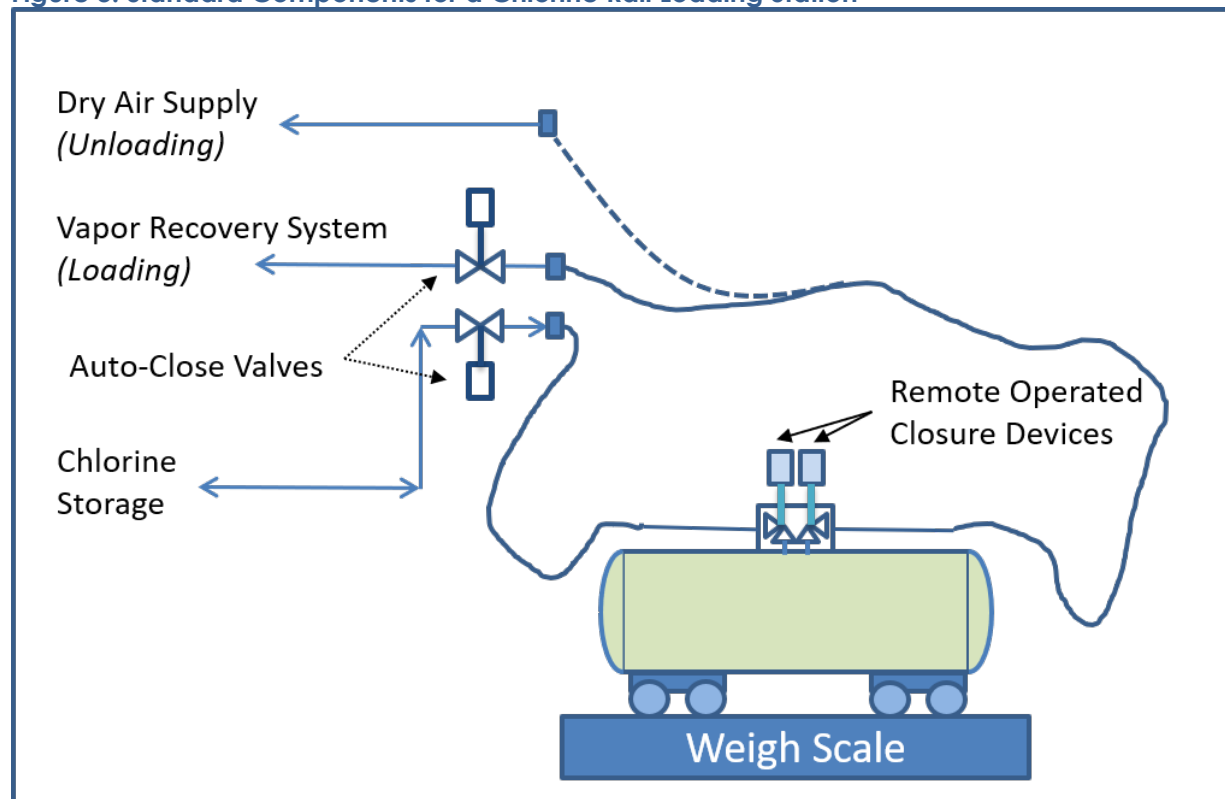
vessels without having to import a chlorine railcar from offsite to facilitate startup of the plant as would be required after such maintenance activities.

Figure 3 depicts the standard components for a Chlorine Rail Loading Station as described by the Chlorine Institute. During the rail car loading operation, prevention of the rail car from being hit or moved by another car or locomotive would be accomplished by using derails or stops 50 feet or more from both ends of the rail car. Derails would not be removed for any reason until all cars are disconnected from the loading rack. (Chlorine Institute 2015)

The Chlorine Institute recommends that an Emergency Kit C should be on-site in a location sufficiently away from the tank car, so it will be accessible during an emergency (Chlorine Institute 2015). This BMP would be implemented as part of the proposed project to control leaks that may occur in chlorine loaded tank cars that usually involve the angle valves or pressure relief devices.

The Chlorine Institute's publications would be the design basis for the proposed Chlorine Loading Station at K2. In addition, K2 would update their Risk Management Plan (RMP) per requirements of the California Accidental Release Prevention (CalARP) Program regulation (California Code of Regulations Title 19, Division 2, Chapter 4.5, Section 2750) and EPA Risk Management Program (RMP) (40 CFR Part 68). Contra Costa County is the designated Certified Unified Program Agency (CUPA) for the facility responsible for approving the RMP. K2 would reissue the RMP to the County for review and approval. The revised RMP will include an updated consequence analysis with the proposed project as an alternative release scenario.



**Figure 3: Standard Components for a Chlorine Rail Loading Station**

The proposed project would modify current K2 operations by loading chlorine in railcars for Corteva's use during K2 shutdowns. The rail station includes a roughly 700-foot pipeline from K2's existing chlorine storage tanks to the loading station. During loading operation, hoses would be connected from the pipeline to the railcar to be loaded. A vent line would be attached that returns to K2's existing redundant chlorine destruction system. In the event of offloading, the vent line would be attached to a dry air supply line to deliver the chlorine through the same 700-foot pipeline back to the existing chlorine storage tanks. A separate vapor scrubber would be installed at the loading station to eliminate chlorine from the loading hoses after each loading or offloading operation. The loading station would be equipped with automated safety devices including auto-close valves, remotely operated isolation valves, area chlorine monitors, motion detectors and other equipment per recommendations in the Chlorine Institute guidance.

The rail cars would remain at the loading facility only during filling operations. The duration of the liquid chlorine filling process would be approximately 6 hours per rail car. After filling, the rail cars would be delivered to Corteva for production or storage per Corteva's current practices. Corteva would maintain the same amount of rail cars onsite following implementation of the proposed project. The proposed project operations would not require additional operators at the facility.

Since the facility is functioning 24 hours per day; chlorine loading could take place any time of the day. Additional lighting would be added for night time loading of the rail

cars. All proposed structures are within the height limit defined by the City of Pittsburgh Municipal Code (PMC) § 18.54.115.

The proposed chlorine rail transportation curtailment would increase operational flexibility for K2 by enabling scheduled production outages for equipment maintenance and reducing unplanned outages by allowing for more consistent routine preventative maintenance. These routine shutdowns would result in more predictability and reliability for overall plant operations and safety.

The proposed project would result in a net decrease in rail transport of liquid chlorine to Corteva Pittsburgh. However, there is the potential to increase the rail car movement onsite. No additional chlorine is being produced at the facility so there would not be an increase in traffic associated with workers or supplies using public roads in the area of the proposed project.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project. The following pages present a more detailed checklist and discussion of each environmental factor.

|                          |                           |                          |                          |                          |                                    |
|--------------------------|---------------------------|--------------------------|--------------------------|--------------------------|------------------------------------|
| <input type="checkbox"/> | Aesthetics                | <input type="checkbox"/> | Agriculture and Forestry | <input type="checkbox"/> | Air Quality                        |
| <input type="checkbox"/> | Biological Resources      | <input type="checkbox"/> | Cultural Resources       | <input type="checkbox"/> | Energy                             |
| <input type="checkbox"/> | Geology/Soils             | <input type="checkbox"/> | Greenhouse Gas Emissions | <input type="checkbox"/> | Hazards and Hazardous Materials    |
| <input type="checkbox"/> | Hydrology/Water Quality   | <input type="checkbox"/> | Land Use/Planning        | <input type="checkbox"/> | Mineral Resources                  |
| <input type="checkbox"/> | Noise                     | <input type="checkbox"/> | Population/Housing       | <input type="checkbox"/> | Public Services                    |
| <input type="checkbox"/> | Recreation                | <input type="checkbox"/> | Transportation           | <input type="checkbox"/> | Tribal Cultural Resources          |
| <input type="checkbox"/> | Utilities/Service Systems | <input type="checkbox"/> | Wildfire                 | <input type="checkbox"/> | Mandatory Findings of Significance |

**DETERMINATION:**

On the basis of this initial evaluation:

|                                     |                                                                                                                                                                                                                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.                                                                                                                                                          |
| <input type="checkbox"/>            | I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. |
| <input type="checkbox"/>            | I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.                                                                                                                                                             |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| <input type="checkbox"/> | I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required                                    |

|                                                                                                     |                         |
|-----------------------------------------------------------------------------------------------------|-------------------------|
| <b>Signature:</b>  | <b>Date:</b> 10/17/2019 |
| <b>Printed Name:</b> Hector Rojas                                                                   | <b>For:</b>             |



## 1.1 AESTHETICS

|                                                                                                                                                                                                                                                                                                                                                                             | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact  | No<br>Impact                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------|-------------------------------------|-------------------------------------|
| Except as provided in Public Resources Code Section 21099, would the project:                                                                                                                                                                                                                                                                                               |                                      |                                                |                                     |                                     |
| a) Have a substantial adverse effect on a scenic vista                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway                                                                                                                                                                                                                     | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                                                                                                                                                                                                                                       | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### Discussion:

*Would the project:*

#### a) Have a substantial adverse effect on the scenic vista?

**No Impact.** A scenic vista is generally considered a view of an area that has notable scenery or a resource that is indigenous to the area. A scenic resource may also represent a landmark or area that has been noted for its outstanding scenic qualities and is thereby protected by State or local plans because of those qualities. Views from Browns Island Regional Shoreline, a portion of the East Bay Regional Park system (with restricted access by arrangement only), Sherman Island Waterfowl Management Area, and the Dow Wetlands Preserve are considered to have scenic vistas. In views from these areas, the existing Corteva property appears as a highly industrialized portion of the City. Views in the vicinity of the project area are largely constrained by adjacent structures and the area's relatively flat topography. The new rail facility

project area shown in Figure 1 would likely not be visible from offsite viewers. Offsite viewers from the scenic shoreline areas would notice no change to views across the site to the distant hills. Thus, once built, the new chlorine rail facility would have no impact on scenic vistas.

**b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

*No Impact.* Scenic resources refer to historic buildings, urban skylines, or natural resources, such as mountain ridgelines, trees, or rock outcroppings. There are no scenic resources within the project site. As a result, the proposed project would have no impact on scenic resources.

**c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

*No Impact.* The existing industrial character of the Corteva facility would not be altered by the proposed project during construction or operations because the structures would blend into the industrial facility. The proposed project would not substantially degrade the existing character or quality of the site and its surroundings. The project is in an industrial zoned area, would not conflict with applicable zoning and other regulations governing scenic quality and therefore there would be no impacts to aesthetic resources.

**d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?**

*Less Than Significant Impact.* The facility is currently operating 24 hours per day; chlorine loading could take place any time of the day. Additional lighting would be added for night time loading of the rail cars. The lighting would be directed downward toward the rail loading facility. There are no light- or glare-sensitive land uses within proximity of the project site. The closest public roadway is Loveridge Road, which is approximately one-half of a mile east of the project site (and is occupied by industrial uses). The closest highway to the project site, Pittsburg-Antioch Highway, is approximately 1 mile from the project site. State Route 4 is directly south to the Pittsburg-Antioch Highway. There are no sensitive receptors to light along SR 4. Although additional lighting would be introduced to the project site, the proposed project would comply with Title 18 of the Pittsburg Municipal Code (PMC). Title 18.82.030(B) sets forth performance standards for outdoor lighting to be indirectly or diffused or be shielded or directed away from residential areas and requires City review of the building plans. As a result, the proposed project would have a less-than-significant impact on day or nighttime views of the area because the City would review per the requirements of PMC Title 18 to ensure that the performance standards are met.

## 1.2 AGRICULTURAL AND FOREST RESOURCES

| Would the project:                                                                                                                                                                                                                                                                         | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?                                                                                                                                                                                                       | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?                                                                                                                                                                                                       | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?                                                                               | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### Discussion:

*Would the project:*

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**No Impact.** The proposed project would be constructed within Dow's property, which is developed industrial land and contains no farmlands. As a result, the project would have no impact related to the conversion of agricultural land uses to non-agricultural land uses.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**No Impact.** The proposed project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. The project would be constructed on existing industrial land. As a result, the project would have no impact related to agricultural zoning.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**
- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**
- e) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

c. – e. **No Impact.** The proposed project would not conflict with existing zoning for, or cause rezoning of, forest loss or conversion of forest land to non-forest use or involve other changes that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Forest land is not present in the vicinity of the proposed project. Therefore, the proposed project would have no impacts on forest land.

## 1.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

| Would the project:                                                                                                                                                                                 | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?                                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations?                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?                                                                                  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Discussion:

The Bay Area Air Quality Management District (BAAQMD) is the public agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the nine counties that surround San Francisco Bay, including Contra Costa County. The BAAQMD's responsibilities in improving air quality in its nine-county region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

The BAAQMD was requested to review the administrative draft of the CEQA project description, and the Air Resources and Greenhouse Gas sections of the CEQA checklist. BAAQMD did not find any significant impacts to air resources or greenhouse gas emissions based on their review of the draft documents.

The BAAQMD California Environmental Quality Act (CEQA)- Air Quality Guidelines (updated May 2017) reflect BAAQMD risk and hazard screening thresholds and



procedures and include updated CEQA thresholds of significance adopted by the BAAQMD's Board of Directors on June 2, 2010.

The BAAQMD Guidelines include screening criteria based upon existing and proposed land use. The screening criteria identified in the BAAQMD Guidelines are not thresholds of significance but were developed to provide CEQA lead agencies with a conservative indication of whether a proposed project could result in potentially significant air quality impacts. These screening levels are generally representative of new development on greenfield (undeveloped) sites without any form of mitigation measures taken into consideration. The screening criteria were developed based upon the CEQA thresholds of significance adopted by the BAAQMD's Board of Directors on June 2, 2010.

*Would the project:*

**a) Conflict with or obstruct implementation of the applicable air quality plan?**

***Less Than Significant Impact.***

*Construction-Related Criteria Pollutants*

The California Air Pollution Control Officers Association (CAPCOA) California Emissions Estimator Model (CalEEMod), version 2016.3.2 was used to estimate construction-related emissions for the proposed project. The BAAQMD currently recommends the use of CalEEMod for estimating emissions for projects pursuant to CEQA. The estimated emissions for construction and operation of the proposed project were conservatively estimated based upon CalEEMod default values, except where noted, as detailed in Appendix A of the CalEEMod Emissions Data Assumptions and Outputs.

Construction-related criteria pollutants were modeled, assuming no mitigation measures were implemented. A detailed summary of the assumptions made for the proposed project construction-related pollutant emission modeling and the CalEEMod reports for Annual and Peak Summer emissions are included as Appendix A to this Initial Study. Table 1 summarizes the results of the Peak Winter/Summer unmitigated overall construction emissions.

**Table 1: Construction-Related Criteria Pollutants (BAAQMD 2017)**

| Pollutant        | Construction-Related<br>Average Daily Emissions<br>(lb/day) | Significance Threshold for<br>Average Daily Emissions<br>(lb/day) |
|------------------|-------------------------------------------------------------|-------------------------------------------------------------------|
| ROG              | 2.35                                                        | 54.0                                                              |
| NOx              | 15.2                                                        | 54.0                                                              |
| PM-10 (exhaust)  | 0.7                                                         | 82.0                                                              |
| PM-2.5 (exhaust) | 0.7                                                         | 54.0                                                              |

Construction-related emissions from the proposed project are estimated to be below BAAQMD Significance Thresholds for Construction Related Criteria Pollutants. Therefore, construction-related emissions would produce a less than significant impact.

#### *Operational-Related Emissions of Criteria Pollutants*

Operational-related criteria pollutant emissions were modeled using CalEEMod Version 2016.3.2, conservatively assuming no mitigation measures would be implemented. A detailed summary of the assumptions made for the proposed project operational-related pollutant emission modeling and the CalEEMod reports for Annual emissions are included as Appendix A to this Initial Study. Table 2 summarizes the results of the annual unmitigated overall operational-related emissions from the proposed project.

**Table 2: Operational-Related Criteria Pollutants (BAAQMD 2017)**

| Pollutant           | Operational-Related                 |                               | Significance Threshold              |                               |
|---------------------|-------------------------------------|-------------------------------|-------------------------------------|-------------------------------|
|                     | Average Daily Emissions<br>(lb/day) | Max Annual Emissions<br>(tpy) | Average Daily Emissions<br>(lb/day) | Max Annual Emissions<br>(tpy) |
| ROG                 | 0.097                               | 0.007                         | 54                                  | 10                            |
| NOx                 | 0.70                                | 0.02                          | 80                                  | 10                            |
| PM-10<br>(exhaust)  | 0.04                                | 0.001                         | 80                                  | 15                            |
| PM-2.5<br>(exhaust) | 0.03                                | 0.001                         | 54                                  | 10                            |

The proposed project's operational-emissions are estimated to be below BAAQMD Significance Thresholds for Operational-Related Criteria Pollutants and therefore results in a less than significant impact.

#### *Carbon Monoxide Impacts*

The BAAQMD preliminary screening methodology for Carbon Monoxide (CO) provides a conservative indication of whether the implementation of the proposed project would result in emissions that exceed the CEQA Carbon Monoxide Threshold of Significance (BAAQMD 2017). The proposed project would result in a less-than-significant impact to localized CO concentrations because the following screening criteria are met:

1. The proposed project is consistent with an applicable congestion management program established by the county congestion management agency, Contra Costa Transportation Authority, for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. Traffic from the proposed project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. Traffic from the proposed project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The K2 proposed project would require from three to six construction workers on average for the duration of construction and proposed project operations would not require additional operators at the facility. The increased traffic volumes at affected intersections resulting from the proposed project would be insignificant, and as such, a traffic assessment is not required. The proposed project is consistent with Contra Costa Transportation Authority (CCTA) Congestion Management Program (CMP) for internal and adjacent roadways, the Regional Transportation Program (RTP), and the Countywide Comprehensive Transportation Plan. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan during construction or operations resulting in a less than significant impact.

**b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?**

*Less Than Significant Impact.* As outlined in the section 1.3(a), Operational-Related Criteria Pollutants emissions for the proposed project are below Thresholds of Significance screening levels. Short-term Construction-Related Criteria Pollutants (modeled conservatively, assuming no mitigation measures would be implemented) are below Thresholds of Significance. Therefore, impacts to air quality standards would be less than significant.

**c) Expose sensitive receptors to substantial pollutant concentrations?**

**Less Than Significant Impact.** As discussed in the Section 1.3(a), for the purpose of making Significance Determinations, this Initial Study relies on the Thresholds included in the BAAQMD's June 2, 2010 Thresholds of Significance and, draws upon the 2017 Guidelines for conservative methodologies for calculating air pollution emissions and impacts. The Thresholds of Significance for Toxic Air Contaminants (TAC) in the 2017 guidance is whether the "ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 10.0 in one million, assuming a 70-year lifetime exposure", or "ground-level concentrations of non-carcinogenic TACs result in an increased chronic or acute Hazard Index (HI) from any source greater than 1.0."

Chlorine emissions from loading operations is expected to be negligible. Currently the facility uses a scrubbing unit to produce bleach out of the chlorine. The venting of chlorine that would occur while loading a pressurized railcar would be directed to K2's existing bleach production unit, an existing source on K2's BAAQMD air quality permit to operate. The only new source of emissions would result from residual chlorine gas in the loading hoses after the hoses are disconnected and isolated. The design of the proposed project includes a purging system for the loading hoses, that includes a small scrubber, at the loading station. The small scrubber would be used to purge the approximately 50-ft of 1-inch diameter loading hose, to safety shutdown after a loading event.

Following the Chlorine Vent Scrubber vendor emission estimation methodology, resulting additional chlorine emissions are estimated to be 0.0033 lbs per loading event, or 0.22 lbs/yr, assuming 66 loading hose purge events per year. The BAAQMD Reg 2, Rule 5: New Source Review of Toxic Air Contaminants Table 2-5-1 Toxic Air Contaminant Trigger Levels for Chlorine are 0.26 lbs/hr and 7.7 lbs/yr. A detailed discussion of the Chlorine Vent Scrubber vendor emissions estimates is provided in Appendix B - Health Risk Screening Analysis.

Another potential proposed project source of Toxic Air Contaminant (TAC) and PM-2.5 (fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less) emissions is diesel powered switcher equipment used for moving the rail cars onsite. The switcher engine currently planned for use moving chlorine rail cars between the liquid chlorine rail car loading facility and the Corteva facility is a 130-hp Trackmobile Viking mobile railcar mover. A detailed discussion of the Rail-yard Switcher engine emissions estimates is provided in Appendix B - Health Risk Screening Analysis. Emissions from the proposed increase in rail car movement onsite are estimated to result in additional diesel particulate matter emissions of 0.23 lb/yr, conservatively assuming switching operations of 1.0 hour per car loading, a Load Factor of 0.8, and 66 cars per year expected maximum. The BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants Table 2-5-1 chronic Trigger Level for diesel particulate matter emissions is 0.26 lbs/yr. There is no acute Toxic Air Contaminant Trigger Level for diesel particulate matter.

The proposed project would not site any new receptors, defined by the BAAQMD 2017 CEQA Guidelines as residences, schools and school yards, parks and play grounds,

daycare centers, nursing homes, and medical facilities, nor is it within a 1,000-foot radius of any existing receptors. Operational-Related TAC emissions from the proposed project are estimated to be below Thresholds of Significance screening levels. The proposed project therefore results in a less than significant impact to exposing sensitive receptors to substantial pollution concentrations.

**d) Create objectionable odors affecting a substantial number of people?**

***Less than Significant Impact.*** Odorous substances may be released from the proposed project during rail car loading operations. Chlorine gas is primarily a respiratory irritant. Low concentrations in air (0.1-0.3 ppm) are readily detectable by the normal person (White and Martin 2010). At low concentrations, chlorine gas has an odor similar to household bleach.

During loading operation, hoses would be connected from the pipeline to the railcar to be loaded. A vent line would be attached that returns to K2's existing redundant chlorine destruction system. A separate vapor scrubber would be installed at the loading station to eliminate chlorine from the loading hoses after each loading operation. The loading station would be equipped with automated safety devices including auto-close valves, remotely operated isolation valves, area chlorine monitors, motion detectors and other equipment per recommendations in the Chlorine Institute guidance<sup>1</sup>. Any minor fugitive emissions from loading that are not captured would dissipate quickly and should not be noticeable except directly near the source of the rail car loading. Existing chlorine monitoring equipment plus the addition of more monitors during implementation of the proposed project would ensure elevated concentrations of chlorine would not occur.

The nearest offsite worker receptors are located approximately 0.3 miles from the potential sources of odors from the proposed project, and the nearest residential receptor is located at a distance of approximately 0.5 mile from the railcar parking location. Neither K2 or Corteva have received complaints of nuisance odors from residents or workers that live or work near the Pittsburgh facility, which currently includes operations approximately as close or closer to sensitive receptors as the proposed project.

The proposed project would not result in a substantial increase in odors outside of the facility that would affect a substantial number of people. Odor complaints due to the construction or operation of the proposed project are not expected with minor grading and building of the loading facility. Therefore, potential impacts related to objectionable odors would be less than significant.

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<sup>1</sup> The Chlorine Institute exists to support the chlor-alkali industry and serve the public by fostering continuous improvements to safety and the protection of human health and the environment connected with the production, distribution and use of chlorine and related chemicals. This support extends to giving continued attention to the security of chlorine handling operations. For more information on the Institute's stewardship program, visit CI's website at [www.chlorineinstitute.org](http://www.chlorineinstitute.org)



## 1.4 BIOLOGICAL RESOURCES

| Would the project:                                                                                                                                                                                                                                                                                               | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?                                                                 | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?                                                                               | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?                                                                                                                                                                              | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### Discussion:

The area surrounding the proposed project site and the City of Pittsburg is a diverse environment that ranges from river to land, to marshes and wetlands, to fully

developed industrial, residential, and commercial areas, and hill and mountain habitats south of the City.

The East Contra Costa County Habitat Conservancy is a joint exercise of powers authority formed by the Cities of Brentwood, Clayton, Oakley and Pittsburg and Contra Costa County to implement the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCCHCP/NCCP). The ECCCHCP/NCCP provides a framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process for impacts on endangered species. The ECCCHCP/NCCP would allow Contra Costa County, the Contra Costa County Flood Control and Water Conservation District, the East Bay Regional Park District, the Cities of Brentwood, Clayton, Oakley, and Pittsburg, (the joint exercise powers authority formed East Contra Costa County Habitat Conservancy) to control endangered species permitting for activities and projects in the region that they perform or approve (ECCCHC 2009). Impacts related to species and habitats in the area are measured in terms of compliance with the ECCCHCP/NCCP.

*Would the project:*

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**No Impacts.** The California Natural Diversity Database (CNDDDB) search locates species and habitats that are protected, sensitive, or potentially sensitive according to federal, state, regional, and local regulatory agencies. Per the CNDDDB searches completed for the 2017 Dow Modernization PEIR and the 2009 MND for the K2 Solutions ECU and Bleach Plant project (2009 MND), the following species have been reported as being within a 1-mile radius of the proposed project site:

Antioch dunes evening-primrose, California black rail, California linderiella, Delta mudwort, Delta tule pea, Mason's lilaeopsis, Suisun Marsh aster, Bolander's water-hemlock, Contra Costa wallflower Suisun song sparrow, big tarplant, Lange's metalmark butterfly, White-tailed kite, Salt-marsh harvest mouse, saltmarsh common yellowthroat, vernal pool fairy shrimp, and western pond turtle.

According to regulatory measures from the City's Resource Conservation Element of the General Plan, projects taking place within the Urban Development Area of the General Plan Area would have a significant impact if they involved the incidental take of sensitive species or habitat, directly or through ground-disturbing activities that removed existing ground cover, or affected marshes, wetlands, and other water bodies through a change of drainage patterns that could negatively impact protected species and lands. The proposed project would be located entirely on the Corteva facility and would not result in the direct or indirect take of additional lands that are protected under the General Plan. Construction activities would occur on previously disturbed lands under use for industrial activity. Existing vegetative ground cover is absent. The

pervious surface on the site is covered with gravel. There would be some grading associated with the installation of a new cement slab constructed at the chlorine loading station adjacent to the railroad tracks and currently covered with gravel. The grading and slab would be less than 1,000 sq. ft. in area. Therefore, construction activities are not expected to result in the removal of any existing vegetation or have temporary or permanent impacts on sensitive habitats and species throughout the General Plan Area. The proposed project is an industrial facility located on an existing industrial site. Therefore, there are no impacts with regard to removal or modification of habitat for any species identified or designated as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the State or federal regulatory agencies.

**b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?**

**No Impacts.** As discussed above in “a”, construction or operation activities would not result in the removal of existing vegetative cover nor have a temporary or permanent impact on sensitive habitats and species throughout the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCCCHCP/NCCCP) area, including those state, and federally listed species located on the CNDDB search. Existing stormwater runoff at the proposed project site is currently collected and conveyed via catch basins and drain pipes to Dow’s storm water detention basin. The proposed project would continue to use this storm water collection and conveyance system. Thus, the Rail Curtailment project would not affect riparian habitats or any other natural communities. Additional information regarding stormwater and existing drainage patterns are addressed in Section 1.19 Utilities and Service Systems. The proposed project is a rail loading facility on an existing industrial site and, thus, would not result in a significant impact to surrounding riparian habitat or other sensitive natural community. Therefore, the proposed project would have no impacts on sensitive species, riparian habitats, or other sensitive communities.

**c) Have a substantial adverse effect on federally protected wetlands as (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**No Impacts.** The proposed project would not involve the direct removal, filling, or hydrological interruption in State or federally-protected wetlands or other waters of the U.S or the State. The proposed project would be construction of an industrial facility component located on an existing portion of an adjacent industrial facility and, thus, would not impact surrounding wetlands. Therefore, no impacts to federally protected wetlands would occur.

**d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**No Impacts.** The proposed project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors or impede the use of native wildlife nursery sites. The proposed project would be an industrial facility component located on an existing industrial site. Therefore, no impacts would occur with regards to interference or removal of access to a migratory wildlife corridor or native wildlife nursery.

**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**No Impacts.** All elements of the proposed project construction and operation would be in conformance with all existing local, regional, State, and federal plans, policies, and guidelines regarding the protection and conservation of sensitive species and habitats, including but not limited to plans, policies and guidelines of the Pittsburg Municipal Code (PMC), Pittsburg General Plan, the East Contra Costa Habitat Conservation Plan (ECCCHCP), the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The project's construction and operation would not result in impacts to areas outside the existing industrial facility. No impact would occur related to violation of local biological regulations.

**f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**No Impacts.** As noted in the 2009 MND, the area where the proposed project is located is under the regulatory jurisdiction of the ECCCHCP/NCCP, which determines adherence to State, regional, and national regulatory policies. The proposed project is identified as "urban land cover" by the HCP and further development of the site would not result in the take of sensitive species or sensitive habitat lands. Therefore, no impact would occur regarding inconsistency of the proposed project with policies in a drafted or adopted conservation plan.

## 1.5 CULTURAL RESOURCES

| Would the project:                                                                                            | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|---------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant in §15064.5?      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### Discussion:

*Would the project:*

#### a) Cause a substantial adverse change in the significance of a historical resource pursuant in §15064.5?

**No Impacts.** An architectural history survey was prepared on February 26, 2009 in support of their cultural resource assessment (Pittsburg, 2009). The survey consisted of walking the project area. The portion of the railroad tracks that runs through the property, which are part of a large railroad track segment, do not appear significant in history or for its engineering. Furthermore, the railroad segment has undergone alterations and has not retained integrity. Lacking historical significance and integrity, the railroad segment does not meet the criteria for listing in the CRHR and, therefore, are not historical resources for the purposes of CEQA.

Since there are no historical resources within the project study area, for the purposes of CEQA, that would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5, implementation of the proposed project would result in no impact on historic resources.

#### b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

**Less than Significant Impact.** No known archaeological resources were identified through the investigation conducted to support 2009 MND or the 2017 Dow Modernization EIR. Archaeological Resources have not been discovered during the implementation of the K2 Pure Solutions ECU and Bleach Plant Project. However, such resources could be discovered through subsurface construction activities for the required grading for the installation of a new cement slab for the chlorine loading



station. The proposed Rail Curtailment project area has been previously disturbed multiple times from the construction and demolition of the previous C/A manufacturing structures and the development of K2 Pure Solutions as they exist today on the Corteva property. Although unlikely, due to historic disturbance and minimal ground disturbance, if buried cultural resources are inadvertently encountered during construction, disturbance could result in the loss of integrity of cultural deposits, loss of information, and the alteration of an archaeological site setting. The Pittsburgh General Plan addresses uncovered archaeological resources in 9-P-40 and 9-P-41.

*The General plan states: City involvement in the identification, mitigation, and monitoring of project impacts on these resources will ensure the protection of Pittsburgh's cultural heritage. Also, if archeological resources are found during ground-breaking for new urban development, halt construction immediately and conduct an archeological investigation to collect all valuable remnants.*

Policies are in place with the City for archaeological protections. Also, the Corteva facility including K2 staff are well aware of the best management practices related to inadvertent exposure of pre-historic or historic-era archaeological resources through CEQA mitigations required for larger projects. As presented in the project description, implementation of best management practices of having a qualified archeological monitor present during grading, would render any potential impact of inadvertently encountering archaeological resources to a less-than-significant level.

**c) Disturb any human remains, including those interred outside of formal cemeteries?**

***Less than Significant Impact.*** No formal cemeteries are known to have occupied land that is now associated with the Corteva property, and any human remains that could be encountered would likely be associated with archeological or historical archeological contexts. No archeological materials, including human burials, have ever been discovered on the Corteva property, and development of the proposed project would occur primarily on sites that have previously been subjected to grading and other earth-disturbing activities.

Human burials, in addition to potentially being considered archeological resources, are also resources with specific provisions for treatment. These provisions are included in PRC Section 5097. Although a slight potential exists for such resources to be present and for construction activities involving excavation to disturb these resources, the likelihood of discovery is extremely low, and this impact is, therefore, considered to be less than significant. However, implementation of construction best management practices of having a qualified archeological monitor present during grading, would render any potential impact of disturbing human remains to a less-than-significant level.

## 1.6 ENERGY

| Would the Project:                                                                                                                                                              | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| a) Result in potentially significant environmental impact due to wasteful inefficient, or unnecessary consumption of energy resources, during project construction or operation | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?                                                                                   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Discussion:

On June 5, 2017, the Pittsburg City Council adopted Resolution 17-13321; electing to join MCE Clean Energy, a “Community Choice Aggregation” energy program administrator, which offers local governments and their residents and businesses a choice in their energy provider and what fuel type of energy they choose to receive.

Community Choice Aggregation is specific to customer energy generation options. California law gives ratepayers the option to opt-out of MCE and return to PG&E energy if desired. PG&E continues to provide energy delivery, metering and billing services as usual. K2 receives both PG&E and Calpine Energy power.

The Delta Energy Center is an efficient combined-cycle facility with advanced air emissions control technologies owned and operated by Calpine Energy located in Pittsburg. It is a natural gas-fired, combined-cycle power plant consisting of three combustion turbines, three heat recovery steam generators and one steam turbine (Calpine 2019). The proposed project would be fed by Calpine Energy.

*Would the project:*

**a) Result in potentially significant environmental impact due to wasteful inefficient, or unnecessary consumption of energy resources, during project construction or operation**

The new rail car loading facility would be composed of best in class equipment for safety and energy efficiency. The facility would be constructed using prefabricated equipment that would be installed using manufacturers specifications. Raw materials and energy consumption would be minimally increased as a result of the proposed project operations because the chlorine production limits would remain at current levels. The largest energy consumer would be the steam driven heat exchanger. The steam is generated onsite via a boiler. The proposed project would increase natural gas usage approximately 119 MMBTU/year. Small instrumentation and lighting would result in a minimal increase in electrical usage. Therefore, the proposed project would

have a less than significant impact related to wasteful inefficient or unnecessary consumption of energy resources.

**b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

Energy efficiency plans that demonstrate the project is in line with state and local renewable energy plans include some lines would be thermally insulated to ensure minimum energy usage. Also, the steam being generated would utilize a mixture of natural gas, and hydrogen produced onsite.

As a result of the project using:

- a) the Delta energy center that is a combined-cycle facility with advanced air emissions control technologies;
  - b) minimal electricity ( discussed in “a” above) and
  - c) some energy efficient planning via insulated lines and steam generation,
- there would be a less than significant impact related to conflicts or obstruction of state and local renewable energy or energy efficiency.

## 1.7 GEOLOGY AND SOILS

| Would the project:                                                                                                                                                                                                                                                                     | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact  | No<br>Impact                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------|-------------------------------------|-------------------------------------|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:                                                                                                                                                         |                                      |                                                |                                     |                                     |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| ii) Strong seismic ground shaking?                                                                                                                                                                                                                                                     | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii) Seismic-related ground failure, including liquefaction?                                                                                                                                                                                                                           | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iv) Landslides?                                                                                                                                                                                                                                                                        | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?                                                                                                                                                                                                                          | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?                                                     | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?                                                                                                                    | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?                                                                                                   | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?                                                                                                                                                                                | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Discussion:**

Table 3 provides a summary of existing faults within the area of the proposed project.

**Table 3: Faults in the Vicinity of Pittsburg**

| <b>Fault</b>           | <b>Location and Direction from Project Area</b> | <b>Recency of Movement</b>          | <b>Fault Classification</b> | <b>Historical Seismicity</b>              | <b>Maximum Credible Earthquake<sup>2</sup></b> |
|------------------------|-------------------------------------------------|-------------------------------------|-----------------------------|-------------------------------------------|------------------------------------------------|
| Hayward                | 20 miles west                                   | Historic (1868 rupture)             | Active                      | 6.8, 1868; Many <4.5                      | 7.5                                            |
| Concord-Green Valley   | 6 miles west                                    | Historic (1955 rupture)             | Active                      | Historic active creep                     | 6.5                                            |
| Clayton-Greenville     | 3 miles south                                   | Holocene                            | Active                      | None known                                | 6.3                                            |
| Marsh Creek-Greenville | 10 miles south east                             | Historic (1980 rupture)<br>Holocene | Active                      | 5.6, 1980                                 | 6.9                                            |
| Franklin Fault         | 10 miles west                                   | Late Pleistocene                    | Potentially Active          | None documented                           | 6.8                                            |
| Antioch                | 4 miles east                                    | Quaternary                          | Potentially active          | Reported creep                            | 6.5                                            |
| San Andreas            | 40 miles west                                   | Historic (1906; 1989 ruptures)      | Active                      | 7.1, 1989. 8.25, 1906. 7.0, 1838. Many <6 | 8.0                                            |
| Calaveras (Northern)   | 15 miles south                                  | Historic (1861 rupture)<br>Holocene | Active                      | 5.6–6.4, 1861. 4–4.5 swarms 1970, 1990    | 7.5                                            |

Source: City of Pittsburg 2001. Pittsburg General Plan Health and Safety Element. Page 10-6.

The Preliminary Geotechnical Investigation developed for the 2006 IS/MND covered the proposed project area and was followed by a 2016 Geotechnical Update Report that

<sup>2</sup> The Maximum Credible Earthquake (MCE) is the strongest earthquake that is likely to be generated along a fault zone, based on the geologic character of the fault and earthquake history.



also address the proposed project area. Both technical reports were completed by Hultgren-Tillis Engineers and are referenced in this section.

Would the project?

- a) **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
  - i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?**

*Less than Significant Impact.* The nearest, designated, Alquist-Priolo earthquake fault zone is located approximately 10 miles west of the Corteva facility. As shown in Table 3 the closest fault not designated by Alquist-Priolo, Clayton-Greenville, is approximately 3 miles south from the proposed project site. There are no known faults that traverse the proposed project site. As a result, the potential to expose people or structures to adverse impacts associated with surface fault rupture is less than significant.

- ii. **Strong seismic ground shaking?**

*Less than Significant Impact.* Strong seismic ground shaking could result in damage to the rail loading facility, potentially resulting in personal injury and/or the accidental release of chemicals stored or transported on the project site. The proposed project would be required to comply with State and local building regulations including the 2016 California Building Code (CBC). The Applicant would implement the recommendations of the site-specific geotechnical investigation prepared by Hultgren-Tillis Engineers (see Appendix C Geotechnical Report Update). The recommendations include monitoring and/or test geotechnical aspects of the work for earthwork site preparation and appropriate fill materials. As discussed in the project Description, depending on the grading details identified in the final design, if the grading requires earth moving of more than 1 foot of depth, boring samples would be taken to determine underlying soil content. A geotechnical monitor would be present to observe soil conditions during grading if the depth of soil disturbance is less than one foot. This construction BMP of boring or geotechnical monitoring, subject to the 1 foot depth threshold, would be implemented during all ground disturbance onsite resulting in a reduction of potential impacts related to exposing people or structures to substantial adverse effects including the risk of loss, injury, or death from strong seismic groundshaking to less than significant.

- iii. **Seismic-related ground failure, including liquefaction?**

*Less than Significant Impact.* According to the geotechnical investigation prepared by Hultgren-Tillis, the fill used to raise site grades on the lower areas of the Corteva property has the potential for liquefaction. Most of the proposed project site is underlain by alluvial deposits, which contain a thin layer of liquefiable sand at relatively shallow depths (Hultgren-Tillis 2016- Appendix C).

Liquefaction within the alluvial areas could result in the surface settlements of less than one inch. The settlements that may result from liquefaction would be in addition to the potential settlements that could result from the static loads. Potential impacts from liquefaction within the alluvial area resulting from settlement would be a potentially significant impact. However, design of the proposed project is required to comply with State and local building regulations including the 2016 CBC. As discussed in “ii” above, the Applicant would implement the recommendations of the site-specific geotechnical investigation prepared by Hultgren-Tillis Engineers (see Appendix C Geotechnical Report Update). The recommendations include monitoring and/or test geotechnical aspects of the work for earthwork site preparation and appropriate fill materials. As a result, the potential impacts of seismic groundshaking on proposed project structures and their occupants would be reduced to a less-than-significant level.

#### **iv. Landslides?**

**No Impacts.** The proposed project site is on relatively flat land and the City of Pittsburgh General Plan does not include the proposed project site within a potential landslide hazard area. Therefore, the potential for landslides from a seismic event does not exist. As a result, there would be no impact associated with landslides.

#### **b) Result in substantial soil erosion or the loss of topsoil?**

**Less than Significant Impact.** Grading would be necessary for construction of the cement slab for rail loading facility. Erosion due to or rain could potentially occur, if the soil is left uncovered for long periods of time. Since the proposed project site is currently 30 percent impermeable and 70 percent permeable, there’s little potential for the loss of top soil. However, compliance with the NPDES and PMC Titles 15 and 18 would minimize the potential of erosion. As a result, the potential for impacts associated with substantial soil erosion or loss of topsoil would be less than significant.

#### **c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

Refer to Sections “a.iii” and “a.iv” above for discussions relating to liquefaction and landsliding.

**Less than Significant Impact.** Lateral spreading can result from the liquefaction of soil after a seismic event. The liquefaction of some of the hydraulic fill area could result less than an inch of settlement (Hultgren-Tillis 2016 Appendix C). As discussed above, there are no proposed structures within the hydraulic fill areas. Compliance with the CBC and City review of the engineering drawing and calculations would ensure that any potential for lateral spreading impacts would be less than significant.

#### **d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

**Less than Significant Impact.** The soils underlain the proposed project site have moderate expansive potential (Hultgren-Tillis 2016). Compliance with CBC regulations (i.e., standards that specify the minimum acceptable level of safety for constructed

objects such as buildings or other structures, including specifications on components, installation methodologies, exit sizes and locations, and maximum occupancy for building size/square footage) and City review would reduce the potential impacts of expansive soils on the proposed structures, consistent with the prevailing engineering standard of care. Furthermore, the proposed project site does not include construction of residential housing or commercial development that would house or serve large populations. The closest sensitive receptor (being a single family neighborhood) is approximately three quarters of a mile away (approximately 4,000 feet) and the closest school is over a mile away. Approximately 32 employees have been and would continue to be working in the proposed project area. The risks of exposure of human life to hazards related to expansive soils would be minor because the site is located in a heavily industrial area, the number employees at the site would be few, and buildings and structures that employees work in and around are required to comply with CBC regulations. Therefore, the potential impact of expansive soils on life and property would be less than significant.

**e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

**No Impacts.** The proposed project would not substantially increase the generation of wastewater. The proposed project would not require the use of a septic tank or alternative wastewater disposal systems. As a result, the proposed project would have no impact related to septic system sighting.

**f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less than Significant Impact.** Pleistocene deposits are considered highly sensitive for paleontological resources. Any ground disturbance affecting Pleistocene materials, whether exposed at the surface, or covered by fill and/or Holocene strata but involved in deeper grading requires implementation of Society of Vertebrate Paleontology-consistent measures for highly sensitive units.

As discussed in the 2009 MND, U.S. Geological Survey (USGS) geologic mapping (Helley and Graymer 1997) shows the proposed project site as partially situated on alluvial fan deposits of Pleistocene age (south portion) and on alluvial fan and Bay mud deposits of Holocene age (northernmost portion; north of approximately 1st Street (Hultgren-Tillis, 2008). The Preliminary Geotechnical Report prepared for the 2009 MND Project (Hultgren-Tillis 2008) indicates that native substrate materials are blanketed by existing artificial fill on portions of the site; fill is up to 10 feet thick overlying Pleistocene strata on the south portion of the site which would include the proposed Rail Curtailment Project. Previous grading on the southern portion of the project site has resulted in some areas with little or no fill and others with fill up to 10 feet. No excavation would occur during construction however, a less than 1,000 square foot area would be graded. The grading process may include some excavation to remove fill that is unstable. It is unknown what portions of the southern area are filled up to 10 feet and which areas have little or no fill as noted in the 2009 MND.

Disturbance of Pleistocene strata has the potential to significantly impact paleontological resources. Significant impacts to Pleistocene strata at the project site would be significant in the following situations: (1) areas where Pleistocene strata are exposed at the surface, and would be involved in excavation, regardless of excavation depth; and (2) areas where a thin veneer of fill materials overlies Pleistocene strata, and excavation would be deeper than the thickness of the fill units, and thus would involve the underlying native Pleistocene materials. Thus, there would be the possibility of Pleistocene deposits being encountered.

Based on the probability that Pleistocene deposits could be encountered during construction, implementation of K2's Pittsburg site construction best management practices of having a qualified archeological monitor present during grading, would render any potential impact of inadvertently encountering paleontological resources to a less-than-significant level.

## 1.8 GREENHOUSE GAS EMISSIONS

| Would the project:                                                                                                               | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Discussion:

The BAAQMD was requested to review the administrative draft of the CEQA project description, and the Air Resources and Greenhouse Gas sections of the CEQA checklist. BAAQMD did not find any significant impacts to air resources or greenhouse gas emissions based on their review of the draft documents.

The BAAQMD California Environmental Quality Act - Air Quality Guidelines (updated May 2017) include updated CEQA thresholds of significance adopted by the BAAQMD's Board of Directors on June 2, 2010, as well as screening criteria based upon proposed land use. For the purpose of making a conservative Significance Determinations with respect to GHG emissions, this Initial Study relies on the Thresholds and methodologies included in the BAAQMD's 2017 Guidelines.

For stationary-source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO<sub>2</sub>e (BAAQMD 2017). Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require a BAAQMD permit to operate.

*Would the proposed project:*

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less Than Significant Impact.** The California Air Pollution Control Officers Association (CAPCOA) California Emissions Estimator Model (CalEEMod), version 2016.3.2 was used to estimate Operational related GHG emissions for the proposed project. Operational-related GHG pollutants were modeled conservatively, assuming no mitigation measures were implemented, using CalEEMod Version 2016.3.2 defaults. A detailed summary of the assumptions made for the proposed project facility construction-related pollutant emission modeling are included as Appendix A, together with the CalEEMod report output for Annual emissions.

The analysis conservatively estimated the proposed project GHG emissions to be 39.8 metric tons Carbon Dioxide Equivalent per year (MT CO<sub>2</sub>e/yr) during construction of



the proposed project and increased operational emissions of 5.6 MT CO<sub>2</sub>e/yr. The BAAQMD recommended Threshold of Significance is 1,100 MT CO<sub>2</sub>e/yr for projects other than Stationary Sources, and 10,000 MT CO<sub>2</sub>e/yr for Stationary Sources (BAAQMD 2017). The proposed project would therefore result in a less than significant impact.

**b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

*Less Than Significant Impact.* As discussed in section 1.7(a) Operational GHG emissions for the proposed project are below Thresholds of Significance screening levels, and therefore do not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases resulting in a less than significant impact.

## 1.9 HAZARDS AND HAZARDOUS MATERIALS

| Would the project:                                                                                                                                                                                                                                               | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?                                                                                                                          | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?                                                                  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?                                                                                                  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?                                                                                                                                        | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?                                                                                                                          | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Discussion:

*Would the project:*

**a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

*Less Than Significant Impact.* The proposed project would reduce the amount of transportation of chlorine by approximately 1,500 miles. The chlorine railcar loading system onsite would be designed and operated employing safe, proven, and Chlorine Institute<sup>3</sup> recommended equipment including automated valves and pressure transmitters, motion detectors, auto shut offs, and a dry air pipeline to offload tanks cars with pressurized dry air in the event of an emergency. The proposed project would not increase the volume of hazardous materials onsite. The proposed Rail Curtailment project would not create a significant hazard due to routine transport, use or disposal of hazardous materials because there would be no increase in hazardous material onsite, there would be a reduction of transport of chlorine and proven state of the art equipment would be used to load the rail cars. The impact would be a less than significant.

**b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

*Less Than Significant Impact.* The 2009 IS/MND contains an off-site consequence assessment (OCA) associated with an accidental release of chlorine at the K2 Pure Solutions ECU and Bleach Plant. The assessment followed the requirements of California Accidental Release Prevention (CalARP) Program regulation (California Code of Regulations Title 19, Division 2, Chapter 4.5, Section 2750) and EPA Risk Management Program (RMP) 40 CFR Part 68. The assessment included six scenarios. None of the existing scenarios included chlorine loaded into railcars, ton containers, or any other form of transport vessel. The High Grade Chlorine Storage tanks that hold 200 tons of chlorine were used in the worst case scenario that could result in a release of up to 40,000 pounds per minute. Based on the worst-case scenario, the entire 200 tons of compressed liquid chlorine stored in the largest tank would be released within 10 minutes, reaching a maximum distance of 20 miles from the point of release and potentially exposing a maximum residential population of 840,000 people to the chlorine gas at the Emergency Response Planning Guideline Level-2 concentration threshold of 3 ppm. Level 2 is defined as “the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hour without experiencing or developing irreversible or other serious health effects or symptoms which impact an individuals ability to take protective action.” This value is used to assist local Fire and Police Departments with overall emergency management in the event of a release at the facility. The existing alternate release scenario is a 0.5 “ leak in a pipeline that leaks

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<sup>3</sup> The Chlorine Institute exists to support the chlor-alkali industry and serve the public by fostering continuous improvements to safety and the protection of human health and the environment connected with the production, distribution and use of chlorine and related chemicals. This support extends to giving continued attention to the security of chlorine handling operations. For more information on the Institute’s stewardship program, visit CI’s website at [www.chlorineinstitute.org](http://www.chlorineinstitute.org)

161.7 lbs/minute during a ten-minute timeframe for a total of 1,617 pounds. The release reaches a distance of 0.23 miles and does not affect any population receptors. (Tracer Environmental Sciences & Technologies, 2009) A chlorine railcar has a capacity of 90 tons of liquid chlorine. As discussed in the project description, the next revision of the Offsite Consequence Analysis would include the proposed project as an alternative scenario in the analysis.

As summarized in the OCA report, the occurrence of such a release would be virtually impossible due to the thermodynamic properties of chlorine “Assuming the entire contents of the tank were released in 10 minutes, only 13% of that will flash to vapor or 52,000 lbs. The remaining chlorine will settle as a liquid in the containment berm at the boiling point of  $-34^{\circ}\text{C}$ .” (Tracer Environmental Sciences & Technologies, 2009)

Engineering controls that would be installed to minimize potential consequences if a release were to occur were not included in the worst case scenario resulting in an analysis that is not reasonably foreseeable. In addition, the assessment did not include equipment that would minimize the potential for leaks to occur at all.

As noted in “a” above, The chlorine railcar loading system onsite would be designed and operated employing safe, proven, and Chlorine Institute recommended equipment including: automated valves and pressure transmitters, motion detectors, automated shut offs, and a dry air pipeline to offload tanks cars with pressurized dry air in the event of an emergency.

Preventive measures recommended by the Chlorine Institute include an inspection checklist that would be used for all aspects of the loading operation. The checklist documents that the proper loading and securing procedures have been completed. Also, during the loading of a rail cars, prevention of the rail car from being hit or moved by another car or locomotive is accomplished by using derails or stops 50 feet or more from both ends of the rail car. Derails should not be removed for any reason until all cars are disconnected from the loading rack. (Chlorine Institute 2015)

According to the Chlorine Institute, leaks that may occur in chlorine loaded tank cars usually involve the angle valves or pressure relief devices and can be controlled with the Institute’s Emergency Kit C. As described in the project description an Emergency Kit C will be on-site in a location sufficiently away from the tank car, so it will be accessible during an emergency. (Chlorine Institute 2015)

As included in the project description, at least two remote emergency stop buttons would be strategically located to shut down the system in the event of an emergency during the loading process. A dry air supply would also be installed to facilitate the unloading of a railcar in the event of an emergency need to deinventory a railcar.

The operation of the proposed project would be required to comply with the existing management protocols identified in the Contra Costa County Hazardous Materials Contingency Plan. Additionally, pursuant to the California Health and Safety Code, Division 20, Chapter 6.95, Section 25535.2, facilities that handle regulated substances above certain thresholds are required to prepare risk management plans. The goal of a risk management program is to prevent chemical accidents that could cause harm to

the public and the environment and to reduce the potential impact of accidental releases. The risk management plan contains an off-site consequence analysis that evaluated specific potential release scenarios including worst-case and alternative scenarios; a history of accidental releases; an integrated prevention program to manage risk; an emergency response program; and a management system that oversees the implementation of the risk management program. The applicant has developed and implemented a comprehensive risk management program for compliance with the CalARP Program.

As discussed in the project description, K2 will update their Risk Management Plan (RMP) per requirements of the California Accidental Release Prevention (CalARP) Program regulation (California Code of Regulations Title 19, Division 2, Chapter 4.5, Section 2750) and EPA Risk Management Program (RMP) 40 CFR Part 68. Contra Costa County is the designated Certified Unified Program Agency (CUPA) for the facility responsible for approving the RMP.

Submittal of the comprehensive risk management program would be required as a condition of project approval and final program approval by the CUPA would be required prior to operation. K2 would reissue the risk management plan to the County for review and approval and provide a copy to the City.

The construction of the rail loading facility involves the development of a cement slab, assembly of the rail loading equipment and installation of a chlorine pipeline. Therefore, construction and operation of the proposed project would not create a significant hazard to the public or the environment, and therefore, would be a less-than-significant impact.

**c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or hazardous waste within one-quarter mile of an existing or proposed school?**

**No Impacts.** No existing or proposed schools are located within one-quarter mile of the project site. Therefore, there would be no impact associated with hazardous materials within one-quarter mile of existing schools.

**d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**Less Than Significant Impact.** The Department of Toxic Substances Control prepares a portion of the information that comprises the Cortese List, in their Envirostor database and other State and local government agencies are required to provide additional hazardous material release information that is part of the complete List. Table 4 is the Cortese List for the Corteva facility.

During construction, there is potential to encounter contaminated soils that contain elevated levels of VOCs and lead compounds during grading for the cement slab. Some soils at locations within the Corteva facility are reported to be contaminated with VOCs, SVOCs, mercury, and methyl mercury. Board Order No. R2-2002-0014 Site



Cleanup Requirement issued by RWQCB to Dow in 2002, detailed the requirement for cleanup and remediation of VOCs, SVOCs, mercury, and methyl mercury. The proposed project would not impede Dow's ongoing remediation of groundwater. Groundwater beneath the project site is between 5 to 15 feet below ground surface (Hultgren-Tillis 2008).

As discussed in the proposed project description, no excavation would occur however proper site preparation may require a small amount of excavation depending on the condition of the underlying soil. However, there would be less than 1,000 sq. ft. of grading for preparation for the cement slab. All excavations, ground penetrations and other soil disturbance activities are subject to Corteva Chemical Safety & Loss Prevention Standard S-327, "Excavations". This standard provides requirements for identification of excavation locations, notification of responsible departments and competent personnel, identification of hazards associated with the excavation, definition of appropriate mitigation procedures and permitting of excavation activities consistent with the SWRCB's requirements for the Corteva facility. Therefore, compliance with the Standard S-327 would reduce any significant hazards to the public or the environment to a less-than-significant level.

**Table 4 Cortese List**

| SITE ID      | PROJECT NAME              | STATUS                  | PROJECT TYPE      | ADDRESS          |
|--------------|---------------------------|-------------------------|-------------------|------------------|
| CAT080010580 | AQUILEX HYDROCHEM LLC     | Protective Filer        | Non-Operating     | 901 Loveridge Rd |
| CAD076528678 | THE DOW CHEMICAL CO       | Operating Permit        | Operating         | 901 Loveridge Rd |
| 80001680     | THE DOW CHEMICAL COMPANY  | Refer: RWQCB            | Corrective Action | 901 Loveridge Rd |
| CAD009150194 | USS-POSCO INDUSTRIES      | Post Closure Permit     | Post Closure      | 900 Loveridge Rd |
| T0601300344  | US STEEL POSCO INDUSTRIES | Completed - Case Closed | LUST Cleanup Site | 900 Loveridge Rd |

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

**No Impacts.** The project site is not within the vicinity of an approach/departure flight path of a public airport. Therefore, there would be no impact related to airport activities.

**f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**Less Than Significant Impact.** The City of Pittsburg has an Emergency Operations Plan (EOP) that contains emergency and recovery plans applicable to natural and human induced hazardous situations. The proposed project would be constructed on an existing industrial site that is covered by the Corteva Consolidated Contingency Plan (CCP). The CCP “consolidates” the multiple emergency response plans required by various agencies, including the City’s EOP, into one standardized and functional plan. The CCP and site emergency procedures apply to all onsite personnel, including contractor, workers, and contractor supervisors. No potential conflicts have been identified between the operation of the rail loading facility and other local emergency response and evacuation plans, including the Contra Costa County Emergency Operations Plan and Contra Costa County Hazardous Materials Area Plan. Therefore, construction and operation of the proposed project would not impair implementation or operation of the City’s EOP or other local emergency response or evacuation plans resulting in a less than significant impact.

**g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wild land fires?**

**No Impacts.** The Corteva property and the project site are developed and industrial in nature and do not contain, nor are they adjacent to, any wildlands. No impact would occur.

## 1.10 HYDROLOGY AND WATER QUALITY

| Would the project:                                                                                                                                                                                                      | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?                                                                              | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?                                   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (i) result in substantial erosion or siltation on- or off-site;                                                                                                                                                         | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site;                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (iv) impede or redirect flood flows?                                                                                                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) in flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?                                                                                                                      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) conflict with or obstruct implementation of water quality control plan or sustainable groundwater management plan?                                                                                                   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Discussion:**

*Would the project:*

**a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**

*Less Than Significant Impact.* The proposed project would be constructed entirely within those areas of the existing K2 facility that are already served by the Corteva facility's existing water and wastewater collection and treatment systems. The Corteva facility operates under a NPDES permit to assure water quality standards are met. The proposed project would not involve a change in the existing storm water or ground water quality conditions. No violations of water quality standards or waste discharge requirements would occur as a result of the construction or operations of the Rail Curtailment Project. Impacts would be less than significant.

**b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

*Less Than Significant Impact.* Groundwater would not be used and unlikely exposed during the construction of the proposed project. Construction activities associated with rail loading facility would include minimal ground disturbing activities involving the grading for development of the cement slab. The grading and slab would be less than 1,000 sq. ft. and less than 5 feet deep. Groundwater depths range from 1 to 8 feet (Hultgren Tillis 2016). If grading uncovered unsuitable fill in the area supporting the cement slab, the fill would be replaced with more suitable subsurface materials that excavation could create an interaction with groundwater. The amount of groundwater would be negligible for removing 1-2 feet of fill in a 1,000 sq. ft area, and would not deplete groundwater supplies, interfere with groundwater recharge, or impede sustainable groundwater management of the basin. Therefore, potential impacts during construction on groundwater supply would be less than significant.

**c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on- or offsite?**

**i. result in substantial erosion or siltation on- or off-site**

*Less Than Significant Impact.* Impacts from erosion or siltation during construction would be less than significant due to SWPPP best management practices that would be designed during permitting and employed during construction. Operations of the project would not have any result in substantial erosion or siltation because the movement of the railcars would be on railroad tracks and surfaces around the loading facility cement slab would be graveled.

**ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site**

**Less Than Significant Impact.** The proposed project would not alter the course of any stream or river. Construction activities associated with the Rail Curtailment Project would include minimal ground disturbing activities related to grading for installation of the cement slab. The proposed project would result in an increase in impervious surfaces of less than 1,000 sq. ft. No surface / storm water drainages would be altered. Therefore, the proposed project would not substantially increase the rate or amount of surface run off resulting in flooding on or off-site resulting in a less than significant impact.

**iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff**

**Less Than Significant Impact.** Construction activities associated with the proposed project would include minimal ground disturbing activities (e.g., grading or excavation). During construction, any surface water runoff would be managed by Dow's existing drainage system. In addition, there would be minimal increases in storm water runoff from the rail loading facility, because the proposed project would result in an increase in impervious surfaces of less than 1,000 sq. ft. with the installation of the cement slab adjacent to the Corteva facility's railroad track.

During construction, any surface water runoff would be managed using BMPs as described in the Plan's construction SWPPP and grading plan. Construction of the proposed project would not increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite. The proposed project would not substantially change existing drainage patterns or alter existing rivers or streams on site or in the vicinity resulting in flooding onsite or offsite. Therefore, the impact associated with surface water runoff quality or quantity would be less than significant.

**iv. impede or redirect flood flows?**

**Less Than Significant Impact.** The proposed project area would be protected from flooding by existing levees along Corteva's property in the New York Slough. The majority of the facility, where most of Corteva's industrial activity occurs, is served by a storm drain system that discharges to a 1.7 MMgal concrete retention basin located at the north end of the facility. In addition, each manufacturing or processing area has perimeter diking. Concrete dike walls surround storage tanks outside of contained manufacturing or process areas. Although failure of the existing levee could result in flooding, the effect would be limited to the southernmost portion of the Corteva facility. Intervening structures between a levee failure site and existing drainage, would reduce the effects to the Corteva facility. The proposed project would not be impacted. Therefore, the potential of the proposed project to expose people or structures to significant risk of loss, injury, or death from the failure of a levee or dam is less than significant.

**d) in flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?**



**No Impacts.** The proposed project site is located within Zone C of FEMA's flood map (FEMA 2015). Zone C is an area outside the 1% annual chance floodplain and is labeled on the FEMA Flood map as an "Area of minimal flood hazard" (FEMA 2015). The proposed project area would be protected from potential flooding by existing levees along Dow's property in the New York Slough. The remaining project site is not located within an area classified by FEMA to be subject to flooding. There would be no impacts related to location within flood zone.

The proposed project area is outside a tsunami hazard area as identified on the Contra Costa County Tsunami Inundation Map. The project site is not located near a hillside that would be susceptible to mudslides or mudflows. As a result, the project site has no potential for inundation by mudflow or mudslides. Therefore, there would not be an impact from the potential for a flood hazard, tsunami, or seiche to damage proposed structures, risk release of pollutants due to project inundation or risk the lives of people at the project site.

**e) conflict with or obstruct implementation of water quality control plan or sustainable groundwater management plan?**

**Less Than Significant Impact.** Impacts to the water quality of storm water runoff during construction would be avoided through the implementation of a Best Management Practices (BMPs). If left unmanaged, storm water runoff from the proposed project could develop permanent impacts to water quality from the non-point source pollutants such as grease and heavy metals that may enter New York Slough and ultimately Suisun Bay and the Pacific Ocean. Storm water associated with the facility's operational activities is regulated by the State General Permit for Storm Water Discharges Associated with Industrial Activities Order No. 2014-0057-DWQ. The Facility is currently enrolled under WDID No. 2-071021408. The increased impervious surface would be less than 1,000 sq. ft. and would not result in a violation of waste discharge requirements, thereby avoiding adverse effects to water quality from storm water discharges.

As discussed in "b" above, groundwater would not be used and unlikely exposed during the construction of the proposed project. Construction activities associated with rail loading facility would include minimal ground disturbing activities involving the grading for development of the cement slab less than 1,000 sq ft. Groundwater would not be used during operations and unlikely exposed during the construction of the proposed project. Construction activities associated with rail loading facility would include minimal ground disturbing activities involving the grading for development of the cement slab. The grading and slab would be less than 1,000 sq. ft. and less than 5 feet deep. If grading uncovered unsuitable foundation materials for the cement slab, increased excavation could create an interaction with groundwater. The amount of groundwater would be negligible for removing 1-2 feet of fill in a 1,000 sq. ft area, and would not deplete groundwater supplies, interfere with groundwater recharge, or impede sustainable groundwater management of the basin. Therefore, potential impacts during construction and operations on water quality control plan or sustainable groundwater management plan would be less than significant.

## 1.11 LAND USE AND PLANNING

| Would the project:                                                                                                                                                                     | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Physically divide an established community?                                                                                                                                         | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### Discussion:

*Would the Project:*

#### a) Physically divide an established community?

**No Impacts.** The project site is currently occupied by and is zoned for industrial uses. The site is surrounded by industrial uses to the east, industrial and vacant land uses to the south and west, and vacant land and the New York Slough of the Suisun Bay to the north. As a consequence, development of the site would not physically divide an established community. No impact would occur.

#### b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

**No Impacts.** According to the City of Pittsburg General Plan, the project site has a land use designation of Industrial and according to the PMC, the site is zoned as General Industrial (IG) District, which allows for industrial uses. The proposed project is an industrial facility with storage/handling of hazardous materials and the project fits within the specified activities described in the IG zoning district of the PMC, subject to the approval of a use permit and design review. The City must grant the required use permit before the use can be established as proposed in the submitted application.

The project site is under the jurisdiction of the ECCCHCP. However, the project site contains industrial land uses and is designated by the ECCCHCP as having “urban” land cover. Furthermore, the proposed project would not acquire additional land, as all elements of the proposed project would reuse or build industrial facilities on a developed industrial site. The proposed project would be in compliance with all land use plans, policies, and regulations, and thus would have no impact with regard to these issues.

## 1.12 MINERAL RESOURCES

| Would the project:                                                                                                                                                    | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### Discussion:

*Would the project:*

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

**No Impacts.** According to the City of Pittsburg General Plan Resource Conservation Element, there are currently no significant mineral deposits or active mining operations in the City. Furthermore, the project site is located on a currently developed industrial site. As a result, the proposed project would have no impact related mineral resources.

- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

**No Impacts.** Same as "a" above.

## 1.13 NOISE

| Would the project result in:                                                                                                                                                                                                                                                                              | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?                                                         | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Generation of excessive groundborne vibration or groundborne noise levels?                                                                                                                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Discussion:

Section 9.44.010 (Prohibitions) of the City of Pittsburgh's municipal code prohibits the operation of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist (or other appliance) between the hours of 10:00 p.m. to 7:00 a.m. Section 18.82.040 (Noise) identifies noise level performance standards and states that no construction event or activity occurring on any site adjoining a lot in a residential, planned development or government and quasi-public districts shall generate loud noises in excess of 65 decibels measured at the [receiving noise-sensitive] property line, except between the hours of 8:00 a.m. and 5:00 p.m.

The 2017 Dow Modernization Project EIR included a Noise Assessment completed by CH2M in August of 2015. The Assessment identified three sensitive receptors in the vicinity of the Corteva facility. The distances of the same receptors from the proposed rail loading facility are approximately three quarters of a mile away (approximately 4,000 feet).

The rail loading facility construction includes:

- Installation of the above ground pipe,
- Formation of the concrete slab, and
- Assembly of the rail car loading facility from pre-fabricated components.

Construction of the proposed project would result in a temporary increase in ambient noise levels within the project vicinity, which could affect nearby noise-sensitive uses. The duration of construction of the new facility is anticipated to be approximately 8-10 weeks.

The operations of the rail loading facility would not create an increase in noise from current conditions because currently there is railcar movement at the facility. Some of the railcar movement would be transferred to the loading facility while some movement, created by deliveries of chlorine railcars from Texas would be eliminated all together.

*Would the project:*

**a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

*Less Than Significant Impact.* The proposed project would be located in an area of existing industrial land use, and no noise sensitive land uses adjoin the proposed site. At a distance of approximately 4,000 feet to the nearest residence, noise from temporary construction could reach Lmax 43 dBA assuming a source level of 92 dBA at 50 feet and distance and ground attenuation per FTA 2006. This calculation does not include the effects of local shielding from buildings, topography, walls or other barriers, which may reduce sound levels further. Noise due to temporary construction activities is therefore not expected to exceed 65 decibels at the nearest noise-sensitive land use. Excessive construction noise would not be generated outside of the hours of 8:00 am to 5:00. The operations of the rail loading facility would not create an increase in noise from current conditions because currently there is railcar movement at the facility. Therefore, impacts associated with increased noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

**b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?**

*Less Than Significant Impact.* The operation of heavy equipment has the potential to generate groundborne vibration. The, vibration from construction activity would attenuate to less than 0.1 in/sec PPV within about 50 feet according to the 2006 IS/MND based on reference levels from Federal Transit Administration 2006. At the nearest residence of 4,000 feet, groundborne vibration would be well below the threshold for potential damage to structures and, furthermore, would not be expected to be perceptible at the nearest sensitive land use. This is impact would therefore be less than significant.

**c) For a project located within the proximity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**



**No Impacts.** The proposed project is not located within an area covered by an airport land use plan, within 2 miles of a public airport or public use airport or a private airstrip. Thus, adoption and implementation of the project would not result in airport noise impacts on people residing or working within the project area. There would be no impact.

## 1.14 POPULATION AND HOUSING

| Would the project:                                                                                                                                                                                                  | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### Discussion:

The City of Pittsburg population in 2010 was approximately 84,641 with approximately 27,897 housing units (Census Bureau 2010a). In 2021, the US Census Bureau estimates the population would be 91,323 (US Census 2010b).

*Would the project:*

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**No Impacts.** The proposed project does not propose the construction of new homes or require the expansion of existing infrastructure that may directly or indirectly result in population growth. It is anticipated that approximately 32 facility employees currently working at the facility would not change. The maximum of ten construction crew members at any one-time during construction would be drawn from the local or regional labor pool. As a result, the proposed project would have no impact on population growth.

- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**No Impacts.** Construction of the proposed rail loading facility would occur within an existing industrial site and would not result in the displacement of people. Therefore, the proposed project would have no impact on existing housing.

## 1.15 PUBLIC SERVICES

| Would the project:                                                                                                                                                                                                                                                                                                                                                                                        | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: |                                |                                       |                                     |                                     |
| i. Fire protection?                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| ii. Police protection?                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii. Schools?                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| iv. Parks?                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| v. Other public facilities?                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Discussion:

*Would the project:*

- a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

**i. Fire protection?**

***Less Than Significant Impact.*** Construction and operation of the proposed project facility would not substantially increase the need for fire protection services. In the unlikely event of a fire or hazardous material release at the proposed project facility, the CCCFPD would initially respond. Stations 84 and 85 are nearest to the proposed project sites, are fully equipped and staffed in accordance with current CCCFPD policies. Station 85, located at 2331 Loveridge Road, is 1.7 miles from the proposed project area. Fire Station 84 at 1903 Railroad Ave. in Pittsburg, is located 2.6 miles from the proposed project. The Corteva facility also has a fire brigade with two on-shift

firefighters/emergency medical technicians (EMTs) and are certified in exterior process firefighting. Dow's on-site fire suppression infrastructure includes fire detection systems, water spray systems (sprinkler or deluge types), hydrants, two fire engines, and a response truck equipped with two articulating firewater monitors (Brezack & Associates Planning, 2017).

The Applicant would be required to construct and operate to current building and fire life safety codes complying with the rules and regulations set forth by the CCCFPD. As such, construction and operation of the proposed project would not create significant fire hazards that would substantially increase the need for fire protection services and would not require the construction of new or expanded facilities to meet any increased need. Therefore, impacts on fire protection services as a result of the proposed project would be less than significant.

## **ii. Police protection?**

***Less Than Significant Impact.*** Construction and operation of the proposed project facility would not substantially increase the need for police services. In the event of an emergency, the Pittsburg Police Department (PPD), operating from City Hall, at 65 Civic Avenue is approximately 2.25 miles west of the Corteva facility and would initially respond. The Corteva facility is located within Patrol Beat 2. Adjacent patrol beats 1, 7, and 8 provide backup. In the event all PPD personnel were dispatched on calls, the County Sheriff would be dispatched (CCC Sheriff 2019, personal communication).

Corteva maintains on site private security officers and an extensive security system including fencing, gates, cameras, a card access system, and worker security awareness training. A security fence surrounds the industrial portion of the Corteva facility. Gates are locked or equipped with secure identification (ID) badge access or staffed by security personnel. Video cameras are located at various points around the industrial portion of the Facility. Corteva security personnel regularly monitor the camera video displays to detect unusual activity and patrol the Corteva facility. All security meets current DHS requirements for chemical facilities as administered by the United States Coast Guard.

There are no residential or recreational land uses proposed as part of the proposed project, so there would not be an increase the amount of people near the facility which could increase the need for police presence. Impacts on police protection services as a result of the proposed project would be less than significant.

## **iii. Schools?**

***No Impacts.*** Public school services in the project area are provided by the PUSD. The proposed Rail Curtailment Project would not include new housing or new employment or directly increase the project area residential population. The additional 3-6 crewmembers for 8 to 10 weeks of construction would not increase the local population. Consequently, proposed project would not increase student enrollment levels at PUSD schools and therefore, no impacts would occur.

**iv. Parks?**

*No Impact.* The proposed project does not feature a housing element, nor would it directly increase population so as to increase demand on parks. The proposed project would not increase the number of operating personnel at the facility. The ten construction crew members would only be present for up to ten weeks and would likely be drawn from the local workforce. The proposed project would not provide, alter, or affect demand for parks and recreational facilities. Therefore, no impacts to parks would occur.

**v. Other public facilities?**

*No Impact.* No impact to other public facilities would occur as a result of implementation of the proposed Project.



## 1.16 RECREATION

|                                                                                                                                                                                                                | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact | No<br>Impact                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------|------------------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?                        | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

### Discussion:

*Would the project:*

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**No Impacts.** The proposed project does not include any new residential development. There would not be an increase in employees with the operation of the Rail Curtailment Project. The construction crewmembers associated with the proposed project would likely come from the surrounding local labor pool and there would only be 3-6 crewmembers for 8 to 10 weeks of construction. As a result, the proposed project would not result in an increase in population or housing in the City of Pittsburgh. Thus, the proposed project would not increase demand for or use of local recreational facilities. As a result, the proposed project would have no impact.

- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

**No Impacts.** The proposed project does not include construction of recreational facilities, nor (as described above under "a") would it indirectly require the expansion of existing recreational facilities. As a result, potential physical effects on the environment from the construction of new or expansion of existing recreational facilities would not occur. Thus, no impact would occur.

## 1.17 TRANSPORTATION

| Would the project:                                                                                                                                             | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system including transit, roadway, bicycle and pedestrian facilities?         | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?                                                                           | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Result in inadequate emergency access?                                                                                                                      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### Discussion:

Loveridge Road is the major arterial within the proposed project vicinity. It has two lanes in each direction between Buchanan Road and Pittsburg-Antioch Highway. From the proposed project site, Loveridge Road extends southwest, across SR 4, to Buchanan Road. North of Pittsburg-Antioch Highway, the road has one lane in each direction.

Pittsburg-Antioch Highway is another major route that serves as an alternative route to SR 4 for regional commuters. It is an east-west aligned major arterial that roughly parallels the north side of SR 4, and has one to two travel lanes in each direction. The road ends at Harbor Street west of Loveridge Road and at Somersville Road to the east, in Antioch. The road is an alternative route for regional commuters when SR 4 is congested. (ESA 2007)

The Congestion Management Program (CMP) was enacted by the State legislature following the passage of Proposition 111 in 1990. The purpose of the CMP is to address the impact of local growth on the regional transportation system. The Metropolitan Transportation Commission, the local CMP agency, has designated a highway network that includes all State highways and principal arterials within the County. Local jurisdictions are required to monitor the Level of Service (LOS) standards at the designated locations within this network.

*Would the project:*

**a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

**Less Than Significant Impact.** The construction of the rail loading facility would take up to ten weeks. During the ten-week period, there would be approximately ten trips daily generated by the construction crew. There would be less than a dozen material delivery total trips during construction.

The number of peak hour trips generated as a result of the proposed project does not meet or exceed the City Traffic Engineering Divisions threshold for requiring a Traffic Impact Study (TIS). Therefore, a TIS was not required as part of this Initial Study. There would be a net decrease in train trips from Texas delivering chlorine to the Corteva facility. The project would not conflict with a with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities resulting in a less than significant impact to transportation.

**b) Conflict or be inconsistent CEQA Guidelines section 15064.3 subdivision (b)?**

**Less Than Significant Impact.** The operations of the proposed project would not generate any additional vehicle miles traveled. The current employees would manage the rail car loading and no additional supplies are needed for operations that could increase vehicle miles traveled to the facility. The proposed project would not generate a significant impact in either the AM or PM peak-hour timeframes at any of the intersections in the project vicinity, therefore the LOS would not change at any of the intersections in the project vicinity as required to be monitored by the City as part of the CMP resulting in a less-than-significant impact related to transportation.

**c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**No Impacts.** The proposed project would not alter the roadway configuration of the surrounding roadways and would not be located next to incompatible land uses. The rail tracks used within the Corteva facility would not be realigned but would include the installation of a rail loading facility for filling rail cars used on private property. During the filling of a rail car, prevention of the rail car from being hit or moved by another car or locomotive is accomplished by using derails or stops 50 feet or more from both ends of the rail car. As described in the project description, derails will not be removed for any reason until all cars are disconnected from the loading rack as recommended by the Chlorine Institute 2015. Therefore, no impacts from an increase in hazards due to a geometric design feature or incompatible use would occur.

**d) Result in inadequate emergency access?**

**Less Than Significant Impact** The proposed project would not create any barriers to travel or hazardous design features. The project consists of installation of a Chlorine rail loading facility on existing train tracks that would be used up to 66 times per year. Therefore, impacts to emergency access as a result of the proposed project would be less than significant.

## 1.18 Tribal Cultural Resources

| Would the project:                                                                                                                                                                                                                                                                                                                                                 | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact | No<br>Impact                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------|------------------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native tribe and that is: |                                      |                                                |                                    |                                     |
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historic resources as defined in Public Resources Code 5020.1(k), or                                                                                                                                                                               | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.                                          | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

### Discussion:

A search of the Sacred Lands File maintained by the Native American Heritage Commission (NAHC) was completed on June 24, 2015 for the Dow Modernization Project EIR. This search failed to indicate the presence of Native American cultural resources in the immediate proposed Plan area (NAHC, 2015). An archeological reconnaissance survey of structures that would be demolished as a result of the proposed Dow Modernization Plan was conducted on December 18, 2013. This search failed to indicate the presence of Native American cultural resources in the immediate proposed Plan area.

On April 17, 2017, the City completed the California Native American tribal consultation process for the Dow Modernization Project by providing notification of the proposed Plan to the following tribal representatives.

- Andrew Galvan, Chairperson Muwekma Ohlone Indian Tribe of the SF Bay Area

- Ann Marie Sayers, Chairperson Indian Canyon Mutsun Band of Castanoan
- Rosemary Cambra, Chairperson Muwekma Ohlone Indian Tribe of the SF Bay Area
- Raymond Hitchcock, Chairperson Muwekma Ohlone Indian Tribe of the SF Bay Area
- Irenne Zwierlein, Chairperson Amah Mutsun Tribal Band of Mission San Juan Bautista

No response requiring further consultation was received from any of the representatives.

- a) **Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native tribe and that is:**
- i. **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historic resources as defined in Public Resources Code 5020.1(k), or**

*No Impacts.* Through the searches completed for the Dow Modernization Project PEIR in 2017 and the request for consultation letters, it is apparent that there are no tribal cultural resources anticipated to be present in the proposed project area. The area has been an industrial site since the early 1900s and is covered with fill. In addition, no excavation is planned for the project that would increase the risk of encountering any resources. Therefore, there would be no impacts to historic resources of value to Native American tribes.

- ii. **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

*No Impacts.* See “a” above.



## 1.19 UTILITIES AND SERVICE SYSTEMS

| Would the project:                                                                                                                                                                                                                                                                | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?                                                                                                                        | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?                                                 | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals?                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?                                                                                                                                                                | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Discussion:

**Wastewater.** The Delta Diablo Sanitation District ("Delta Diablo") provides water resource recovery services for the cities of Pittsburg and Antioch, and the unincorporated community of Bay Point, serving a total population of nearly 200,000. The water resource recovery services consist of secondary treatment of wastewater, recycled water production and distribution, pollution prevention, energy recovery, beneficial reuse of biosolids, street sweeping, and household hazardous waste collection. Delta Diablo owns and operates the regional interceptors and collection system that transports wastewater to the Delta Diablo Wastewater Treatment Plant (WWTP), located north of the Pittsburg-Antioch Highway along the Pittsburg city limits, about 0.6 miles east of the proposed project site. Delta Diablo's WWTP is a

secondary treatment plant with a rated average dry weather flow (ADWF) capacity of 19.5 mgd and peak wet weather flow (PWWF) treatment capacity of 26.0 mgd. Treated and disinfected secondary effluent is discharged to New York Slough in the San Joaquin Delta. A portion of the effluent is diverted to the Recycled Water Facility (RWF) prior to chlorination at a varying rate depending on recycled water demands (DDSD, 2006). NPDES Permit No. CA0038547, Board Order No. R2-2009-0018, cites Delta Diablo's intent to increase permitted flows from 16.5 mgd to 22.7 mgd (37.6 % increase). As discussed in the Dow Modernization Project PEIR, Corteva currently generates approximately 0.18 mgd of wastewater that is treated at Delta Diablo. This is about 1.0% of Delta Diablo's 2010 ADWF.

**Stormwater.** All existing stormwater infrastructure on Dow's property is owned and operated by Dow. Under existing conditions, approximately 111 acres of the 420-acre site are industrially developed (buildings, trailers, tanks, and roadways) with impervious surfaces. Pervious surfaces (e.g., soil, gravel) cover the remaining acres of the Corteva facility. Stormwater runoff on the Corteva facility is collected by several catch basins and storm drainpipes that convey water to Dow's existing stormwater detention basin located west of the Corteva facility's dock on New York Slough. The stormwater collection and conveyance system were originally designed to accommodate stormwater runoff associated with existing land uses within Dow's property. Stormwater is tested and treated as required by Dow's stormwater NPDES Industrial General Permit before it is released into New York Slough. The existing stormwater system includes the Corteva stormwater detention basin, which has a capacity of 1.7 MMgal.

**Non-potable Water Supply.** Non-potable water is provided to the proposed project by CCWD from the south via CCWD's pipeline supplied from the CCWD canal. Dow's private emergency firewater system is owned and operated by Corteva and supplied directly from the San Joaquin River at New York Slough. When needed, water supplied from New York Slough is pressurized and distributed via Dow's firewater systems throughout the Corteva facility. More than 95 percent of water used at Corteva is for non-potable purposes (Personal Communication with Dale Schell, 2015).

**Potable Water Supply.** The City obtains approximately 90 percent of its untreated water supply from the CCWD through the CVP. The CCWD's current contract for its entire service area is for 195,000 AFY or 174 million gallons per day (mgd). However, these allocations are subject to regulatory or other temporary restrictions that may be imposed arising from drought or other conditions. In addition to its CVP contract and Los Vaqueros Water Rights, CCWD has negotiated water rights with a number of local districts and private entities, including the East Contra Costa Irrigation District. These agreements bring CCWD's total annual supply to 242,700 AFY. The City supplements its CCWD water supply with two wells, located at City Park and at Dover Way/Frontage Road. Combined yield of both wells in Pittsburg is 1,500 AFY (City of Pittsburg, 2001)

**Solid Waste.** Corteva disposes of nonhazardous solid wastes at the Potrero Hills Landfill. The Class III landfill began operations in 1986 and serves portions of Solano

and Contra Costa counties. The Facility's estimated permitted capacity is 83.1 million cubic yards (yd<sup>3</sup>), and the estimated capacity used is 13.8 million yd<sup>3</sup> (Calrecycle 2012). As discussed in the Dow Modernization PEIR, this facility has about 40% of its volume-based life remaining. Nonhazardous solid wastes from construction and operation of the proposed project would be disposed of at this facility.

**Electricity and Gas Service.** Power to the Corteva facility is provided by the Los Medanos Energy Center (LMEC), a Calpine Corporation 550-megawatt combined cycle natural gas fired generating facility located at 750 East 3<sup>rd</sup> Street, in the City of Pittsburg. Power from LMEC is transmitted to the Corteva facility through Corteva owned 115 kilovolt (kV) transmission lines. In addition to electricity, LMEC provides steam to the Corteva Facility through a Corteva owned pipeline and buys condensate from Corteva to make most of this steam. PG&E provides the Corteva facility with backup electric power and natural gas through PG&E's existing utility infrastructure. Natural gas is distributed throughout the Facility by Corteva owned pipelines. The proposed project would have a negligible increase in energy consumption associated with lighting of the loading facility and instrumentation.

*Would the project:*

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

***Less Than Significant Impact.*** The addition of the rail loading facility would not produce any change in the anticipated volume of wastewater to be discharged by the facility; and would therefore not exceed the wastewater treatment requirements of the RWQCB. Additional water use during construction would be temporary. The proposed project would not require water during operations. The proposed project would not produce any change in the anticipated volume of storm water drainage to be discharged by the addition of less than 1,000 sq. ft. of impervious surface to the industrial facility. As described above, the proposed project would have a negligible increase in energy consumption associated with lighting of the loading facility and instrumentation.

- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?**

***Less Than Significant Impact.*** As provided in a) above, the proposed project would not produce any change in the anticipated volume of water demand. However, there may be a slight temporary increase in water use during construction. Therefore, impacts to the available water supply during normal, dry, and multiple dry years would be less than significant.

- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

***Less Than Significant Impact.*** The construction of the rail loading facility would not have an environmental impact associated with an increase of storm drainage. The proposed project would not produce any change in the anticipated volume of storm water drainage to be discharged by the addition of less than 1,000 sq. ft. of impervious surface to the industrial facility. As discussed in the 2009 IS/MND, the Corteva facility storm water collection and conveyance system was originally designed to accommodate storm water runoff associated with the land uses within Dow's property, which would have included the chlor-alkali (C/A) manufacturing which existed in the proposed project area from 1939-1992. During this period, the site was occupied by buildings, containment structures, other associated C/A manufacturing structures, and roadways, similar in size and function to those of the existing K2 facility. Therefore, because the proposed project is located within the footprint (in overall contribution to impervious surfaces) of the historic C/A uses, the addition of the rail loading facility would not create a significant increase in stormwater run-off. Therefore, the impact would be less than significant.

**d) Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals**

***Less Than Significant Impact.*** Construction spoils that would be removed during the construction process would separate anything that can be recycled. Solid waste would primarily consist of packaging from shipment of the prefabricated equipment being put together and would be disposed at the Potrero Hills Landfill that has sufficient permitted capacity to accommodate the project's needs. The operation of filling of rail cars with chlorine would not significantly increase the anticipated volume of solid waste; and would therefore not require additional landfill capacity. The impact of disposing of construction debris would be a less than significant impact on landfill capacity.

**e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

***No Impacts.*** Wastes generated by construction of the proposed project would not conflict with federal state or local statutes and regulations related to solid waste. There would be no impact.

## 1.20 WILDFIRE

| If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:                                                                                                                                  | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan?                                                                                                                                                                          | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?                                                      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, powerlines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability or drainage changes?                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Discussion:

*Would the project:*

#### a) Substantially impair an adopted emergency response plan or emergency evacuation Plan?

**Less Than Significant Impact.** As discussed in Section 1.9 Hazards and Hazardous Materials, the City of Pittsburgh has an Emergency Operations Plan (EOP) that contains emergency and recovery plans applicable to natural and human induced hazardous situations. The proposed project would be constructed on an existing industrial site that is covered by the Corteva Consolidated Contingency Plan (CCP). The CCP “consolidates” the multiple emergency response plans required by various agencies, including the City’s EOP, into one standardized and functional plan. The CCP and site emergency procedures apply to all onsite personnel, including contractor, workers, and contractor supervisors. No potential conflicts have been identified between the



operation of the rail loading facility and other local emergency response and evacuation plans, including the Contra Costa County Emergency Operations Plan and Contra Costa County Hazardous Materials Plan. Therefore, construction and operation of the proposed project would not impair implementation or operation of the City's EOP or other local emergency response or evacuation plans resulting in a less than significant impact.

**b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

*No Impacts.* The Corteva property and the project site are developed and industrial in nature and do not contain, nor are they adjacent to, any wildlands. The area is generally on level ground and bounded by New York Slough to the north and the Dow Wetlands preserve to the east of the Corteva facility. The developed area surrounding the facility is also industrial. The CCCFPD Stations 84 and 85 are nearest to the proposed project sites, are fully equipped and staffed in accordance with current CCCFPD policies and are 1.7 and 2.6 miles from the facility. The Corteva facility also has a fire brigade with two on-shift firefighters/emergency medical technicians (EMTs) and are certified in exterior process firefighting. Dow's on-site fire suppression infrastructure includes fire detection systems, water spray systems (sprinkler or deluge types), hydrants, two fire engines, and a response truck equipped with two articulating firewater monitors (Brezack & Associates Planning 2017). The elimination of the 700 railcars transporting chlorine from Texas also reduces risks to of wildfires. The area is not susceptible to the spread of uncontrolled wildfire; therefore, the project would have no impacts associated with exacerbating wildfire risks.

**c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, powerlines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

*Less Than Significant Impact.* The rail car loading facility would have structures where there is currently bare land however the facility is a compact element of a larger industrial manufacturing facility built adjacent to existing railroad tracks. The facility would not increase the amount of chlorine stored or produced onsite. There is no associated infrastructure of the rail car loading facility constructed or operated that would exacerbate fire risk resulting in less than significant impacts.

**d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability or drainage changes?**

*No Impacts.* As discussed in "a" above the facility is on flat ground adjacent to the Sacramento/San Joaquin Delta. In an industrial zoned area of the City, is not susceptible to wild fires or contain slopes or drainages that would create post fire impacts. Therefore, the project would not have an impact associated with exposing

people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability or drainage changes.

## 1.21 MANDATORY FINDINGS OF SIGNIFICANCE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact  | No<br>Impact             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------|-------------------------------------|--------------------------|
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?                                                                                                                                       | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Discussion:

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

**Less Than Significant Impact.** The proposed project is located in an industrial area of the City and would have no significant impacts with respect to biological resources, and the project would result in less-than significant cultural resource impacts provided that the identified best management practice of having a qualified cultural resource monitor onsite during grading is implemented. The proposed project would not

degrade the quality of the environment, reduce or threaten any fish or wildlife species (endangered or otherwise), or eliminate important examples of the major periods of California history or pre-history. Therefore, the proposed project is less than significant using facility best management practices to address the discovery of any unanticipated cultural resources discovered during construction.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

*Less Than Significant Impact.* Based on the analysis contained in this CEQA checklist, the proposed project's land uses are consistent with the City's General Plan land use projections. These land uses have been considered with the overall growth of the City including increases in traffic, noise and changes to air quality. The analysis contained in this CEQA Initial Study checklist demonstrated that the proposed project is in compliance with all applicable plans including but not limited to water quality, air quality, and habitat conservation. The proposed project would not produce impacts that considered with past, present and future projects would be cumulatively considerable because potential significant impacts were determined to be less than significant.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

*Less Than Significant Impact.* As discussed in the impact analysis above in this CEQA Initial Study checklist, the proposed project would not expose persons to adverse impacts related to air quality, seismic or geologic hazards, greenhouse gas emissions, hazards or hazardous materials, hydrology or water quality, land use planning, noise, population and housing, or transportation/traffic hazards, and the provisions to utility services to people. The project was identified to have no impact, or a less than significant impact in these areas. Therefore, the proposed project does not have environmental effects that would cause substantial adverse impacts on human beings directly or indirectly.

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## **APPENDIX A**

### CalEEMod Emissions Data Assumptions and Outputs

**City of Pittsburg - K2 Pure Solutions**  
**CalEEMod Emissions Calculations Data Assumptions**  
**Chlorine Rail Transportation Curtailment Project**

**General Project Data**

*Project Site Area – 0.02 acre (1,000 sq. ft.)*

*Number of additional employees at site: 0*

*Assume no additional Trip rate (The proposed Project operations would not require additional operators at the facility.)*

**CalEEMod Project Characteristics**

**Assumptions:**

Project Location: Contra Costa County

Forecast Climate Zone: 4 (From Appendix F: Zip code 94565 - Pittsburg - Contra Costa County)

Land Use Setting: Urban

Operational Year: 2019

Utility Company: Pacific Gas & Electric Company

**Land Use**

**Chlorine Rail Transportation Curtailment Project**

- Total Disturbed Area = Less than 1,000 sq-ft = 0.02-acres.
- Rail Car Loading Rack would be installed on a concrete pad.
  - Unrefrigerated Warehouse-Rail = 40 ft x 25 ft = 1,000 sq-ft

**Construction Phases:**

Estimates assume construction begins in May-2019. Construction assumed to be completed within 8-10 weeks. Except where noted the phase duration and equipment are default assumptions generated by CalEEMod for a construction site of this size.

**Demolition** – Not Applicable (CalEEMod default = 10 days)

No demolition will be required at the site for construction of the rail car loading facilities.

**Site Preparation** - Five days (5/6/2019 to 5/10/2019) - 5-days per week (CalEEMod default = 1 days)  
Involves clearing rocks & stones prior to grading. Conservatively assumed to require 5-days.  
Assume no material imported or exported.

Equipment - 1 Grader - 187-Horsepower (0.41 load factor) - 8.0 hours/day  
- 1 Tractors/Loaders/Backhoes - 97-Horsepower (0.37 load factor) - 8.0 hours/day

**Grading** - Five days (5/13/2019 to 5/17/2019) - 5-days per week (CalEEMod default = 2 days)  
Default CalEEMod construction phase, involves the cut and fill of land to ensure the proper base and slope for the construction foundation. Assume no graded materials required to be hauled off site.

Equipment - 1 Grader - 187-Horsepower (0.41 load factor) - 8.0 hours/day  
- 1 Rubber Tire Dozer - 247-Horsepower (0.4 load factor) - 1.0 hours/day  
- 2 Tractors/Loaders/Backhoes - 97-Horsepower (0.37 load factor) - 6.0 hours/day

**Building Construction** - Twelve weeks / 60-days (5/20/2019 to 8/9/2019) - 5-days per week - (CalEEMod default=100 days)  
The building construction phase is anticipated to be significantly shorter than CalEEMod defaults, as it entails the pouring of a slab on grade, and construction of the loading rack, rather than new construction of a building.  
Activities will include:

- Pouring of a slab on grade;
- Construction of the loading rack
- Construction of approximately 700 feet of above ground pipeline from an existing fixed chlorine storage tank to the rail car loading facility.
- Installation of Rail Car loading equipment and piping.

Equipment - 1 Crane - 231-Horsepower (0.29 load factor) - 4.0 hours/day  
- 2 Forklift - 89-Horsepower (0.2 load factor) - 6.0 hours/day  
- 2 Tractors/Loaders/Backhoes - 97-Horsepower (0.37 load factor) - 8.0 hours/day

**Paving** - Three-days (8/12/2019 to 8/14/2019) - 5-days per week - (CalEEMod default = 5 days)  
Only minimal paving will be required at the facility to provide a walkway for K2 operators to access this station, No access roads to be paved unless damaged by construction equipment.

Equipment - 4 Cement and Mortar Mixers - 9-Horsepower (0.56 load factor) - 6.0 hours/day  
- 1 Paver - 130-Horsepower (0.42 load factor) - 7.0 hours/day  
- 1 Roller - 80-Horsepower (0.38 load factor) - 7.0 hours/day  
- 1 Tractors/Loaders/Backhoes - 97-Horsepower (0.37 load factor) - 7.0 hours/day

**Architectural Coating** - Five-days (8/15/2019 to 8/21/2019) - 5-days per week (CalEEMod default = 5 days)  
Architectural Coating phase includes surface coating of containment structures and painting of loading rack, piping and equipment as needed.

- Equipment - 1 Air Compressor - 78-Horsepower (0.48 load factor) - 6.0 hours/day
- Exterior Coatings = 1,500 sq-ft  
(CalEEMod default = 500 sq-ft)
  - Interior Coatings = 0 sq-ft External Coatings only (CalEEMod ratio of 3 to 1 Interior to Exterior).  
(CalEEMod default = 1,500 sq-ft)

## **Operational Emissions**

### **Operational - Mobile Source Assumptions**

The proposed Project operations would not require additional operators at the facility.

### **Operational - Energy Use**

With the exception of additional lighting included with the project, no additional energy use will result from this project.

#### **Natural Gas Assumptions**

There will be no NG used at site. (CalEEMod default = 3.4 kBTU/size/yr).

### **Operational - Water and Wastewater Usage**

No potable water use associated with Rail Car Loading Rack (CalEEMod default = 231,250 gal/yr).

### **Operational - Solid Waste**

No waste generation will be associated with the Rail Car Loading Rack (CalEEMod default = 0.94 tons/year).

### **Operational - Off-Road Equipment**

Switching locomotive for moving rail cars onsite. Conservatively assume switching operations of 1.0-hr per car loading and 58 cars per year expected maximum. The Rail Car Loading Rack will include no additional stationary sources.

Equipment -

- 1 Other General Industrial Equipment – 130-Horsepower (0.8 load factor) – 1.0 hours/day. 58 days/yr.

## **Vegetation**

**Land Use Change:** Assume no change in vegetation.

**Sequestration:** There are no trees or other vegetation at the project site. No replanting will be required.

City of Pittsburg - K2 Pure Solutions  
CalEEMod Emissions Calculations Data Assumptions  
Chlorine Rail Transportation Curtailment Project

CalEEMod Report for Peak Summer Emissions



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project

### Contra Costa County, Summer

## 1.0 Project Characteristics

---

### 1.1 Land Usage

| Land Uses                     | Size | Metric   | Lot Acreage | Floor Surface Area | Population |
|-------------------------------|------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-Rail | 1.00 | 1000sqft | 0.02        | 1,000.00           | 0          |

### 1.2 Other Project Characteristics

|                          |                                |                          |       |                           |       |
|--------------------------|--------------------------------|--------------------------|-------|---------------------------|-------|
| Urbanization             | Urban                          | Wind Speed (m/s)         | 2.2   | Precipitation Freq (Days) | 58    |
| Climate Zone             | 4                              |                          |       | Operational Year          | 2019  |
| Utility Company          | Pacific Gas & Electric Company |                          |       |                           |       |
| CO2 Intensity (lb/MW hr) | 641.35                         | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr)  | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

Project Characteristics -

Land Use -

Construction Phase - See comments in "Phase Description".

Off-road Equipment - Corrected to include appropriate construction phase equipment.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Exterior surfaces only.

Area Coating - Exterior surfaces only.

Energy Use - Only additional exterior lighting required.

Water And Wastewater - No additional water use, or waste water generation.

Solid Waste - No increase solid waste generation.

Operational Off-Road Equipment - Switching locomotive for moving rail cars onsite.

| Table Name              | Column Name                       | Default Value | New Value |
|-------------------------|-----------------------------------|---------------|-----------|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 500.00        | 1,500.00  |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 1,500.00      | 0.00      |
| tblAreaCoating          | Area_Nonresidential_Exterior      | 500           | 1500      |
| tblAreaCoating          | Area_Nonresidential_Interior      | 1500          | 0         |
| tblConstructionPhase    | NumDays                           | 100.00        | 60.00     |
| tblConstructionPhase    | NumDays                           | 10.00         | 0.00      |
| tblConstructionPhase    | NumDays                           | 2.00          | 5.00      |
| tblConstructionPhase    | NumDays                           | 5.00          | 3.00      |
| tblConstructionPhase    | NumDays                           | 1.00          | 5.00      |
| tblConstructionPhase    | PhaseEndDate                      | 10/23/2019    | 8/21/2019 |
| tblConstructionPhase    | PhaseEndDate                      | 10/9/2019     | 8/9/2019  |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

|                                |                            |                          |           |
|--------------------------------|----------------------------|--------------------------|-----------|
| tblConstructionPhase           | PhaseEndDate               | 5/17/2019                | 5/5/2019  |
| tblConstructionPhase           | PhaseEndDate               | 5/22/2019                | 5/17/2019 |
| tblConstructionPhase           | PhaseEndDate               | 10/16/2019               | 8/14/2019 |
| tblConstructionPhase           | PhaseEndDate               | 5/20/2019                | 5/10/2019 |
| tblConstructionPhase           | PhaseStartDate             | 10/17/2019               | 8/15/2019 |
| tblConstructionPhase           | PhaseStartDate             | 5/23/2019                | 5/18/2019 |
| tblConstructionPhase           | PhaseStartDate             | 5/21/2019                | 5/11/2019 |
| tblConstructionPhase           | PhaseStartDate             | 10/10/2019               | 8/10/2019 |
| tblConstructionPhase           | PhaseStartDate             | 5/18/2019                | 5/6/2019  |
| tblEnergyUse                   | NT24E                      | 1.07                     | 0.00      |
| tblEnergyUse                   | NT24NG                     | 0.07                     | 0.00      |
| tblEnergyUse                   | T24E                       | 0.32                     | 0.00      |
| tblEnergyUse                   | T24NG                      | 3.40                     | 0.00      |
| tblGrading                     | AcresOfGrading             | 2.50                     | 0.00      |
| tblGrading                     | AcresOfGrading             | 2.50                     | 0.50      |
| tblOffRoadEquipment            | OffRoadEquipmentType       | Concrete/Industrial Saws | Graders   |
| tblOperationalOffRoadEquipment | OperDaysPerYear            | 260.00                   | 66.00     |
| tblOperationalOffRoadEquipment | OperHorsePower             | 88.00                    | 130.00    |
| tblOperationalOffRoadEquipment | OperHoursPerDay            | 8.00                     | 1.00      |
| tblOperationalOffRoadEquipment | OperLoadFactor             | 0.34                     | 0.80      |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00                     | 1.00      |
| tblSolidWaste                  | SolidWasteGenerationRate   | 0.94                     | 0.00      |
| tblTripsAndVMT                 | WorkerTripNumber           | 13.00                    | 10.00     |
| tblWater                       | IndoorWaterUseRate         | 231,250.00               | 0.00      |

## 2.0 Emissions Summary

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

|         | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2      | Total CO2      | CH4    | N2O    | CO2e           |
|---------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------------|----------------|--------|--------|----------------|
| Year    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |                |                |        |        |                |
| 2019    | 2.3522 | 15.2081 | 9.8430 | 0.0195 | 0.8349        | 0.7488       | 1.5837     | 0.4356         | 0.7072        | 1.1428      | 0.0000   | 1,903.634<br>9 | 1,903.634<br>9 | 0.4315 | 0.0000 | 1,914.422<br>7 |
| Maximum | 2.3522 | 15.2081 | 9.8430 | 0.0195 | 0.8349        | 0.7488       | 1.5837     | 0.4356         | 0.7072        | 1.1428      | 0.0000   | 1,903.634<br>9 | 1,903.634<br>9 | 0.4315 | 0.0000 | 1,914.422<br>7 |

**Mitigated Construction**

|         | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2      | Total CO2      | CH4    | N2O    | CO2e           |
|---------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------------|----------------|--------|--------|----------------|
| Year    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |                |                |        |        |                |
| 2019    | 2.3522 | 15.2081 | 9.8430 | 0.0195 | 0.8349        | 0.7488       | 1.5837     | 0.4356         | 0.7072        | 1.1428      | 0.0000   | 1,903.634<br>9 | 1,903.634<br>9 | 0.4315 | 0.0000 | 1,914.422<br>7 |
| Maximum | 2.3522 | 15.2081 | 9.8430 | 0.0195 | 0.8349        | 0.7488       | 1.5837     | 0.4356         | 0.7072        | 1.1428      | 0.0000   | 1,903.634<br>9 | 1,903.634<br>9 | 0.4315 | 0.0000 | 1,914.422<br>7 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**2.2 Overall Operational****Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                    |               |               | lb/day   |                 |                 |               |               |                 |
| Area         | 0.0243        | 0.0000        | 1.0000e-004   | 0.0000             |               | 0.0000        | 0.0000        |                    | 0.0000        | 0.0000        |          | 2.2000e-004     | 2.2000e-004     | 0.0000        |               | 2.3000e-004     |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                    | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Mobile       | 3.7600e-003   | 0.0146        | 0.0428        | 1.3000e-004        | 0.0104        | 1.4000e-004   | 0.0106        | 2.7900e-003        | 1.3000e-004   | 2.9200e-003   |          | 13.3067         | 13.3067         | 4.9000e-004   |               | 13.3189         |
| Offroad      | 0.0692        | 0.6876        | 0.7432        | 1.1200e-003        |               | 0.0359        | 0.0359        |                    | 0.0330        | 0.0330        |          | 110.5903        | 110.5903        | 0.0350        |               | 111.4650        |
| <b>Total</b> | <b>0.0972</b> | <b>0.7022</b> | <b>0.7861</b> | <b>1.2500e-003</b> | <b>0.0104</b> | <b>0.0360</b> | <b>0.0464</b> | <b>2.7900e-003</b> | <b>0.0331</b> | <b>0.0359</b> |          | <b>123.8972</b> | <b>123.8972</b> | <b>0.0355</b> | <b>0.0000</b> | <b>124.7842</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**2.2 Overall Operational****Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                    |               |               | lb/day   |                 |                 |               |               |                 |
| Area         | 0.0243        | 0.0000        | 1.0000e-004   | 0.0000             |               | 0.0000        | 0.0000        |                    | 0.0000        | 0.0000        |          | 2.2000e-004     | 2.2000e-004     | 0.0000        |               | 2.3000e-004     |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                    | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Mobile       | 3.7600e-003   | 0.0146        | 0.0428        | 1.3000e-004        | 0.0104        | 1.4000e-004   | 0.0106        | 2.7900e-003        | 1.3000e-004   | 2.9200e-003   |          | 13.3067         | 13.3067         | 4.9000e-004   |               | 13.3189         |
| Offroad      | 0.0692        | 0.6876        | 0.7432        | 1.1200e-003        |               | 0.0359        | 0.0359        |                    | 0.0330        | 0.0330        |          | 110.5903        | 110.5903        | 0.0350        |               | 111.4650        |
| <b>Total</b> | <b>0.0972</b> | <b>0.7022</b> | <b>0.7861</b> | <b>1.2500e-003</b> | <b>0.0104</b> | <b>0.0360</b> | <b>0.0464</b> | <b>2.7900e-003</b> | <b>0.0331</b> | <b>0.0359</b> |          | <b>123.8972</b> | <b>123.8972</b> | <b>0.0355</b> | <b>0.0000</b> | <b>124.7842</b> |

|                          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2    | NBio-CO2    | Total CO2   | CH4         | N2O         | CO2e        |
|--------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Percent Reduction</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b>  | <b>0.00</b> | <b>0.00</b>    | <b>0.00</b>   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

**3.0 Construction Detail****Construction Phase**



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 5/6/2019   | 5/5/2019  | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 5/6/2019   | 5/10/2019 | 5             | 5        |                   |
| 3            | Grading               | Grading               | 5/11/2019  | 5/17/2019 | 5             | 5        |                   |
| 4            | Building Construction | Building Construction | 5/18/2019  | 8/9/2019  | 5             | 60       |                   |
| 5            | Paving                | Paving                | 8/10/2019  | 8/14/2019 | 5             | 3        |                   |
| 6            | Architectural Coating | Architectural Coating | 8/15/2019  | 8/21/2019 | 5             | 5        |                   |

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 1,500; Striped Parking Area: 0  
(Architectural Coating – sqft)

OffRoad Equipment

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |
| Paving                | Cement and Mortar Mixers  | 4      | 6.00        | 9           | 0.56        |
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Building Construction | Cranes                    | 1      | 4.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 2      | 6.00        | 89          | 0.20        |
| Site Preparation      | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Paving                | Pavers                    | 1      | 7.00        | 130         | 0.42        |
| Paving                | Rollers                   | 1      | 7.00        | 80          | 0.38        |
| Demolition            | Rubber Tired Dozers       | 1      | 1.00        | 247         | 0.40        |
| Grading               | Rubber Tired Dozers       | 1      | 1.00        | 247         | 0.40        |
| Building Construction | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Demolition            | Tractors/Loaders/Backhoes | 2      | 6.00        | 97          | 0.37        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 6.00        | 97          | 0.37        |
| Paving                | Tractors/Loaders/Backhoes | 1      | 7.00        | 97          | 0.37        |
| Site Preparation      | Tractors/Loaders/Backhoes | 1      | 8.00        | 97          | 0.37        |
| Grading               | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |

Trips and VMT

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 4                       | 10.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 2                       | 5.00               | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 5                       | 10.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 5                       | 0.00               | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 0.00               | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

## 3.1 Mitigation Measures Construction

## 3.2 Demolition - 2019

Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Off-Road     | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.2 Demolition - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Off-Road     | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.2 Demolition - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**3.3 Site Preparation - 2019****Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.1061        | 0.0000        | 0.1061        | 0.0115         | 0.0000        | 0.0115        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.7195        | 8.9170        | 4.1407        | 9.7500e-003        |               | 0.3672        | 0.3672        |                | 0.3378        | 0.3378        |          | 965.1690        | 965.1690        | 0.3054        |     | 972.8032        |
| <b>Total</b>  | <b>0.7195</b> | <b>8.9170</b> | <b>4.1407</b> | <b>9.7500e-003</b> | <b>0.1061</b> | <b>0.3672</b> | <b>0.4733</b> | <b>0.0115</b>  | <b>0.3378</b> | <b>0.3493</b> |          | <b>965.1690</b> | <b>965.1690</b> | <b>0.3054</b> |     | <b>972.8032</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.3 Site Preparation - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|-----|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |     |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Worker       | 0.0200        | 0.0123        | 0.1566        | 4.3000e-004        | 0.0411        | 2.7000e-004        | 0.0413        | 0.0109         | 2.5000e-004        | 0.0111        |          | 43.1754        | 43.1754        | 1.1700e-003        |     | 43.2046        |
| <b>Total</b> | <b>0.0200</b> | <b>0.0123</b> | <b>0.1566</b> | <b>4.3000e-004</b> | <b>0.0411</b> | <b>2.7000e-004</b> | <b>0.0413</b> | <b>0.0109</b>  | <b>2.5000e-004</b> | <b>0.0111</b> |          | <b>43.1754</b> | <b>43.1754</b> | <b>1.1700e-003</b> |     | <b>43.2046</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.1061        | 0.0000        | 0.1061        | 0.0115         | 0.0000        | 0.0115        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.7195        | 8.9170        | 4.1407        | 9.7500e-003        |               | 0.3672        | 0.3672        |                | 0.3378        | 0.3378        | 0.0000        | 965.1690        | 965.1690        | 0.3054        |     | 972.8032        |
| <b>Total</b>  | <b>0.7195</b> | <b>8.9170</b> | <b>4.1407</b> | <b>9.7500e-003</b> | <b>0.1061</b> | <b>0.3672</b> | <b>0.4733</b> | <b>0.0115</b>  | <b>0.3378</b> | <b>0.3493</b> | <b>0.0000</b> | <b>965.1690</b> | <b>965.1690</b> | <b>0.3054</b> |     | <b>972.8032</b> |



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.3 Site Preparation - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|-----|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |     |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Worker       | 0.0200        | 0.0123        | 0.1566        | 4.3000e-004        | 0.0411        | 2.7000e-004        | 0.0413        | 0.0109         | 2.5000e-004        | 0.0111        |          | 43.1754        | 43.1754        | 1.1700e-003        |     | 43.2046        |
| <b>Total</b> | <b>0.0200</b> | <b>0.0123</b> | <b>0.1566</b> | <b>4.3000e-004</b> | <b>0.0411</b> | <b>2.7000e-004</b> | <b>0.0413</b> | <b>0.0109</b>  | <b>2.5000e-004</b> | <b>0.0111</b> |          | <b>43.1754</b> | <b>43.1754</b> | <b>1.1700e-003</b> |     | <b>43.2046</b> |

**3.4 Grading - 2019****Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2              | Total CO2              | CH4           | N2O | CO2e                   |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|-----|------------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                        |                        |               |     |                        |
| Fugitive Dust |               |                |               |               | 0.7528        | 0.0000        | 0.7528        | 0.4138         | 0.0000        | 0.4138        |          |                        | 0.0000                 |               |     | 0.0000                 |
| Off-Road      | 1.4398        | 15.1835        | 9.5298        | 0.0186        |               | 0.7483        | 0.7483        |                | 0.7068        | 0.7068        |          | 1,817.284<br>2         | 1,817.284<br>2         | 0.4292        |     | 1,828.013<br>5         |
| <b>Total</b>  | <b>1.4398</b> | <b>15.1835</b> | <b>9.5298</b> | <b>0.0186</b> | <b>0.7528</b> | <b>0.7483</b> | <b>1.5010</b> | <b>0.4138</b>  | <b>0.7068</b> | <b>1.1205</b> |          | <b>1,817.284<br/>2</b> | <b>1,817.284<br/>2</b> | <b>0.4292</b> |     | <b>1,828.013<br/>5</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.4 Grading - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|-----|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |     |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Worker       | 0.0399        | 0.0246        | 0.3132        | 8.7000e-004        | 0.0822        | 5.4000e-004        | 0.0827        | 0.0218         | 5.0000e-004        | 0.0223        |          | 86.3508        | 86.3508        | 2.3400e-003        |     | 86.4093        |
| <b>Total</b> | <b>0.0399</b> | <b>0.0246</b> | <b>0.3132</b> | <b>8.7000e-004</b> | <b>0.0822</b> | <b>5.4000e-004</b> | <b>0.0827</b> | <b>0.0218</b>  | <b>5.0000e-004</b> | <b>0.0223</b> |          | <b>86.3508</b> | <b>86.3508</b> | <b>2.3400e-003</b> |     | <b>86.4093</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2              | Total CO2              | CH4           | N2O | CO2e                   |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|-----|------------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day        |                        |                        |               |     |                        |
| Fugitive Dust |               |                |               |               | 0.7528        | 0.0000        | 0.7528        | 0.4138         | 0.0000        | 0.4138        |               |                        | 0.0000                 |               |     | 0.0000                 |
| Off-Road      | 1.4398        | 15.1835        | 9.5298        | 0.0186        |               | 0.7483        | 0.7483        |                | 0.7068        | 0.7068        | 0.0000        | 1,817.284<br>2         | 1,817.284<br>2         | 0.4292        |     | 1,828.013<br>5         |
| <b>Total</b>  | <b>1.4398</b> | <b>15.1835</b> | <b>9.5298</b> | <b>0.0186</b> | <b>0.7528</b> | <b>0.7483</b> | <b>1.5010</b> | <b>0.4138</b>  | <b>0.7068</b> | <b>1.1205</b> | <b>0.0000</b> | <b>1,817.284<br/>2</b> | <b>1,817.284<br/>2</b> | <b>0.4292</b> |     | <b>1,828.013<br/>5</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.4 Grading - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|-----|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |     |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             |     | 0.0000         |
| Worker       | 0.0399        | 0.0246        | 0.3132        | 8.7000e-004        | 0.0822        | 5.4000e-004        | 0.0827        | 0.0218         | 5.0000e-004        | 0.0223        |          | 86.3508        | 86.3508        | 2.3400e-003        |     | 86.4093        |
| <b>Total</b> | <b>0.0399</b> | <b>0.0246</b> | <b>0.3132</b> | <b>8.7000e-004</b> | <b>0.0822</b> | <b>5.4000e-004</b> | <b>0.0827</b> | <b>0.0218</b>  | <b>5.0000e-004</b> | <b>0.0223</b> |          | <b>86.3508</b> | <b>86.3508</b> | <b>2.3400e-003</b> |     | <b>86.4093</b> |

**3.5 Building Construction - 2019****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 0.9576        | 9.8207        | 7.5432        | 0.0114        |               | 0.6054        | 0.6054        |                | 0.5569        | 0.5569        |          | 1,127.6696        | 1,127.6696        | 0.3568        |     | 1,136.5892        |
| <b>Total</b> | <b>0.9576</b> | <b>9.8207</b> | <b>7.5432</b> | <b>0.0114</b> |               | <b>0.6054</b> | <b>0.6054</b> |                | <b>0.5569</b> | <b>0.5569</b> |          | <b>1,127.6696</b> | <b>1,127.6696</b> | <b>0.3568</b> |     | <b>1,136.5892</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.5 Building Construction - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|-----|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |     |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |     | <b>0.0000</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 0.9576        | 9.8207        | 7.5432        | 0.0114        |               | 0.6054        | 0.6054        |                | 0.5569        | 0.5569        | 0.0000        | 1,127.6696        | 1,127.6696        | 0.3568        |     | 1,136.5892        |
| <b>Total</b> | <b>0.9576</b> | <b>9.8207</b> | <b>7.5432</b> | <b>0.0114</b> |               | <b>0.6054</b> | <b>0.6054</b> |                | <b>0.5569</b> | <b>0.5569</b> | <b>0.0000</b> | <b>1,127.6696</b> | <b>1,127.6696</b> | <b>0.3568</b> |     | <b>1,136.5892</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.5 Building Construction - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|-----|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |     |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |     | <b>0.0000</b> |

**3.6 Paving - 2019****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2              | Total CO2              | CH4           | N2O | CO2e                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|-----|------------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                        |                        |               |     |                        |
| Off-Road     | 0.8300        | 7.8446        | 7.1478        | 0.0113        |               | 0.4425        | 0.4425        |                | 0.4106        | 0.4106        |          | 1,055.182<br>3         | 1,055.182<br>3         | 0.3016        |     | 1,062.723<br>1         |
| Paving       | 0.0000        |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                        | 0.0000                 |               |     | 0.0000                 |
| <b>Total</b> | <b>0.8300</b> | <b>7.8446</b> | <b>7.1478</b> | <b>0.0113</b> |               | <b>0.4425</b> | <b>0.4425</b> |                | <b>0.4106</b> | <b>0.4106</b> |          | <b>1,055.182<br/>3</b> | <b>1,055.182<br/>3</b> | <b>0.3016</b> |     | <b>1,062.723<br/>1</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.6 Paving - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Worker       | 0.0718        | 0.0443        | 0.5638        | 1.5600e-003        | 0.1479        | 9.7000e-004        | 0.1488        | 0.0392         | 9.0000e-004        | 0.0401        |          | 155.4314        | 155.4314        | 4.2100e-003        |     | 155.5367        |
| <b>Total</b> | <b>0.0718</b> | <b>0.0443</b> | <b>0.5638</b> | <b>1.5600e-003</b> | <b>0.1479</b> | <b>9.7000e-004</b> | <b>0.1488</b> | <b>0.0392</b>  | <b>9.0000e-004</b> | <b>0.0401</b> |          | <b>155.4314</b> | <b>155.4314</b> | <b>4.2100e-003</b> |     | <b>155.5367</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 0.8300        | 7.8446        | 7.1478        | 0.0113        |               | 0.4425        | 0.4425        |                | 0.4106        | 0.4106        | 0.0000        | 1,055.1823        | 1,055.1823        | 0.3016        |     | 1,062.7231        |
| Paving       | 0.0000        |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                   | 0.0000            |               |     | 0.0000            |
| <b>Total</b> | <b>0.8300</b> | <b>7.8446</b> | <b>7.1478</b> | <b>0.0113</b> |               | <b>0.4425</b> | <b>0.4425</b> |                | <b>0.4106</b> | <b>0.4106</b> | <b>0.0000</b> | <b>1,055.1823</b> | <b>1,055.1823</b> | <b>0.3016</b> |     | <b>1,062.7231</b> |



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.6 Paving - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Worker       | 0.0718        | 0.0443        | 0.5638        | 1.5600e-003        | 0.1479        | 9.7000e-004        | 0.1488        | 0.0392         | 9.0000e-004        | 0.0401        |          | 155.4314        | 155.4314        | 4.2100e-003        |     | 155.5367        |
| <b>Total</b> | <b>0.0718</b> | <b>0.0443</b> | <b>0.5638</b> | <b>1.5600e-003</b> | <b>0.1479</b> | <b>9.7000e-004</b> | <b>0.1488</b> | <b>0.0392</b>  | <b>9.0000e-004</b> | <b>0.0401</b> |          | <b>155.4314</b> | <b>155.4314</b> | <b>4.2100e-003</b> |     | <b>155.5367</b> |

**3.7 Architectural Coating - 2019****Unmitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Archit. Coating | 2.0858        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.2664        | 1.8354        | 1.8413        | 2.9700e-003        |               | 0.1288        | 0.1288        |                | 0.1288        | 0.1288        |          | 281.4481        | 281.4481        | 0.0238        |     | 282.0423        |
| <b>Total</b>    | <b>2.3522</b> | <b>1.8354</b> | <b>1.8413</b> | <b>2.9700e-003</b> |               | <b>0.1288</b> | <b>0.1288</b> |                | <b>0.1288</b> | <b>0.1288</b> |          | <b>281.4481</b> | <b>281.4481</b> | <b>0.0238</b> |     | <b>282.0423</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.7 Architectural Coating - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|-----|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |     |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |     | <b>0.0000</b> |

**Mitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Archit. Coating | 2.0858        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.2664        | 1.8354        | 1.8413        | 2.9700e-003        |               | 0.1288        | 0.1288        |                | 0.1288        | 0.1288        | 0.0000        | 281.4481        | 281.4481        | 0.0238        |     | 282.0423        |
| <b>Total</b>    | <b>2.3522</b> | <b>1.8354</b> | <b>1.8413</b> | <b>2.9700e-003</b> |               | <b>0.1288</b> | <b>0.1288</b> |                | <b>0.1288</b> | <b>0.1288</b> | <b>0.0000</b> | <b>281.4481</b> | <b>281.4481</b> | <b>0.0238</b> |     | <b>282.0423</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**3.7 Architectural Coating - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|-----|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |     |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        |     | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |     | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

|             | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e    |
|-------------|-------------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|---------|
| Category    | lb/day      |        |        |             |               |              |            |                |               |             | lb/day   |           |           |             |     |         |
| Mitigated   | 3.7600e-003 | 0.0146 | 0.0428 | 1.3000e-004 | 0.0104        | 1.4000e-004  | 0.0106     | 2.7900e-003    | 1.3000e-004   | 2.9200e-003 |          | 13.3067   | 13.3067   | 4.9000e-004 |     | 13.3189 |
| Unmitigated | 3.7600e-003 | 0.0146 | 0.0428 | 1.3000e-004 | 0.0104        | 1.4000e-004  | 0.0106     | 2.7900e-003    | 1.3000e-004   | 2.9200e-003 |          | 13.3067   | 13.3067   | 4.9000e-004 |     | 13.3189 |

## 4.2 Trip Summary Information

| Land Use                      | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|-------------------------------|-------------------------|----------|--------|-------------|------------|
|                               | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Unrefrigerated Warehouse-Rail | 1.68                    | 1.68     | 1.68   | 4,905       | 4,905      |
| Total                         | 1.68                    | 1.68     | 1.68   | 4,905       | 4,905      |

## 4.3 Trip Type Information

| Land Use                      | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                               | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Unrefrigerated Warehouse-Rail | 9.50       | 7.30       | 7.30        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

## 4.4 Fleet Mix

| Land Use                      | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Unrefrigerated Warehouse-Rail | 0.571348 | 0.041302 | 0.187452 | 0.129481 | 0.019048 | 0.005152 | 0.010609 | 0.022861 | 0.001566 | 0.001884 | 0.005572 | 0.002772 | 0.000953 |

## 5.0 Energy Detail

Historical Energy Use: N

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

|                               | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                      | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Unrefrigerated Warehouse-Rail | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**5.2 Energy by Land Use - NaturalGas****Mitigated**

|                               | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                      | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Unrefrigerated Warehouse-Rail | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail****6.1 Mitigation Measures Area**

|             | ROG    | NOx    | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O | CO2e        |
|-------------|--------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|-----|-------------|
| Category    | lb/day |        |             |        |               |              |            |                |               |             | lb/day   |             |             |        |     |             |
| Mitigated   | 0.0243 | 0.0000 | 1.0000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 2.2000e-004 | 2.2000e-004 | 0.0000 |     | 2.3000e-004 |
| Unmitigated | 0.0243 | 0.0000 | 1.0000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 2.2000e-004 | 2.2000e-004 | 0.0000 |     | 2.3000e-004 |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**6.2 Area by SubCategory****Unmitigated**

|                       | ROG           | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O | CO2e               |
|-----------------------|---------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|-----|--------------------|
| SubCategory           | lb/day        |               |                    |               |               |               |               |                |               |               | lb/day   |                    |                    |               |     |                    |
| Architectural Coating | 2.8600e-003   |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |               |     | 0.0000             |
| Consumer Products     | 0.0214        |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |               |     | 0.0000             |
| Landscaping           | 1.0000e-005   | 0.0000        | 1.0000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 2.2000e-004        | 2.2000e-004        | 0.0000        |     | 2.3000e-004        |
| <b>Total</b>          | <b>0.0243</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>2.2000e-004</b> | <b>2.2000e-004</b> | <b>0.0000</b> |     | <b>2.3000e-004</b> |

**Mitigated**

|                       | ROG           | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O | CO2e               |
|-----------------------|---------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|-----|--------------------|
| SubCategory           | lb/day        |               |                    |               |               |               |               |                |               |               | lb/day   |                    |                    |               |     |                    |
| Architectural Coating | 2.8600e-003   |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |               |     | 0.0000             |
| Consumer Products     | 0.0214        |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |               |     | 0.0000             |
| Landscaping           | 1.0000e-005   | 0.0000        | 1.0000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 2.2000e-004        | 2.2000e-004        | 0.0000        |     | 2.3000e-004        |
| <b>Total</b>          | <b>0.0243</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>2.2000e-004</b> | <b>2.2000e-004</b> | <b>0.0000</b> |     | <b>2.3000e-004</b> |

**7.0 Water Detail**



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

| Equipment Type                     | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|------------------------------------|--------|-----------|-----------|-------------|-------------|-----------|
| Other General Industrial Equipment | 1      | 1.00      | 66        | 130         | 0.80        | Diesel    |

**UnMitigated/Mitigated**

|                                    | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|------------------------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Equipment Type                     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Other General Industrial Equipment | 0.0692        | 0.6876        | 0.7432        | 1.1200e-003        |               | 0.0359        | 0.0359        |                | 0.0330        | 0.0330        |          | 110.5903        | 110.5903        | 0.0350        |     | 111.4650        |
| <b>Total</b>                       | <b>0.0692</b> | <b>0.6876</b> | <b>0.7432</b> | <b>1.1200e-003</b> |               | <b>0.0359</b> | <b>0.0359</b> |                | <b>0.0330</b> | <b>0.0330</b> |          | <b>110.5903</b> | <b>110.5903</b> | <b>0.0350</b> |     | <b>111.4650</b> |

**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Summer

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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City of Pittsburg - K2 Pure Solutions  
CalEEMod Emissions Calculations Data Assumptions  
Chlorine Rail Transportation Curtailment Project

CalEEMod Report for Annual Emissions

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project

### Contra Costa County, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

| Land Uses                     | Size | Metric   | Lot Acreage | Floor Surface Area | Population |
|-------------------------------|------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-Rail | 1.00 | 1000sqft | 0.02        | 1,000.00           | 0          |

### 1.2 Other Project Characteristics

|                          |                                |                          |       |                           |       |
|--------------------------|--------------------------------|--------------------------|-------|---------------------------|-------|
| Urbanization             | Urban                          | Wind Speed (m/s)         | 2.2   | Precipitation Freq (Days) | 58    |
| Climate Zone             | 4                              |                          |       | Operational Year          | 2019  |
| Utility Company          | Pacific Gas & Electric Company |                          |       |                           |       |
| CO2 Intensity (lb/MW hr) | 641.35                         | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr)  | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

Project Characteristics -

Land Use -

Construction Phase - See comments in "Phase Description".

Off-road Equipment - Corrected to include appropriate construction phase equipment.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Exterior surfaces only.

Area Coating - Exterior surfaces only.

Energy Use - Only additional exterior lighting required.

Water And Wastewater - No additional water use, or waste water generation.

Solid Waste - No increase solid waste generation.

Operational Off-Road Equipment - Switching locomotive for moving rail cars onsite.

| Table Name              | Column Name                       | Default Value | New Value |
|-------------------------|-----------------------------------|---------------|-----------|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 500.00        | 1,500.00  |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 1,500.00      | 0.00      |
| tblAreaCoating          | Area_Nonresidential_Exterior      | 500           | 1500      |
| tblAreaCoating          | Area_Nonresidential_Interior      | 1500          | 0         |
| tblConstructionPhase    | NumDays                           | 100.00        | 60.00     |
| tblConstructionPhase    | NumDays                           | 10.00         | 0.00      |
| tblConstructionPhase    | NumDays                           | 2.00          | 5.00      |
| tblConstructionPhase    | NumDays                           | 5.00          | 3.00      |
| tblConstructionPhase    | NumDays                           | 1.00          | 5.00      |
| tblConstructionPhase    | PhaseEndDate                      | 10/23/2019    | 8/21/2019 |
| tblConstructionPhase    | PhaseEndDate                      | 10/9/2019     | 8/9/2019  |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

|                                |                            |                          |           |
|--------------------------------|----------------------------|--------------------------|-----------|
| tblConstructionPhase           | PhaseEndDate               | 5/17/2019                | 5/5/2019  |
| tblConstructionPhase           | PhaseEndDate               | 5/22/2019                | 5/17/2019 |
| tblConstructionPhase           | PhaseEndDate               | 10/16/2019               | 8/14/2019 |
| tblConstructionPhase           | PhaseEndDate               | 5/20/2019                | 5/10/2019 |
| tblConstructionPhase           | PhaseStartDate             | 10/17/2019               | 8/15/2019 |
| tblConstructionPhase           | PhaseStartDate             | 5/23/2019                | 5/18/2019 |
| tblConstructionPhase           | PhaseStartDate             | 5/21/2019                | 5/11/2019 |
| tblConstructionPhase           | PhaseStartDate             | 10/10/2019               | 8/10/2019 |
| tblConstructionPhase           | PhaseStartDate             | 5/18/2019                | 5/6/2019  |
| tblEnergyUse                   | NT24E                      | 1.07                     | 0.00      |
| tblEnergyUse                   | NT24NG                     | 0.07                     | 0.00      |
| tblEnergyUse                   | T24E                       | 0.32                     | 0.00      |
| tblEnergyUse                   | T24NG                      | 3.40                     | 0.00      |
| tblGrading                     | AcresOfGrading             | 2.50                     | 0.00      |
| tblGrading                     | AcresOfGrading             | 2.50                     | 0.50      |
| tblOffRoadEquipment            | OffRoadEquipmentType       | Concrete/Industrial Saws | Graders   |
| tblOperationalOffRoadEquipment | OperDaysPerYear            | 260.00                   | 66.00     |
| tblOperationalOffRoadEquipment | OperHorsePower             | 88.00                    | 130.00    |
| tblOperationalOffRoadEquipment | OperHoursPerDay            | 8.00                     | 1.00      |
| tblOperationalOffRoadEquipment | OperLoadFactor             | 0.34                     | 0.80      |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00                     | 1.00      |
| tblSolidWaste                  | SolidWasteGenerationRate   | 0.94                     | 0.00      |
| tblTripsAndVMT                 | WorkerTripNumber           | 13.00                    | 10.00     |
| tblWater                       | IndoorWaterUseRate         | 231,250.00               | 0.00      |

## 2.0 Emissions Summary

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**2.1 Overall Construction****Unmitigated Construction**

|         | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e    |
|---------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|---------|
| Year    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |         |
| 2019    | 0.0415  | 0.3714 | 0.2776 | 4.4000e-004 | 2.6600e-003   | 0.0219       | 0.0246     | 1.2000e-003    | 0.0203        | 0.0215      | 0.0000   | 39.5384   | 39.5384   | 0.0119 | 0.0000 | 39.8347 |
| Maximum | 0.0415  | 0.3714 | 0.2776 | 4.4000e-004 | 2.6600e-003   | 0.0219       | 0.0246     | 1.2000e-003    | 0.0203        | 0.0215      | 0.0000   | 39.5384   | 39.5384   | 0.0119 | 0.0000 | 39.8347 |

**Mitigated Construction**

|         | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e    |
|---------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|---------|
| Year    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |         |
| 2019    | 0.0415  | 0.3714 | 0.2776 | 4.4000e-004 | 2.6600e-003   | 0.0219       | 0.0246     | 1.2000e-003    | 0.0203        | 0.0215      | 0.0000   | 39.5383   | 39.5383   | 0.0119 | 0.0000 | 39.8346 |
| Maximum | 0.0415  | 0.3714 | 0.2776 | 4.4000e-004 | 2.6600e-003   | 0.0219       | 0.0246     | 1.2000e-003    | 0.0203        | 0.0215      | 0.0000   | 39.5383   | 39.5383   | 0.0119 | 0.0000 | 39.8346 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|----------------------------------------------|--------------------------------------------|
| 1       | 5-6-2019   | 8-5-2019  | 0.3669                                       | 0.3669                                     |
| 2       | 8-6-2019   | 9-30-2019 | 0.0416                                       | 0.0416                                     |
|         |            | Highest   | 0.3669                                       | 0.3669                                     |

## 2.2 Overall Operational

Unmitigated Operational

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Area         | 4.4300e-003        | 0.0000        | 1.0000e-005   | 0.0000             |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 2.0000e-005   | 2.0000e-005   | 0.0000             | 0.0000             | 2.0000e-005   |
| Energy       | 0.0000             | 0.0000        | 0.0000        | 0.0000             |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 0.6226        | 0.6226        | 3.0000e-005        | 1.0000e-005        | 0.6250        |
| Mobile       | 5.8000e-004        | 2.7500e-003   | 7.2700e-003   | 2.0000e-005        | 1.8300e-003        | 2.0000e-005        | 1.8600e-003        | 4.9000e-004        | 2.0000e-005        | 5.2000e-004        | 0.0000        | 2.0484        | 2.0484        | 8.0000e-005        | 0.0000             | 2.0504        |
| Offroad      | 2.2800e-003        | 0.0227        | 0.0245        | 4.0000e-005        |                    | 1.1800e-003        | 1.1800e-003        |                    | 1.0900e-003        | 1.0900e-003        | 0.0000        | 3.3108        | 3.3108        | 1.0500e-003        | 0.0000             | 3.3369        |
| Waste        |                    |               |               |                    |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Water        |                    |               |               |                    |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| <b>Total</b> | <b>7.2900e-003</b> | <b>0.0254</b> | <b>0.0318</b> | <b>6.0000e-005</b> | <b>1.8300e-003</b> | <b>1.2000e-003</b> | <b>3.0400e-003</b> | <b>4.9000e-004</b> | <b>1.1100e-003</b> | <b>1.6100e-003</b> | <b>0.0000</b> | <b>5.9817</b> | <b>5.9817</b> | <b>1.1600e-003</b> | <b>1.0000e-005</b> | <b>6.0123</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**2.2 Overall Operational****Mitigated Operational**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Area         | 4.4300e-003        | 0.0000        | 1.0000e-005   | 0.0000             |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 2.0000e-005   | 2.0000e-005   | 0.0000             | 0.0000             | 2.0000e-005   |
| Energy       | 0.0000             | 0.0000        | 0.0000        | 0.0000             |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 0.6226        | 0.6226        | 3.0000e-005        | 1.0000e-005        | 0.6250        |
| Mobile       | 5.8000e-004        | 2.7500e-003   | 7.2700e-003   | 2.0000e-005        | 1.8300e-003        | 2.0000e-005        | 1.8600e-003        | 4.9000e-004        | 2.0000e-005        | 5.2000e-004        | 0.0000        | 2.0484        | 2.0484        | 8.0000e-005        | 0.0000             | 2.0504        |
| Offroad      | 2.2800e-003        | 0.0227        | 0.0245        | 4.0000e-005        |                    | 1.1800e-003        | 1.1800e-003        |                    | 1.0900e-003        | 1.0900e-003        | 0.0000        | 3.3108        | 3.3108        | 1.0500e-003        | 0.0000             | 3.3369        |
| Waste        |                    |               |               |                    |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Water        |                    |               |               |                    |                    | 0.0000             | 0.0000             |                    | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| <b>Total</b> | <b>7.2900e-003</b> | <b>0.0254</b> | <b>0.0318</b> | <b>6.0000e-005</b> | <b>1.8300e-003</b> | <b>1.2000e-003</b> | <b>3.0400e-003</b> | <b>4.9000e-004</b> | <b>1.1100e-003</b> | <b>1.6100e-003</b> | <b>0.0000</b> | <b>5.9817</b> | <b>5.9817</b> | <b>1.1600e-003</b> | <b>1.0000e-005</b> | <b>6.0123</b> |

|                          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2    | NBio-CO2    | Total CO2   | CH4         | N2O         | CO2e        |
|--------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Percent Reduction</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b>  | <b>0.00</b> | <b>0.00</b>    | <b>0.00</b>   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

**3.0 Construction Detail****Construction Phase**

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 5/6/2019   | 5/5/2019  | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 5/6/2019   | 5/10/2019 | 5             | 5        |                   |
| 3            | Grading               | Grading               | 5/11/2019  | 5/17/2019 | 5             | 5        |                   |
| 4            | Building Construction | Building Construction | 5/18/2019  | 8/9/2019  | 5             | 60       |                   |
| 5            | Paving                | Paving                | 8/10/2019  | 8/14/2019 | 5             | 3        |                   |
| 6            | Architectural Coating | Architectural Coating | 8/15/2019  | 8/21/2019 | 5             | 5        |                   |

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 1,500; Striped Parking Area: 0  
(Architectural Coating – sqft)

OffRoad Equipment

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |
| Paving                | Cement and Mortar Mixers  | 4      | 6.00        | 9           | 0.56        |
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Building Construction | Cranes                    | 1      | 4.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 2      | 6.00        | 89          | 0.20        |
| Site Preparation      | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Paving                | Pavers                    | 1      | 7.00        | 130         | 0.42        |
| Paving                | Rollers                   | 1      | 7.00        | 80          | 0.38        |
| Demolition            | Rubber Tired Dozers       | 1      | 1.00        | 247         | 0.40        |
| Grading               | Rubber Tired Dozers       | 1      | 1.00        | 247         | 0.40        |
| Building Construction | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Demolition            | Tractors/Loaders/Backhoes | 2      | 6.00        | 97          | 0.37        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 6.00        | 97          | 0.37        |
| Paving                | Tractors/Loaders/Backhoes | 1      | 7.00        | 97          | 0.37        |
| Site Preparation      | Tractors/Loaders/Backhoes | 1      | 8.00        | 97          | 0.37        |
| Grading               | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |

Trips and VMT

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 4                       | 10.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 2                       | 5.00               | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 5                       | 10.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 5                       | 0.00               | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 0.00               | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

## 3.1 Mitigation Measures Construction

## 3.2 Demolition - 2019

Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Off-Road     | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

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**3.2 Demolition - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Off-Road     | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

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**3.2 Demolition - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**3.3 Site Preparation - 2019****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 2.7000e-004        | 0.0000             | 2.7000e-004        | 3.0000e-005        | 0.0000             | 3.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.8000e-003        | 0.0223        | 0.0104        | 2.0000e-005        |                    | 9.2000e-004        | 9.2000e-004        |                    | 8.4000e-004        | 8.4000e-004        | 0.0000        | 2.1890        | 2.1890        | 6.9000e-004        | 0.0000        | 2.2063        |
| <b>Total</b>  | <b>1.8000e-003</b> | <b>0.0223</b> | <b>0.0104</b> | <b>2.0000e-005</b> | <b>2.7000e-004</b> | <b>9.2000e-004</b> | <b>1.1900e-003</b> | <b>3.0000e-005</b> | <b>8.4000e-004</b> | <b>8.7000e-004</b> | <b>0.0000</b> | <b>2.1890</b> | <b>2.1890</b> | <b>6.9000e-004</b> | <b>0.0000</b> | <b>2.2063</b> |



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**3.3 Site Preparation - 2019****Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 5.0000e-005        | 3.0000e-005        | 3.5000e-004        | 0.0000        | 1.0000e-004        | 0.0000        | 1.0000e-004        | 3.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 0.0898        | 0.0898        | 0.0000        | 0.0000        | 0.0899        |
| <b>Total</b> | <b>5.0000e-005</b> | <b>3.0000e-005</b> | <b>3.5000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.0898</b> | <b>0.0898</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0899</b> |

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 2.7000e-004        | 0.0000             | 2.7000e-004        | 3.0000e-005        | 0.0000             | 3.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.8000e-003        | 0.0223        | 0.0104        | 2.0000e-005        |                    | 9.2000e-004        | 9.2000e-004        |                    | 8.4000e-004        | 8.4000e-004        | 0.0000        | 2.1890        | 2.1890        | 6.9000e-004        | 0.0000        | 2.2063        |
| <b>Total</b>  | <b>1.8000e-003</b> | <b>0.0223</b> | <b>0.0104</b> | <b>2.0000e-005</b> | <b>2.7000e-004</b> | <b>9.2000e-004</b> | <b>1.1900e-003</b> | <b>3.0000e-005</b> | <b>8.4000e-004</b> | <b>8.7000e-004</b> | <b>0.0000</b> | <b>2.1890</b> | <b>2.1890</b> | <b>6.9000e-004</b> | <b>0.0000</b> | <b>2.2063</b> |

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**3.3 Site Preparation - 2019****Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 5.0000e-005        | 3.0000e-005        | 3.5000e-004        | 0.0000        | 1.0000e-004        | 0.0000        | 1.0000e-004        | 3.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 0.0898        | 0.0898        | 0.0000        | 0.0000        | 0.0899        |
| <b>Total</b> | <b>5.0000e-005</b> | <b>3.0000e-005</b> | <b>3.5000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.0898</b> | <b>0.0898</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0899</b> |

**3.4 Grading - 2019****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 1.8800e-003        | 0.0000             | 1.8800e-003        | 1.0300e-003        | 0.0000             | 1.0300e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 3.6000e-003        | 0.0380        | 0.0238        | 5.0000e-005        |                    | 1.8700e-003        | 1.8700e-003        |                    | 1.7700e-003        | 1.7700e-003        | 0.0000        | 4.1215        | 4.1215        | 9.7000e-004        | 0.0000        | 4.1459        |
| <b>Total</b>  | <b>3.6000e-003</b> | <b>0.0380</b> | <b>0.0238</b> | <b>5.0000e-005</b> | <b>1.8800e-003</b> | <b>1.8700e-003</b> | <b>3.7500e-003</b> | <b>1.0300e-003</b> | <b>1.7700e-003</b> | <b>2.8000e-003</b> | <b>0.0000</b> | <b>4.1215</b> | <b>4.1215</b> | <b>9.7000e-004</b> | <b>0.0000</b> | <b>4.1459</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**3.4 Grading - 2019****Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 9.0000e-005        | 7.0000e-005        | 7.0000e-004        | 0.0000        | 2.0000e-004        | 0.0000        | 2.0000e-004        | 5.0000e-005        | 0.0000        | 5.0000e-005        | 0.0000        | 0.1797        | 0.1797        | 0.0000        | 0.0000        | 0.1798        |
| <b>Total</b> | <b>9.0000e-005</b> | <b>7.0000e-005</b> | <b>7.0000e-004</b> | <b>0.0000</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>2.0000e-004</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.1797</b> | <b>0.1797</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.1798</b> |

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 1.8800e-003        | 0.0000             | 1.8800e-003        | 1.0300e-003        | 0.0000             | 1.0300e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 3.6000e-003        | 0.0380        | 0.0238        | 5.0000e-005        |                    | 1.8700e-003        | 1.8700e-003        |                    | 1.7700e-003        | 1.7700e-003        | 0.0000        | 4.1215        | 4.1215        | 9.7000e-004        | 0.0000        | 4.1459        |
| <b>Total</b>  | <b>3.6000e-003</b> | <b>0.0380</b> | <b>0.0238</b> | <b>5.0000e-005</b> | <b>1.8800e-003</b> | <b>1.8700e-003</b> | <b>3.7500e-003</b> | <b>1.0300e-003</b> | <b>1.7700e-003</b> | <b>2.8000e-003</b> | <b>0.0000</b> | <b>4.1215</b> | <b>4.1215</b> | <b>9.7000e-004</b> | <b>0.0000</b> | <b>4.1459</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**3.4 Grading - 2019****Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 9.0000e-005        | 7.0000e-005        | 7.0000e-004        | 0.0000        | 2.0000e-004        | 0.0000        | 2.0000e-004        | 5.0000e-005        | 0.0000        | 5.0000e-005        | 0.0000        | 0.1797        | 0.1797        | 0.0000        | 0.0000        | 0.1798        |
| <b>Total</b> | <b>9.0000e-005</b> | <b>7.0000e-005</b> | <b>7.0000e-004</b> | <b>0.0000</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>2.0000e-004</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.1797</b> | <b>0.1797</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.1798</b> |

**3.5 Building Construction - 2019****Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Off-Road     | 0.0287        | 0.2946        | 0.2263        | 3.4000e-004        |               | 0.0182        | 0.0182        |                | 0.0167        | 0.0167        | 0.0000        | 30.6901        | 30.6901        | 9.7100e-003        | 0.0000        | 30.9329        |
| <b>Total</b> | <b>0.0287</b> | <b>0.2946</b> | <b>0.2263</b> | <b>3.4000e-004</b> |               | <b>0.0182</b> | <b>0.0182</b> |                | <b>0.0167</b> | <b>0.0167</b> | <b>0.0000</b> | <b>30.6901</b> | <b>30.6901</b> | <b>9.7100e-003</b> | <b>0.0000</b> | <b>30.9329</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**3.5 Building Construction - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |                    |               |                |
| Off-Road     | 0.0287        | 0.2946        | 0.2263        | 3.4000e-004        |               | 0.0182        | 0.0182        |                | 0.0167        | 0.0167        | 0.0000        | 30.6901        | 30.6901        | 9.7100e-003        | 0.0000        | 30.9329        |
| <b>Total</b> | <b>0.0287</b> | <b>0.2946</b> | <b>0.2263</b> | <b>3.4000e-004</b> |               | <b>0.0182</b> | <b>0.0182</b> |                | <b>0.0167</b> | <b>0.0167</b> | <b>0.0000</b> | <b>30.6901</b> | <b>30.6901</b> | <b>9.7100e-003</b> | <b>0.0000</b> | <b>30.9329</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**3.5 Building Construction - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**3.6 Paving - 2019****Unmitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 1.2400e-003        | 0.0118        | 0.0107        | 2.0000e-005        |               | 6.6000e-004        | 6.6000e-004        |                | 6.2000e-004        | 6.2000e-004        | 0.0000        | 1.4359        | 1.4359        | 4.1000e-004        | 0.0000        | 1.4461        |
| Paving       | 0.0000             |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>1.2400e-003</b> | <b>0.0118</b> | <b>0.0107</b> | <b>2.0000e-005</b> |               | <b>6.6000e-004</b> | <b>6.6000e-004</b> |                | <b>6.2000e-004</b> | <b>6.2000e-004</b> | <b>0.0000</b> | <b>1.4359</b> | <b>1.4359</b> | <b>4.1000e-004</b> | <b>0.0000</b> | <b>1.4461</b> |

## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**3.6 Paving - 2019****Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 1.0000e-004        | 7.0000e-005        | 7.6000e-004        | 0.0000        | 2.1000e-004        | 0.0000        | 2.2000e-004        | 6.0000e-005        | 0.0000        | 6.0000e-005        | 0.0000        | 0.1940        | 0.1940        | 1.0000e-005        | 0.0000        | 0.1942        |
| <b>Total</b> | <b>1.0000e-004</b> | <b>7.0000e-005</b> | <b>7.6000e-004</b> | <b>0.0000</b> | <b>2.1000e-004</b> | <b>0.0000</b> | <b>2.2000e-004</b> | <b>6.0000e-005</b> | <b>0.0000</b> | <b>6.0000e-005</b> | <b>0.0000</b> | <b>0.1940</b> | <b>0.1940</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>0.1942</b> |

**Mitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 1.2400e-003        | 0.0118        | 0.0107        | 2.0000e-005        |               | 6.6000e-004        | 6.6000e-004        |                | 6.2000e-004        | 6.2000e-004        | 0.0000        | 1.4359        | 1.4359        | 4.1000e-004        | 0.0000        | 1.4461        |
| Paving       | 0.0000             |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>1.2400e-003</b> | <b>0.0118</b> | <b>0.0107</b> | <b>2.0000e-005</b> |               | <b>6.6000e-004</b> | <b>6.6000e-004</b> |                | <b>6.2000e-004</b> | <b>6.2000e-004</b> | <b>0.0000</b> | <b>1.4359</b> | <b>1.4359</b> | <b>4.1000e-004</b> | <b>0.0000</b> | <b>1.4461</b> |



## K2 Pure Solutions Chlorine Rail Transportation Curtailment Project - Contra Costa County, Annual

**3.6 Paving - 2019****Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 1.0000e-004        | 7.0000e-005        | 7.6000e-004        | 0.0000        | 2.1000e-004        | 0.0000        | 2.2000e-004        | 6.0000e-005        | 0.0000        | 6.0000e-005        | 0.0000        | 0.1940        | 0.1940        | 1.0000e-005        | 0.0000        | 0.1942        |
| <b>Total</b> | <b>1.0000e-004</b> | <b>7.0000e-005</b> | <b>7.6000e-004</b> | <b>0.0000</b> | <b>2.1000e-004</b> | <b>0.0000</b> | <b>2.2000e-004</b> | <b>6.0000e-005</b> | <b>0.0000</b> | <b>6.0000e-005</b> | <b>0.0000</b> | <b>0.1940</b> | <b>0.1940</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>0.1942</b> |

**3.7 Architectural Coating - 2019****Unmitigated Construction On-Site**

|                 | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 5.2100e-003        |                    |                    |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 6.7000e-004        | 4.5900e-003        | 4.6000e-003        | 1.0000e-005        |               | 3.2000e-004        | 3.2000e-004        |                | 3.2000e-004        | 3.2000e-004        | 0.0000        | 0.6383        | 0.6383        | 5.0000e-005        | 0.0000        | 0.6397        |
| <b>Total</b>    | <b>5.8800e-003</b> | <b>4.5900e-003</b> | <b>4.6000e-003</b> | <b>1.0000e-005</b> |               | <b>3.2000e-004</b> | <b>3.2000e-004</b> |                | <b>3.2000e-004</b> | <b>3.2000e-004</b> | <b>0.0000</b> | <b>0.6383</b> | <b>0.6383</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.6397</b> |

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**3.7 Architectural Coating - 2019****Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated Construction On-Site**

|                 | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 5.2100e-003        |                    |                    |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 6.7000e-004        | 4.5900e-003        | 4.6000e-003        | 1.0000e-005        |               | 3.2000e-004        | 3.2000e-004        |                | 3.2000e-004        | 3.2000e-004        | 0.0000        | 0.6383        | 0.6383        | 5.0000e-005        | 0.0000        | 0.6397        |
| <b>Total</b>    | <b>5.8800e-003</b> | <b>4.5900e-003</b> | <b>4.6000e-003</b> | <b>1.0000e-005</b> |               | <b>3.2000e-004</b> | <b>3.2000e-004</b> |                | <b>3.2000e-004</b> | <b>3.2000e-004</b> | <b>0.0000</b> | <b>0.6383</b> | <b>0.6383</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.6397</b> |

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**3.7 Architectural Coating - 2019****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

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|             | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|-------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| Category    | tons/yr     |             |             |             |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Mitigated   | 5.8000e-004 | 2.7500e-003 | 7.2700e-003 | 2.0000e-005 | 1.8300e-003   | 2.0000e-005  | 1.8600e-003 | 4.9000e-004    | 2.0000e-005   | 5.2000e-004 | 0.0000   | 2.0484    | 2.0484    | 8.0000e-005 | 0.0000 | 2.0504 |
| Unmitigated | 5.8000e-004 | 2.7500e-003 | 7.2700e-003 | 2.0000e-005 | 1.8300e-003   | 2.0000e-005  | 1.8600e-003 | 4.9000e-004    | 2.0000e-005   | 5.2000e-004 | 0.0000   | 2.0484    | 2.0484    | 8.0000e-005 | 0.0000 | 2.0504 |

## 4.2 Trip Summary Information

| Land Use                      | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|-------------------------------|-------------------------|----------|--------|-------------|------------|
|                               | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Unrefrigerated Warehouse-Rail | 1.68                    | 1.68     | 1.68   | 4,905       | 4,905      |
| Total                         | 1.68                    | 1.68     | 1.68   | 4,905       | 4,905      |

## 4.3 Trip Type Information

| Land Use                      | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                               | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Unrefrigerated Warehouse-Rail | 9.50       | 7.30       | 7.30        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

## 4.4 Fleet Mix

| Land Use                      | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Unrefrigerated Warehouse-Rail | 0.571348 | 0.041302 | 0.187452 | 0.129481 | 0.019048 | 0.005152 | 0.010609 | 0.022861 | 0.001566 | 0.001884 | 0.005572 | 0.002772 | 0.000953 |

## 5.0 Energy Detail

Historical Energy Use: N

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## 5.1 Mitigation Measures Energy

|                         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e   |
|-------------------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category                | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |           |           |             |             |        |
| Electricity Mitigated   |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.6226    | 0.6226    | 3.0000e-005 | 1.0000e-005 | 0.6250 |
| Electricity Unmitigated |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.6226    | 0.6226    | 3.0000e-005 | 1.0000e-005 | 0.6250 |
| NaturalGas Mitigated    | 0.0000  | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000      | 0.0000 |
| NaturalGas Unmitigated  | 0.0000  | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000      | 0.0000 |

## 5.2 Energy by Land Use - NaturalGas

Unmitigated

|                               | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use                      | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Unrefrigerated Warehouse-Rail | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

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**5.2 Energy by Land Use - NaturalGas****Mitigated**

|                               | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use                      | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Unrefrigerated Warehouse-Rail | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**5.3 Energy by Land Use - Electricity****Unmitigated**

|                               | Electricity Use | Total CO2     | CH4                | N2O                | CO2e          |
|-------------------------------|-----------------|---------------|--------------------|--------------------|---------------|
| Land Use                      | kWh/yr          | MT/yr         |                    |                    |               |
| Unrefrigerated Warehouse-Rail | 2140            | 0.6226        | 3.0000e-005        | 1.0000e-005        | 0.6250        |
| <b>Total</b>                  |                 | <b>0.6226</b> | <b>3.0000e-005</b> | <b>1.0000e-005</b> | <b>0.6250</b> |

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**5.3 Energy by Land Use - Electricity****Mitigated**

|                               | Electricity Use | Total CO2     | CH4                | N2O                | CO2e          |
|-------------------------------|-----------------|---------------|--------------------|--------------------|---------------|
| Land Use                      | kWh/yr          | MT/yr         |                    |                    |               |
| Unrefrigerated Warehouse-Rail | 2140            | 0.6226        | 3.0000e-005        | 1.0000e-005        | 0.6250        |
| <b>Total</b>                  |                 | <b>0.6226</b> | <b>3.0000e-005</b> | <b>1.0000e-005</b> | <b>0.6250</b> |

**6.0 Area Detail****6.1 Mitigation Measures Area**

|             | ROG         | NOx    | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|-------------|-------------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category    | tons/yr     |        |             |        |               |              |            |                |               |             | MT/yr    |             |             |        |        |             |
| Mitigated   | 4.4300e-003 | 0.0000 | 1.0000e-005 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 2.0000e-005 | 2.0000e-005 | 0.0000 | 0.0000 | 2.0000e-005 |
| Unmitigated | 4.4300e-003 | 0.0000 | 1.0000e-005 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 2.0000e-005 | 2.0000e-005 | 0.0000 | 0.0000 | 2.0000e-005 |

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**6.2 Area by SubCategory****Unmitigated**

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 5.2000e-004        |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 3.9100e-003        |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 0.0000             | 0.0000        | 1.0000e-005        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 2.0000e-005        | 2.0000e-005        | 0.0000        | 0.0000        | 2.0000e-005        |
| <b>Total</b>          | <b>4.4300e-003</b> | <b>0.0000</b> | <b>1.0000e-005</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>0.0000</b> | <b>2.0000e-005</b> |

**Mitigated**

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 5.2000e-004        |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 3.9100e-003        |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 0.0000             | 0.0000        | 1.0000e-005        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 2.0000e-005        | 2.0000e-005        | 0.0000        | 0.0000        | 2.0000e-005        |
| <b>Total</b>          | <b>4.4300e-003</b> | <b>0.0000</b> | <b>1.0000e-005</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>0.0000</b> | <b>2.0000e-005</b> |

**7.0 Water Detail**



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**7.1 Mitigation Measures Water**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**7.2 Water by Land Use****Unmitigated**

|                                  | Indoor/<br>Outdoor<br>Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------------|---------------------------|---------------|---------------|---------------|---------------|
| Land Use                         | Mgal                      | MT/yr         |               |               |               |
| Unrefrigerated<br>Warehouse-Rail | 0 / 0                     | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                     |                           | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

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**7.2 Water by Land Use****Mitigated**

|                                  | Indoor/<br>Outdoor<br>Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------------|---------------------------|---------------|---------------|---------------|---------------|
| Land Use                         | Mgal                      | MT/yr         |               |               |               |
| Unrefrigerated<br>Warehouse-Rail | 0 / 0                     | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                     |                           | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

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**8.2 Waste by Land Use****Unmitigated**

|                               | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                      | tons           | MT/yr         |               |               |               |
| Unrefrigerated Warehouse-Rail | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                               | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                      | tons           | MT/yr         |               |               |               |
| Unrefrigerated Warehouse-Rail | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**9.0 Operational Offroad**

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| Equipment Type                     | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|------------------------------------|--------|-----------|-----------|-------------|-------------|-----------|
| Other General Industrial Equipment | 1      | 1.00      | 66        | 130         | 0.80        | Diesel    |

**UnMitigated/Mitigated**

|                                    | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|------------------------------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Equipment Type                     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Other General Industrial Equipment | 2.2800e-003        | 0.0227        | 0.0245        | 4.0000e-005        |               | 1.1800e-003        | 1.1800e-003        |                | 1.0900e-003        | 1.0900e-003        | 0.0000        | 3.3108        | 3.3108        | 1.0500e-003        | 0.0000        | 3.3369        |
| <b>Total</b>                       | <b>2.2800e-003</b> | <b>0.0227</b> | <b>0.0245</b> | <b>4.0000e-005</b> |               | <b>1.1800e-003</b> | <b>1.1800e-003</b> |                | <b>1.0900e-003</b> | <b>1.0900e-003</b> | <b>0.0000</b> | <b>3.3108</b> | <b>3.3108</b> | <b>1.0500e-003</b> | <b>0.0000</b> | <b>3.3369</b> |

**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

## **APPENDIX B**

### Health Risk Screening Analysis

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# Health Risk Screening Analysis

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## Air Toxics Exposure Assessment (Operational Impacts)

Human health risks potentially associated with hazardous substance emissions from the proposed operation of the K2 Pure Solutions (K2) proposed Chlorine Rail Transportation Curtailment Project (proposed Project) were evaluated, including compounds on the list of Office of Environmental Health Hazard Assessment (OEHHA) toxic air contaminants (TACs) and U.S. Environmental Protection Agency (USEPA) hazardous air pollutants (HAPs). The health risk screening analysis (HRSA) was conducted in accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 2, Rule 5, and the following guidance:

- *BAAQMD California Environmental Quality Act (CEQA) Guidelines (BAAQMD 2017);*
- *BAAQMD Air Toxics NSR Program, Health Risk Screening Analysis (HRSA) Guidelines (BAAQMD 2010);*
- *BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD 2012);*

The HRSA process follows the approach depicted in Figure 5-2 of the BAAQMD CEQA Guidelines (BAAQMD 2017), “*Phased Approach for Estimating Community Risks and Hazards – New Sources*”. This phased approach requires the following steps to estimate human health impacts:

- 1) identify and quantify project generated emissions,
- 2) estimate screening level impacts using trigger levels,
- 3) if the Proposed Project Toxic Air Contaminant (TAC) risk and hazard are greater than CEQA thresholds, evaluate pollutant transport (air dispersion modeling) to estimate ground level TAC concentrations at each receptor location, assess human exposure, and use a risk characterization model to estimate the potential health risk at each receptor location.

The following sections describe in detail the methods used in this HRSA.

### B.1 Air Toxics Emission Calculations

Air toxics (TACs and HAPs) emission sources associated with the proposed Project will include fugitive emissions of Chlorine gas from the proposed liquid chlorine rail car loading facility, and emissions of diesel exhaust particulate matter from diesel powered rail switcher equipment used for moving the rail cars onsite.

#### B.1.1 Liquid chlorine rail car loading facility

Chlorine emissions from loading operations are expected to be very small. The venting of chlorine, that would occur while loading a pressurized railcar, would be directed to K2’s existing bleach production unit, an existing source on K2’s BAAQMD air quality permit to operate. The only new source of emissions would be the result of residual chlorine gas in the loading hoses after the hoses are disconnected and isolated. The design of the proposed Project includes a purging system for the hoses that includes a small scrubber at the loading station. The scrubber would be used to purge the approximately 50-ft of 1-inch diameter loading hose, to safely shutdown after a loading event.

Following the Chlorine Vent Scrubber vendor emission estimation methodology, resulting additional chlorine emissions are estimated to be 0.0033 lbs per loading event (assuming 30 minute per evacuation/purge), or 0.22-lbs/yr, assuming 66 loading hose purge events per year. The emissions

calculations are detailed in Table B-1. The BAAQMD Reg 2, Rule 5: New Source Review of Toxic Air Contaminants Table 2-5-1 Toxic Air Contaminant Trigger Levels for Chlorine are 0.26 lbs/hr and 7.7 lbs/yr.

TABLE B-1  
Chlorine Vent Scrubber Emission Calculations

| Vent Chlorine Supply Line                   |              |            |                                                             |
|---------------------------------------------|--------------|------------|-------------------------------------------------------------|
| Description                                 | Units        | Qty        | Notes                                                       |
| Pipeline Data                               |              |            |                                                             |
| Pipe Diameter                               | in           | 1          |                                                             |
| Pipe Length                                 | ft           | 50         |                                                             |
| Scrubber Data                               |              |            |                                                             |
| Eductor                                     | #            | 1          |                                                             |
| Caustic Depth                               | ft           | 6          |                                                             |
| Eductor Transfer Units                      | #            | 3          | 3 Transfer units assumed per eductor                        |
| Liquid Transfer Units                       | #            | 6          | 1 Transfer Unit/1ft. Liquid Depth                           |
| Total Number of Transfer Units (NTU)        | #            | 9          |                                                             |
| Gas Flow Data                               |              |            |                                                             |
| Cl <sub>2</sub> mass In (ClmIn)             | lb/hr        | 50.02      | Pipeline volume x density Cl <sub>2</sub> / evacuation time |
| Cl <sub>2</sub> molar rate In (ClmrIn)      | lbmol/hr     | 0.7054     | ClmrIn=ClmIn/70.9                                           |
| Cl <sub>2</sub> mole fraction In (ClmfIn)   | mol fraction | 1.00       |                                                             |
| Cl <sub>2</sub> mole fraction Out (ClmfOut) | mol fraction | 0.00013    | ClmfOut=ClmfIn*(1/e^NTU)                                    |
| Total Gas molar rate Out (TGmrOut)          | lbmol/hr     | 0.00009251 | TGmrOut=ClmrIn*ClmfOut                                      |
| Cl <sub>2</sub> Gas Flow Out (ClgfOut)      | lb/hr        | 0.00655901 | ClgfOut=TGmrOut*70.9                                        |
| Time                                        |              |            |                                                             |
| Evacuation Time                             | Minutes      | 30         |                                                             |
| Events per Year                             | #            | 66         |                                                             |
| Emissions Data                              |              |            |                                                             |
| Chlorine Emissions per Event                | lb           | 0.0033     | ClgfOut * Evacuation time                                   |
| Chlorine Emissions per Year                 | lb           | 0.216      | Lb/Event * Events per year                                  |
| Caustic Consumed (100% Basis) per Event     | lb           | 28.2       |                                                             |
| Scrubber Efficiency                         | %            | 99.9869%   |                                                             |

### B.1.2 Rail-yard Switcher engine

The proposed Project may result in an increase the rail car movement onsite. Switcher equipment used for moving the rail cars onsite would result in operational emissions of diesel exhaust particulate matter, a BAAQMD Regulation 2 Rule 5 Toxic Air Contaminant. The switcher engine currently planned for use moving chlorine rail cars between the liquid chlorine rail car loading facility and the Dow facility is a 130-hp Trackmobile Viking mobile railcar mover. The switcher engine exhaust emissions estimate is based on the California Air Resources Board (CARB) OFFROAD2011 methodology using the equation presented below:

$$\text{Emission}_{\text{DieselEx}} = \text{EF} \times \text{AvgHp} \times \text{Load} \times \text{Activity}$$

Where:

EF = Emission factor in grams per horsepower-hour (g/bhp-hr)

AvgHp = Maximum rated average horsepower

Load = Load factor

Activity = Hours of operation

Attachment 1 contains the specification sheet for the Trackmobile Viking mobile railcar mover and the ARB certification letter for the Trackmobile Viking Cummins QSB4.5 engine. To convert the certification levels (CERT) for diesel particulate matter (PM) in grams per kilowatt-hour (g/kW-hr) to grams per brake horsepower-hour (g/bhp-hr), multiply it by 0.7457 kW/bhp. The maximum rated average horsepower for the Trackmobile Viking is 130-hp, the Load Factor is conservatively assumed to be 0.8 and the Activity is 66 hours per year.

$$\text{Emission}_{\text{DieselEx}} = 0.015 \text{ g/bhp-hr} \times 130\text{-bhp} \times 0.8 \times 66 \text{ hr/yr} \times 1 \text{ lb} / 453.6 \text{ g} = 0.23 \text{ lb/yr}$$

## B.2 Screening Level Impacts

The Thresholds of Significance for Toxic Air Contaminants (TAC) in the 2017 guidance is whether the "ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 10.0 in one million, assuming a 70-year lifetime exposure", or "ground-level concentrations of non-carcinogenic TACs that result in an increased chronic or acute Hazard Index (HI) from any source greater than 1.0" (BAAQMD, 2017). The BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants Table 2-5-1 (Adopted December 7, 2016) includes Toxic Air Contaminant Trigger Levels for acute and chronic exposure to TACs. For non-carcinogenic adverse health effects, a TAC specific concentration that would result in the target chronic hazard index of 0.2 is used in the calculation of the chronic trigger level. For carcinogenic health effects, a TAC specific concentration that would result in the target residential cancer risk of one in a million is used in the calculation of the chronic trigger level. Therefore, for carcinogenic health effects, an emission rate below the Table 2-5-1 Toxic Air Contaminant Trigger Levels conservatively estimates the target residential cancer risk of less than one in a million.

A summary of the air toxics emissions included in the HRSA is presented in Table B-2. The details of the emission calculations are provided in Section B.1.

**TABLE B-2**  
**Emission Sources Included In HRSA**

| Source (Type)                             | Pollutant                               | CAS Number | Emissions (lbs/hr) | Emissions (lbs/yr) | Table 2-5-1 Chronic Trigger Level (lbs/yr) |
|-------------------------------------------|-----------------------------------------|------------|--------------------|--------------------|--------------------------------------------|
| Liquid chlorine rail car loading facility | Chlorine                                | 7782-50-5  | 6.56-03            | 0.22               | 7.7                                        |
| Rail-yard Switcher engine                 | Diesel Exhaust<br>Particulate<br>Matter |            | 3.42-03            | 0.23               | 0.26                                       |

As detailed in Section B.1.1 liquid chlorine rail car loading facility emission are estimated to result in additional chlorine emissions of 6.56-03 lbs/hr and 0.22 lbs/yr, assuming 66 loading hose purge events per year. The BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants Table 2-5-1 acute and chronic Trigger Levels for Chlorine are 0.46 lbs/hr and 7.7 lbs/yr.



As detailed in Section B.1.2, emissions from the proposed increase in rail car movement onsite are estimated to result in additional diesel particulate matter emissions of 0.23 lb/yr, conservatively assuming switching operations of 1.0 hour per car loading, a Load Factor of 0.8, and 66 cars per year expected maximum. The BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants Table 2-5-1 chronic Trigger Level for diesel particulate matter emissions is 0.26 lbs/yr. There is no acute Toxic Air Contaminant Trigger Level for diesel particulate matter.

The proposed Project Toxic Air Contaminant (TAC) risk and hazard are less than the CEQA thresholds of an increased cancer risk of 10.0 in one million, and an increased chronic or acute Hazard Index (HI) from any source of 1.0. Therefore, no further Toxic Air Contaminant analysis is required.

### B.3 References

BAAQMD. 2010. *BAAQMD Air Toxics NSR Program, Health Risk Screening Analysis (HRS) Guidelines*. San Francisco, CA Jan 2017.

[http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa\\_guidelines.ashx](http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx)

BAAQMD. 2012. *BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards*. San Francisco, CA May 2012. <http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf>

BAAQMD. 2017. *Bay Area Air Quality Management District California Environmental Quality Act Air Quality Guidelines*. San Francisco, CA May 2017. [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf)

Appendix B  
**Attachment 1**

Specification sheet for the Trackmobile Viking mobile railcar mover

ARB certification letter for the Trackmobile Viking Cummins QSB4.5 engine

Certification Summary Information Report



**TRACKMOBILE®**  
MOBILE RAILCAR MOVERS

# VIKING

## Specifications

*Leading Railcar Mobility Since 1948*

### Maximum Tractive Effort

|                        |                         |
|------------------------|-------------------------|
| <b>Double Coupled*</b> | 42,689 lbs. [19,363 kg] |
| <b>Single Coupled*</b> | 27,014 lbs. [12,253 kg] |

### Dimensions / Performance

|                                            | <b>On Rail</b>                | <b>On Road</b>   |
|--------------------------------------------|-------------------------------|------------------|
| <b>Wheel Base</b>                          | 121" [3,792 mm]               | 82.5" [2,096 mm] |
| <b>Rail &amp; Road Clearance</b>           | 3.5" [88.9 mm]                | 6.5" [165.1 mm]  |
| <b>Rail &amp; Road Height **</b>           | 142" [3,607 mm]               | 153" [3,988 mm]  |
| <b>Length</b>                              | 152" [3,861 mm]               |                  |
| <b>Width</b>                               | 123" [3,124 mm]               |                  |
| <b>Weight, Non-Ballasted</b>               | 34,360 lbs. [15,585 kg]       |                  |
| <b>Rail Gauge **</b>                       | AAR Standard 56.5" [1,435 mm] |                  |
| <b>Centerline to Cab Side</b>              | 63.47" [1,612.14 mm]          |                  |
| <b>Centerline to Non-Cab Side</b>          | 59.03" [1,499.36 mm]          |                  |
| <b>Cab Interior Cubic Feet<sup>3</sup></b> | 150 cu. ft.                   |                  |

### Road Turning Radius

|                          |                 |
|--------------------------|-----------------|
| <b>Inside Tire</b>       | 13' 10" [4.0 m] |
| <b>Outside Tire</b>      | 21' 5" [6.5 m]  |
| <b>Outside Clearance</b> | 23' 6" [7.2 m]  |

### Speeds (Forward & Reverse)\*\*\*

|                 |                       |                      |
|-----------------|-----------------------|----------------------|
| <b>Low</b>      | 2.4 MPH, [3.9 km/h]   | 1.5 MPH, [2.4 km/h]  |
| <b>2nd Gear</b> | 4.0 MPH, [6.4 km/h]   | 2.5 MPH, [4.0 km/h]  |
| <b>3rd Gear</b> | 8.0 MPH, [12.8 km/h]  | 5.1 MPH, [8.2 km/h]  |
| <b>4th Gear</b> | 13.6 MPH, [21.9 km/h] | 8.7 MPH, [14.0 km/h] |

### Engine

|                                                   |                                  |
|---------------------------------------------------|----------------------------------|
| Cummins Electronic Turbo-Charged Diesel Engine    | QSB-4.5 Liter                    |
| Meets EPA Tier III EU Stage III A Emissions       | <b>Standard</b>                  |
| Meets EPA Tier IV Final and EU Stage IV Emissions | <b>Optional</b>                  |
| Configuration                                     | 4 Cylinder inline                |
| Valves per Cylinder                               | 4                                |
| Engine Displacement Tier III & Tier IV            | 275 In <sup>3</sup> [4.5 liters] |
| Horsepower Tier III & Tier IV                     | 130hp [97 kW] @ 2500 rpm         |
| Maximum Torque Tier III                           | 459lb-ft [622 N-m] @ 1500 rpm    |
| Maximum Torque Tier IV                            | 457lb-ft [620 N-m] @ 1500 rpm    |

### Fuel Tank - Steel Twenty-five (25) gallon [94.5 liter] capacity

### Air Intake

Intake Air Heater - preheats incoming combustion air prior to start<sup>1</sup>  
3 - Stage Filtration, High-Efficiency Pre-Cleaner, Primary and Safety Filter

### Powertrain

#### Transmission

Funk, DF 150 series, constant mesh spur gearing Four Speed Forward and Reverse with selectable Power shift manual or automatic with 4th or 3rd and 4th Lock-Out for Rail, Road, or Both

#### Axles

**On Road** - Two Heavy duty steel axles

**On-Rail** - Two (2) out-board internal planetary type with high-strength ductile iron rear axle drive hubs with friction drive

**Differential** - Two (2) Rigid, outboard planetary air actuated, auto-control differential locking

**Transfer Case** - Heavy duty, hardened alloy steel spur gears with oil bath lubrication

### Automatic Shutdown

Automatic shutdown as a result of: High Engine Temperature; Low Engine Coolant Level; High Compressor Temperature; High Hydraulic System Oil Temperature; (Optional Low Hydraulic System Oil Level)

Note<sup>1</sup> **Not to be used in conjunction with Ether starting fluid.**

Note<sup>2</sup> **Maximum application pressure is varied automatically, depending on whether the machine is in rail or road mode. If the machine is on rail, the application pressure will vary depending on weight transferred, for best stopping capability.**

**TIER IV ENGINES ADD APPROXIMATELY 2" ADDITIONAL HEIGHT DUE TO HEIGHT OF EXHAUST STACK ON NEW EXHAUST SYSTEM.**

\* Depending on weight package option, actual tractive effort may vary with rail and weather conditions.

\*\* For shipping purposes, add 1.5" (38 mm) to Rail height for a 2 x 4 block under wheel tread. Additional variations may occur due to options selected.

\*\*\* Actual speeds obtained will depend on grade, load, altitude, and other factors.

\*\*\*\* Rail Gauges available in a various sizes, speak to your local dealer regarding the gauge best suited for your line.

### Brake System

On-Road Machine Braking<sup>2</sup> - Hydraulic disc brakes with Dual Calipers  
On-Rail Machine Braking<sup>2</sup> - Hydraulic disc brakes, 18" [457 mm] diameter Machine Parking Brake - Spring applied, air released 14" [355.6 mm] diameter disc, driveline mounted  
Selectable Neutral Braking - Automatically applies brake to full pressure within 5 seconds of operator inactivity

### Train Air Brakes - glad hand connections

16 CFM Engine Driven Dual piston air compressor Tier III  
60 CFM Twin Piston air compressor Tier IV  
100 CFM Rotary Screw air compressor Tier III only  
In-Cab Train Air Valves

**STANDARD**  
**OPTIONAL**

### Pneumatic System

Air dryer for machine air system and to fill air ride seat. Heated with internal thermostatically controlled 12-Volt heater to prevent pneumatic line release valve freeze ups in damp/cold climates.

### Hydraulic

Constant Pressure Hydraulic System, piston pump and O-ring face seal fittings and oil filtered below ISO 18/16/13  
On-Road Machine Braking<sup>2</sup> - Hydraulic disc brakes, dual calipers  
On-Rail Machine Braking<sup>2</sup> - Hydraulic disc brakes, 18" [457 mm] diameter

### Steering

On Road - front axle power steering w/pivot away steering wheel

### Electrical

H D 12 Volt DC, 160 AMP Alternator with Dual 925 CCA Batteries  
Digital Instrumentation - SAE-J1939 CAN-Bus Control System  
7" Digital Display for real-time machine statistics and diagnostic data  
Safe-T-Vue™ 360° visibility and railing camera with 10" color monitor  
Additional 2 outputs for extra camera locations  
Alarms - Automatic Backup Road-Mode Alarm, Selectable Electronic Warble-type alarm, blast type air horn, and amber strobe warning lights

### Wheels/Tire

#### On Road

Four (4), 16 Ply 9.00 x 20 Heavy duty Mine Service Rubber Tires

#### On Rail

AAR Profile Standard Gauge 56 1/2" [1,435 mm] \*\*\*\*

Four (4), 27" [685.8 mm], heat-treated, cast steel, ring-style flanged railwheels

Eight (8) Individual, Air- Operated, Electronically-Controlled Sanders

### Main Frame

Heavy duty -High strength 2" [51.0 mm] thick welded steel Main Frame with (2) 3" [76.2 mm] thick cross-members

### Body Frame

Heavy duty all-welded construction using pre-formed steel plates and structural forms

### Suspension

Six (6) mounts between cab and body frame (deck), four (4) Lord rubber mounts between body and main frame

### Couplers

Two heavy duty cast steel weight transfer design positive coupling and uncoupling with AAR contour coupler and locking knuckle  
Optional wide traverse coupler beam for adverse and severe curve radius  
Standard width beam handles most standard curve radius

Trackmobile® LLC reserves the right to change specifications at any time without prior notice.



# VIKING

## VIKING STANDARD FEATURES:

- CAN-Bus Control System
  - On Board Diagnostics
  - UltraView 7" Color Touch Screen Display
  - Safe-T-Vue™ 360° Visibility and Railing Camera with 10" Monitor
  - Air Ride, High Back 180° Swivel Seat
  - Joystick and Armrest Controls
  - Neutral Braking with Programmed Throttle Control
  - Automatic / Manual Power-Shift Transmission
  - 16 CFM Engine Driven Air Compressor\*
  - In-Cab Train Air Valve
  - Incremental Train Air Brake Controller
  - Train Air Hold Button
  - Wide Coupler Table
  - Front and Rear Train Air Valves
  - Ring Style Railwheels
  - Accessible External Disc Brakes
  - Impact Sensor/Recorder
  - Coupler Rollers
  - LED head lighting, strobes, and work lighting
  - GPS Positioning Capabilities\*
  - Telematics Remote Monitoring & Diagnostic Capabilities
- \*60 CFM on Tier IV Viking Models*



## Customized for Optimum Efficiency

Having the right tools to do the job improves productivity. Trackmobile serves many different industries receiving materials through rail service, with each industry representing unique challenges in their daily operations. To meet these demands, we offer a wide variety of options to customize your Trackmobile to your specific needs.

## Popular Options:

- Tier IV Final and EURO Stage IV Emissions
- Radio Remote Control System with Train Air Indicator
- MAX-Tran Automatic Weight Transfer System
- MAX-Trac Automatic Traction Control System
- GCS- Ground Control System for ground crew safety
- Train Air Charge Indicator
- Cab Extensions
- Extended Coupler Beam
- Rail Line-of-Sight Cameras
- Spark Arrestor
- Vigilance Control
- Air Conditioning
- Flange Lubricators
- Rotary Broom
- Ballast Box
- Cab Pressurization

### Cab Extension



**Roof Mounted Spotlight**



**Rotary Broom**



**Train Air Charge Indicator**

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

**IT IS ORDERED AND RESOLVED:** That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR                                                                                                                                                                                                  | ENGINE FAMILY | DISPLACEMENT (liters) | FUEL TYPE                                           | USEFUL LIFE (hours) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------|-----------------------------------------------------|---------------------|
| 2018                                                                                                                                                                                                        | JCEXL04.5AAH  | 4.5                   | Diesel                                              | 8000                |
| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS                                                                                                                                                                 |               |                       | TYPICAL EQUIPMENT APPLICATION                       |                     |
| Engine Control Module, Exhaust Gas Recirculation, Electronic Direct Injection, Turbocharger, Charge Air Cooler, Diesel Oxidation Catalyst, Selective Catalytic Reduction – Urea, Ammonia Oxidation Catalyst |               |                       | Crane, Loader, Tractor, Dozer, Pump, and Compressor |                     |

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

| RATED POWER CLASS | EMISSION STANDARD CATEGORY |      | EXHAUST (g/kw-hr) |      |          |      |      | OPACITY (%) |     |      |
|-------------------|----------------------------|------|-------------------|------|----------|------|------|-------------|-----|------|
|                   |                            |      | HC                | NOx  | NMHC+NOx | CO   | PM   | ACCEL       | LUG | PEAK |
| 75 ≤ kW < 130     | Tier 4 Final               | STD  | 0.19              | 0.40 | N/A      | 5.0  | 0.02 | N/A         | N/A | N/A  |
|                   |                            | CERT | 0.04              | 0.10 | --       | 0.04 | 0.02 | --          | --  | --   |

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

**This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.**

Executed at El Monte, California on this 15<sup>th</sup> day of August 2017.

  
 Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

U-12-002-0662

Adelmynt 15161

6/23/2017

### Engine Model Summary Template

| Engine Family | 1.Engine Code | 2.Engine Model | 3.BHP@RPM<br>(SAE Gross) | 4.Fuel Rate:<br>mm/stroke @ peak HP<br>(for diesel only) | 5.Fuel Rate:<br>(lbs/hr) @ peak HP<br>(for diesels only) | 6.Torque @ RPM<br>(SEA Gross) | 7.Fuel Rate:<br>mm/stroke@peak<br>torque | 8.Fuel Rate:<br>(lbs/hr)@peak torque | 9.Emission Control<br>Device Per SAE J1930 |
|---------------|---------------|----------------|--------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------|------------------------------------------|--------------------------------------|--------------------------------------------|
| JCEXL04.5AAH  | 4189.FR94118  | QSB4.5         | 173@2500                 | 115                                                      | 97                                                       | 520@1500                      | 155                                      | 78                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94220  | QSB4.5         | 162@2500                 | 109                                                      | 93                                                       | 466@1500                      | 138                                      | 70                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94221  | QSB4.5         | 129@2500                 | 92                                                       | 77                                                       | 457@1500                      | 136                                      | 68.6                                 | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94222  | QSB4.5         | 158@2300                 | 112                                                      | 87                                                       | 460@1500                      | 137                                      | 69                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94223  | QSB4.5         | 129@2300                 | 95                                                       | 74                                                       | 378@1500                      | 113                                      | 57                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94224  | QSB4.5         | 158@2200                 | 117                                                      | 86                                                       | 460@1500                      | 137                                      | 69                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4189.FR94593  | QSB4.5         | 139@2200                 | 104                                                      | 77                                                       | 440@1500                      | 131                                      | 66                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4189.FR94225  | QSB4.5         | 129@2200                 | 98                                                       | 73                                                       | 430@1500                      | 128                                      | 64.6                                 | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94226  | QSB4.5         | 119@2200                 | 92                                                       | 68                                                       | 347@1500                      | 104                                      | 52.5                                 | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4189.FR94227  | QSB4.5         | 173@2000                 | 141                                                      | 94                                                       | 520@1500                      | 155                                      | 78                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94228  | QSB4.5         | 154@2000                 | 125                                                      | 84                                                       | 460@1500                      | 137                                      | 69                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4222.FR94229  | QSB4.5         | 138@2000                 | 113                                                      | 76                                                       | 457@1500                      | 136                                      | 68.6                                 | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |
| JCEXL04.5AAH  | 4831.FR95210  | QSB4.5         | 154@2000                 | 125                                                      | 84                                                       | 460@1500                      | 137                                      | 69                                   | SCR,DOC,DDI,TC,<br>EGR,CAC,ECM             |

+ Annex

## **APPENDIX C**

### **Geotechnical Report Update**

# Hultgren-Tillis Engineers

December 22, 2016  
Project No. 197.54

K2 Pure Solutions  
950 Loveridge Road  
Pittsburg, California 94565

Attention: Mr. Michael Cordova

**Geotechnical Report Update  
K2 Plus Project  
K2 Pure Facility  
Pittsburg, California  
Purchase Order K2PS-G511-C0003-45**

Dear Mr. Cordova:

This letter presents a geotechnical report update for the K2 Plus Project at the K2 Pure Solutions facility in Pittsburg, California. The facility is located near the north end of Loveridge Road, as shown on the attached Vicinity Map, Plate 1. We previously performed two geotechnical investigations for the facility and presented the results in reports dated July 17, 2009 and September 15, 2011. We recently provided preliminary geotechnical pile design criteria in a letter dated November 16, 2016.

The attached Site Plan, Plate 2, shows an overall foundation plan for the K2 Plus Project. The project will consist of a plant expansion including installation of new equipment, vessels, pipe racks, rail loading dock, and other process related features. Site work will include demolition of existing infrastructure, grading to re-route existing underground utilities and roadways, foundations, underground utility installation, and paving.

Most of the planned structures and vessels will be supported on shallow spread footings or mat foundations, except the new HCL Burner Number 2. The burner will be on a pile supported mat to resist large overturning forces. The mat will be approximately 25 feet wide and 36 feet long, supported by auger cast piles spaced about 7 to 8 feet on centers.

## **SURFACE AND SUBSURFACE CONDITIONS**

The ground surface includes both paved and unpaved areas that are relatively level or slope slightly to facilitate surface water run-off. Ground surface elevations range from about 10 to 13 feet above the Dow vertical datum, generally increasing to the north. The Dow vertical datum is approximately 1.2 feet above NGVD29 and 3.8 feet above NAVD88. Unless noted otherwise, elevations in this letter are based on the Dow vertical datum.

The area is generally underlain by fill over firm alluvial deposits. Variations in the original topography resulted in little to no fill in some areas and up to 10 feet of fill in others.

The fills include soft to stiff silts and clays with occasional sand layers typically less than a foot thick. Some of the clays have moderate to high plasticity and will shrink/swell with moisture



variations. In general, the fill is poorly compacted based on observations during various projects on the Dow property and samples collected during previous investigations. Additionally, the fill has varying amounts of debris, slag, and concrete remnants from previous foundations or other site improvements.

Groundwater levels in the area are variable. Groundwater was encountered in previous investigations at depths ranging from 1 to 8 feet below existing grades, corresponding to approximately Elevations +4 to +11 feet. In general, stabilized groundwater levels were not recorded because the borings were immediately backfilled or groundwater levels were obscured by the drilling methods.

The above descriptions of soil and groundwater conditions include field observations and results from previous borings by others at the times of their investigations. Conditions vary across the site due to previous land use, recent construction activity, and seasonal weather. At greater depths variations are due to conditions inherent in alluvial deposition and erosion processes.

## **SEISMIC CONSIDERATIONS**

The predominant seismic hazard for the site is strong groundshaking resulting from earthquakes. The structures should be designed to accommodate such groundshaking in accordance with existing codes. No known active faults pass through the site and we conclude that the risk of fault rupture at the site is low. For use with the 2013 or 2016 California Building Code (CBC), the site can be classified as Site Class D, a stiff soil profile.

The following seismic design criteria based on the CBC can be used for the project. The site coordinates are estimated to be: Latitude 38.02485 and Longitude -121.85702. From the USGS website calculator, the mapped acceleration parameters  $S_s$  and  $S_1$  are 1.743 and 0.592, respectively.

Soil liquefaction is a phenomenon in which a loose to medium dense, saturated granular soil undergoes reduction of internal strength as a result of increased pore water pressure generated by shear strains within the soil mass. This behavior is most commonly induced by strong groundshaking associated with earthquakes. Subsurface conditions consist mainly of clayey soils and medium dense to dense sands. Where the medium dense sands are located, there is a risk of triggering liquefaction due to a large earthquake. We estimate that the consequences of liquefaction, if it occurred, would be surface settlements of less than 1-inch.

## **CONCLUSIONS AND RECOMMENDATIONS**

We conclude that the planned shallow foundations can be designed using the same geotechnical criteria presented in our reports dated July 17, 2009 and September 15, 2011. We reviewed our preliminary pile recommendations and conclude that the HCL Burner Number 2 can be supported on auger cast piles using the criteria presented in our November 16, 2016 letter. The updated seismic parameters presented herein should be used for seismic design. Other geotechnical conclusions and recommendations from the previous reports can be used for earthwork design issues where applicable.

The piles should be installed in accordance with the Process Industry Practices (PIP) STS02465, *Augered Cast-in-Place Piles Installation Specification* dated February 2012. For this

project, we judge that pile load tests are not necessary. Our field engineer should observe geotechnical aspects of the pile installations on a full time basis.

Temporary shoring, bracing, underpinning, and dewatering may be needed during construction to stabilize excavations. The contractor should be solely responsible for design and construction of these temporary features. Preconstruction surveys and periodic monitoring should be performed where foundation excavations may impact existing site improvements. The contractor's shoring/bracing, underpinning, dewatering, and monitoring plans should be submitted for review by the project team.

During construction, we should observe and/or test geotechnical aspects of the work including excavations, placement and compaction of fill and backfill, subgrade preparation for pavements and railroads, and foundation installations. If conditions encountered during construction are not consistent with those described herein, we should be contacted to review our recommendations and provide supplemental recommendations, as needed.

It should be noted that the site vicinity has a long history of chemical manufacturing and industrial use dating back more than 100 years. At an industrial facility such as this, there is always the possibility that hazardous chemicals may have leaked into the ground or were contained in groundwater. The purpose of our services was limited to evaluating some of the characteristics of the soils as they relate to foundation design. We did not assess the possible chemical constituents within the soils or groundwater. Designers and contractors working at the site should contact the appropriate safety officer regarding the risk of encountering hazardous materials in the soils and groundwater.

If you have any questions regarding this letter, please call.

Sincerely,

**Hultgren - Tillis Engineers**



Christian P. Muller  
Geotechnical Engineer

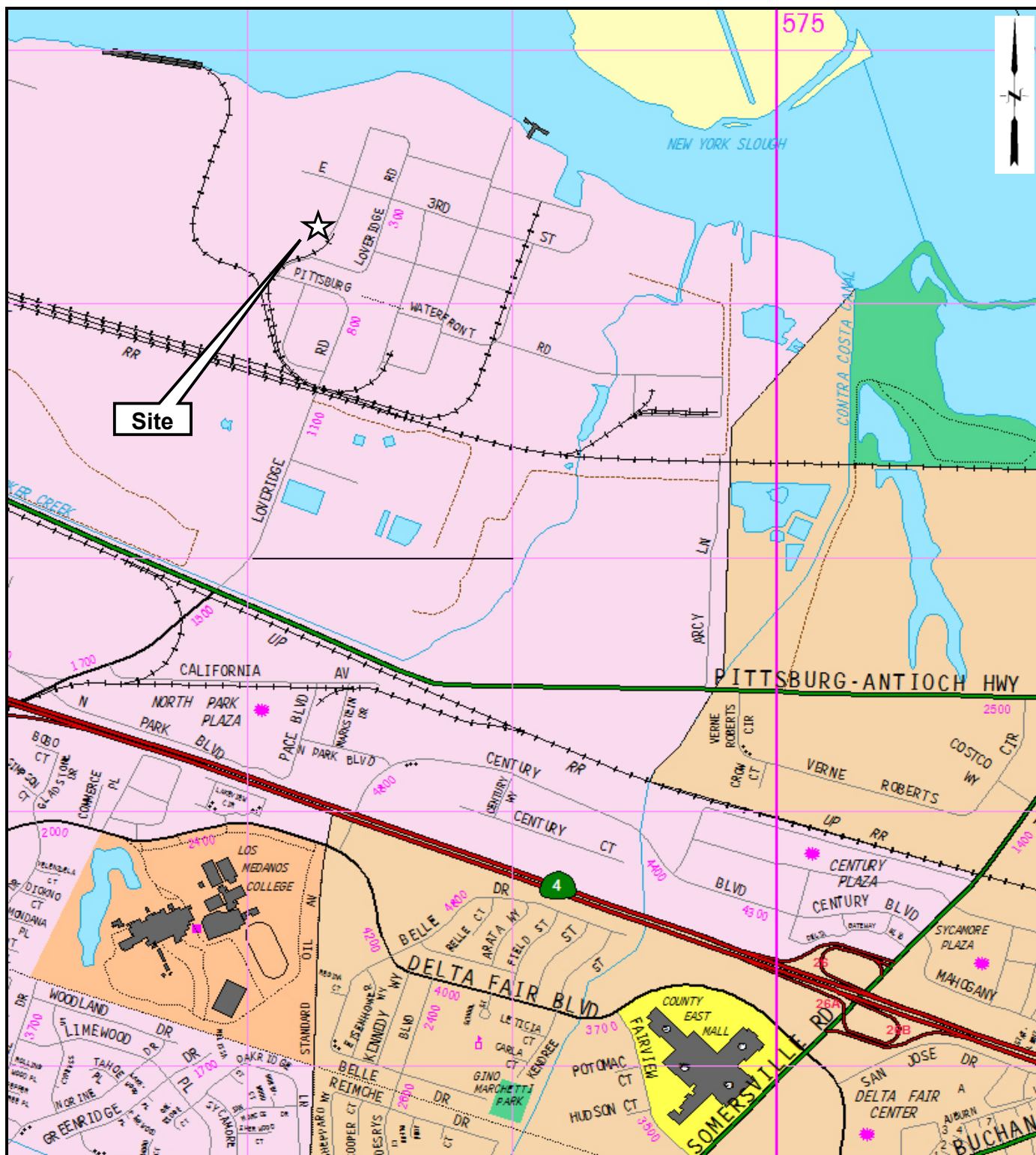


CPM:JAH:lm:la

Attachments: Plate 1 – Vicinity Map  
Plate 2 – Site Plan

cc: Mr. Chuks Mbeledogu and Mr. Kevin Kelley, K2 Pure Solutions; and Mr. Kurtis Boehm and Mr. Scott Cooper, KBR (via email)

Filename: 19754L02 report update



0 1400 feet  
APPROXIMATE SCALE

Base: Thomas Guide Map

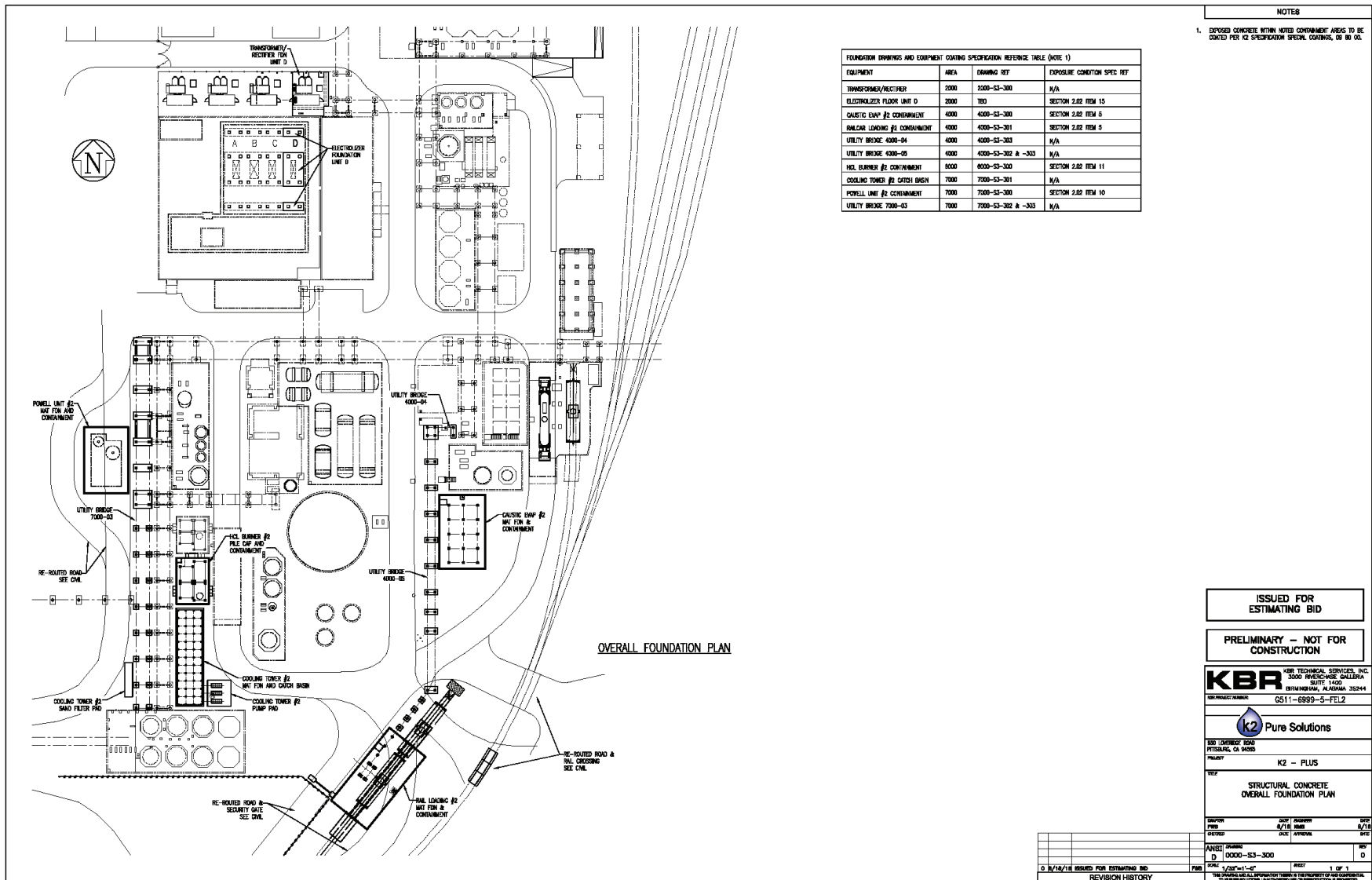
K2 Plus Project  
K2 Pure Facility  
Pittsburg, California

Vicinity Map

Hultgren - Tillis Engineers

Project No. 197.54

Plate No. 1



K2 Plus Project  
K2 Pure Facility  
Pittsburg, California

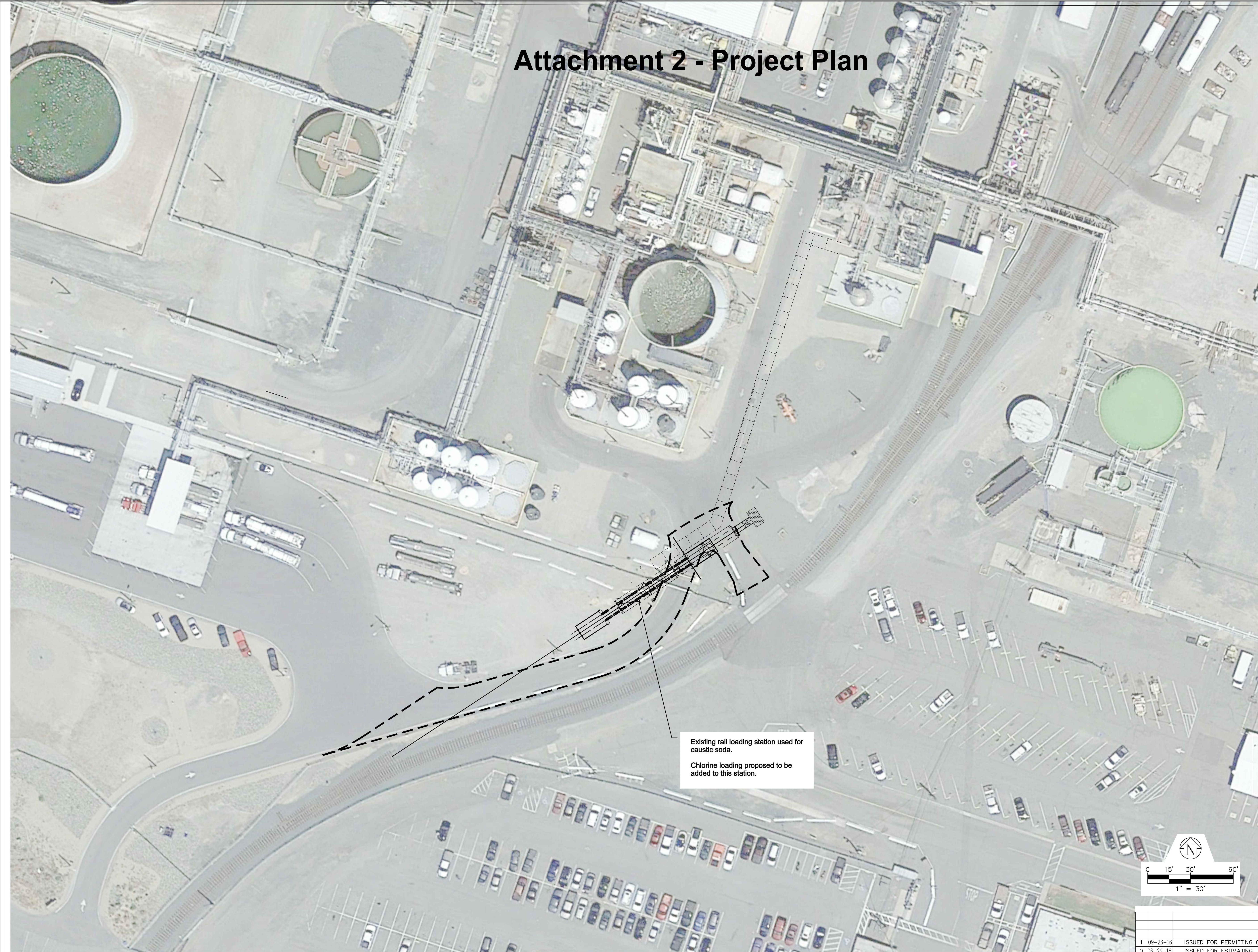
## Site Plan

Hultgren - Tillis Engineers

Project No. 197.54

Plate No. 2





# Attachment 2 - Project Plan

## NOTES

### LEGEND:

|                             |  |
|-----------------------------|--|
| NEW ASPHALT                 |  |
| DEMO ASPHALT                |  |
| EX. CATCH BASIN             |  |
| EX. STORM PIPE              |  |
| NEW STORM PIPE              |  |
| RELOCATED / NEW STORM INLET |  |
| NEW FENCE                   |  |
| DEMO STORM PIPE / FENCE     |  |
| GRADE DIRECTION             |  |
| EX. LIGHT POLE              |  |
| REL. LIGHT POLE             |  |
| BARRIER                     |  |

### MATERIAL QUANTITIES:

|                        |             |
|------------------------|-------------|
| NEW ASPHALT:           | 12730 SF    |
| ASPHALT DEMO:          | 9085 SF     |
| FENCE:                 | 300 LF      |
| REL. STORM INLET:      | 3 (QTY)     |
| NEW STORM INLET:       | 3 (QTY)     |
| STORM PIPE:            | 530 LF      |
| STRIPING:              | 1 ALLOWANCE |
| REL. LIGHT POLE:       | 3 (QTY)     |
| REL. SECURITY POLE:    | 1 (QTY)     |
| GRAVEL UNDER CROSSING: | 285 CY      |
| DEMO FENCE:            | 430 LF      |
| REL. BARRIER:          | 1 ALLOWANCE |
| REL. GATE:             | 1 (QTY)     |
| REMOVE STORM PIPE:     | 505 LF      |
| ADJUST STORM TOP:      | 1 ALLOWANCE |
| FILL PIPE W/ GROUT:    | 30 LF       |

### NOTES:

1. A TOPOGRAPHIC SURVEY WAS NOT AVAILABLE FOR USE TO PREPARE THIS SKETCH. ALL EXISTING PIPE LOCATIONS ARE APPROXIMATE. PIPE SIZES AND DEPTHS ARE UNKNOWN. LOCATIONS OF EXISTING CATCH BASINS (STORM INLETS) WERE APPROXIMATED BASED ON THE AERIAL IMAGE AND SITE PHOTOGRAPHS. LOCATION OF OTHER UNDERGROUND UTILITIES IS UNKNOWN THEREFORE CONFLICTS MAY EXIST.
2. NEW HARDSCAPE IMPROVEMENTS (E.G. BUILDINGS, STRUCTURES, ETC.) SHOWN FOR REFERENCE ONLY WERE TAKEN FROM SCHEMATIC STRUCTURAL PLANS ON 6/21/16 AND ARE CONSIDERED APPROXIMATE.
3. BACKGROUND INFORMATION IS AN AERIAL IMAGE.

FOR PRICING ONLY.  
NOT FOR PERMITTING,  
CONSTRUCTION, OR  
IMPLEMENTATION

**KBR** KBR TECHNICAL SERVICES, INC.  
3000 RIVERCHASE GALLERIA  
SUITE 1400  
BIRMINGHAM, ALABAMA 35244

G511-6999-5-FEL2

**Pure Solutions**

950 LOVERIDGE ROAD  
PITTSBURG, CA 94565

PITTSBURG, CA

PROJECT K2-PLUS

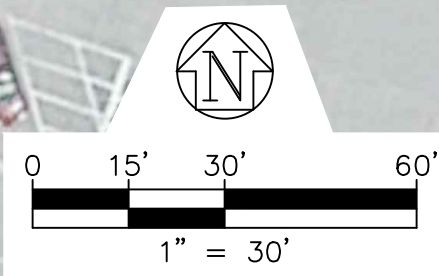
TITLE  
CIVIL LAYOUT SKETCH  
PLAN VIEW

DRAFTER DATE ENGINEER DATE

CHECKED DATE APPROVAL DATE

ANSI D 5000-C1-100 1 OF 1

SCALE 1"=30' SHEET 1 OF 1  
THIS DRAWING AND ALL INFORMATION THEREIN IS THE PROPERTY OF AND CONFIDENTIAL TO K2 PURE SOLUTIONS. UNAUTHORIZED USE OR REPRODUCTION IS PROHIBITED.



|   |          |                                    |
|---|----------|------------------------------------|
| 1 | 09-26-16 | ISSUED FOR PERMITTING COORDINATION |
| 0 | 06-23-16 | ISSUED FOR ESTIMATING              |

### REVISION HISTORY





# City of Pittsburg

Community Development Department – Planning Division

65 Civic Avenue, Pittsburg, CA 94565 | Tel: (925) 252-4920 | Fax: (925) 252-4814

## NOTICE OF PUBLIC HEARING

**NOTICE IS HEREBY GIVEN** that the **PLANNING COMMISSION** of the City of Pittsburg will conduct an online public meeting on:

**DATE:** September 22, 2020  
**TIME:** 7:00 p.m.  
**PLACE:** Zoom Teleconference via Streaming Media on the City's homepage,  
[www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us) (see public advisory on last page)

Concerning the following matter:

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### **K2 Pure Solutions Chlorine Rail Transportation Curtailment Project, AP-18-1313 (UP, DR)**

This is an application by K2 Pure Solutions (K2 Pure) requesting use permit and design review approval of plans to construct and operate a new chlorine rail loading station at its existing chlor-alkali production facility located at 950 Loveridge Road in the IG (General Industrial District). Assessor's Parcel No. 073-222-039. The proposed loading station would enable K2 Pure to continue supplying Corteva Agriscience (Corteva) with chlorine during the facility's inspection, maintenance, and repair related production outages. During outages, Corteva currently imports chlorine by rail from a facility in Texas. The proposed loading station would eliminate Corteva's need for imported chlorine.

**PROJECT PLANNER:** Hector J. Rojas, (925) 252-4043 or [hrojas@ci.pittsburg.ca.us](mailto:hrojas@ci.pittsburg.ca.us)

---

### **Why am I receiving this notice?**

You are receiving this notice because you have either previously requested notifications from the Planning Division, or a project has been proposed in your neighborhood and all property owners within a minimum 300-foot radius of the project site are required to be notified under the Pittsburg Municipal Code.

### **Where can I get more information about this project?**

The complete file for this project is available for public inspection; please contact the project planner listed above to make necessary arrangements.

### **What can I do if I have comments on the project?**

Comments or objections to the project can be made by writing or through e-mailed testimony during the meeting. Written comments citing the project name may be emailed to the project planner listed above or may be mailed or delivered to Pittsburg Planning Division, 65 Civic Avenue, Pittsburg, CA 94565. Comments during the meeting can be submitted via email to [meetingcomments@ci.pittsburg.ca.us](mailto:meetingcomments@ci.pittsburg.ca.us).

Pursuant to Section 65009 of the California Government Code, if you challenge this matter in court, you may be limited to those issues you or someone else raised at the public hearing described in this notice, or in written correspondence on the matter delivered to this agency at, or prior to the public hearing. Any written correspondence delivered to the Planning Division before the hearing body's action on the matter will become a part of the administrative record.

*Para información en  
español:  
(925) 252-4920*

KRISTIN POLLOT, SECRETARY  
PITTSBURG PLANNING COMMISSION

**Location:** 950 Loveridge Road, APN Nos. 073-220-039



**PUBLIC ADVISORY:**  
**THE CITY COUNCIL CHAMBER WILL NOT BE OPEN TO THE PUBLIC**

Pursuant to Section 3 of Executive Order N-29-20, issued by Governor Newsom on March 17, 2020, the regular meeting of the Planning Commission for **September 22, 2020** will be conducted telephonically through Zoom and broadcast live on the City's homepage.

Please be advised that pursuant to the Executive Order, and to ensure the health and safety of the public by limiting human contact that could spread the COVID-19 virus, the Council Chamber will not be open for the meeting. Planning Commissioners will be participating telephonically and will not be physically present in the Council Chamber.

**To view the meeting online during its broadcast:**

1. Go to [www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us)
2. On the right-hand side of the page, click the "Streaming Media" button

**Comments on this item can be submitted via email to:**  
[meetingcomments@ci.pittsburg.ca.us](mailto:meetingcomments@ci.pittsburg.ca.us)

If you wish to have your comments read to the Planning Commissioners during the appropriate Public Comment period, please indicate in the Subject Line "FOR PUBLIC COMMENT" and list the item number you wish to comment on. If your comment is for a non-agenda item, indicate "FOR PUBLIC COMMENT – NON-AGENDA." Comments that you want read to the Commission will be subject to the three minute time limitation (approximately 350 words). Written comments that are only to be provided to Commission and not read at the meeting will be distributed to the Commission prior to the meeting if received by 5:00 p.m. the date of the meeting. Comments via text and social media (Facebook, Nextdoor, etc.) will not be accepted.

The City of Pittsburg thanks you in advance for taking all precautions to prevent spreading the COVID-19 virus.





**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

**ALAMEDA COUNTY**

John J. Bauters  
Pauline Russo Cutter  
Scott Haggerty  
Nate Miley

**CONTRA COSTA COUNTY**

John Gioia  
David Hudson  
Karen Mitchoff  
Mark Ross

**MARIN COUNTY**

Katie Rice  
(Chair)

**NAPA COUNTY**

Brad Wagenknecht

**SAN FRANCISCO COUNTY**

Gordon Mar  
Shamann Walton  
Tyrone Jue  
(SF Mayor's Appointee)

**SAN MATEO COUNTY**

David J. Canepa  
Carole Groom  
Davina Hurt

**SANTA CLARA COUNTY**

Margaret Abe-Koga  
Cindy Chavez  
(Secretary)  
Liz Kniss  
Rod G. Sinks  
(Vice Chair)

**SOLANO COUNTY**

James Spering  
Lori Wilson

**SONOMA COUNTY**

Teresa Barrett  
Shirlee Zane

Jack P. Broadbent  
EXECUTIVE OFFICER/APCO

Connect with the  
Bay Area Air District:



## Attachment 4

November 19, 2019

Hector Rojas, Senior Planner  
City of Pittsburg  
Community Development Department  
65 Civic Avenue  
Pittsburg, CA 94565

RE: K2 Pure Solutions Chlorine Rail Transportation Curtailment Project – Initial Study  
with Proposed Negative Declaration

Dear Mr. Rojas,

The Bay Area Air Quality Management District (Air District) staff has reviewed the Initial Study (IS) with Proposed Negative Declaration (ND) for the K2 Pure Solutions Chlorine Rail Transportation Curtailment Project (Project). The Project proposes to construct a new onsite chlorine rail loading station, vapor scrubber, and pipeline connecting to Pittsburg Dow Chemical (Dow). The proposed station would eliminate the need to import chlorine by rail from Texas, by allowing K2 Pure to load liquid chlorine into railcars stored onsite for Dow's use when the K2 Pure facility is offline for maintenance or repairs.

We have identified the City of Pittsburg as a priority community through our Community Air Risk Evaluation (CARE) program and, more recently, through our Community Health Protection Program. The Air District has worked for many years to improve air quality and health in Pittsburg, and these efforts continue today as we engage with the community to conduct air quality outreach, education, and advocacy to Pittsburg residents. Accordingly, increased air quality impacts in Pittsburg would be concerning.

Certain elements of the Project would require permits from the Air District. K2 Pure must apply for Air District permits (Authority to Construct/Permit to Operate) for at least the following, prior to project construction:

- The new proposed liquid chlorine railcar loading operation equipped with a scrubber
- The new 130 horsepower diesel engine ("Trackmobile") used to move the loaded railcars from K2 Pure to the Dow off-loading terminal
- Any modification or alteration to liquid chlorine storage tanks
- Any new liquid chlorine storage tanks
- Any modification or alteration to Dow's liquid chlorine railcar off-loading operation

November 19, 2019

The City of Pittsburgh can direct K2 Pure to the Air District's ***Apply for an Authority to Construct/Permit to Operate*** webpage: <http://www.baaqmd.gov/permits/apply-for-a-permit>, or to their assigned Air District permit engineer. The Engineering Division staff will evaluate the permit application and submitted information before taking final action on the permit.

If you have any questions regarding these comments, or would like to schedule a meeting, please contact Areana Flores, Environmental Planner, at (415) 749-4616, or [aflores@baaqmd.gov](mailto:aflores@baaqmd.gov).

Sincerely,



Greg Nudd  
Deputy Air Pollution Control Officer

cc: BAAQMD Director John Gioia  
BAAQMD Director David Hudson  
BAAQMD Director Karen Mitchoff  
BAAQMD Director Mark Ross

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

520 CAPITOL MALL, SUITE 350  
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201

FAX: (916) 444-6209

[sdudley@adamsbroadwell.com](mailto:sdudley@adamsbroadwell.com)

SO. SAN FRANCISCO OFFICE

601 GATEWAY BLVD., SUITE 1000  
SO. SAN FRANCISCO, CA 94080

TEL: (650) 589-1660

FAX: (650) 589-5062

DANIEL L. CARDOZO  
CHRISTINA M. CARO  
DANIKA L. DESAI  
SARA F. DUDLEY  
THOMAS A. ENSLOW  
ANDREW J. GRAF  
TANYA A. GULESSERIAN  
KENDRA D. HARTMANN\*  
KYLE C. JONES  
RACHAEL E. KOSS  
NIRIT LOTAN  
AARON M. MESSING  
WILLIAM C. MUMBY  
CAMILLE G. STOUGH

MARC D. JOSEPH  
*Of Counsel*

\*Admitted in Colorado

December 19, 2019

**Attachment 5**

**VIA EMAIL & OVERNIGHT MAIL**

Planning Commissioners James Coniglio, Elissa Robinson, Sarah Foster,  
J. Faye Fields, Christopher Moreno, Dr. Trinh Nguyen, and Wolfgang Croskey  
City of Pittsburg  
Community Development Department, Planning Division  
Attention: Planning Commissioners  
65 Civic Avenue  
Pittsburg, CA 94565  
Email: [PlanningCommissioner@ci.pittsburg.ca.us](mailto:PlanningCommissioner@ci.pittsburg.ca.us)

Hector Rojas, AICP  
Senior Planner  
City of Pittsburg, Planning Division  
65 Civic Avenue  
Pittsburg, CA 94565  
Email: [hrojas@ci.pittsburg.ca.us](mailto:hrojas@ci.pittsburg.ca.us)

**CC: VIA EMAIL ONLY**

Alice E. Evenson, City Clerk  
Email: [aevenson@ci.pittsburg.ca.us](mailto:aevenson@ci.pittsburg.ca.us)

Jill Hecht  
Community Development Director  
Email: [jhecht@ci.pittsburg.ca.us](mailto:jhecht@ci.pittsburg.ca.us)

Re: Initial Study / Negative Declaration, K2 Pure Solutions Chlorine Rail  
Transportation Curtailment Project, AP-18-1313 (UP, DR)

Dear Commission Members, Mr. Rojas, Ms. Hecht, and Ms. Evenson:

We are writing on behalf of Safe Fuel and Energy Resources California  
("SAFER CA") to provide comments on the City of Pittsburg's ("City") Initial  
Study/Negative Declaration ("Negative Declaration") for the K2 Pure Solutions

4509-004j

Chlorine Rail Transportation Curtailment Project, AP-18-1313 (UP, DR) (“Project”) proposed by K2 Pure Solutions (“Applicant”). The Project would be located on 950 Loveridge Road, in Pittsburg, California, at the site of the existing K2 Pure Solutions Chlor-Alkali production plant. The K2 Pure Facility itself is located within the Corteva Agriscience facility boundary (formerly operated by Pittsburg Dow Chemical) (collectively “Corteva”).<sup>1</sup>

The proposed Project would construct and operate a new onsite chlorine rail loading station, connecting pipeline to K2 Pure’s existing storage tank, vapor scrubber and associated improvements at K2 Pure’s facility. Currently, K2 Pure supplies chlorine to Corteva, but when it is unable to do so, due to events such as equipment malfunctions or routine maintenance causing plant shutdowns, Corteva receives chlorine by railcar from a facility in Texas.<sup>2</sup> The proposed Project would eliminate the importation of product from Texas and would “modify current K2 operations by loading chlorine into railcars for Corteva’s use during K2 shutdowns. The rail station [would include] a roughly 700-foot pipeline from K2’s existing chlorine storage tanks to the loading station. During loading operations, hoses would be connected from the pipeline to the railcar to be loaded.”<sup>3</sup> The railcars “would remain at the loading facility [K2 Pure] only during filling operations. ... After filling, the rail cars would be delivered to Corteva for production or storage per Corteva’s current practices.”<sup>4</sup> The Negative Declaration states that “Corteva would maintain the same amount of rail cars onsite following implementation” of the proposed Project.<sup>5</sup> Construction will occur over 8-10 weeks and require of 3-6 construction workers on average.<sup>6</sup>

---

<sup>1</sup> It appears that Corteva Agriscience was a subsidiary of Dow/DowDupont, and now operates the facility as a standalone company (*Compare Our History*, <https://www.corteva.com/who-we-are/our-history.html> [describing formation of Corteva Agriscience as becoming a standalone company in June 2019] *with* this Project’s Notice of Intent to Consider Adoption of a Negative Declaration, Oct. 16, 2019 [stating that K2 Pure Solutions owns and operates a facility within the Pittsburg Dow Chemical facility].)

<sup>2</sup> Negative Declaration, pp. 5-10 (Project description).

<sup>3</sup> *Id.* at p. 9.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> *Id.* at p. 5.

Approvals required for the Project include adoption of the Negative Declaration under the California Environmental Quality Act (“CEQA”),<sup>7</sup> an amendment to the Applicant’s use permit, and design review.

Based on our review of the Negative Declaration and available documents, we have determined that there is more than a fair argument that the Project will result in potentially significant and adverse impacts to air quality, public health and hazards and hazardous materials (“hazards”).

These comments were prepared with the assistance of Phyllis Fox, Ph.D., PE based on her review of the Negative Declaration and the documents that were made accessible and available by the City for the entire comment period. Dr. Fox’s report and curriculum vitae are attached hereto as **Exhibit A** and incorporated into this comment letter as if fully set forth herein (“Fox Report”). Dr. Fox reviewed the Negative Declaration and concludes that the Project will have potentially significant impacts in each of these areas, which require mitigation.

To correct these deficiencies, the City must prepare an Environmental Impact Report (“EIR”) that fully discloses, analyzes and mitigates the Project’s potentially significant impacts and considers alternatives to the Project.

## **I. STATEMENT OF INTEREST**

SAFER CA advocates for safe processes during the construction and operation of California’s industrial facilities to protect the health, safety, standard of life and economic interests of its members. For this reason, SAFER CA has a strong interest in enforcing environmental laws, such as CEQA, which require the disclosure of potential environmental impacts of, and ensure safe operations and processes for, California’s industrial facilities. Failure to adequately address the safe handling of hazardous materials and impacts to air quality and public health, among other impacts, poses a substantial threat to the environment, worker health, surrounding communities and the local economy.

---

<sup>7</sup> Pub. Resources Code, § 21000 et seq; see also Cal. Code Regs., tit. 14, ch. 3, § 15000 et seq. (“CEQA Guidelines”).

SAFER CA supports the sustainable development of industrial projects in California. However, poorly planned projects can adversely impact the economic wellbeing of people who perform construction and maintenance work on the facilities themselves and the surrounding communities. Plant shutdowns caused by infrastructure breakdowns and insufficiently mitigated hazardous conditions have caused prolonged work stoppages. Such nuisance conditions and catastrophic events impact local communities and the natural environment and can jeopardize future jobs by making it more difficult and more expensive for businesses to locate and people to live in the area. The participants in SAFER CA are also concerned about projects that carry serious environmental risks and public service infrastructure demands without providing countervailing employment and economic benefits to local workers and communities.

The members represented by the participants in SAFER CA live, work, recreate and raise their families in the City of Pittsburg, Contra Costa County, and the surrounding area. Accordingly, these people would be directly affected by the Project's adverse environmental impacts. The members of SAFER CA's participating labor organizations may also work on the Project itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants, and other health and safety hazards that exist onsite.

## **II. THE CITY MUST PREPARE AN EIR THAT DESCRIBES THE WHOLE OF THE PROJECT AND WHICH DISCLOSES, ANALYZES AND MITIGATES ITS POTENTIALLY SIGNIFICANT IMPACTS**

The Negative Declaration fails to fully describe the whole of the proposed Project or disclose, analyze, and mitigate its potentially significant impacts. The City must withdraw the Negative Declaration and prepare an EIR that addresses and corrects these deficiencies.

### **A. Legal Background**

Except in limited circumstances, CEQA requires that lead agencies analyze any project with potentially significant environmental impacts in an EIR.<sup>8</sup> The purpose of an EIR "is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR

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<sup>8</sup> Pub. Resources Code, § 21000; CEQA Guidelines, § 15002.

protects not only the environment, but also informed self-government.”<sup>9</sup> The EIR has been described as “an environmental ‘alarm bell’ whose purpose is to alert the public and its responsible official to environmental changes before they have reached ecological points of no return.”<sup>10</sup>

A negative declaration may be prepared instead of an EIR when, after preparing an initial study, a lead agency determines that a project “would not have a significant effect on the environment.”<sup>11</sup> Courts have held that if “no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR.”<sup>12</sup>

The presumption in favor of preparing an EIR, rather than a negative declaration, is reflected in the “fair argument” standard. Under that standard, the lead agency “shall” prepare an EIR whenever substantial evidence in the whole record before the agency supports a fair argument that a project may have a significant effect on the environment.<sup>13</sup> The fair argument standard creates a “low threshold” of favoring environmental review through an EIR, rather than through a negative declaration.

“Substantial evidence” required to support a fair argument is defined as “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.”<sup>14</sup> “[I]n marginal cases where it is not clear whether there is substantial evidence that a project may have a significant effect on the environment, the lead agency shall be guided by the following principle: If there is

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<sup>9</sup> *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564 (internal citations omitted).

<sup>10</sup> *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

<sup>11</sup> *Quail Botanical Gardens v. City of Encinitas* (1994) 29 Cal.App.4th 1597; Pub. Resources Code, § 21080(c).

<sup>12</sup> *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 319-320.

<sup>13</sup> Pub. Resources Code, §§ 21080(d), 21082.2(d); CEQA Guidelines, §§ 15002(k)(3), 15064(f)(1), (h)(1); *Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1993) 6 Cal.4th 1112, 1123; *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 82; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 1501-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1601-1602.

<sup>14</sup> CEQA Guidelines, § 15384(a).



disagreement among expert opinion supported by facts over the significance of an effect on the environment, the Lead Agency shall treat the effect as significant and shall prepare an EIR.”<sup>15</sup>

As detailed below and in the attached Fox Report, substantial evidence supports a fair argument that the Project may result in significant and unmitigated impacts to air quality, public health, hazards and hazardous materials. The City must prepare an EIR that analyzes, discloses, and mitigates these impacts and which considers less environmentally damaging alternatives.

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**B. There is Substantial Evidence in Support of a Fair Argument that the Project Will Create Significant Impacts to Air Quality and Public Health**

***i. The Project description does not apprise the public and decision-makers of the extent of the Project and its potentially significant impacts to air quality and public health.***

The Project description does not apprise the public and decision-makers of the extent of the Project and its potentially significant impacts to air quality and public health.

A project description must contain a “general description of the project’s technical, economic, and environmental consequences.”<sup>16</sup> “An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.”<sup>17</sup> A negative declaration is invalid when a project description is inconsistent, curtailed, or enigmatic.<sup>18</sup>

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<sup>15</sup> CEQA Guidelines, § 15064(g).

<sup>16</sup> CEQA Guidelines, § 15124(c).

<sup>17</sup> *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193; see also CEQA Guidelines, § 15124 (requirements for a project description).

<sup>18</sup> *Washoe Meadows Community v. Dept. of Parks & Recreation* (2017) 17 Cal.App.5th 277, 288 (finding agency’s description of multiple alternatives instead of a single projection description a violation of CEQA); see also *McQueen v. Bd. of Directors* (1988) 202 Cal.App.3d 1136, 1143 (disapproved of on other grounds in *Western States Petroleum Assn. v. Superior Court* (1995) 9 Cal.4th 559, 570, fn. 2.); *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 730 (finding that “the selection and use of a ‘truncated project concept’ violate[s] CEQA and mandates the conclusion that the County did not proceed ‘in a manner required by law’”);

As discussed above, the Negative Declaration describes the Project as the construction and operation of a new onsite chlorine rail loading station with associated vapor scrubber, 700-foot pipeline to be connected to the Applicant's existing production facility, and a dry air pipeline.<sup>19</sup> At operation, the Applicant anticipates a maximum of 66 railcar loading/offloading events per year,<sup>20</sup> also described as "66 loading hose purge events,"<sup>21</sup> and that the Project will accommodate "66 cars per year expected maximum."<sup>22</sup>

As explained in these comments and the attached Fox Report, the Project description omits critical details and fails to apprise the public of the Project's true nature, scope and potential impacts.

First, the description conflates unloading events with the number of railcars that will be used and potentially stored. The Negative Declaration appears to imply that 66 railcars will be used, that each event will only require the use of one railcar's worth of product at a time, and that this would occur 66 times a year.<sup>23</sup> However, the Project description is sufficiently vague that multiple other scenarios are possible, as will be discussed in more detail below.

Second, the number and length of loading/unloading events depends on the number and length of shutdowns.<sup>24</sup> The Project description does not provide any operational details on this issue. As Dr. Fox explains, a longer-term shutdown may require many more railcar loading/unloading events to satisfy demand than a shorter-term shutdown would.<sup>25</sup>

Third, the Negative Declaration states that the railcar capacity is 90 tons of liquid chlorine, but provides no other details, such as the age or type of cars that would be used.<sup>26</sup> Nor does the City enforceably restrict the railcars to a 90-ton

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*City of Redlands v. County of San Bernardino* (2002) 96 Cal.App.4th 398 (project description requirements for EIR apply to negative declarations.)

<sup>19</sup> Negative Declaration, pp. 5-10.

<sup>20</sup> *Id.* at p. 7.

<sup>21</sup> *Id.* at p. 11.

<sup>22</sup> *Ibid.*

<sup>23</sup> Fox Report, p. 3.

<sup>24</sup> *Id.* at pp. 3-4.

<sup>25</sup> *Id.* at p. 4.

<sup>26</sup> *Ibid.*

capacity.<sup>27</sup> As Dr. Fox demonstrates, chlorine railcars can carry up to 132 tons.<sup>28</sup> These are critical details, as the likelihood of an accidental release, and resulting potential hazards to workers and the public, correlate to the age, type, and capacity of the railcars.

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Fourth, the Project description does not indicate whether the railcars would be used for other tasks, when not supplying backup chlorine to Corteva.<sup>29</sup> The movement of railcars results in the emission of diesel particulate matter (“DPM”). As will be explained in more detail below, the Project is already on the brink of exceeding the threshold of significance for this carcinogen. Any potential use of the railcars must be thoroughly described.<sup>30</sup>

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Fifth, the Negative Declaration does not disclose the anticipated or allowable distribution schedule of railcar deliveries.<sup>31</sup> As Dr. Fox explains, the Project description is sufficiently vague that 66 unloading events could occur on the same day, or even in a single hour.<sup>32</sup> Such a schedule could cause National and/or California Ambient Air Quality Standards to be exceeded.<sup>33</sup>

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Sixth, a key Project objective is to store chlorine onsite for use by Corteva when K2 Pure is shutdown. Thus, K2 Pure must increase its own chlorine production to generate the additional quantities necessary to “bank” chlorine for this future use. Yet, the Negative Declaration does not describe this increase in chlorine production by K2 Pure as part of the operation of the Project. The City merely states, “no increase to chlorine production capacity would occur.”<sup>34</sup> As Dr. Fox demonstrates, production *capacity* is irrelevant to *emission increases*, which must be calculated relative to baseline chlorine production, not permitted chlorine production.<sup>35</sup>

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<sup>27</sup> *Ibid.*

<sup>28</sup> *Ibid.*

<sup>29</sup> *Id.* at pp. 4-5.

<sup>30</sup> *Ibid.*

<sup>31</sup> *Id.* at p. 5.

<sup>32</sup> *Ibid.*

<sup>33</sup> *Ibid.*

<sup>34</sup> Negative Declaration, p. 7.

<sup>35</sup> Fox Report, p. 5.

The City's description of the Project omits crucial details that are necessary in order to inform decision-makers and the public of the Project's potentially significant adverse impacts to air quality and public health. The Negative Declaration must be withdrawn and an EIR drafted which includes a complete description of the proposed Project.

***ii. The Negative Declaration fails to describe the Project's air quality baseline.***

The Negative Declaration's description of existing baseline conditions is incomplete and inadequate. The City must withdraw the Negative Declaration and circulate an EIR that adequately and fully describes the Project's environmental setting.

Environmental review documents must include a description of the project's environmental setting, also termed the project's "baseline."<sup>36</sup> "This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant."<sup>37</sup> "The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts."<sup>38</sup>

Here, the baseline to determine impacts to air quality must account for three components: (1) operation of K2 Pure's Chlor-Alkali production facility; (2) operational demand of the receiving Corteva facility; and (3) current onsite rail operations to move chlorine to Corteva.<sup>39</sup> The City's discussion is significantly deficient, depriving the public of an opportunity to evaluate the Project's impacts to air quality and public health, as Dr. Fox explains in detail in the attached report.<sup>40</sup>

First, the City does not disclose K2 Pure's current level of chlorine production, and instead relies on the plant's permitted capacity (200 liquid tons/day) and operational limits to describe baseline conditions.<sup>41</sup> This information is irrelevant. Production increases must be calculated relative to baseline chlorine

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<sup>36</sup> CEQA Guidelines, § 15063(d)(2) (initial study must contain a description of baseline).

<sup>37</sup> CEQA Guidelines, § 15125(a).

<sup>38</sup> CEQA Guidelines, § 15125(a).

<sup>39</sup> Fox Report, p. 2.

<sup>40</sup> *Id.* at pp. 2-3.

<sup>41</sup> *Id.* at p. 2.

*production*, not maximum permit limits.<sup>42</sup> Second, the City does not quantify Corteva’s current demand for chlorine when K2 Pure is shutdown, only stating that “1%” of an unstated quantity of Corteva’s chlorine demand would be now stored onsite.<sup>43</sup>

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Third, the Negative Declaration asserts, without support, that “Corteva would maintain the same amount of railcars onsite following implementation of the proposed project.”<sup>44</sup> However, the Negative Declaration does not disclose how many railcars are *currently* stored onsite as a baseline nor require that this number not be exceeded under the Project.<sup>45</sup> Fourth, the Negative Declaration does not disclose the current distribution of the railcar deliveries from Texas and the resulting emissions.<sup>46</sup>

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Absent an accurate and complete description of the setting, the public and decision-makers cannot accurately assess the Project’s potential impacts to air quality, in violation of CEQA. The Negative Declaration must be withdrawn and an EIR circulated which fully describes the Project’s air quality setting.

***iii. The Negative Declaration fails to identify all sources of air pollutant emissions and underestimates air quality impacts.***

The City does not disclose and analyze all sources of air pollutant emissions from the proposed Project. As a result, potentially significant impacts to this resource area are underestimated.<sup>47</sup>

As Dr. Fox discusses, air pollution emissions can come from four sources, all of which must be analyzed in an EIR: (1) increased production of chlorine at the K2 Pure facility; (2) increased operation of the Corteva facility; (3) rail operations (i.e., emissions from angle valves or pressure relief devices, the 700-foot of pipeline, and scrubber emissions); and (4) maintenance of the railcars and railcar movers.<sup>48</sup>

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<sup>42</sup> *Ibid.*

<sup>43</sup> *Ibid.*; Negative Declaration, pp. 1, 5.

<sup>44</sup> Fox Report, p. 2; Negative Declaration, p. 9.

<sup>45</sup> Fox Report, p. 3.

<sup>46</sup> *Ibid.*

<sup>47</sup> *Id.* at pp. 5-6.

<sup>48</sup> *Id.* at p. 6; Negative Declaration, p. 9 (Figure 3: Standard Components for a Chlorine Rail Loading Station).

The only emission source analyzed in the Negative Declaration is from the third category, rail operations.<sup>49</sup> Regarding the first source of emissions, as discussed above, a key Project objective is to make chlorine available onsite for use by Corteva. K2 Pure must increase its own chlorine production for this to occur. Thus, increased emissions from the K2 Pure facility are a relevant source of air pollutant emissions which must be analyzed.<sup>50</sup>

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Regarding the second source of emissions, if the Project is approved, Corteva would be able to operate without interruption when K2 Pure is shutdown, thus increasing Corteva's production output.<sup>51</sup> Indeed, there is evidence in the record demonstrating that the Corteva facility is planning an expansion. This expansion was analyzed in the 2017 Dow Modernization Plant Project/Programmatic EIR and is cited in the Negative Declaration.<sup>52</sup> Thus, Corteva's intended increase in production must be analyzed in an EIR.

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Finally, emissions from railcar maintenance and movers must be analyzed, particularly as movers emit DPM, a potent human carcinogen, as will be discussed in more detail below.

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Even for the emission sources that are analyzed, the City underestimates impacts by using CALFEEMod, which Dr. Fox explains is not an appropriate method for estimating emissions from a chlorine factory. Here, the City underestimates the Project's emissions by failing to quantify the Project's increased energy usage, and by estimating emissions from 58 hours of Project operation per year, not the 66 hours stated in the Negative Declaration.<sup>53</sup>

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The Negative Declaration fails to disclose and analyze two-thirds of the emission sources from the proposed Project. Even for the sources that are analyzed, the City underestimates impacts. As a result of these errors and omissions, the City

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<sup>49</sup> Fox Report, pp. 5-6.

<sup>50</sup> *Id.* at p. 6.

<sup>51</sup> *Ibid.*

<sup>52</sup> Negative Declaration, p. 62 (citing 2017 Dow Modernization Plant Project/Programmatic EIR as a referenced document); Dow Modernization Project, description of project and link to environmental review document, available at <http://www.ci.pittsburg.ca.us/index.aspx?page=842>, last viewed Nov. 17, 2019; see also Planning Commission Response to Request Number 5 (SAFER CA Request for Dow Modernization Final EIR and Planning Commission response stating that the project is on indefinite hold), attached hereto as **Exhibit B**.

<sup>53</sup> Fox Report, p. 6.

must withdraw the Negative Declaration and release an EIR that accurately discloses air pollution emissions from all sources.

***iv. The increased cancer risk from exposure to DPM is significant and unmitigated.***

The attached Fox Report provides substantial evidence in support of a fair argument that the Project may result in a significant and unmitigated cancer risk to employees and the public from exposure to DPM.<sup>54</sup>

Switchers are used to move and position railcars.<sup>55</sup> For this purpose, the Applicant intends to utilize Trackmobile Viking Cummins Mobile railcar movers, equipped with Tier III engines. Switchers emit DPM, a potent human carcinogen.<sup>56</sup>

The Negative Declaration states that the switchers will emit 0.23 lb/yr of DPM, which is at the brink of the Bay Area Air Quality Management District's ("BAAQMD") threshold of significance of 0.26 lb/yr for this pollutant.<sup>57</sup> This analysis is based on the City's assumptions that unloading events will only occur 66 times per year and that each event will last exactly one (1) hour.<sup>58</sup>

As Dr. Fox demonstrates, these assumptions are unfounded and DPM emissions are underestimated.<sup>59</sup> The City "anticipates" that there will be 66 railcar unloading events.<sup>60</sup> The Negative Declaration does not explain how this number was determined and does not contain any enforceable conditions that restrict railcar usage to this number.<sup>61</sup>

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Similarly, the City *assumes* that switching operations would last one hour per car but fails to provide any basis for this estimate or any way to enforce it. Dr. Fox shows that, if switching operations last only 10 minutes longer than the

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<sup>54</sup> *Id.* at pp. 6-9.

<sup>55</sup> Fox Report, pp. 6-9; Negative Declaration, Appendix B (Health Risk Screening Analysis and Attachment 1: specification sheet, ARB certification letter, and certification summary for Viking Trackmobile movers).

<sup>56</sup> Fox Report, p. 6.

<sup>57</sup> *Id.* at p. 7.

<sup>58</sup> *Ibid.*

<sup>59</sup> *Id.* at pp. 6-9.

<sup>60</sup> Negative Declaration, p. 7.

<sup>61</sup> Fox Report, p. 7.



assumed one hour, DPM emissions would exceed BAAQMD's significance threshold.<sup>62</sup>

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Additionally, the City fails to describe all uses of the switchers that could result in emissions, including idling emissions and emissions from moving the railcars from the Corteva warehouse to the loading rack. As Dr. Fox explains, these latter emissions alone could push DPM emissions over the threshold.<sup>63</sup>

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Finally, the City does not account for the impact of engine degradation or mitigate for this foreseeable impact. The Project will use the standard, Tier III engine and the City assumes that this engine will maintain a constant DPM emission factor of 0.015 g/bhp-hr over the lifetime of the Project.<sup>64</sup>

This assumption is not supported by substantial evidence. "It is well known that the performance of diesel engines degrades over time and/or when routine maintenance is not performed."<sup>65</sup> Even a "small increase in the DPM emission factor," caused by a degraded engine, "as little as 13%, would increase DPM emissions to 0.26 lb/hr, resulting in a significant impact."<sup>66</sup> The City did not consider feasible mitigation measures that could lessen or avoid this impact, such as requiring that switchers undergo routine maintenance and periodic testing or using Tier IV engines, which are available as an option for this equipment.<sup>67</sup>

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The Fox Report provides substantial evidence in support of a fair argument that Project DPM emissions are a significant and unmitigated cancer risk. The City must withdraw the Negative Declaration and circulate an EIR that accurately quantifies DPM emissions and incorporates all feasible mitigation measures to lessen or avoid adverse impacts to human health.

### **C. There is Substantial Evidence in Support of a Fair Argument that Impacts to Hazards are Potentially Significant and Unmitigated**

There is substantial evidence in support of a fair argument that the Project will create significant and unmitigated risks to human health and the environment

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<sup>62</sup> *Id.* at p. 8.

<sup>63</sup> *Ibid.*

<sup>64</sup> *Ibid.*

<sup>65</sup> *Ibid.*

<sup>66</sup> *Ibid.*

<sup>67</sup> *Id.* at pp. 8-9.

from the accidental release of chlorine. The City relies on impermissibly vague and deferred mitigation measures to lessen or avoid this impact.

***i. The City underestimates the scope and severity of impacts from the potential release of chlorine.***

The City has wholly underestimated the scope and severity of a potential accidental release of chlorine as a result of Project activities (loading, storing and transfer of chlorine from at least 66 railcars), as Dr. Fox describes in detail in the attached report.<sup>68</sup>

As discussed above, the Negative Declaration assumes that the railcars will have a capacity of 90 tons. This assumption is unsupported, as the Project does not restrict the Applicant to using 90-ton capacity cars. In addition, Dr. Fox describes in detail how a tank car failure or rupture of a connecting pipeline or transfer hose could cause catastrophic environmental damage and harm to human health, as demonstrated by a 2016 tank car failure in West Virginia. There, a chlorine tank car spilled *178,400 pounds* of liquefied compressed chlorine over a brief 2.5-hour span. The chlorine then formed a large, toxic vapor cloud. Individuals within a 1.5-mile radius of the site (1,864 households) were evacuated, eight site workers were treated for exposures injuries, and there was significant damage to vegetation and adjacent property.<sup>69</sup>

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Despite the reasonably foreseeable potential for a large-scale accidental release of chlorine from railcars, this scenario is not described, analyzed, or mitigated in the Negative Declaration. Rather, as will be discussed in more detail below, the City relies on future revisions to the Applicant's Risk Management Plan to mitigate impacts. The City must withdraw the Negative Declaration and circulate an EIR that fully discloses, analyzes and mitigates this risk.

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***ii. The City relies on deferred mitigation measures to lessen or avoid impacts.***

Mitigation measures are conditions on the construction and operation of a project that are designed to lessen or avoid a project's environmental impacts.<sup>70</sup> If a project has the potential to have a significant effect on the environment, the lead

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<sup>68</sup> Fox Report, pp. 9-12.

<sup>69</sup> *Id.* at pp. 10-12.

<sup>70</sup> See CEQA Guidelines, § 15126.4.

agency must prepare an EIR that incorporates feasible mitigation measures to reduce impacts to less-than-significant levels.<sup>71</sup> It is the possibility of a significant effect, not a determination of the actual effect, which would be the subject of a negative declaration or an EIR.<sup>72</sup>

Deferral of the formulation of mitigation measures is only permissible when the agency adopts performance standards and conditions approval of the project on meeting those performance standards, or lists alternative means of mitigating the impacts, which must be disclosed and analyzed.<sup>73</sup>

The City concludes that the Project will not create a significant hazard to the public or the environment through the release of hazardous materials (chlorine) by foreseeable upset or accidents.<sup>74</sup> The City bases this conclusion on the Applicant's intent to update the site's Risk Management Plan ("RMP") with an amended plan ("ARMP")<sup>75</sup> and the Applicant's intent to update the site's Offsite Consequence Analysis ("OCA"). The OCA is a subset of the RMP. The RMP was drafted for the K2 Pure facility's 2009 Initial Study/Mitigated Negative Declaration.

Currently, none of the existing risk scenarios analyzed in the OCA include an analysis of risks associated with loading and unloading chlorine into railcars, ton containers, or any other form of transport vessel as a potential hazard.<sup>76</sup> The Negative Declaration states that the *next revision* of the OCA would include these activities as an additional potential scenario.<sup>77</sup>

The City cannot base its findings of less-than-significant impact on these grounds. First, despite relying on the RMP in the Negative Declaration's discussion of hazards, the City advised SAFER CA that it does not possess this document. The City suggested that SAFER CA submit a public records request to the Contra Costa County Department of Hazardous Materials ("County") in order to receive a copy.<sup>78</sup>

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<sup>71</sup> *Salmon Protection and Watershed Network v. County of Marin*, 125 Cal.App.4th (2004) 1098, 1107.

<sup>72</sup> *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1199–1200.

<sup>73</sup> E.g., *Endangered Habitats League v. County of Orange* (2005) 131 Cal.App.4th 777, 793-794; *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275.

<sup>74</sup> Negative Declaration, pp. 30-32 (Hazardous and Hazardous Materials, Impact (b).)

<sup>75</sup> *Id.* at p. 31-32.

<sup>76</sup> Negative Declaration, p. 30; Fox Report, pp. 10-11.

<sup>77</sup> *Id.* at p. 31 (emphasis added).

<sup>78</sup> Planning Commission Response to SAFER CA Extension Letter Request, Request for Document No. 10, attached hereto as **Exhibit C**.

By relying on a document that it does not possess, the City's findings cannot be based on substantial evidence, nor can the City make the requisite findings that the Negative Declaration reflects the City's independent judgment.<sup>79</sup>

SAFER CA then requested the RMP from the County. The RMP does not contain the OCA. The RMP states that this is protected information which can only be viewed in person.<sup>80</sup> Therefore, SAFER CA based its analysis of the OCA on the excerpts provided in the Negative Declaration.<sup>81</sup>

And, as Dr. Fox explains, and the City admits, Project's activities are not described in the current OCA.<sup>82</sup> Therefore, the City is relying on deferred, as-yet-undrafted documents to lessen or avoid potentially significant impacts. A revised RMP and OCA, which includes a scenario that analyzes impacts from chlorine that will be loaded into railcars, must be included in an EIR and circulated for public review and comment.<sup>83</sup>

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Second, the City is including a mitigation measure in a Negative Declaration. By its terms, a Negative Declaration cannot contain mitigation measures.<sup>84</sup>

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Third, the City improperly compresses its analysis of the revised RMP and revised OCA as project features, when they act as mitigation measures. The courts have rejected this approach. In *Lotus v. Department of Transportation*,<sup>85</sup> the Court invalidated an EIR promulgated by Caltrans where mitigation measures to protect redwood trees during highway construction were improperly characterized as project features, and thus were not subject to the parameters stated above. The court stated:

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Caltrans [compounds its errors by] incorporating the proposed mitigation measures into its description of the project and then concluding that any potential impacts from the project will be less than significant. As the trial court held, the "avoidance, minimization and/or mitigation measures," as they are characterized in the EIR, are not "part of the project." They are mitigation measures designed to reduce or eliminate [adverse environmental

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<sup>79</sup> Pub. Resources Code § 21082.1(c)(3).

<sup>80</sup> See Fox Report, p. 10.

<sup>81</sup> *Id.* at pp. 9-11.

<sup>82</sup> *Id.* at pp. 9-11.

<sup>83</sup> *Ibid.*

<sup>84</sup> See CEQA Guidelines, § 15063(b)(2), 15070.

<sup>85</sup> (2014) 223 Cal.App.4th 645, 655-656.

impacts]. By compressing the analysis of impacts and mitigation measures into a single issue, the EIR disregards the requirements of CEQA.<sup>86</sup>

That an environmental review document contains such a “structural deficiency” is particularly impermissible when the agency is made aware of the issue during the public review and comment period.<sup>87</sup>

The City must withdraw the Negative Declaration and direct Staff to prepare an EIR which discloses, analyzes and mitigates impacts to the environment and human health and safety from the accidental release of chlorine from railcars.

#### IV. CONCLUSION

The City should withdraw the Negative Declaration and direct staff to prepare an EIR. As described in detail above, the Project description and description of the environmental setting are vague and inconsistent, depriving the public and decision-makers of the information necessary to fully evaluate the Project and its impacts. And, the attached expert report and the facts cited herein provide substantial evidence in support of a fair argument that the Project poses a significant and unmitigated risk to the public, including workers, from the accidental release of chlorine and increased cancer risk from exposure to diesel particulate matter.

Thank you for considering our comments and attached expert report. Please place them in the record of proceedings for the Project.

Sincerely,



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Sara Dudley

SFD:lj1

Exhibits

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<sup>86</sup> *Lotus, supra*, 223 Cal.App.4th at pp. 655–656.

<sup>87</sup> *Id.* at p. 657.

## Attachment 6

City of Pittsburgh Response to SAFER CA Comment Letter, dated December 19, 2019

The following comments are excerpts from the SAFER CA letter noted in *italics* and the responses from the City of Pittsburgh are included in **bold** type. The comment numbers correspond to the identification markings and enumeration provided in the SAFER CA letter (see previous staff report attachment).

### Comment #1

*As detailed below and in the attached Fox Report substantial evidence supports a fair argument that the project may result in significant and unmitigated impacts to air quality, public health, hazards and hazardous materials. The City must prepare an EIR that analyzes, discloses, and mitigates these impacts and which considers less environmentally damaging alternatives.*

**This Project enables the elimination of the transport of chlorine by rail by adding a rail tank car filling station. The Project does not increase the storage or production of chlorine beyond what was permitted through a previous Mitigated Negative Declaration completed in 2009 and associated permits. An EIR would only be required if there were the potential for significant and unavoidable impacts or fair argument that the project could have significant impacts. The following responses to comments support the facts that an EIR is not required because there is no evidence that a significant impact would occur as a result of the construction or operations of the rail tank car filling station. The Project's lack of potential effects on the environment eliminates the need or requirements for the analysis of project alternatives or mitigation measures.**

### Comment #2

*First, the description conflates unloading events with the number of railcars that will be used and potentially stored.*

**The number of rail tank cars stored and filled onsite would not increase above the current conditions. Rail tank cars may be replaced from time to time but no increase in the number of rail tank cars would occur as a result of the Project. Project objectives are to enable the elimination of existing offsite liquid chlorine transport by rail to the Corteva Agriscience Pittsburgh Facility.**

### Comment #3

*The Negative Declaration appears to imply that 66 railcars will be used, that each event will only require the use of one railcar's worth of product at a time, and that this would occur 66 times a year. However, the Project description is sufficiently vague that multiple other scenarios are possible, as will be discussed in more detail below.*

**Other filling scenarios outside of what is described in the Project Description are not anticipated as part of the project. The objective is to enable the elimination of existing offsite liquid chlorine transport by rail to the Corteva facility. The Use Permit will establish a limit of not more than the use of 66 railcars annually and the Project would not increase the amount of stored chlorine onsite.**

## Attachment 6

City of Pittsburgh Response to SAFER CA Comment Letter, dated December 19, 2019

### Comment #4

*Second, the number and length of loading/unloading events depends on the number and length of shutdowns. The Project description does not provide any operational details on this issue. As Dr. Fox explains, a longer-term shutdown may require many more railcar loading/unloading events to satisfy demand than a shorter-term shutdown would.*

**It would be speculative to estimate the amount of chlorine required during a shutdown event. While multiple rail tank cars may be used for a single shutdown event, the plan would be to load and use a maximum of 66 rail tank cars annually which is the maximum permitted under the CEQA analysis for the proposed Project. Other filling scenarios outside of what is described in the CEQA Project Description are not anticipated as part of the project based on historic use of imported chlorine during past events. The objective is to enable the elimination of existing offsite liquid chlorine transport by rail to the Corteva facility. The Project would not increase the amount of stored chlorine onsite.**

### Comment #5

*Third, the Negative Declaration states that the railcar capacity is 90 tons of liquid chlorine, but provides no other details, such as the age or type of cars that would be used. Nor does the City enforceably restrict the railcars to a 90-ton capacity. As Dr. Fox demonstrates, chlorine railcars can carry up to 132 tons. These are critical details, as the likelihood of an accidental release, and resulting potential hazards to workers and the public, correlate to the age, type, and capacity of the railcars.*

**The size of the rail tank cars would not change from what has been used. The rail tank cars currently existing onsite are 90-ton capacity and owned by Corteva. The Project does not include replacing the existing railcars for larger models. The Use Permit will establish a limit of 90 tons of chlorine stored per rail tank car. The Project would not increase the amount of stored chlorine onsite.**

### Comment #6

*Fourth, the Project description does not indicate whether the railcars would be used for other tasks, when not supplying backup chlorine to Corteva. The movement of railcars results in the emission of diesel particulate matter ("DPM"). As will be explained in more detail below, the Project is already on the brink of exceeding the threshold of significance for this carcinogen. Any potential use of the railcars must be thoroughly described.*

**The movement of the rail tank cars is solely for the purposes of storing and distributing chlorine to Corteva. Those specific movements were included in the CEQA air quality analysis. The proposed Project would add no other uses of the rail tank cars beyond what is described in the Project Description. The project would not increase the amount of stored chlorine onsite.**



## **Attachment 6**

City of Pittsburgh Response to SAFER CA Comment Letter, dated December 19, 2019

### Comment #7

*Fifth, the Negative Declaration does not disclose the anticipated or allowable distribution schedule of railcar deliveries. As Dr. Fox explains, the Project description is sufficiently vague that 66 unloading events could occur on the same day, or even in a single hour. Such a schedule could cause National and/or California Ambient Air Quality Standards to be exceeded.*

**The complete process of filling a single railcar is estimated to take 180 minutes. Therefore, a maximum of 8 car loading events could occur in a single day per the assumptions used in the CEQA air emissions analysis.**

### Comment #8

*Sixth, a key Project objective is to store chlorine onsite for use by Corteva when K2 Pure is shutdown. Thus, K2 Pure must increase its own chlorine production to generate the additional quantities necessary to “bank” chlorine for this future use. Yet, the Negative Declaration does not describe this increase in chlorine production by K2 Pure as part of the operation of the Project. The City merely states, “no increase to chlorine production capacity would occur.” As Dr. Fox demonstrates, production capacity is irrelevant to emission increases, which must be calculated relative to baseline chlorine production, not permitted chlorine production.*

**Baseline for the Project includes the existing permit conditions. Those conditions were analyzed in the 2009 MND for the K2 Pure facility. The project would not exceed the conditions previously analyzed in the 2009 MND. CEQA does not require a reanalysis of impacts that would not increase beyond the previous analysis.**

### Comment #9

*First, the City does not disclose K2 Pure’s current level of chlorine production, and instead relies on the plant’s permitted capacity (200 liquid tons/day) and operational limits to describe baseline conditions. This information is irrelevant. Production increases must be calculated relative to baseline chlorine production, not maximum permit limits.*

**The current production capacity was previously analyzed in the City of Pittsburgh’s 2009 Mitigated Negative Declaration for the Proposed K2 Pure Solutions ECU and Bleach Plant Project. A reanalysis of chlorine production to a lower level than what has been analyzed in the 2009 MND is not required.**

### Comment #10

*Second, the City does not quantify Corteva’s current demand for chlorine when K2 Pure is shutdown, only stating that “1%” of an unstated quantity of Corteva’s chlorine demand would be now stored onsite.*

**It would be speculative to estimate the amount of chlorine required during a shutdown, but the plan would be to use less than the volume of 66 railcars which**

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City of Pittsburgh Response to SAFER CA Comment Letter, dated December 19, 2019

**is the maximum permitted under the CEQA analysis for the Project. No increases from the original analysis in 2009 *Mitigated Negative Declaration for the Proposed K2 Pure Solutions ECU and Bleach Plant Project* would occur or require additional analysis of chlorine production or distribution because it would be less than what was previously analyzed.**

### Comment #11

*Third, the Negative Declaration asserts, without support, that “Corteva would maintain the same amount of railcars onsite following implementation of the proposed project.” However, the Negative Declaration does not disclose how many railcars are currently stored onsite as a baseline nor require that this number not be exceeded under the Project.*

**The Project does not propose adding any additional rail cars to the Corteva facility. Corteva is limited to a quantity of railcars through permit conditions, agreements, or other measures not relevant to the proposed Project.**

### Comment #12

*Fourth, the Negative Declaration does not disclose the current distribution of the railcar deliveries from Texas and the resulting emissions.*

**The Project enables the elimination of emissions from rail tank cars being transported from Texas to California resulting in a beneficial impact. CEQA does not require consideration of beneficial outcomes in the required impact analysis. Therefore, no analysis of emissions generated from rail tank cars traveling from Texas to California is needed.**

### Comment #13

*As Dr. Fox discusses, air pollution emissions can come from four sources, all of which must be analyzed in an EIR: (1) increased production of chlorine at the K2 Pure facility; (2) increased operation of the Corteva facility; (3) rail operations (i.e., emissions from angle valves or pressure relief devices, the 700-foot of pipeline, and scrubber emissions); and (4) maintenance of the railcars and railcar movers.*

**The Project does not include a change in demand or production of chlorine from what was previously analyzed. No increases from the original air analysis in the 2009 *Mitigated Negative Declaration for the Proposed K2 Pure Solutions ECU and Bleach Plant Project* requires additional analysis of chlorine production or distribution. Rail operations were included in the current CEQA air emission analysis and maintenance of railcars would not include generation of air emissions other than the routine movements included in the current analysis.**

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### Comment #14

*K2 Pure must increase its own chlorine production for this to occur. Thus, increased emissions from the K2 Pure facility are a relevant source of air pollutant emissions which must be analyzed.*

**The current production capacity was previously analyzed in the City of Pittsburgh's 2009 Mitigated Negative Declaration for the Proposed K2 Pure Solutions ECU and Bleach Plant Project. A reanalysis of chlorine production to a lower level than what was previously analyzed in the 2009 MND is not required.**

### Comment #15

*Regarding the second source of emissions, if the Project is approved, Corteva would be able to operate without interruption when K2 Pure is shutdown, thus increasing Corteva's production output.*

**When K2 Pure is offline, the existing rail tank cars transported from Texas are used by Corteva to maintain operations. The current use of rail tank cars from Texas allow Corteva to continue operations without interruptions. All operations at Corteva and K2 Pure are restricted by the conditions of their existing permits. Increasing production beyond what is included in the current permits would not occur and is not part of this project.**

### Comment #16

*Indeed, there is evidence in the record demonstrating that the Corteva facility is planning an expansion. This expansion was analyzed in the 2017 Dow Modernization Plant Project/Programmatic EIR and is cited in the Negative Declaration. Thus, Corteva's intended increase in production must be analyzed in an EIR.*

**If Corteva plans to increase production beyond what is in their existing permits, another CEQA analysis would be required but is not part of this project. If there was an increase in production above current permit thresholds resulting in an increase of chlorine production, the CEQA analysis and air quality permitting for the Project would need to be revisited.**

### Comment #17

*Finally, emissions from railcar maintenance and movers must be analyzed, particularly as movers emit DPM, a potent human carcinogen, as will be discussed in more detail below.*

**The addition of the rail tank car mover as part of the Project was discussed on page 10 of the Project's CEQA analysis with the analysis of generated air emissions included in Appendix B. Estimations of movement were conservatively made to be one hour per rail tank car loading event and the resulting air emissions were less than BAAQMD Thresholds of Significance.**

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### Comment #18

*Even for the emission sources that are analyzed, the City underestimates impacts by using CalEEMod, which Dr. Fox explains is not an appropriate method for estimating emissions from a chlorine factory.*

**The BAAQMD currently recommends the use of CalEEMod for estimating construction emissions for projects pursuant to CEQA, and operational emissions resulting from project increases in off-road industrial equipment, energy and water use, waste generation, and employee commuting. Section 1.43 Air Quality, Table 2 shows estimated operational emissions being between 0.01% and 0.9% of Thresholds of Significance for operational emissions.**

### Comment #19

*Here, the City underestimates the Project's emissions by failing to quantify the Project's increased energy usage, and by estimating emissions from 58 hours of Project operation per year, not the 66 hours stated in the Negative Declaration.*

**The 58 railcars events included in the calculations was an error and should have been 66 railcars. CalEEMod was rerun to update the number of rail cars transferred to 66 hours of project operations a year. The updated Operational-Related Criteria Pollutants table from the Initial Study is provided, and the updated CalEEMod outputs are attached. The proposed Project operational emissions are estimated to be below BAAQMD Significance Thresholds for Operational-Related Criteria Pollutants, and therefore results in an impact that is less than significant.**

### Comment #20

*The City "anticipates" that there will be 66 railcar unloading events.<sup>60</sup> The Negative Declaration does not explain how this number was determined and does not contain any enforceable conditions that restrict railcar usage to this number.*

**Historically, no more than 66 rail tank cars of stored chlorine have been used onsite annually including during shutdowns, therefore, the project does not anticipate the use of more rail tank cars onsite annually. The City will include a condition in the Use Permit to limit the number of railcars storing chlorine onsite to 66 annually.**

### Comment #21

*Similarly, the City assumes that switching operations would last one hour per car but fails to provide any basis for this estimate or any way to enforce it. Dr. Fox shows that, if switching operations last only 10 minutes longer than the assumed one hour, DPM emissions would exceed BAAQMD's significance threshold.*

**The exact time the rail tank car mover will be used is overestimated to be one hour per filling event. It is extremely unlikely that more than one hour would be**

## **Attachment 6**

City of Pittsburgh Response to SAFER CA Comment Letter, dated December 19, 2019

**required for rail tank car movement per filling event therefore the threshold would not be exceeded.**

### Comment #22

*Additionally, the City fails to describe all uses of the switchers that could result in emissions, including idling emissions and emissions from moving the railcars from the Corteva warehouse to the loading rack. As Dr. Fox explains, these latter emissions alone could push DPM emissions over the threshold.*

**All instances of the switcher idling would not exceed the hour included within the air emissions estimate. The facility operations staff are familiar with the permit conditions for air emissions and currently use industry standards to avoid production of excessive air emissions. This project would not change the implementation of those industry standards.**

### Comment #23

*This assumption is not supported by substantial evidence. "It is well known that the performance of diesel engines degrades over time and/or when routine maintenance is not performed." Even a "small increase in the DPM emission factor," caused by a degraded engine, "as little as 13%, would increase DPM emissions to 0.26 lb/hr, resulting in a significant impact." The City did not consider feasible mitigation measures that could lessen or avoid this impact, such as requiring that switchers undergo routine maintenance and periodic testing or using Tier IV engines, which are available as an option for this equipment.*

**Under all circumstances, the operations would perform routine maintenance as required by the manufacturer or good industry practice.**

### Comment #24

*As discussed above, the Negative Declaration assumes that the railcars will have a capacity of 90 tons. This assumption is unsupported, as the Project does not restrict the Applicant to using 90-ton capacity cars.*

**The project is using the rail tank cars, owned by Corteva, that currently reside onsite. Rail tank cars are not being purchased as part of the project. The existing railcars are 90 tons. The Use Permit will establish a limit of not more than 90 tons of chlorine stored in each of the 66 rail cars annually, and the project would not increase the amount of stored chlorine onsite.**

### Comment #25

*Despite the reasonably foreseeable potential for a large-scale accidental release of chlorine from railcars, this scenario is not described, analyzed, or mitigated in the Negative Declaration.*

**If the scenarios created by rail tank car filling are determined by the County to be the cause of above threshold risks to human health, the Project would not be**

## Attachment 6

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permitted to move forward. The project does add new scenarios for analysis of release of chlorine by the filling the rail tank cars. The current risk management plan (RMP) contains scenarios of release that are for Worst Case and Alternative Release Scenarios that would create impacts of a higher magnitude than the release of 90 tons from a rail car being filled. The current RMP has established thresholds for the impact of chlorine release to the community that would result in a less than significant impact to human health. Those scenarios analyzed are sufficient for use under CEQA. As described in Section 1.9 Hazards and Hazardous Materials (b), submittal of the comprehensive risk management program would be required as a condition of Project approval and final program approval by the CUPA would be required prior to the Project being allowed to start operations. K2 would reissue the RMP to the County for review and approval.

### Comment #26

*Therefore, the City is relying on deferred, as-yet-undrafted documents to lessen or avoid potentially significant impacts. A revised RMP and OCA, which includes a scenario that analyzes impacts from chlorine that will be loaded into railcars, must be included in an EIR and circulated for public review and comment.*

The RMP is not mitigation. It is required under State and federal regulations California Code of Regulations Title 19, Division 2, Chapter 4.5, Section 2750) and EPA Risk Management Program (RMP) 40 CFR Part 68. The County of Contra Costa must review the RMP and OCA as part of their conditions of approval process for the project. Without the approval, the City cannot approve their discretionary permits for the project to proceed.

### Comment #27

*Second, the City is including a mitigation measure in a Negative Declaration. By its terms, a Negative Declaration cannot contain mitigation measures.*

The RMP is not mitigation. It is required under State and federal regulations California Code of Regulations Title 19, Division 2, Chapter 4.5, Section 2750) and EPA Risk Management Program (RMP) 40 CFR Part 68. The County of Contra Costa must review the RMP and OCA as part of the condition of approval process for the project. Without the approval, the City cannot approve their discretionary permits for the Project to proceed.

### Comment #28

*Third, the City improperly compresses its analysis of the revised RMP and revised OCA as project features, when they act as mitigation measures.*

The OCA and the RMP are not mitigation measures and are consistent with the requirements of the County. The reports provide: potential effects of a chemical accident, identifies steps the facility is taking to prevent an accident, spells out emergency response procedures should an accident occur and provides

## **Attachment 6**

City of Pittsburgh Response to SAFER CA Comment Letter, dated December 19, 2019

**analysis of the potential impacts to human health if a release were to occur. The actual emergency response would not change from the plan that exists currently. These plans are used to provide information to local fire, police, and emergency response personnel to prepare for and respond to chemical emergencies in their community.**

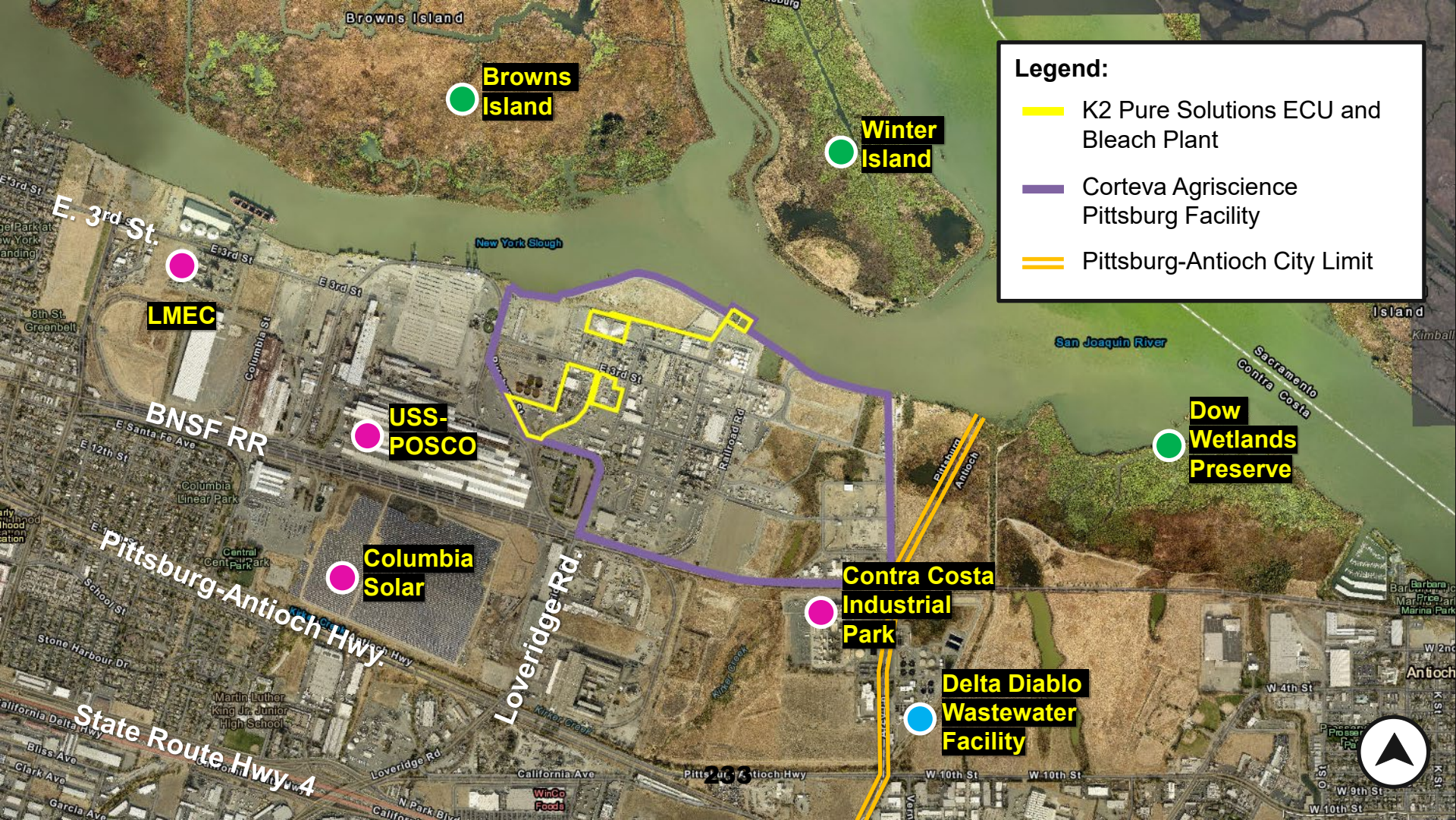




City of  
Pittsburgh

Item No. 2

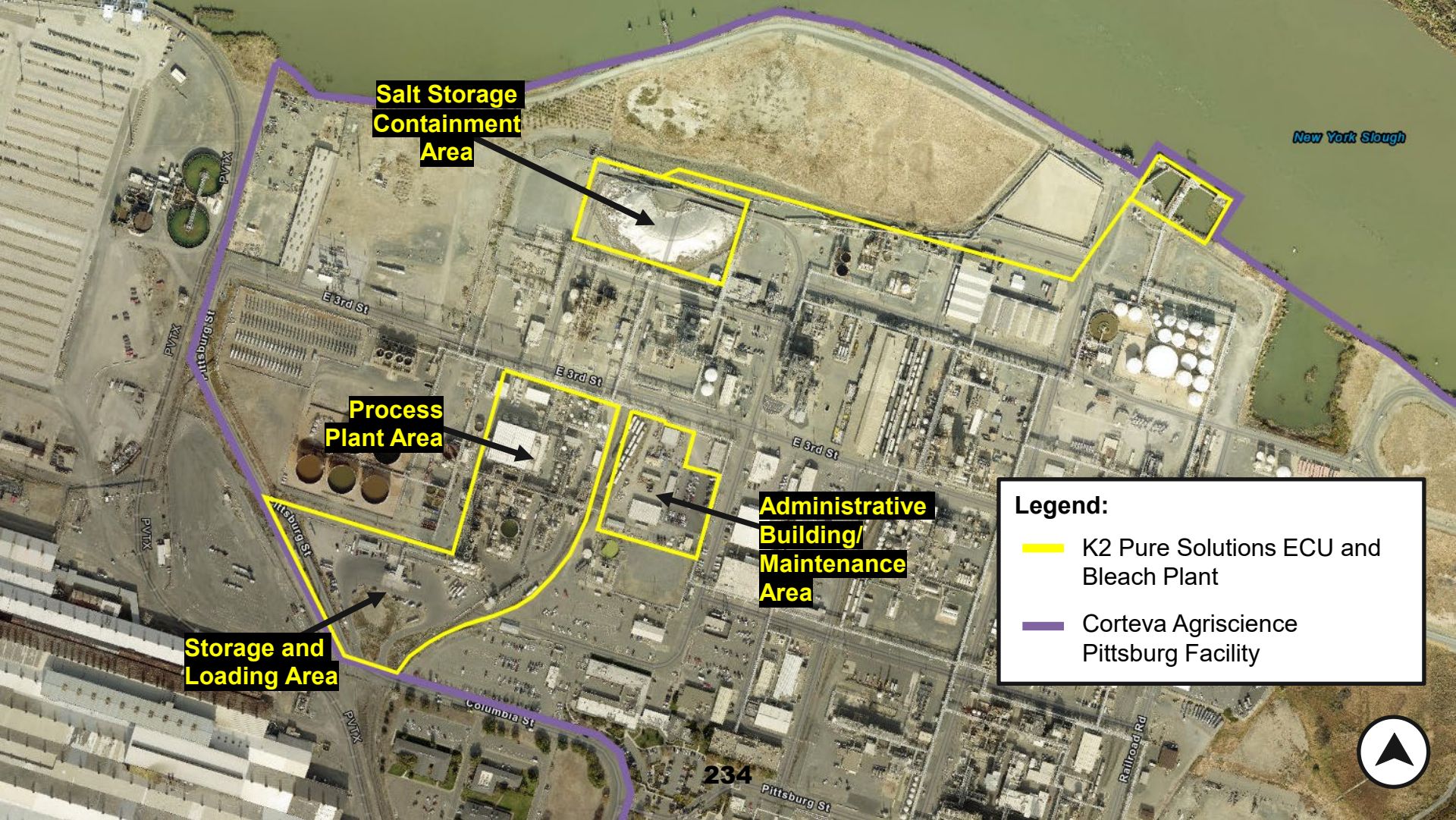
K2 Pure Solutions Chlorine Rail  
Transportation Curtailment Project  
File No. AP-18-1313 (UP, DR)



### Legend:

-  K2 Pure Solutions ECU and Bleach Plant
-  Corteva Agriscience Pittsburg Facility
-  Pittsburg-Antioch City Limit





**Salt Storage  
Containment  
Area**

**Process  
Plant Area**

**Administrative  
Building/  
Maintenance  
Area**

**Storage and  
Loading Area**

New York Slough

**Legend:**

-  K2 Pure Solutions ECU and Bleach Plant
-  Corteva Agriscience Pittsburg Facility





**Legend:**

-  K2 Pure Solutions ECU and Bleach Plant
-  Corteva Agriscience Pittsburg Facility
-  Proposed Modifications

**Existing liquid chlorine storage tanks**

**Process Plant Area**

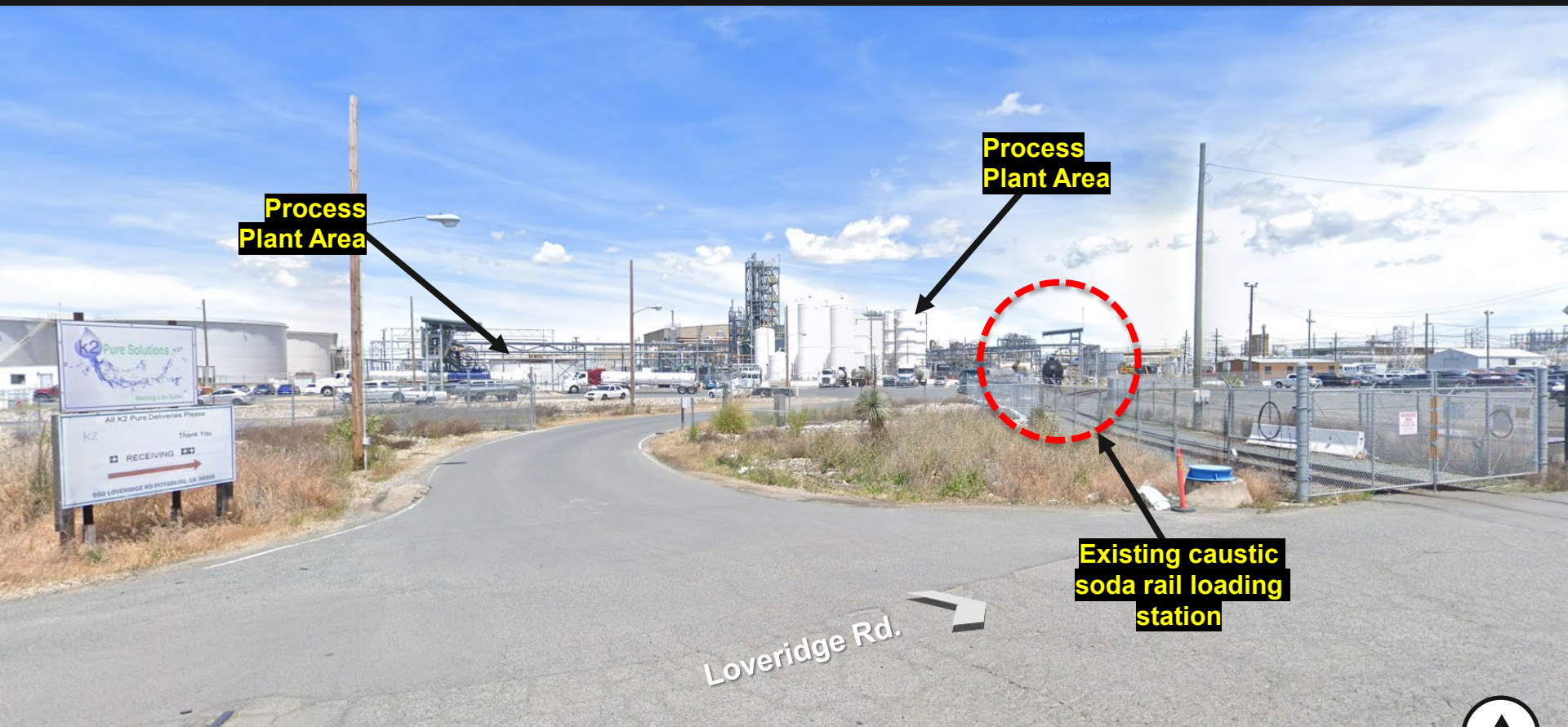
**Storage and Loading Area**

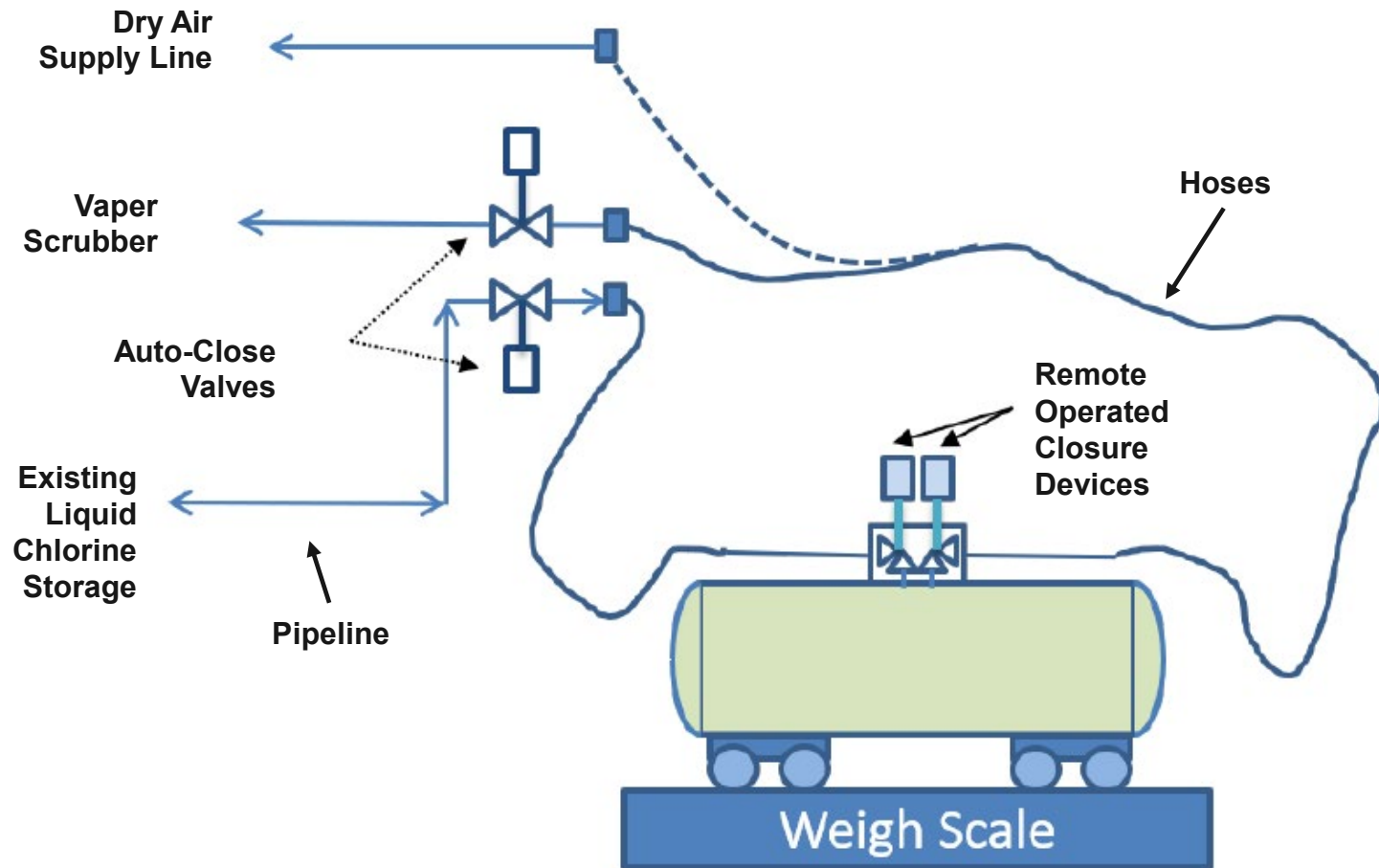
**Existing caustic soda rail loading station**

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# General Plan Consistency



The project would be consistent with **General Plan Goal 10-G-9** which seeks to minimize the risk to life and property from the transportation of hazardous materials like chlorine.

The project would eliminate Corteva's reliance on imported chlorine from a Texas facility that is approximately 1,500 miles away.



# Staff Recommendation



Move to adopt Resolution No. 10159 approving Planning Application No. 18-1313, subject to conditions.

**CITY OF PITTSBURG  
PLANNING COMMISSION  
STAFF REPORT  
September 22, 2020**

**ITEM: San Marco Villas III Apartments, AP-20-1498 (DR)**

ORIGINATED BY: Louis Parsons on behalf of Discovery Builders, Inc., 4021 Port Chicago Highway, Concord, CA 94520

SUBJECT: This is a continued public meeting on a request for approval of a design review application to construct a 270-unit extension, consisting of eleven new three story buildings and one clubhouse, to the existing San Marco Villas apartment complex located at the northwest corner of West Leland Road and San Marco Boulevard with access off of Villa Drive. The project site consists of approximately 14.92 acres and is zoned PD (Planned Development, City Council Ordinance No. 12-1362) District. APN: 091-050-047.

RECOMMENDATION: Staff recommends that the Planning Commission adopt Resolution No.10155, recommending Planning Commission approval of Design Review No. AP-20-1498, subject to conditions.

BACKGROUND: On April 3, 1990, the City Council adopted Ordinance No. 90-990 certifying a Negative Declaration authorizing the execution of the Southwest Development Agreement for the property currently known as the San Marco Development. The San Marco Development Agreement (DA) provided vested rights for the development of up to 2,938 residential units (including 1,412 single family residential and 1,526 multi-family residential units) across 639 acres in Pittsburg's Southwest Hills, and established provisions for land use regulations, fees, assessments and infrastructure.

DA History: On February 1, 1993, three years following the initial approval of the DA, the City Council adopted Ordinance No. 01-1187 which extended the term of the San Marco DA agreement from 2002 to the year 2020. Initial construction of residential units in San Marco began in 2001. On July 19, 2010, the Council approved Ordinance No 10-1326, the second amendment to the DA, which revised the map exhibit of the DA to remove 1.41 acres that the developer wanted to develop for a commercial gasoline station, rather than a residential use. On April 15, 2013, the Council approved Ordinance No 13-9941, the third amendment to the DA, to extend the agreement into the year 2032, among other items, including park improvements and annual payments for DA compliance reviews. To date, the entire San Marco Development area is close to 70% built out.

PROJECT DESCRIPTION: On April 3, 1990, the City Council adopted Ordinance No. 90-990 certifying a Negative Declaration authorizing the execution of the Southwest Development Agreement for the property currently known as the San Marco Development. The San Marco Development Agreement (DA) provided vested rights for the development of up to 2,938 residential units (including 1,412 single family residential and 1,526 multi-family residential units) across 639 acres in Pittsburg's Southwest Hills,

and established provisions for land use regulations, fees, assessments and infrastructure.

**DA History:** On February 1, 1993, three years following the initial approval of the DA, the City Council adopted Ordinance No. 01-1187 which extended the term of the San Marco DA agreement from 2002 to the year 2020. Initial construction of residential units in San Marco began in 2001. On July 19, 2010, the Council approved Ordinance No 10-1326, the second amendment to the DA, which revised the map exhibit of the DA to remove 1.41 acres that the developer wanted to develop for a commercial gasoline station, rather than a residential use. On April 15, 2013, the Council approved Ordinance No 13-9941, the third amendment to the DA, to extend the agreement into the year 2032, among other items, including park improvements and annual payments for DA compliance reviews. To date, the entire San Marco Development area is close to 70% built out.

**Existing Conditions:** The total project site of parcel 091-050-047 is 47.43 acres of vacant land bounded by State Highway 4 to the north, West Leland along the south property line, and is accessible via Villas Drive to the east. The applicant, Discovery Builders proposes to develop the Villas III project on approximately 14.92 acres and would leave the remaining acreage undeveloped. The property has a 50-foot wide PG&E transmission tower line easement running northwest to southeast of the property and another 20-foot public utility easement running southwest to northeast across the site.

**Surrounding Land Uses:** The San Marcos Villas III site is bordered by State Highway 4 to the north, Villas Drive and San Marcos Villas I and II to the east, “Bellagio” or San Marcos single-family Village “L” to the south, and vacant land to the west, which is proposed to remain undeveloped at this time. The “Project Location Map and Existing Conditions,” are included as Attachment 3.

#### CODE COMPLIANCE:

**General Plan:** The San Marco Development Plan area is subject to a Development Agreement between the City of Pittsburg and SEECON Financial and Construction Company. The San Marco Development Agreement took effect on July 1, 1993 and is currently set to expire in 2032. The San Marco Development Agreement ‘locked’ in the land use regulations at the time it was originally adopted; therefore, the current 2001 General Plan and some of the newer zoning regulations do not apply to the proposed project. At the time the San Marco Development Agreement, Development Plan, and Planned Development District were approved, they were determined to be consistent with the 1988 General Plan, which is the preceding General Plan version that would be applicable to the proposed project. The current proposed development is consistent with the San Marco Development Agreement, Development Plan, Planned Development District, and the applicable 1988 General Plan.

**Measure J/ Draft Active Transportation Plan:** The project is subject to compliance with the Contra Costa County “Measure J” Growth Management Program and the provisions

of the Transportation Element of the General Plan. In order to comply with the requirements of Measure J, which keeps the City eligible for regional transportation funding, the applicant prepared a Traffic Impact Study (TIS) prepared by Abrams Associates dated July 31, 2020 (included as Attachment 4), and was reviewed by the City's Traffic Engineer. The only physical improvement recommended by the TIS, was the installation of a Class IV bike lane on both sides of West Leland Road from Villa Drive to San Marco Boulevard.

**Inclusionary Housing Ordinance:** The proposed project is exempt from the requirements of the City's Inclusionary Housing Ordinance (PMC Chapter 18.86) adopted in 2004 because the project is subject to the San Marco Development Agreement. Provisions of this agreement expressly prohibit the application of new City rules, regulations and policies that come into effect after July 1, 1993.

**Zoning:** The current zoning for the site is PD (Planned Development District, Ordinance No. 12-1362). Development of the project site is regulated by the conditions of approval set forth in the ordinance establishing the PD District. As per Condition 36 of PD District 12-1362, all applicable regulations of the Pittsburgh Municipal Code (PMC) including zoning regulations where not otherwise specified in the resolution, shall apply. Those sections of the PMC which applied on or before July 1, 1993, apply to this project unless otherwise specified in the San Marco Development Agreement or Development Plan. The project is consistent with those PMC policies, including building height, minimum lot area, off-street parking, and other regulations applicable to multi-family housing that were not otherwise specified in these entitlements. At a height of approximately 40 feet, the proposed buildings would be under the maximum allowable height of 45 feet (PMC section 18.32.040, 1987). A minimum of 1,815 square feet of lot area is required per unit (PMC section 18.32.050, 1987). The San Marco Villas Development would provide over 3,042 square feet per unit.

As per Condition 10, apartment and townhouse villages shall have substantial landscape areas in order to reduce visual impacts from Highway 4. The proposed project would provide substantial landscaping, including a mix of trees, shrubs, and herbaceous plants adjacent to Highway 4. The proposed landscape coverage for San Marco Villas III is 37 percent while neighboring Villas I and Villas II have 55 percent and 31 percent, respectively. The entire complex exceeds the minimum requirements for new apartment projects in the standard high-density residential zoning district of the PMC which requires a minimum 20% landscape coverage (PMC 18.20.105).

It should also be noted that Condition 21 requires that recreational vehicle (RV) storage area shall be located on one of the villages containing apartments or townhouses. The size, location and design shall be approved by the Community Development Director. Management and maintenance of the RV facility shall be the responsibility of the apartment owner or townhouse homeowner's association. Regulations shall give first priority to residents of the project with provisions to allow use by the general public.

An RV storage area is not proposed at this time. Given that the remaining multifamily sites (Remaining Village C (60 units), and Village O) have yet to be developed, approval of the proposed project would not prevent future implementation of this condition of approval.

Density: The proposed project falls primarily within the area designated as 'Village C' and the remaining portion of 'Village B'. Village B is a 34-acre site with 471 residential apartment units planned. To date, Villas I and II was constructed with 462 units. The proposed project would provide the remaining nine units envisioned under the Development Agreement to complete the final build out of "Village B".

Additionally, the Development Agreement indicates that Village C is proposed as a 59.6-acre site with 339 residential apartments to be built to townhouse standards. The proposed project is a 14.92-acre site with 270 residential apartment units constructed in a townhome design. This would leave 44.68 acres (75 percent) undeveloped and 60 of the 339 units of the Village C site available for future development.

It should be noted, however, that this is not a final density calculation when taking into account the full build out potential identified for Village C. With significant undeveloped area left within Village C, the proposed project density of 17.2 per acre, the remaining vacant area provides opportunity for the final density of Village C to balance at or below the maximum allowable density envisioned under the San Marco Development Plan to be determined under a later application.

Parking: The parking ratio for multifamily residential uses is one space per unit, including one covered space, plus ½ a space for each unit containing two or more bedrooms (PMC section 18.32.080, 1987). Based on this ratio, the total parking requirement for the proposed project is 360 spaces. A total of 579 parking spaces have been proposed for distribution throughout the project site, including 36 garage spaces, 270 carport spaces, and 273 uncovered spaces. Consistent with neighboring Villas II): 1) that the applicant provide at least one bike rack space per ten vehicular parking spaces provided and that the bike racks be evenly distributed throughout the site; and 2) that the applicant provide permanent wall mounting systems for use by residents inside of each garage for secure bicycle parking. Additionally, the proposed plans indicate that the project would include electric vehicle charging infrastructure, which will provide approximately 10 percent (57 stalls) of parking stalls to be available for electric vehicles.

Development Review Design Guidelines: The Development Review Design Guidelines (DRDGs) were adopted on November 9, 2010 and are therefore not applicable to this project given the terms of the San Marco Development Agreement. However, similar to Villas I and II, the proposed project is consistent with applicable DRDG sections, most notably, DRDG section I.a, which encourages reliefs and architectural treatments be provided on all building elevations providing 360 architecture.

Furthermore, although not required, the application would conform with DRDGs sections I.a, VI.C.3, VI.C.5, VI.C.7, and VI.C.8 if: 1) AC units are substantially screened from public view; 2) rewiring for solar panels is provided on all new carports; 3) all garages are rewired for EV charging stations; 4) at least 56 bike parking spaces (one per each ten automobile parking spaces provided on site) are provided for guests within outdoor racks, to be evenly distributed throughout the site; 5) permanent wall mounted bike storage systems are provided within each garage unit for residents; and 6) the project incorporates the most recent acceptable best management practices for water-efficient landscape design, consistent with PMC section 18.84.310.

Findings: Findings: Design review approval for the proposed project can be granted by the Planning Commission if the Commission makes a determination that the proposed project is consistent with PMC Section 18.36.220(B), which is summarized below:

- A. the structure conforms with good taste, good design and in general contributes to the character and image of the city as a place of beauty, spaciousness, balance, taste, fitness, broad vistas, and high quality;
- B. the structure will be protected against exterior and interior noise, vibrations and other factors that may tend to make the environment less desirable;
- C. the exterior design and appearance of the structure is not of inferior quality as to cause the nature of the neighborhood to materially depreciate in appearance and value;
- D. the structure is in harmony with proposed developments on land in the general area; and
- E. the application conforms with the criteria set forth in any applicable city-adopted design guidelines.

Environmental: The proposed project is within the scope of the Subsequent Environmental Impact Report (SEIR, SCH #91073029) prepared for the San Marco Development Plan Area and certified by the Planning Commission on October 13, 1992. The project is in substantial conformance with the multi-family residential units analyzed in the SEIR for Village B and C of the San Marco Development Plan area. Furthermore, there are no substantial changes that have occurred with respect to the circumstances under which the SEIR was certified.

ANALYSIS: The proposed project is consistent with the development that was envisioned and conceptually proposed for Village B and Village C under the San Marco Development Agreement, Development Plan, and PD zoning district, and is therefore considered consistent with the applicable 1988 General Plan. The project does not exceed the maximum allowable density for the PD District (17.2 units per acre) and is consistent with the conditions of approval set forth in the ordinance establishing the original PD District. With the adoption of several recommended conditions of approval



as outlined in the 'Development Review Design Guidelines' section above, the project would also be substantially consistent with the adopted Development Review Design Guidelines. As proposed, the architecture and site layout is complementary and consistent with the surrounding Villas I and II apartments. Staff recommends that the Commission adopt the following Conditions of Approval believes that the Planning Commission can make the required findings to approve the proposed architectural and site development plans for San Marco Villas III.

ACTION REQUIRED: Staff recommends that the Commission adopt the attached Resolution No. 10155, recommending approval of design review, for the San Marcos Villas III Apartments, subject to conditions.

ATTACHMENTS:

1. Proposed Resolution No. 10155
2. Site and Architectural Plans, dated March 27, 2020
3. Project Location Map/Existing Conditions and Site Photos
4. Traffic Impact Study conducted by Abrams and Associates dated July 31, 2020
5. Public Hearing Notice and Vicinity Map
6. Staff Presentation
7. Public Comments Received
8. Exhibit A the SEIR

Prepared by: Trishia Caguiat, Associate Planner

PROPOSED  
BEFORE THE PLANNING COMMISSION OF THE CITY OF PITTSBURG

In the Matter of:

|                                          |   |                      |
|------------------------------------------|---|----------------------|
| Resolution Granting Design Review        | ) |                      |
| Approval for a 270-Unit Extension of the | ) |                      |
| Existing San Marco Villas Apartment      | ) | Resolution No. 10155 |
| Complex Located East of Villa Drive, for | ) |                      |
| "San Marco Villas III Apartments, AP-20- | ) |                      |
| 1498 (DR)."                              | ) |                      |

The Planning Commission DOES RESOLVE as follows:

Section 1. Background

- A. On February 2, 2020, Louis Parsons on behalf of Discovery Builder, filed Design Review Application No. 20-1498 requesting design review approval of plans to construct a construct a 270-unit extension, consisting of eleven new three story buildings and one clubhouse, to the existing San Marco Villas apartment complex located at the northwest corner of West Leland Road and San Marco Boulevard with access off of Villa Drive. The project site consists of approximately 14.92 acres and is zoned PD (Planned Development, City Council Ordinance No. 12-1362) District. APN: 091-050-047.
  
- B. In 1992, the City of Pittsburg and SEECON Financial and Construction Company entered into a development agreement (San Marco Development Agreement) for the construction of up to 2,938 residential units on 639 acres in Pittsburg's Southwest Hills Planning Subarea.
  
- C. In 1993, the City Council adopted Resolution No. 93-7888, Ordinance No. 93-1057, and Resolution No. 93-7890, certifying a subsequent environmental impact report (SCH #91073029), establishing a 'Planned Development' zoning district, and approving a vesting tentative map (Subdivision No. 7362) for the San Marco Development Plan.
  
- D. The San Marco Development Agreement and Development Plan authorize construction of up to 1,412 single family residential and 1,526 multi-family residential units throughout 14 'villages' and require dedication of approximately 19.2 acres for construction of a school and three community parks. To date, the entire San Marco Development area is close to 70% built out.
  
- E. The San Marco Development Agreement is currently set to expire in 2032. Pursuant to the original San Marco PD (Ordinance No. 93-1057), design review approval is required prior to construction of any phase of development in the San Marco Development Plan area.

- F. The proposed project is governed by the policies and development standards in the 1988 Pittsburg General Plan, the San Marco Development Plan and the Pittsburg Municipal Code (PMC), all of which predate the San Marco Development Agreement which took effect on July 1, 1993.
- G. Development of the project site (Village B and C) was envisioned in and is consistent with the San Marco Development Plan. The San Marco Development Plan was determined to be consistent with the applicable General Plan (1988) at the time it was approved.
- H. The proposed project is exempt from the requirements of the City's Inclusionary Housing Ordinance (PMC Chapter 18.86) adopted in 2004 because the project is subject to the San Marco Development Agreement. Provisions of this agreement expressly prohibit the application of new City rules, regulations and policies that come into effect after July 1, 1993.
- I. The proposed project is within the scope of the Subsequent Environmental Impact Report (SEIR, SCH #91073029) prepared for the San Marco Development Plan Area and certified by the Planning Commission on October 13, 1992. The project is in substantial conformance with the multi-family residential units analyzed in the SEIR for Village B and C of the San Marco Development Plan area. Furthermore, there are no substantial changes that have occurred with respect to the circumstances under which the SEIR was certified.
- J. Design review approval can be granted by the Planning Commission only after the Commission makes a determination that the proposed project is consistent with PMC section 18.36.220 (B), which is summarized below:
  - 1. the structure conforms with good taste, good design and in general contributes to the character and image of the city as a place of beauty, spaciousness, balance, taste, fitness, broad vistas, and high quality;
  - 2. the structure will be protected against exterior and interior noise, vibrations and other factors that may tend to make the environment less desirable;
  - 3. the exterior design and appearance of the structure is not of inferior quality as to cause the nature of the neighborhood to materially depreciate in appearance and value;
  - 4. the structure is in harmony with proposed developments on land in the general area; and
  - 5. the application conforms with the criteria set forth in any applicable city-adopted design guidelines.
- K. On September 22, 2020, the Planning Commission held a meeting on Design Review Application No. 20-1498, at which time oral and/or written testimony was considered.

## Section 2. Findings

- A. Based on the Planning Commission Staff Report entitled, "San Marco Villas III , AP-20-1498 (DR)," and based on all the information contained in the Planning Division files on the project, incorporated herein by reference and available for review in the Planning Division located at 65 Civic Avenue in Pittsburg, and based on all written and oral testimony presented at the meeting, the Planning Commission finds that: All recitals above are true and correct and are incorporated herein by reference.
1. The proposed project is within the scope of the Subsequent Environmental Impact Report (SEIR, SCH #91073029) prepared for the San Marco Development Plan Area and certified by the Planning Commission on October 13, 1992. The project is in substantial conformance with the multi-family residential units analyzed in the SEIR for Village B and C of the San Marco Development Plan area. Furthermore, there are no substantial changes that have occurred with respect to the circumstances under which the SEIR was certified.
  2. The structures conform with good taste, good design and in general contribute to the character and image of the city as a place of beauty, spaciousness, balance, taste, fitness, broad vistas, and high quality, in that the proposed project is consistent with the design of San Marco Villas I and II. Similar to San Marco Villas I and II, the proposed project (Villas III) features 'Mediterranean' architecture with Italian influences. The proposed project will be internally connected to San Marco Villas I and II which offers a unique multi-family living opportunity to Pittsburg residents with its estate-like layout, large open landscaped areas, and extensive amenities.
  3. The structures will be protected against exterior and interior noise, vibrations and other factors which may tend to make the environment less desirable, in that mitigation measures for these factors have been evaluated in the Subsequent Environmental Impact Report (SEIR) prepared for the San Marco Development Plan. The mitigation measures will be implemented with the construction of the proposed project.
  4. The exterior design and appearance of the structures are not of inferior quality as to cause the nature of the neighborhood to materially depreciate in appearance. The proposed structures are attractive and evoke the feeling of a grand estate/resort which is appropriate for the proposed site given its high visibility from State Highway 4.
  5. The structures are in harmony with proposed developments on land in the general area, in that the proposed architecture and theme of the entire San Marco Villas Apartments are complimentary to the overall architectural theme of the detached single family homes in the San Marco Development Plan area.

6. Although not required for this project (given the terms of the San Marco Development Agreement), the application will conform with the city adopted Development Review Design Guidelines (DRDGs), specifically sections I.a, VI.C.3, VI.C.5, VI.C.7, and VI.C.8 if: 1) AC units are substantially screened from public view; 2) rewiring for solar panels is provided on all new carports; 3) all garages are rewired for EV charging; 4) at least 56 bike parking spaces (one per each ten auto parking spaces provided on site) are provided for guests within outdoor racks, to be evenly distributed throughout the site; 5) permanent wall mounted bike storage systems are provided within each garage unit for residents; and 6) the project incorporates the most recent acceptable best management practices for water-efficient landscape design, consistent with PMC section 18.84.310.

- B. The staff report entitled, "San Marco Villas III (Village B and C), AP-20-1498 (DR)," dated September 22, 2020, is referenced hereto as additional support for the findings.

### Section 3. Decision

- A. Based on the findings set forth in Section 2 above, the Planning Commission hereby approves Design Review Application No. 20-1498, subject to the following conditions:
  1. The project shall be constructed in substantial conformity with the project plans and materials sample board, date stamped March 27, 2020, except as hereinafter may be modified.
  2. The Standard Conditions of Development as adopted by the Pittsburg Planning Commission by Resolution No. 8931, shall apply as conditions of approval for this project as applicable. Where there is a conflict between the Standard Conditions of Development and this Resolution, this Resolution shall prevail.
  3. The project shall be designed to comply with the mitigation measures and performance standards specified in the San Marco Subsequent Environmental Impact Report for potential noise impacts. These measures shall be reflected on building and site development plans and shall be subject to review and approval by the Planning Division prior to issuance of a site development permit or building permit. Alternatively, the developer may comply with this condition of approval by submitting an acoustical study conducted by a professional acoustical engineer that evaluates the existing noise levels on the site and recommends measures necessary to attain the acceptable noise level performance standards established in the City's current General Plan for multi-family development. If an acoustical study is prepared, it shall be submitted to the Planning Division for review and approval prior to issuance of a grading permit. If applicable, any new recommended mitigation measures identified in the acoustic study shall be implemented in the building plans and site development plans for the project

and shall be subject to review and approval of the Planning Division prior to issuance of a site development permit or building permit.

4. The applicant shall comply with the Mitigation and Monitoring Plan (Exhibit A of this Resolution) identified in the San Marco SEIR (SCH #91073029) for the San Marco Development Plan area.
5. All AC units shall be substantially screened from view in a manner that is deemed acceptable to the Planning Manager or his or her designee. Acceptable screening may include the use of structural screen or adequately sized landscaping.
6. All new trash enclosures shall match the design of enclosures constructed in San Marco Villas I and II. Specifically, trash enclosures shall incorporate a matching tile and hipped roof. Final design shall be subject to review and approval by the Planning Division prior to the issuance of a building permit.
7. Solar panel prewiring shall be provided on all new carports.
8. Prewiring shall be provided in all garages for electric vehicle charging units.
9. At least 56 outdoor bicycle parking spaces shall be provided for on site for guests. Bike racks shall be evenly distributed throughout the site. Final design and location of bike racks shall be subject to review and approval by the Planning Division prior to the issuance of a building permit.
10. Permanent wall mounted bike storage systems shall be provided inside of each garage unit for use by residents.
11. At least 10 percent of the total parking spaces shall be supported by electric vehicle charging conduit or infrastructure. Final design and location of EV stalls shall be subject to review and approval by the Planning and Building Division prior to the issuance of a building permit.
12. The project shall incorporate the most recent acceptable best management practices for water-efficient landscape design, consistent with PMC section 18.84.310.

*Engineering Fees:*

13. Improvement and Grading Plan Review fees. The applicant shall provide an initial payment for review of the grading and improvement plans with the first submittal. These fees are based on the engineer's estimated costs for site improvements and grading, which shall be submitted with the plans. The improvement plan check fee is 4.5% of the cost of the improvements. The grading plan check fee is 2.5% of the cost for grading, or it may be based upon cubic yards of earth disturbance as set forth in the City's Master Fee Schedule. Fifty percent (50%) of these total fees are to be paid with the initial

submittal of plans and engineer's cost estimate. These initial payments will be credited towards the final fees as determined at engineering permit. The remainder of the fees shall be due payable prior to issuance of an engineering permit.

14. Improvement and Grading Inspection fees. The applicant shall pay the improvement and/or grading inspection fee(s) to the Engineering Division prior to the issuance of a single parcel development permit. The current improvement inspection fee is 6% of the engineer's estimated cost for improvements. The grading inspection fee is 3% of the engineer's estimated cost of grading. The grading inspection fee may also be based upon an approved engineer's estimate of total cubic yards, according to the current schedule of grading fee charges as set forth in the City's Master Fee Schedule.
15. Facility Reserve Charge. Prior to the issuance of a building permit, the applicant shall pay the City of Pittsburgh Facilities Reserve Charge (PMC Chapters 13.08, 13.12 and 13.24) (the "FRC") to the Engineering Division for water and sewer service in the amounts in effect at the time of building permit issuance. The applicant understands that the current FRC on file, effective August 20, 2005, shall be paid in accordance with the fee schedule approved by Resolution No. 05-10290, and amended by Resolution No. 12-11778, on February 21, 2012, a copy of which is available at the City.
16. Regional Traffic Mitigation Fee. Prior to issuance of a building permit, the applicant shall pay the Regional Transportation-Development Impact Mitigation Fee (PMC Chapter 15.103) (the "RTDIM") amount in effect at the time of building permit issuance. The RTDIM will be automatically increased or decreased on January 1 of each year based on the percent change in the Engineering News-Record Construction Costs Index – San Francisco Bay Area, between September 1 and September 1 of the preceding two calendar years.
17. GIS Update. Prior to the issuance of an engineering permit, the applicant shall pay the Geographic Information System (GIS) fee as set forth in the City's Master Fee Schedule. The current fee is \$0.05/sf of parcel for non-residential uses.

*Engineering Submittals:*

18. Improvement Plans. The applicant shall submit five (5) copies of the engineering plans to the Engineering Division for review and approval. The plans shall be prepared by a registered civil engineer, to include but not be limited to the following:
  - a) A Site Plan
  - b) A Grading and Drainage Plan
  - c) A Utilities Plan
  - d) A Landscaping and Irrigation Plan
  - e) An Erosion and Sedimentation Control Plan



f) Offsite Improvements due to Project Impacts

19. Geotechnical Report. The applicant shall submit a current geotechnical report that supports the design features incorporated into this project including, but not limited to, grading activities, compaction requirements, utility construction, slopes, retaining walls, and roadway sections. The geotechnical report shall be submitted to the Engineering Division for review prior to the approval of any civil plans and/or the issuance of a site development permit.
20. Supplemental Studies. If additional engineering studies are deemed necessary by the City Engineer, i.e. geotechnical, structural, hydraulic, etc., or expedited reviews are requested by the applicant, the applicant shall pay for all costs related to the extra work. The costs shall be paid at the time of first plan check submittal, and they may include all costs associated with the preparation of special studies, additional staff time, and/or reviews of the special studies if studies are prepared by the applicant's engineer.

*NPDES Requirements:*

21. Stormwater Pollutants. The applicant shall incorporate long-term best management practices (BMP's) for the reduction or elimination of storm water pollutants. The project design shall incorporate wherever feasible, the following long term BMPs to limit pollutant generation, discharge, and runoff. Such source control design measures may include:
- a) Incorporating landscaping that minimizes irrigation and runoff, promotes surface infiltration where possible, minimizes the use of pesticides and fertilizers, and incorporates appropriate sustainable landscaping practices.
  - b) Providing covered trash, food waste, and compactor enclosures.
  - c) Using pavers for walkways and other appropriate hardscape surfaces to minimize impervious areas.
  - d) Minimizing the amount of directly connected impervious surface area.
  - e) Marking all storm drains with "No Dumping, Drains to Delta" messages.
  - f) Constructing concrete driveway weakened plane joints at angles to assist in directing run-off to landscaped/pervious areas prior to entering the street curb and gutter.
  - g) Plumbing of the following discharges to the sanitary sewer, subject to Delta Diablo's authority and standards:
    - i. Discharges from indoor floor mat/equipment/hood filter wash racks or covered outdoor wash racks for restaurant.
    - ii. Dumpster drips from covered trash and food compactor enclosures.
    - iii. Discharges from outdoor covered wash areas for vehicles, equipment, and accessories.
    - iv. Fire sprinkler test water, if discharge to onsite vegetated areas is not a feasible option.

22. Stormwater Pollution Protection During Construction. Prior to the issuance of a grading permit, the applicant shall submit an Erosion and Sedimentation Control Plan or Stormwater Pollution Prevention Plan (if the project requires a permit from the State Water Resources Control Board under the provisions of the General Construction Permit) to the Engineering Division for review. The Stormwater Pollution Prevention Plan measures shall also include measures to prevent soil, dirt, and debris from entering the storm drain system, in accordance with California Stormwater Quality Association's (CASQA's) construction handbook.

*Engineering Exactions (CFD inclusion):*

23. Annexation Documentation for CFD 2007-1. The applicant shall agree to annex the project parcel into Community Facilities District 2007-1, which is for park maintenance facilities. The rate of the CFD 2007-1 fee is subject to City Council Resolution No. 07-10698. The applicant shall deliver written approval in a manner acceptable to the City Finance Director, that the owner of the parcel is electing to annex the subject property into the 2007-01 Park Maintenance Community Facilities District (CFD 2007-1), prior to the issuance of any building or engineering permits.

*Engineering Conditions*

24. All grading work shall be done in accordance with the provisions of Chapter 15.88 of the Pittsburg Municipal Code.
25. All site development shall comply with Title 12 (Streets, Sidewalks, and Utilities), Title 13 (Water and Sewers), and Title 15 (Buildings and Construction) of the Pittsburg Municipal Code as determined by the City Engineer. Issuance of a Site Development Permit will be required whereby specific engineering requirements will be made as conditions of approval.
26. All public and pedestrian facilities shall be designed in accordance with Title 24, Handicap Access, and the California Department of State Architect's standards for accessibility compliance.
27. Provide adequately sized trash and recycling containers, housed in a covered enclosure. Water service should be provided within the trash enclosure and drainage within should be plumbed to the sanitary sewer conveyance system. Grades around the enclosure should prevent stormwater run-on from entering the enclosure.
28. Off-Site Capacity Evaluation. The applicant shall evaluate the existing, receiving storm, sewer, and water facilities for adequate capacity and provide the results to the City to identify any service or supply problems. The cost for installation of additional facilities required to be constructed to accommodate the project shall be borne by the applicant.

29. Fair Share Traffic Improvements. The applicant shall pay a fair share of the cost of widening of northbound San Marco Boulevard north of West Leland Road to allow for a full free-right turn from westbound West Leland Road onto San Marco Boulevard.
30. Transit Incentive. The applicant shall provide future tenants a transit incentive in the form of a free one-month pass for BART or Clipper Card for Tri-Delta Transit Use.
31. Create Parcel. The applicant shall file a map to create the parcels for the project, portion of the West Leland Road extension, and the Pump Station Parcel.
32. Upgraded Bikeways. Prior to issuance of a certificate of occupancy for the project, the applicant shall upgrade the existing Class II bike lanes located along both sides of West Leland Road between Villa Drive and San Marco Boulevard to Class IV separated bikeways. The separated bikeways shall be designed consistent with the guidance provided in Caltrans Design Information Bulletin 89-01. The type of vertical element separation used in the new bikeways shall be determined by the City Engineer in consultation with the Planning Manager. The bikeway installation costs shall be credited toward the Local Traffic Mitigation Fees for the cost of the improvements required for the bike lane modification.

Standard Conditions:

33. The design and construction of storm drain, water, and sewer facilities shall be in accordance with Section 17.28.020 of the Pittsburg Municipal Code.
34. The applicant shall provide appropriate water service, adequately sized to meet the domestic and fire protection demands for the project.
35. The applicant shall provide appropriate sanitary sewer, adequately sized to accommodate the project's wastewater demand.
36. All grading work shall be done in accordance with the provisions of Chapter 15.88 of the Pittsburg Municipal Code.
37. All site development shall comply with Title 12 (Streets, Sidewalks, and Utilities), Title 13 (Water and Sewers), and Title 15 (Buildings and Construction) of the Pittsburg Municipal Code as determined by the City Engineer. Issuance of a site development permit will be required whereby specific engineering requirements will be made as conditions of approval.
38. All public and pedestrian facilities shall be designed in accordance with Title 24, Handicap Access, and the California Department of State Architect's standards for accessibility compliance.

39. The applicant agrees to indemnify, defend, and hold harmless the City, its officials, officers, employees, agents and consultants from any and all administrative, legal or equitable actions or other proceedings instituted by any person challenging the validity of the project approval, subsequent project approval, or other action arising out of, or in connection with, or the project approvals. The parties shall cooperate in defending such action or proceeding. The parties shall use reasonable efforts to select mutually agreeable defense counsel but, if the parties cannot reach agreement, City may select its own legal counsel at Applicant's sole cost and expense. The applicant may select its own legal counsel to represent applicant's interests at the applicant's sole cost and expense. The applicant shall pay for City's costs of defense, whether directly or by timely reimbursement to City on a monthly basis. Such costs shall include, but not be limited to, all court costs and attorneys' fees expended by City in defense of any such action or other proceeding, plus staff and City Attorney time spent responding to and defending the claim, action or proceeding.
40. This approval will expire on September 22, 2023, unless a building permit or grading permit has been issued or a written request for extension is filed with the Planning Division prior to the expiration date and is subsequently approved by the Planning Commission. The approval shall be valid for no more than six months from the date of building permit issuance, unless work is commenced and diligently pursued prior to the expiration of the building permit.

#### Section 4. Effective Date

This resolution shall take effect immediately upon its adoption.

On motion by Commissioner \_\_\_\_, seconded by Commissioner \_\_\_\_, the foregoing resolution was passed and adopted the 22nd day of September 2020, by the Planning Commission of the City of Pittsburg, California by the following vote:

AYES:

NAYES:

ABSTAIN:

ABSENT:

I hereby certify that the above Resolution No. 10155 was adopted by the Planning Commission of the city of Pittsburg on September 22, 2020.

\_\_\_\_\_  
KRISTIN POLLOT, AICP, SECRETARY  
PITTSBURG PLANNING COMMISSION

## SUMMARY OF IMPACTS AND MITIGATIONS

| Impacts                                                                                                                                                                                                                                                                                         | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                       | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
| <b>LAND USE</b>                                                                                                                                                                                                                                                                                 |                                                    |                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| The project would result in the urban conversion of the largest of the five remaining unsubdivided properties in the city's Southwest Hills planning area, would result in a substantial westerly extension of urbanization, and would represent a significant loss of local open space values. | S                                                  | This impact would be unavoidable and unmitigable, unless the general plan development designations and corresponding project size and development area were substantially reduced and confined to the lower elevations of the site.                                                                                       | City                         | SU                                              |
| Construction of the project and associated freeway, arterial roadway, and infrastructure improvements would have significant growth-inducing effects on the adjacent Alves, Seecon, DeBonneville, and Ridge Farm properties.                                                                    | S                                                  | Project growth-inducing effects on the adjacent Alves, Seecon, DeBonneville, and Ridge Farm properties would be subject to similar individual rezoning, environmental impact documentation, and public review procedures to ensure that associated adverse impacts and related mitigation needs are adequately addressed. | City                         | LS                                              |
| Conversion of the project site from agricultural rangeland to urban use would not constitute a significant adverse impact because none of the site is classified as prime agricultural land, the project represents a small portion of the countywide rangeland inventory, and the project      | LS                                                 | No mitigation required.                                                                                                                                                                                                                                                                                                   | None                         | LS                                              |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                       | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                           | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
| would not contribute to a significant countywide cumulative decline in agricultural productivity.                                                                                                                                                                                                                                                                                                                             |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                                                 |
| <p>The project would extend suburban density residential development to an elevation 270 feet higher than the highest existing suburban development, and would extend "ranchette" lots up to an elevation approximately 500 feet higher than existing major subdivisions in the Pittsburg hills. The visual impacts of this project aspect, which would be significant, are described herein under <i>VISUAL FACTORS</i>.</p> | S                                                  | This impact would be unavoidable and unmitigable unless the general plan Land Use map and/or policies were changed to confine development to lower elevations of the project site.                                                                                                                                                                                                                                            | City                         | SU                                              |
| <p>The quality and livability of the approximately 309 closest project homes to the onsite PG&amp;E and USA electrical transmission lines would be substantially diminished by views of these lines and associated towers.</p>                                                                                                                                                                                                | S                                                  | Strategic planting of screen vegetation should be incorporated into the project landscaping plan to filter or block views of the transmission lines and towers from affected private lots, project travel corridors, and other key onsite vantage points. Even with these measures, however, these impacts could not be reduced to less than significant levels, given the height and prominence of the existing tower lines. | Project                      | SU                                              |
| <p>The proposed large lots located atop the southwest ridge area of the site do not assure adequate preservation of the <i>Open Space</i> area designated on the City of Pittsburg General Plan Land Use Map.</p>                                                                                                                                                                                                             | S                                                  | The approximately 95-acre <i>Open Space</i> area now shown on the project development plan as five large lots in Village N should be more effectively preserved as permanent undisturbed open space through use of a conservation easement or some similar legal instrument.                                                                                                                                                  | Project                      | LS                                              |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                              | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
| The project would involve culverting and filling of onsite creek channels, which would be inconsistent with <u>Pittsburg General Plan</u> provisions calling for preservation and enhancement of creek open space, habitat, and recreational values. | S                                                  | This easement should cover at least 85 percent of each of these lots.<br><br>See Vegetation and Wildlife section for mitigation of this impact.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | --                           | --                                              |
| The project could have land use compatibility impact problems with existing or future grazing activity on the Alves property (until the Alves site is converted to similar residential use, as anticipated in the city's general plan).              | S                                                  | Land use compatibility impacts between project residential uses and existing or future grazing activity on the Alves property should be mitigated by implementation of the following measures:<br><br><ul style="list-style-type: none"> <li>Warning prospective buyers of potential nuisances from grazing and other adjacent agricultural activity.</li> <li>Implementation of strict project leash laws to keep project dogs away from livestock and equestrian activities on adjacent properties.</li> <li>Construction of dog-proof fencing between project yards and adjacent agricultural operations.</li> </ul> | Project                      | LS                                              |
| The introduction of approximately 13 project homes in Village D near existing kennel and planned "animal center" activities on the                                                                                                                   | S                                                  | The same mitigations listed for impacts to the Alves property should be implemented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Project                      | LS                                              |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact



| Impacts                                                                                                                                                                                                                                                        | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                  | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
|                                                                                                                                                                                                                                                                |                                                    |                                                                                      |                              |                                                 |
| adjacent DeBonneville property may also result in future nuisance complaints from the new homeowners.                                                                                                                                                          |                                                    |                                                                                      |                              |                                                 |
| The introduction of two or three project homes in Village D near existing grazing, stable, paddock uses, truck storage, and other ranching activities on the adjacent Ridge Farms property could result in future nuisance complaints from the new homeowners. | S                                                  | The same mitigations listed for impacts to the Alves property should be implemented. | Project                      | LS                                              |
| The introduction of approximately 27 lots in project Villages G and N next to existing grazing activity on the adjacent Seecon property could also result in future nuisance complaints from the new homeowners.                                               | S                                                  | The same mitigation listed for impacts to the Alves property should be implemented.  | Project                      | LS                                              |
| The construction of the project adjacent to Highway 4 could result in impacts on project residents related to air quality and noise.                                                                                                                           | S                                                  | See SEIR sections on Noise and Air Quality for recommended mitigation measures.      | --                           | --                                              |
| The project would be located outside the "Explosive Safety Quantity Distance" (ESQD) areas established to indicate the minimum required distance between inhabited structures and weapons storage activities at the Concord Naval Weapons Station.             | LS                                                 | No mitigation required.                                                              | --                           | --                                              |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                                                                                                                                                                                | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                     | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                        |                                                    |                                                                                                                                                                                                                                                                         |                              |                                                 |
| Successful development and buildout of the project, and completion of related highway interchange, arterial roadway extensions, and other infrastructure extensions, would substantially increase pressures for development of other surrounding southwest Pittsburg lands, including the recently annexed Alves site, the pending DeBonneville and Ridge Farm annexations, and eventually other lands | S                                                  | Any such precedent-following actions would be subject to similar individual general plan amendment, rezoning, environmental impact documentation, and public review procedures to ensure that associated impacts and related mitigation needs are adequately addressed. | City                         | LS                                              |

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LS = Less than significant  
SU = Significant unavoidable impact



| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Potential Significance |            | Mitigation Measures     | Mitigation Responsibility |  | Potential Significance With Mitigation |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------|-------------------------|---------------------------|--|----------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Without Mitigation     | Mitigation |                         |                           |  |                                        |
| in the vicinity, including the adjacent Seeno property to the south. With the exception of the Alves property, urban development of these lands would require city approval of general plan amendments.                                                                                                                                                                                                                                                                                                                                                           |                        |            |                         |                           |  |                                        |
| <b>POPULATION AND HOUSING</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |            |                         |                           |  |                                        |
| The project would result in the construction of 2,938 residential units, including 1,363 single-family units, 1,236 apartments, and 339 townhouses. These residential units would accommodate an estimated total population of 7,730. Assuming project completion by the year 2005, the 2,938 new housing units would account for approximately 49 percent of the ABAG-projected increase of 6,010 households in the Pittsburg area between 1990 and 2005 and almost four percent of the countywide increase of 77,100 households during the same 15-year period. | LS                     |            | No mitigation required. | None                      |  | LS                                     |
| Without the project, anticipated cumulative growth is expected to add approximately 3,489 residential units and approximately 8,025 persons to the city between 1990 and the year 2005, a 13 percent 1990-2005 increase. The project would increase this growth increment to a total of 6,427 new residential units and                                                                                                                                                                                                                                           | LS                     |            | No mitigation required. | None                      |  | LS                                     |

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| Impacts | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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|         |                                                    |                     |                              |                                                 |

14,782 people, a 23 percent 1990-2005 increase.

Based on the anticipated project home price and rental ranges described in this SEIR, none of the 2,968 project homes would be affordable to households in the *very low* income range, roughly 25 to 30 percent would be affordable to households in the *low* income range, roughly 45 to 50 percent would be affordable to households in the *moderate* income category, and roughly 25 percent would be affordable to households in the *above moderate* income category.

No mitigation required.

None

LS

## TRANSPORTATION

The project would be constructed in phases which would be dictated primarily by market forces. The SEIR traffic analysis is based on the conservative ("worst case") assumption that construction of the first 1,000 project units would be completed by 1998 ("Phase I"), the second 1,000 units by 2000 ("Phase II"), and the remaining 438 units by 2005 ("Phase III"). Local roadway improvements assumed to be completed before the end of each of these three project phases include:

**Phase I** (by 1998): Widening of Highway 4 from four to six lanes between Willow Pass Road-Concord and Bailey Road; associated reconstruction of the Willow Pass Road and Bailey Road interchanges, extension of BART to Bailey Road, extension of Leland Road west into the site, but not yet connecting with Avila Road, and extension of Willow Pass Road over Highway 4 through the site to "stub" at the southern project boundary.

**Phase II** (by the year 2000): Leland Road would be connected to Avila Road.

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| Impacts | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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|         |                                                    |                     |                              |                                                 |

**Phase III (by the year 2005):** No additional improvements.

The proposed project residential mix would be expected to generate approximately 9,550 daily two-way trips on an average weekday following occupancy of Phase I; 7,560 additional trips after Phase II; and 5,910 additional trips after Phase III; for a total of 23,020 average daily trips. Project traffic distribution would occur as shown in SEIR Table 17 (section IV.C.2). Specific "base case" and project traffic impacts are described below (the term "base case" refers to anticipated future roadway operational conditions at years 1998, 2000, and 2005, without the project).

**Base Case Traffic Impacts--Highway 4 and Ramps**

|                                                                                                                                                                                                                                                                                                                                                                                                              |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----|
| Base case traffic volumes without the project would result in significant operational impacts on <u>westbound</u> Highway 4 in the AM peak hour west of Willow Pass Road-Concord by 1998; westbound east of Bailey Road by 2005; and on the westbound on-ramp from southbound Willow Pass Road-Pittsburg by 1998. Similar impacts would occur eastbound during the PM peak hour east of Bailey Road by 1998. | S | By 1998, require fair-share contribution from all "base case" developments for an additional freeway lane in each direction on Highway 4 west of the Willow Pass Road-Concord interchange to the Port Chicago interchange, an additional freeway lane in each direction east of Bailey Road to Railroad Avenue or beyond, and a second southbound Willow Pass Road-Pittsburg to westbound Highway 4 on-ramp lane. A short additional auxiliary lane should be provided to the west of this on-ramp lane merge area with the freeway mainline. | All "base case" development | LS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----|

**Base Case Traffic Impacts--Non-Freeway Road Segments**

|                                                                                                                                                                                                                                                  |   |                                                                                                                                                                                                                                   |                             |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----|
| Base case traffic volumes at local non-freeway midblock roadway segments <u>without the project</u> would result in significant operational impacts in the <u>AM peak hour</u> by the year 2005 on Bailey Road, south of Leland Road (borderline | S | By the year 2000, the city should require fair-share contributions from all benefitting "base case" developments to improve Bailey Road between Leland Road and the City of Concord (i.e., selected realignments to reduce curves | All "base case" development | LS |
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| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| operating conditions), and on westbound Willow Pass Road-Pittsburg, east of Port Chicago Highway (borderline operating conditions). Similar impacts would occur during the <u>PM peak hour</u> on Bailey Road, south of Leland Road by the year 2000, and on Willow Pass Road-Concord (borderline operating conditions) by the year 2005.                                                                                                                                                  |                                                    | and grades, widening of travel lanes, the addition of paved shoulders, and ideally, the addition of two more travel lanes). By the year 2005, the city should require fair-share contributions from all benefiting "base case" developments for the widening of Willow Pass Road-Concord from two to four lanes from Avila Road through the U.S. Naval Weapons Station.                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                 |
| <i>Base Case Traffic Impacts--Intersections</i>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| Base case traffic volumes <u>without the project</u> would result in significant operational impacts in the AM and PM peak hours at the Willow Pass Road-Concord/Avila-Leland Road intersection by the year 2000 (i.e., unacceptable delays for left turns from Avila-Leland Road). Signal warrant criteria would be reached at the Willow Pass Road extension/Highway 4 eastbound ramps intersection by 1998, and at the Willow Pass Road-Concord/Avila-Leland Road intersection by 2000. | S                                                  | By the year 1998, the city should require fair-share contributions from all "base case" developments for the new signal that would be warranted at the Willow Pass extension/Highway 4 eastbound off-ramp intersection. By the year 2000, the city should require similar fair-share contributions for a traffic signal at Avila-Leland/Willow Pass Road-Concord intersection, for left and right turn deceleration lanes on the Willow Pass Road-Concord intersection approaches, and for the widening that would be needed on the Avila-Leland intersection approaches to provide separate right and left turn lanes. By the year 2005, the city should require similar contributions for a traffic signal at the Avila-Leland Road/Willow Pass extension intersection. | All "base case" development  | LS                                              |



| Impacts                                                                                                                                                                                                                                                        | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Mitigation<br>Responsibility             | Potential<br>Significance<br>With<br>Mitigation |
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| <i>Project Traffic Impacts--Highway 4 and Ramps</i>                                                                                                                                                                                                            |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                                                 |
| Project traffic would create significant additional operational impacts on Highway 4 in the AM peak hour <u>westbound</u> from the Willow Pass Road extension-Pittsburg to Willow Pass Road-Concord, and westbound, west of Willow Pass Road-Concord, by 2005. | S                                                  | By 2005, the project should provide a 200-to-300 space park-and-ride lot (two to three acres) adjacent to or near the Willow Pass Road-Pittsburg/Highway 4 interchange. The applicant should also coordinate project internal street design with local transit agencies to provide bus stops throughout the development, and should provide TSM/TDM information to all project residents.                                                                                                                                                                           | Project                                  | LS                                              |
|                                                                                                                                                                                                                                                                |                                                    | If the ongoing CCTA Highway 4 improvement project provides pavement width for only six lanes plus auxiliary lanes, the city should require a fair-share contribution from the project and all other benefitting developments towards the addition of one freeway lane in each direction (possibly an H.O.V. lane) from the Willow Pass Road-Pittsburg interchange to west of the Willow Pass Road-Concord interchange by 2005. If a mechanism is not established by the CCTA to collect such contributions, these impacts would be significant unmitigable impacts. | Project and all benefitting developments | LS                                              |
|                                                                                                                                                                                                                                                                |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                                                 |
|                                                                                                                                                                                                                                                                |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                                                 |
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LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                                                                                                          | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                | Mitigation<br>Responsibility             | Potential<br>Significance<br>With<br>Mitigation |
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|                                                                                                                                                                                                                                                                                                                                  |                                                    |                                                                                                                                                                                                                                                                                                                    |                                          |                                                 |
| Project Traffic Impacts--Non-Freeway Road Segments                                                                                                                                                                                                                                                                               |                                                    |                                                                                                                                                                                                                                                                                                                    |                                          |                                                 |
| The applicant does not control access across the Alves property. Without this access, the project would result in significant adverse operational impacts to the local circulation system.                                                                                                                                       | S                                                  | The applicant should construct access to the project through the Alves property. Without the access, the project should not proceed.                                                                                                                                                                               |                                          |                                                 |
| Project traffic would create marginal operating conditions during the PM peak hour on Bailey Road south of Leland Road by 1998, and more than a five percent increase in traffic to a roadway with a pre-existing LOS E would occur by 2000. Project traffic would also create significant additional operational impacts during | S                                                  | The City should require fair-share contributions from the project and other benefitting developments for the widening and improvements needed along Bailey Road from Leland Road to the City of Concord by the year 2000. The City should require similar fair share contributions for the widening of Willow Pass | Project and all benefitting developments | LS                                              |

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| Impacts                                                                                                                                                                                                                                                        | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                               | Mitigation<br>Responsibility                                               | Potential<br>Significance<br>With<br>Mitigation |
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| the AM peak hour on Bailey Road, south of Leland Road by 2005. Significant operational impacts would also occur on Willow Pass Road-Concord, south of Avila Road by 2005.                                                                                      |                                                    | Road-Concord from two to four lanes south of Avila Road by 2005.                                                                                                                                                                                                                                                                                                                                                                  |                                                                            |                                                 |
| <i>Project Traffic Impacts--Intersections</i>                                                                                                                                                                                                                  |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                            |                                                 |
| Project traffic would significantly aggravate the pre-existing need for signals at the intersection of the Willow Pass Road extension/Highway 4 eastbound ramps intersection by 1998, and the Willow Pass Road-Concord/Avila-Leland Road intersection by 2000. | S                                                  | #14<br>The project should provide a fair-share contribution towards the signalization of the Willow Pass Road-Pittsburgh/Highway 4 eastbound ramps intersection by 1998, provide similar contributions towards the signalization and geometric improvements needed at the Avila-Leland/Willow Pass Road-Concord intersection by 2000, and provide a right turn lane on the eastbound Leland Road approach to Bailey Road by 2005. | Project and all benefitting development                                    | LS                                              |
| The project would also contribute to cumulative traffic impacts throughout the citywide roadway system beyond the specific intersection and roadway segments analyzed in this SEIR.                                                                            | S                                                  | #15<br>The project should be required to pay the Traffic Mitigation Fee being considered for adoption by the Pittsburgh City Council in June of 1992 to offset citywide traffic impacts.                                                                                                                                                                                                                                          | City of Pittsburgh, all citywide developments                              | LS                                              |
| <i>Regional Impacts</i>                                                                                                                                                                                                                                        |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                            |                                                 |
| The project would incrementally add to the pre-existing base case need for widening of Highway 4 to the east through the Antioch area.                                                                                                                         | S                                                  | The project should be required to pay a regional traffic impact fee which should be established by the Contra Costa Transportation Authority. If such a fee is not established prior to issuance of project building permits, these impacts would be unmitigable significant impacts.                                                                                                                                             | CCTA, City of Pittsburgh, adjacent jurisdictions, all regional development | LS                                              |

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| Impacts                                                                                                                                                                                                                                        | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                               | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| <i>Project Onsite Impacts</i>                                                                                                                                                                                                                  |                                                    |                                                                                                                                                                                                                                                                   |                              |                                                 |
| The westerly portion of the project would have only one access road for use during an emergency until the connection of Leland Road to Avila Road is completed as anticipated in Phase II.                                                     | S                                                  | Provide an interim emergency access connection from the west end of Leland Road on the south end of Willow Pass Road to the existing local street system.                                                                                                         | Project                      | LS                                              |
| The project Village A connection to Avila-Leland Road is proposed too close to the Willow Pass extension/Leland Road intersection and would create safety problems related to conflicting vehicular movements between these two intersections. | S                                                  | Redesign the project to eliminate the Village A street connection to Avila-Leland Road near the Willow Pass Road extension intersection.                                                                                                                          | Project                      | LS                                              |
| The intersection of Avila-Leland Road/Willow Pass Road extension would operate at LOS E by 2005 in the AM peak hour.                                                                                                                           | S                                                  | To mitigate onsite intersection impacts, signalize the Avila-Leland/Willow Pass Road extension intersection by the year 2000 and signalize the Avila-Leland Road intersections with Street B/Village C access and with the Village A and M access drives by 2005. | Project                      | LS                                              |

During the PM Peak hour, the intersections of Avila-Leland Road/Willow Pass Road extension, Avila-Leland Road/Village A and M access, Avila-Leland Road/Village B-Park access, and Avila-Leland Road/B Street-Village C access would experience unacceptable levels of service by the year 2000. The Avila-Leland/Willow Pass Road extension intersection would also warrant a traffic signal by the year 2000.

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| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Potential Significance Without Mitigation |  | Mitigation Measures                                                                                                                                                                                                                                                                                                                 |         | Mitigation Responsibility |    | Potential Significance With Mitigation |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------|----|----------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                           |  |                                                                                                                                                                                                                                                                                                                                     |         |                           |    |                                        |
| SOILS AND GEOLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                           |  |                                                                                                                                                                                                                                                                                                                                     |         |                           |    |                                        |
| The proposed preliminary project grading plan involves extensive "mass grading" over most of the 639-acre, hilly site in order to realize the proposed development capacity and repair existing landslides. The applicant estimate that between 7.5 and nine million cubic yards of earth would be moved to accommodate the project. The plan is expected to involve cuts up to 120 feet deep and 180 feet high, and fills up to about 125 feet deep and 130 feet high. The maximum inclination of both cut-and-fill slopes would be 3:1. |                                           |  |                                                                                                                                                                                                                                                                                                                                     |         |                           |    |                                        |
| Expansive soils on the site contain moderate to high shrink/swell potentials which, if not properly engineered for, could damage project homes, roads, and infrastructure.                                                                                                                                                                                                                                                                                                                                                                | S                                         |  | Grading/foundation designs should be prepared for each lot based on a standard soils test performed by a qualified geotechnical professional on each lot after mass grading has been completed, and an associated report recommending appropriate lot-specific foundation design, soil preparation, and selective grading measures. | Project |                           | LS |                                        |
| A drainage plan should be prepared by a registered civil engineer for each lot in compliance with the provisions listed in SEIR section IV.D.3.b(1) to avoid impacts of expansive earth materials due to improper surface drainage.                                                                                                                                                                                                                                                                                                       |                                           |  |                                                                                                                                                                                                                                                                                                                                     |         |                           |    |                                        |
| Soils on the site are also susceptible to severe stream, gully, and sheet erosion, particularly during project construction operations.                                                                                                                                                                                                                                                                                                                                                                                                   | S                                         |  | A project erosion control plan should be prepared and implemented by the project civil engineer and a qualified geotechnical professional. The plan should include construction of "V"-lined ditches on all graded slopes, should designate all drainageways as                                                                     | Project |                           | LS |                                        |

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| Impacts                                                                                                           | Potential Significance |                 | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mitigation Responsibility | Potential Significance With Mitigation |
|-------------------------------------------------------------------------------------------------------------------|------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------|
|                                                                                                                   | Without Mitigation     | With Mitigation |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                                        |
| Project hillsides are prone to slope stability problems such as landslide activity, slope creep, and debris flow. | S                      |                 | public storm easements, should incorporate ABAG-recommended erosion control measures, and should incorporate <i>best-management</i> construction practices.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Project                   | LS                                     |
|                                                                                                                   |                        |                 | In order to mitigate the specific slope stability impacts identified in the SEIR, the following measures must be completed by a qualified geotechnical professional prior to subdivision approval: <ul style="list-style-type: none"> <li>■ Preparation of a <u>detailed</u> geologic map. This map should identify every instance of past landsliding, earthflows, slumps, debris flows, debris basins, erosional gullies, and every occurrence of colluvial swales, soil creep, rock falls, and adversely oriented bedding. Test borings and/or exploration pits should be used to evaluate all areas of unstable material.</li> <li>■ A slope stability analysis should be completed for critical cut slopes, fill slopes, and natural slopes.</li> <li>■ A detailed slope stabilization plan should be prepared. This plan should include the measures listed in section IV.D.3.e(1) of this SEIR.</li> </ul> |                           |                                        |

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| Impacts                                                                                                                                                                                                                  | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                           | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| Project homes, appurtenant structures, retaining walls, roadways, and public infrastructure could be damaged by reactivation of existing landslides on the site.                                                         | S                                                  | The slope stabilization plan described above should give particular attention to onsite landslide areas. Prior to subdivision approval, a detailed construction plan should be prepared, including detailed sections, limits of work, and grading specifications for all landslides, potential landslides, and off-site landslides.                                           | Project                      | LS                                              |
| Project homes, appurtenant structures, retaining walls, roadways, and public infrastructure could also be damaged by slope creep and debris flow.                                                                        | S                                                  | The slope stabilization plan should include specific recommendations, including setbacks from slopes susceptible to slope creep, to offset potential damage to project features.                                                                                                                                                                                              | Project                      | LS                                              |
| If project subsurface drainage improvements at cut and fill slopes are not properly maintained, they could cease to function as designed, causing slope stability impacts.                                               | S                                                  | See General Mitigations at the end of this section.                                                                                                                                                                                                                                                                                                                           | Project                      | LS                                              |
| The extensive and large amounts of fill proposed for the site, in combination with the number of compressible deposits on the site, make the project particularly subject to damage due to differential fill settlement. | S                                                  | To mitigate the potential effects of differential settlement: (1) a series of laboratory settlement analyses should be completed for soils on the site prior to subdivision approval; (2) all fill should be placed so as to minimize settlement; (3) subsurface drains should be placed under all fills; and (4) a fill settlement monitoring program should be implemented. | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                                                                                                                                                                                 | Potential Significance Without Mitigation |  | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Mitigation Responsibility |  | Potential Significance With Mitigation |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------|--|----------------------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                         | Mitigation                                |  | Mitigation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Project                   |  | Project                                |  |
| <p>Damage to structures, as well as slope and stream bank failure, could occur within the project as a result of seismically-induced groundshaking. Groundshaking could also cause landslides, differential fill settlement, ground fissures, or liquefaction, effects which could also significantly damage project structures and infrastructure.</p> | S                                         |  | <p>Seismic-related hazards could be offset through completion of the following:</p> <ul style="list-style-type: none"> <li>■ Prior to subdivision approval, an analysis by a qualified geotechnical professional of the site susceptibility to earthquake-induced landsliding, fill settlement, development of ground fissures, and liquefaction, and the preparation of detailed recommendations to address identified hazards through engineering solutions or the avoidance of hazardous areas. This analysis should be based on test borings and laboratory tests.</li> <li>■ Prior to subdivision approval, an analysis of possible sympathetic displacement along the fault related features of the site, and the preparation of recommendations for appropriate setbacks from these features.</li> <li>■ Construction of project buildings and foundations, underground utilities, and other improvements in compliance with all public agency requirements.</li> </ul> |  | Project                   |  | LS                                     |  |
| <p>Project-grading (placement of fill, location of cuts) could affect existing onsite groundwater conditions (see Table 30, SEIR section IV.D.2), resulting in slope instability, differential fill settlement, seepage, and other geotechnical hazards. Also, project landscape irrigation could result in increased infiltration into the</p>         | S                                         |  | <p>These groundwater-related geotechnical hazards could be offset by construction of a subsurface drainage system in all fill areas (especially all springs or streams to be covered), construction of trench drains across all onsite valleys in which fill is proposed to extend offsite, subdrainage measures as</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Project                   |  | LS                                     |  |

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| Impacts                                                                                                                                                                                                                                                  | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                               | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| groundwater system, resulting in similar geotechnical hazards.                                                                                                                                                                                           |                                                    | needed at utility trenches, design of a surface drainage system which will not create adverse impacts on the groundwater regime, and education of project homeowners regarding the hazards of over-irrigation of landscape areas. |                              |                                                 |
| The hauling of excess dirt from the site due to a possible grading cut-and-fill imbalance could result in heavy offsite truck traffic during the project construction period, and associated offsite and air quality impacts relating to dust particles. | S                                                  | Onsite grading should be balanced to the extent possible to reduce or eliminate necessary offsite hauling of dirt.                                                                                                                | Project                      | LS                                              |

The SEIR also makes several general recommendations to facilitate effective mitigation of all identified impacts. These recommendations include: (1) the preparation of a detailed construction phase geologic map to verify that geologic conditions are as expected; (2) completion of progress and completion reports with a geologic mapping of all cut-and-fill pads and slopes, and also showing the installed location of subdrainages and cleanouts; and (3) the implementation of ongoing maintenance and repair programs for all geotechnical-related mitigation elements of the project, funded by a maintenance assessment district.

#### DRAINAGE AND WATER QUALITY

|                                                                                                                                                                                                                                                                                                |    |                                       |      |    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------|------|----|
| The project proponents have designed a drainage system which includes detention facilities designed to limit offsite drainage runoff peak runoff to levels stipulated by the Contra Costa County Flood Control and Water District. The design of the system has been approved by the CCCFCWCD. | LS | No additional mitigation is required. | None | LS |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------|------|----|

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| Impacts                                                                                                                                                                                                                                                                                                                                         | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                         | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| Although the total volume of runoff from the site would increase, the reduction in peak discharge rates created by the proposed drainage system, and the existing capacity of the downstream drainage system, would be expected to prevent the project from creating significant downstream drainage facility impacts due to increased volumes. | LS                                                 | Prior to Final Map Approval, a hydrology report describing the project drainage system design details must be submitted to all affected agencies. The report must present a complete hydraulic analysis of discharge from the project beneath Highway 4, and the capacity of the proposed retention basins. | Project                      | LS                                              |
| As explained herein under Soils and Geology, the project could cause significant erosion and related impacts due to steep slopes, the susceptibility of site soils to erosion, and the large quantity of grading proposed.                                                                                                                      | S                                                  | The project grading plan should include an approved drainage and erosion control plan and an associated ongoing inspection program, as described in SEIR sections IV.D.3 (Soils and Geology) and IV.E.3.b (Drainage and Water Quality).                                                                     | Project                      | LS                                              |
| The conversion of the site from grassland to suburban type development would increase the amount of non-point urban pollutants flowing from the site into Shore Acres Creek and eventually into Suisun Bay.                                                                                                                                     | S                                                  | In anticipation of the NPDES stormwater discharge permit requirements to be implemented in the near future, the project should include provisions for street cleaning, oil and grease separators for large parking areas, infiltration areas, and trash racks.                                              | Project                      | LS                                              |
| <b>VISUAL</b>                                                                                                                                                                                                                                                                                                                                   |                                                    |                                                                                                                                                                                                                                                                                                             |                              |                                                 |
| The proposed conversion of hillside rangeland to urban use would be consistent with the <u>Pittsburg General Plan Land Use Map</u> , but                                                                                                                                                                                                        | S                                                  | The visual impact associated with the proposed change in land use could not be mitigated to levels considered less than significant.                                                                                                                                                                        | Project                      | SU                                              |

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| Impacts                                                                                                                              | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| would represent a significant adverse visual impact on the rural, open space character of the distinctive Southwest Hills landscape. |                                                    | <p>However, the following measures would substantially reduce identified visual impacts:</p> <p>(1) Require that all project construction occur at elevations below the major ridgeline portion of the site (i.e., below approximately the 750-foot contour);</p> <p>(2) Incorporate appropriate controls on architecture, grading, introduced landscaping, future tree removal, ongoing landscape maintenance, and building materials and colors (including roofing) in the final project design (CC&amp;Rs, etc.);</p> <p>(3) Incorporate architectural design standards in the project final design to ensure against visually conspicuous residential structures, particularly for possible custom homes in Village N;</p> <p>(4) Incorporate provisions and controls in the project final design related to common and private landscaping as described in SEIR section IV.F.2.a(4); and</p> <p>(5) Incorporate provisions and controls in the final project design to reduce the effects of light and glare, as described in SEIR section IV.F.3.a(5).</p> |                              |                                                 |

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| Impacts                                                                                                                                                                                                                                                                                                                           | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| The location of residential uses and other features in proximity to the two parallel PG&E electrical transmission lines and associated towers would result in adverse visual impacts for residents and users of those project components closest to the lines.                                                                    | S                                                  | Identified visual impacts associated with the PG&E electrical transmission lines and towers could be reduced, although not to less than significant levels, by the strategic location of trees and other landscaping.                                                                                                                                                                                                                                                                                                                                                | Project                      | SU                                              |
| The generally consistent building setbacks, home types, and building heights, in combination with the garage doors of similar design, narrow residential streets, limited front yard setbacks, and large percentage of two story homes, could result in visual monotony and an internal sense of excessive density and enclosure. | S                                                  | The final project design should include more variation in unit design, the inclusion of more single-story elements in two-story homes, the introduction of more single-story homes at selected locations along each street, and the introduction of unit designs which do not emphasize the garage door in the front elevation.                                                                                                                                                                                                                                      | Project                      | LS                                              |
| The project would significantly change the character of the west "gateway" to the Pittsburgh community as viewed from eastbound traffic on Highway 4 (see Figure 38 in SEIR section IV.F.2), and would also dramatically change the view of the site for westbound traffic on Highway 4 (see Figure 39).                          | S                                                  | Implementation of mitigation measures described in SEIR section IV.F.3 relating to:<br>(1) increased tree planting; (2) implementation of an effective landscaping plan for Villages A, B, C, and M; (3) the use of subdued building materials and colors (including roofing); and<br>(4) provision of dense landscaping in open space areas in Villages B, C, and M, would substantially reduce project adverse visual impacts on views from Highway 4, although not to less than significant levels. Preservation of the southern portion of Shore Acres Creek and | Project                      | SU                                              |

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| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                   | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| Project homes in Villages L, J, and M would be most visible from viewpoints in the Sea Breeze and Mota Ranch subdivisions. Project impacts on southerly views from these two subdivisions would be significant due to the close proximity, the large portion of the site visible from these locations, and the degree of contrast between the intensive new project suburban landscape and the distinctive existing hillside landscape (see Figure 40 in section IV.F.2). | S                                                  | incorporation of the creek into the project design would also reduce visual impacts.<br><br>Implementation of all measures listed above and below would substantially reduce impacts on views from these locations, although not to less than significant levels. The preservation of the general plan designated "major ridge" and Open Space area of the site would also be particularly effective. | Project                      | SU                                              |
| Views of the project from the Shore Acres community would be limited by intervening urban development and landscaping. However, loss of the visual relief currently provided to this community by the project site ridgeline backdrop to the south would be considered a significant adverse visual impact.                                                                                                                                                               | S                                                  | Implementation of all measures listed above and below would substantially reduce project impacts on views from locations in the Shore Acres community, although not to less than significant levels. The preservation of the general plan designated "major ridge" and Open Space areas would be particularly important.                                                                              | Project                      | SU                                              |
| Project visibility from the unincorporated West Pittsburgh community would be limited primarily to vantage points along Willow Pass Road and along those diagonal, northeast-southwest oriented residential streets north of Willow Pass Road which are in line with the project site. Loss of the visual relief currently provided by                                                                                                                                    | S                                                  | Implementation of all measures listed above and below would substantially reduce impacts on views from West Pittsburgh vantage points, although not to less than significant levels. The preservation of the general plan designated "major ridge" and Open Space areas would be particularly important.                                                                                              | Project                      | SU                                              |

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| Potential<br>Significance<br>Without<br>Mitigation | Potential<br>Significance<br>With<br>Mitigation | Mitigation<br>Responsibility | Mitigation<br>Measures                                                                                                                                                                                                                                                                                                                                                                                                                                     | Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| S                                                  | SU                                              | Project                      | Mitigation relating to use of subdued building materials and colors, and common landscaping, would be effective in substantially reducing project impacts on views from Evora Road and Avila Road-Leland Avenue. Mitigation relating to increased overall landscaping; landscaping in Villages A, B, and C; and use of subdued roofing materials would be particularly important for reducing impacts on views from Evora Road.                            | <p>the ridgeline backdrop of the project site would be considered a significant adverse visual impact.</p> <p>Views of the project site from Evora Road (photograph 1 in SEIR section IV.F.1) and Avila Road would also undergo a dramatic change. The amount of traffic on Evora Road, the extent of views of the site from this route, and the distinctly rural existing character of the area would make the project impacts to these views particularly significant. Due to the relatively small amount of traffic on Avila Road, project impacts on Avila Road views would not be considered significant.</p> |
| S                                                  | SU                                              | City                         | Each additional development in the project vicinity is currently undergoing or will be subject to its own environmental review. The visual impacts and mitigation needs related to each of these projects should be addressed in each project review. Nevertheless, the cumulative adverse visual impacts of these development expectations, although substantially reducible through good design, could not be mitigated to less than significant levels. | <p>The development of the Oak Hills South subdivision and the Alves property, in combination with the project, would represent a major westerly extension of Pittsburg urbanization, a significant reduction in the existing hillside landscape, a significant loss of open space, and a corresponding significant cumulative visual impact. The potential future conversion of the adjacent DeBonneville, Ridge Farm, and Seecon properties to urban use would further increase the cumulative adverse visual impact.</p>                                                                                         |

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| Impacts                                                                                                                                                                                                                                                                                                                                                                                   | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                        | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| The development plan includes five 20-acre+ lots in the ridgeline area in the upper southwest portion of the project site which is designated by the general plan as <i>Open Space</i> . Inadequate control of the development and use of these lots would be in conflict with the intent of this general plan land use designation and would create a significant adverse visual impact. | S                                                  | Any private ownership of the designated <i>Open Space</i> area should be subject to permanent prohibition on future development or visual impacts on at least 85 percent of the ownership through application of a conservation easement or some similar legal instrument. | Project                      | LS                                              |
| The project site plan may not be consistent with the city general plan policy to retain "major ridgelines" as open space. Project homes are proposed in an area of the southwest corner of the site designed by the <u>Pittsburg General Plan</u> as a "major ridgeline."                                                                                                                 | S                                                  | The layout of Neighborhood N should be revised as warranted to achieve project consistency with the "major ridgeline" and <i>Open Space</i> designations of the city general plan.                                                                                         | Project                      | LS                                              |
| <b>VEGETATION AND WILDLIFE</b>                                                                                                                                                                                                                                                                                                                                                            |                                                    |                                                                                                                                                                                                                                                                            |                              |                                                 |
| The project would involve removal of most of the site's existing vegetation, including over 500 acres of common annual grassland. The direct loss of this grassland vegetation would not be biologically significant, but would contribute to a significant regional cumulative loss of open wildlife range.                                                                              | S                                                  | The project contribution to these regional impacts could be reduced, but not to less than significant levels, through appropriate revegetation and landscaping of the site with emphasis on native plants, and restoration of site riparian and wetland areas.             | Project                      | SU                                              |
| No sensitive plant species would be affected by the project.                                                                                                                                                                                                                                                                                                                              | LS                                                 | No mitigation is required.                                                                                                                                                                                                                                                 | None                         | LS                                              |

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| Impacts                                                                                                                                                                                                                       | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| No significant impacts to common or sensitive wildlife species have been identified.                                                                                                                                          | LS                                                 | No mitigation is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | None                         | LS                                              |
| The project would result in the loss of 0.75 acre of riparian thicket along Shore Acres Creek, and 3.5 acres of jurisdictional wetlands.                                                                                      | S                                                  | <u>The project should be redesigned to preserve the identified corridor of riparian and other vegetation along the northern section of Shore Acres Creek, and the riparian herbaceous meadow in the northwest corner of the site. Alternately, these sensitive habitats should be re-created elsewhere on the site (i.e., in a designated park or open space area) to the satisfaction of the US Army Corps of Engineers and the State Department of Fish and Game.</u>                                      | Project                      | LS                                              |
| These stream and wetland fill aspects of the project would require a Section 404 permit from the US Army Corps of Engineers (COE) and would require a Streambed Alteration permit from the Department of Fish and Game (DFG). | S                                                  | <p>The wet meadow to be displaced by the eastbound offramp of the new freeway interchange should be re-created elsewhere on the site (i.e., in a designated park or open space area), to the satisfaction of the US Army Corps of Engineers.</p> <p>As a condition of project approval, the applicant should be required to submit to the city written documentation showing that all COE and DFG requirements have been met with regard to Section 404 and the Streambed Alteration permitting process.</p> | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                                                                                                                                      | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| MUNICIPAL SERVICES                                                                                                                                                                                                                                                                                           |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| Schools                                                                                                                                                                                                                                                                                                      |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| The project would generate an estimated 423 additional elementary school, 173 middle school, and 202 high school students. This additional enrollment would create significant impacts on the capacity of these Mount Diablo Unified School District elementary and middle schools serving the project area. | S                                                  | School enrollment impacts would be partially mitigated by the existing school impact fees. The project should also participate in a future added capital facilities program which would include (in addition to the payment of existing fees) payment of any additional impact fees established by the MDUSD under current state guidelines, and establishment of a project Mello-Roos District to fund the project's fair share of necessary cumulative school improvements. Project participation in this mitigation program could be reduced in exchange for financing or construction of a new elementary school on the project site. | Project, City, MDUSD         | LS                                              |
| Water                                                                                                                                                                                                                                                                                                        |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| The project would require construction of the water distribution system planned for the site by the city's <u>Water Master Plan Update</u> .                                                                                                                                                                 | S                                                  | The project would be responsible for all water distribution system improvements required to serve the project, and should also constitute a project fair share toward the cost of recent water treatment plant expansion and raw water storage facilities.                                                                                                                                                                                                                                                                                                                                                                                | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                                                                                                              | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mitigation<br>Responsibility   | Potential<br>Significance<br>With<br>Mitigation |
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| <i>Sewer</i>                                                                                                                                                                                                                                                                         |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                                                 |
| The project would require the construction of the planned sewer collection system from the project to the existing West Pittsburgh interceptor, as anticipated by the Delta Diablo Sanitation District (DDSD). The DDSD has established a development fee to fund this construction. | S                                                  | The project would be required to pay the sewer development fees for DDSD Zone 1. Applicant completion of a sewer capacity study to determine the size of the project sewer extension lines and points of connection to the DDSD main facilities would also be required.                                                                                                                                                                                      | Project                        | LS                                              |
| <i>Police Service</i>                                                                                                                                                                                                                                                                |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                                                 |
| The project would be subject to longer than typical emergency response times and would generate a need for ten additional sworn police officers and five non-sworn personnel at project buildout.                                                                                    | S                                                  | A new, separate, fully staffed, southwest area beat should be established to meet the demands of the project and other cumulative growth in the city's southwest area. The police department also recommends that the project provide (1) adequate, well lit, accessible, and safe parking lots for proposed multi-family buildings, (2) streets which meet city standards, and (3) parks which do not abut side and/or rear yards of residential dwellings. | City                           | LS                                              |
| <i>Fire Protection Service</i>                                                                                                                                                                                                                                                       |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                                                 |
| The project would significantly increase the population located outside the existing range of adequate Riverview Fire Protection District (RFPD) emergency response time. The substantial new population generated by the                                                            | S                                                  | A new fire station should be constructed at a location which can meet the RFPD response time standard. The project should provide its fair share of those local fire protection capital improvement and operating expenses not                                                                                                                                                                                                                               | RFPD,<br>Project fair<br>share | LS                                              |

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| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                               | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| <p>project would also create the demand for a new fire station (and associated equipment) in closer proximity to the site, and the need to fund ongoing operation of that station.</p> <p>Payment of the established Fire Facilities Fee for capital improvements and the Annual Benefit Assessment Fee for annual operations would only partially fund these necessary increases in capital facilities and ongoing operations require by the project.</p>                                                                                                                                                                                                  |                                                    | <p>covered by existing fees. The project should also incorporate the additional development design measures recommended by the RFPD which are listed in SEIR section IV.H.5.c(3).</p>                                                                                                                                             |                              |                                                 |
| <i>Parks and Recreation</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                    |                                                                                                                                                                                                                                                                                                                                   |                              |                                                 |
| <p>To meet city per-capita park standards, the project would need to include approximately 15.5 total acres of community park and 23 total acres of neighborhood parks. The proposed combination of one 36-acre community park, two "community recreation areas" totalling eight acres, and three one-acre village parks would meet the total acreage park needs of project residents and would provide adequate park facilities within walking distance (i.e., one-half mile) from all project lots, provided that the various park facilities are fully improved and completed in a sequence that adequately corresponds to project population needs.</p> | LS                                                 |                                                                                                                                                                                                                                                                                                                                   | Project                      | LS                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                    | <p>The project must complete proposed park and recreation facilities in a sequence that relates adequately to the needs of project residential phasing; i.e., at least one park facility which is equivalent to a neighborhood park (5 acres or greater in size) should be constructed with the first three project villages.</p> |                              |                                                 |

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| Impacts                                                                                                                                                                                                                                                                                                           | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| Library Services                                                                                                                                                                                                                                                                                                  |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                 |
| The project would increase the total population served by the Pittsburg and Concord branches of the Contra Costa County Library system by four and one-half percent. This population increase would reduce the already inadequate library space per capita and books per capita ratios at both of these branches. | S                                                  | The project should contribute additional library facilities equal to the need generated by the project. Based on nationally accepted per-capita standards, this goal would require the addition of approximately 3,865 square feet of library space, and the addition of 15,460 volumes of books to the local branches of the county library system. The project impact on library space and volumes per capita ratios could also be offset by adequate provision of a fully-equipped bookmobile.                                                                 | Project                      | LS                                              |
| NOISE                                                                                                                                                                                                                                                                                                             |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                 |
| Noise levels outside of proposed project homes closest to Highway 4, Willow Pass Road, and West Leland Road would exceed the normally acceptable exterior $L_{\text{eq}}$ standard of 60 dBA for residential development and the interior standard of 45 dB $L_{\text{eq}}$ when windows are open.                | S                                                  | To mitigate exterior noise level impacts, an eight-foot high landscaped berm, or an 11-foot sound wall, or some combination of the two, should be constructed along Highway 4; a seven-foot sound wall should be constructed on both sides of the Willow Pass Road extension (or the project could be redesigned to allow room for a noise berm); and individual decks and patios on those project homes adjacent to Leland Road should be constructed with fences adequately designed to mitigate local noise impacts to each individual affected dwelling unit. | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                           | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                     | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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|                                                                                                                                                                                                   |                                                    | First floor interior noise levels would be mitigated by those measures described above for exterior noise levels. Second story interior spaces exposed to 60 dB exterior noise levels should be provided with mechanical ventilation so that windows can be closed. In some cases, sound rated glazing may be required. |                              |                                                 |
| No significant offsite noise impacts related to project-generated traffic have been identified.                                                                                                   | LS                                                 | No mitigation is required.                                                                                                                                                                                                                                                                                              | None                         | LS                                              |
| No significant construction period noise impacts on offsite land uses have been identified.                                                                                                       | LS                                                 | No mitigation is required.                                                                                                                                                                                                                                                                                              | None                         | LS                                              |
| Because the development would be phased, construction noise from later phases would impact project homes constructed in earlier phases.                                                           | S                                                  | To reduce identified impacts, project construction should be limited to weekdays between 8:00 AM and 5:00 PM. All equipment used in the project should be muffled and maintained.                                                                                                                                       | Project                      | SU                                              |
| <b>AIR QUALITY</b>                                                                                                                                                                                |                                                    |                                                                                                                                                                                                                                                                                                                         |                              |                                                 |
| Construction of the project would generate significant quantities of airborne particulate matter (PM-10) which could adversely affect existing or future residential areas near the project site. | S                                                  | Construction period air quality impacts should be reduced through implementation of the construction practices described in SEIR section IV.J.3(a).                                                                                                                                                                     | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                                                                                                                      | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| Project generated emissions of carbon monoxide would not result in local concentrations above state and federal standards.                                                                                                                                                                   | LS                                                 | No mitigation is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | None                         | LS                                              |
| <p><i>Need<br/>Determine<br/>Conduct</i></p> <p>The project would result in emissions of regional pollutants (i.e., pollutants which affect the entire San Francisco air basin) exceeding 150 lbs. per day for two precursors of ozone (reactive organic gases, and oxides of nitrogen).</p> | S                                                  | Project impacts on regional air quality could be reduced, but not to less than significant levels, by locating one or more neighborhood commercial centers within the project; by provision of expanded pedestrian trail, bicycle and transit facilities within the project to encourage alternative transportation options; and by restricting the number of fireplaces and woodstoves per household, and/or by requiring use of EPA-certified woodstoves or fireplace inserts. | Project                      | SU                                              |
| <b>CULTURAL RESOURCES</b>                                                                                                                                                                                                                                                                    |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |                                                 |
| Project and grading could damage prehistoric or historic resources located around the Rogers Ranch complex.                                                                                                                                                                                  | S                                                  | An archaeologist (familiar with the history of the site) should be present to monitor site clearing and grading to identify and remove any significant in this area and 19th century artifacts discovered in this process. All known and discovered historic resources should be catalogued and described in a summary archaeological report which would constitute preservation of the site's cultural resources in written form.                                               | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                                        | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| Project grading and construction could also damage prehistoric and/or historic resources at the Highway 4/Isolate 1 location.                                                                                  | S                                                  | This location should be mechanically tested under the supervision of a qualified archaeologist for any evidence of buried prehistoric deposits before project grading and construction begin. If any resources are discovered, construction should be halted and further evaluation through hand excavation should occur to assess the significance of the finds and to formulate necessary further mitigation measures.                                                  | Project                      | LS                                              |
| Project grading and construction could damage prehistoric and historic resources at the Alvernaz Ranch Complex location.                                                                                       | S                                                  | Historic research and an architectural evaluation for this location, plus backhoe testing, should be completed by qualified cultural resource professionals before any grading or construction begins. The results of the research should be preserved in written form. In addition, if any resources are discovered during the backhoe testing, a specific archaeological mitigation program should be formulated for this location depending on the nature of the find. | Project                      | LS                                              |
| Project grading and construction could also damage prehistoric and historic resources at the identified possible barn/structure location along the minor drainage channel in the northeast corner of the site. | S                                                  | The mitigations described above for the Alvernaz Ranch Complex location should also be implemented for this location.                                                                                                                                                                                                                                                                                                                                                     | Project                      | LS                                              |

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| Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
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| PUBLIC HEALTH AND SAFETY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| Electrical Transmission and Distribution Line Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |                                                 |
| To date, there is no conclusive evidence regarding the possible health risks from power line EMF exposure. However, there is the potential that project residents could be exposed to power line EMFs that could adversely affect their health. There are approximately 73 lots or units proposed within 150 feet of the edge of the 230 kV PG&E transmission line easement and approximately 77 units or lots located within 100 feet of the PG&E 115 kv line easement. Future occupants of these units could be exposed to potential health risks related to prolonged EMF exposure. | S                                                  | <p>Although no specific setback or other criteria exists beyond conventional PG&amp;E easement boundaries, the following measures are suggested in this SEIR, based primarily on current state standards for school facilities:</p> <p><b>Setbacks.</b> The applicant should endeavor to redesign the project such that proposed residential lots should be located at least 150 feet from the edge of the 87.5-foot 230 kV transmission line easement and 100 feet from the edge of the 50-foot 115 kV transmission line easement. This measure would require the relocation of up to an estimated 150 proposed residential lots and units.</p> <p><b>Disclosure.</b> Prospective project residents of all project homes within 200 feet of the 230 kV line, 150 feet of the 115 kV line, and 100 feet of the 69 kV line <u>easement edges</u> should be notified in writing by the applicant of the potential EMF health risks associated with such lines. This could be achieved by requiring the project proponent to include such disclosures in</p> | Project                      | Unknown                                         |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                                                                                               | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
| <i>Natural Gas Well Hazard Impacts</i>                                                                                                                                                                                                                                                                                |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |                                                 |
| The applicant plans to abandon the existing gas wells as the project is developed. Unless these gas wells are abandoned to current Department of Oil and Gas (DOG) standards specified in Section 1723 of Title 14 of the California Code of Regulations, future residents could be subject to the risk of explosion. | S                                                  | the sales and rental materials to be signed by future project residents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Project                      | LS                                              |
|                                                                                                                                                                                                                                                                                                                       |                                                    | The following two mitigation measures should be implemented to reduce natural gas well hazard impacts to a less than significant level:<br><br><i>Remediation.</i> Pursuant to Section 3208.1 of the Public Resources Code, the applicant would be required to contact DOG's Woodland district office to determine whether wells have been abandoned to current abandonment standards (as required in Section 1723 of Title 14 of the California Code of Regulations), and whether additional remedial work on a particular well would be necessary. |                              |                                                 |
|                                                                                                                                                                                                                                                                                                                       |                                                    | <i>Avoid Abandoned Wells.</i> Revise the site plan to avoid construction of residential units over the wells. If avoidance is not possible, a State Division of Oil and Gas (DOG)-approved vent systems should be installed to collect and disperse any gas vapors that may be emitted from the wells.                                                                                                                                                                                                                                               |                              |                                                 |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                      | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                           | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
| <i>Natural Gas Well Access Impacts</i>                                                                                                                                                                                                       |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                                                 |
| Early phases of development could block access to gas wells located in portions of the site that would be developed in latter phases of the project, a potentially significant impact assuming that there is additional gas to be extracted. | S                                                  | Adequate access to the active well sites should be maintained. Access should be wide enough to allow large mobile rigs to access the active well sites.                                                                                                                                                                                                                                                                                                       | Project                      | LS                                              |
| <i>Natural Gas Well Noise Impacts</i>                                                                                                                                                                                                        |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                                                 |
| Noise associated with gas well compressors operating near earlier phases of development could disturb project residents. This could result in significant noise impacts prior to project build-out.                                          | S                                                  | Noise from compressors used on gas wells that could adversely affect project residents should be reduced by implementing the following measures:<br><br><i>Limit Hours of Operation.</i> Limit noise-generating pumping activities near project residences to daytime, weekday (non-holiday) hours (8:00 AM to 5:00 PM).<br><br><i>Shield Equipment.</i> Shield stationary noise-generating equipment with plywood barriers in order to reduce noise impacts. | Project                      | LS                                              |
| <i>Natural Gas Pipeline Impacts</i>                                                                                                                                                                                                          |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                                                 |
| PG&E has a ten-foot natural gas pipeline easement at the southwestern corner of the site. Ranchette Lot 1268 proposed in Village                                                                                                             | S                                                  | Ranchette Lot 1268 in Village N at the southwestern corner of the site should include the necessary building setback and other                                                                                                                                                                                                                                                                                                                                | Project                      | LS                                              |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact

| Impacts                                                                                                                                                                                                                                                                                                                                                                     | Potential<br>Significance<br>Without<br>Mitigation | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mitigation<br>Responsibility | Potential<br>Significance<br>With<br>Mitigation |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                             |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                 |
| N in the southwestern portion of the site would encroach into this pipeline easement.                                                                                                                                                                                                                                                                                       |                                                    | limitations necessary to avoid encroachment into PG&E's gas pipeline easement.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                                                 |
| <i>Fuel Storage Tank Impacts</i>                                                                                                                                                                                                                                                                                                                                            |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                                                 |
| A small fuel storage tank is located near one of the existing natural gas wells in the northern portion of the site. If fuel spills or leaks have occurred and soil around the tank is contaminated, construction workers could be exposed to contamination during project site preparation work and future residents could be exposed to contamination over the long-term. | S                                                  | The fuel storage tank should be removed, the soils around the tank should be tested for contamination and, if necessary, the soil cleaned to ensure that it is devoid of any contamination from the tank. If contaminated soils are discovered, a remediation plan should be submitted to and approved by the Toxic Substances Control Division of the California Environmental Protection Agency (Cal-EPA). Implementation of an approved remediation plan would be expected to reduce impacts to a less than significant level. | Project                      | LS                                              |

S = Significant  
LS = Less than significant  
SU = Significant unavoidable impact



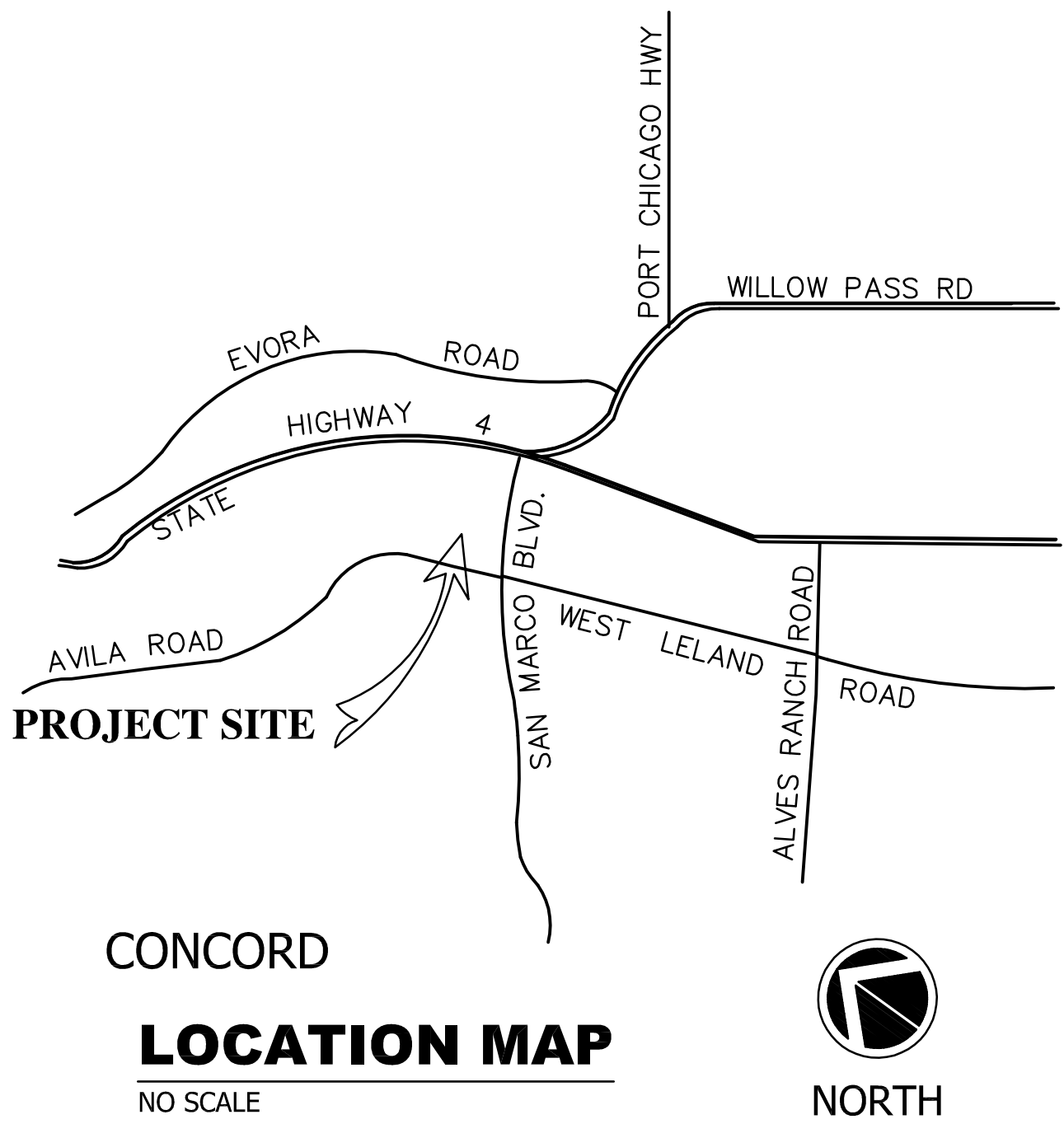


# SAN MARCO VILLAS III

PITTSBURG, CA

BY

## DISCOVERY BUILDERS INC.



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SAN MARCO VILLAS III  
PITTSBURG, CALIFORNIA

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COVER SHEET

SCALE: NO SCALE  
DATE: 01 / 10 / 2020

REVISIONS:  
03 / 27 / 2020

PROJECT NO. 18112

A0  
SHEET OF





|                       |                     |                      |
|-----------------------|---------------------|----------------------|
| PROJECT DATA          | VILLAS III          |                      |
| GROSS SITE AREA -     | 15.74 ACRES         |                      |
| TOTAL UNITS -         | 270 UNITS           |                      |
| GROSS DENSITY -       | 17.2 DU/AC          |                      |
|                       | NUMBER OF BUILDINGS | NUMBER OF UNITS/BLDG |
| BUILDING A - 12 UNITS | 1                   | x 12 = 12 UNITS      |
| BUILDING B - 24 UNITS | 5                   | x 24 = 120 UNITS     |
| BUILDING C - 30 UNITS | 1                   | x 30 = 30 UNITS      |
| BUILDING D - 12 UNITS | 3                   | x 36 = 108 UNITS     |
| TOTAL -               | 270 UNITS           |                      |
|                       | 1 BR UNITS -        | 90 (33.3%)           |
|                       | 2 BR UNITS -        | 180 (66.7%)          |

|                                             |                  |
|---------------------------------------------|------------------|
| PARKING COUNT:                              |                  |
| CARPORT PARKING (34 CARPORTS) -             | 272 SPACES       |
| UNCOVERED PARKING -                         | 254 SPACES       |
| GARAGES (5 @ 6 SPACES EACH, 1 @ 4 SPACES) - | 34 SPACES        |
| TOTAL PARKING AVAILABLE -                   | 561 SPACES       |
| PARKING SPACES PER UNIT -                   | 2.08 SPACES/UNIT |

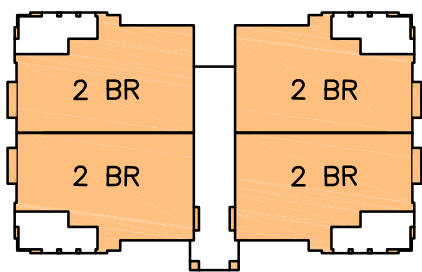
ACCESSIBLE PARKING SPACES

|                                                                            |                                                                                                                                      |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1. COVERED UNITS (GROUND FLOOR) = 90 UNITS                                 | 3. TOTAL PROVIDED                                                                                                                    |
| 2. REQUIRED PARKING SPACES 90 X 2 = 180 SPACES 180 X .02 = 3.6 OR 4 SPACES | TYPE & NUMBER OF ACCESSIBLE SPACES<br>1 - GARAGE SPACE<br>3 - CARPORT SPACE<br>4 - TOTAL SPACES (TO BE ASSIGNED UPON TENANT REQUEST) |

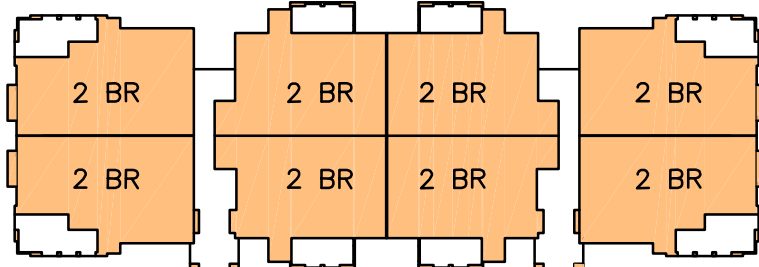
ELECTRIC VEHICLE CHARGING STATIONS

|                                                                                      |                                                                                         |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| (10) TEN PERCENT OF THE TOTAL PARKING SPACES, ROUNDED UP TO THE NEAREST WHOLE NUMBER | = 57 SPACES TO BE CAPABLE OF SUPPORTING FUTURE EVSE (ELECTRIC VEHICLE SUPPLY EQUIPMENT) |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|

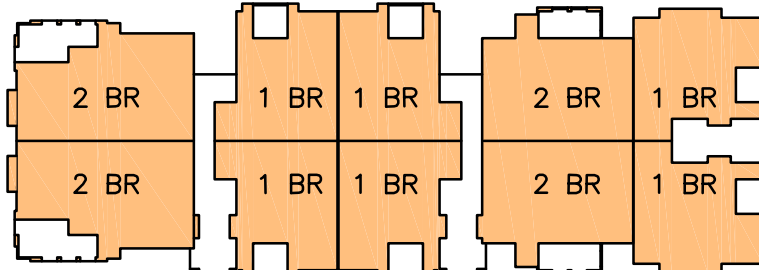
BUILDING TYPES



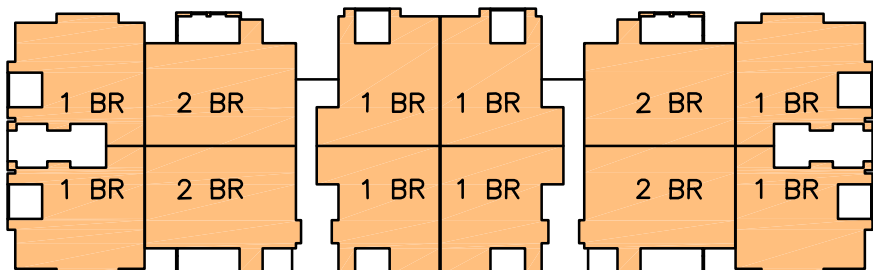
TYPE A - 3 STORIES, 12 UNITS



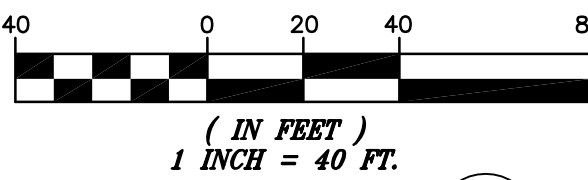
TYPE B - 3 STORIES, 24 UNITS



TYPE C - 3 STORIES, 30 UNITS



TYPE D - 3 STORIES, 36 UNITS



CONCEPTUAL SITE PLAN

SCALE: 1" = 40'



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CONCEPTUAL SITE PLAN, PROJECT DATA

SCALE: AS SHOWN  
DATE: 01 / 10 / 2020

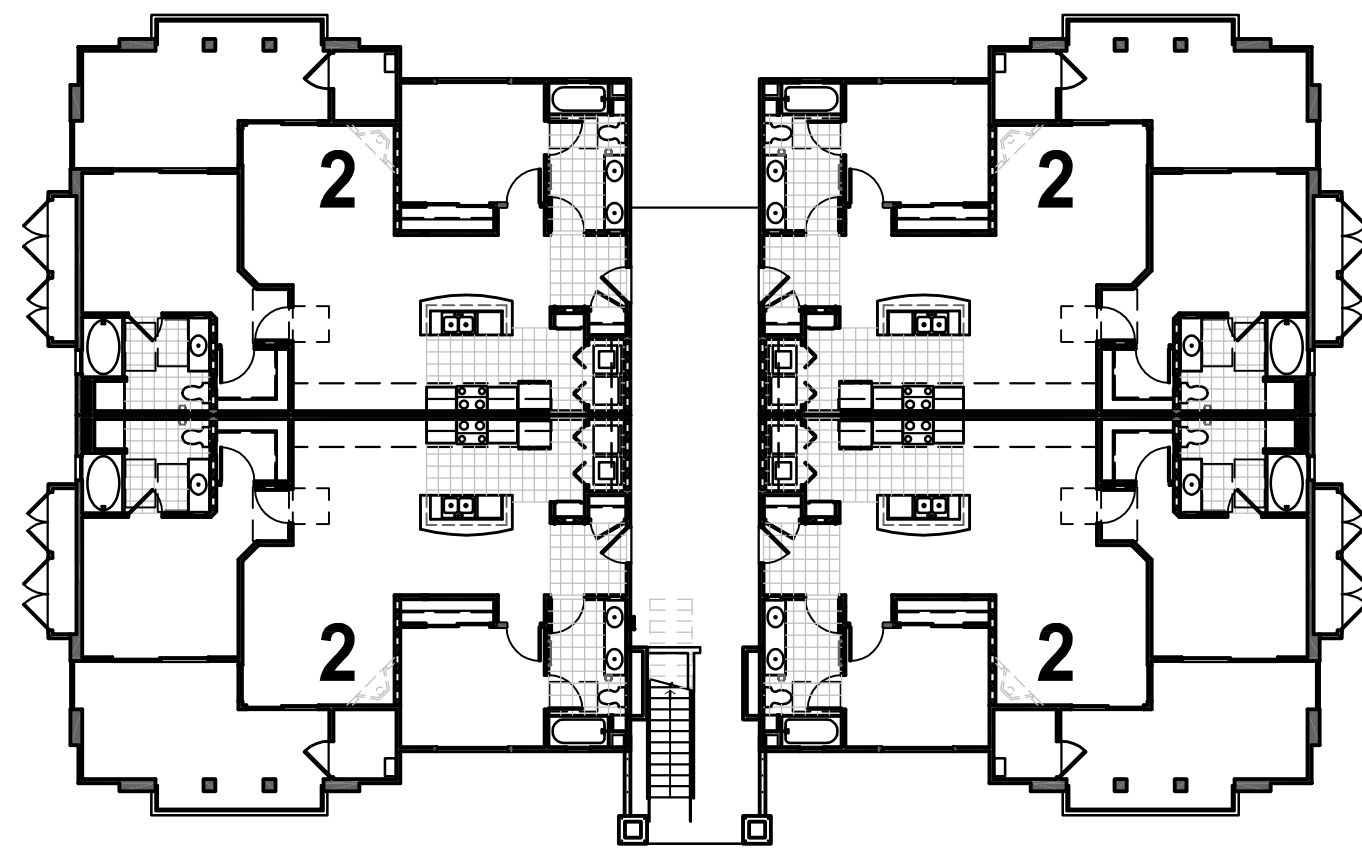
REVISIONS:  
03 / 27 / 2020

PROJECT NO. 18112

A1

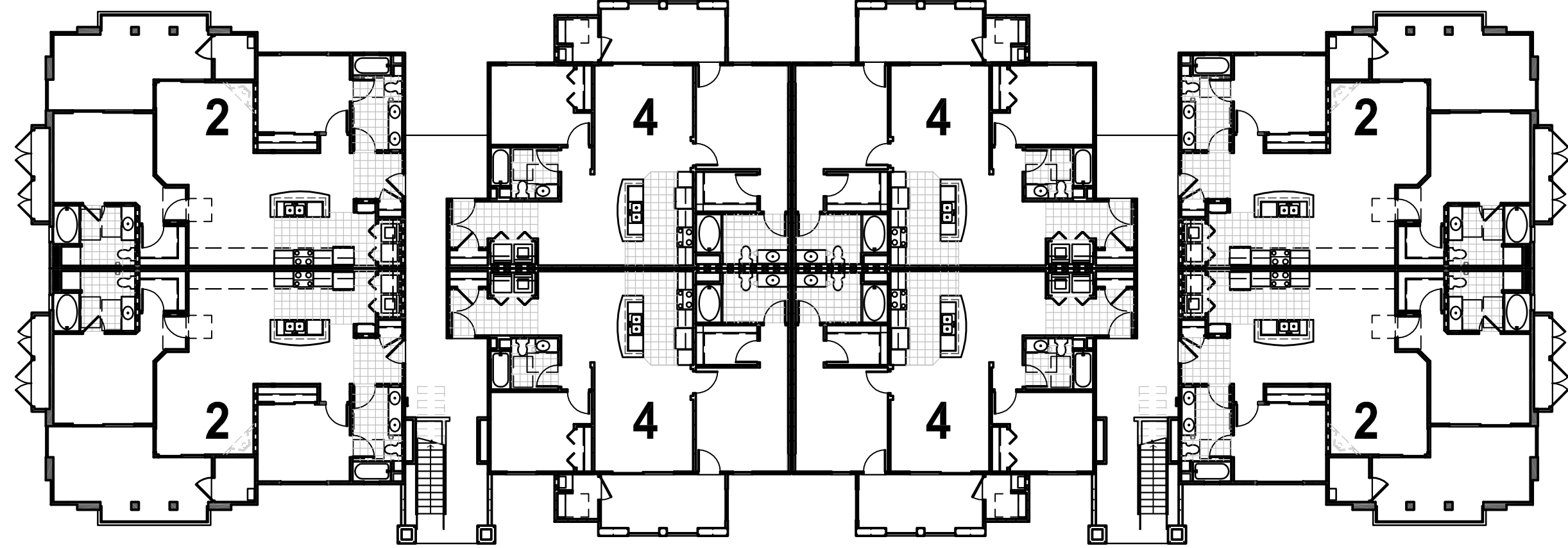
SHEET OF





# BUILDING A - 12 UNITS

13,704 SF LIVING AREA  
 UNIT 1 = 0 UNITS  
 UNIT 2 = 12 UNITS  
 UNIT 3 = 0 UNITS  
 UNIT 4 = 0 UNITS

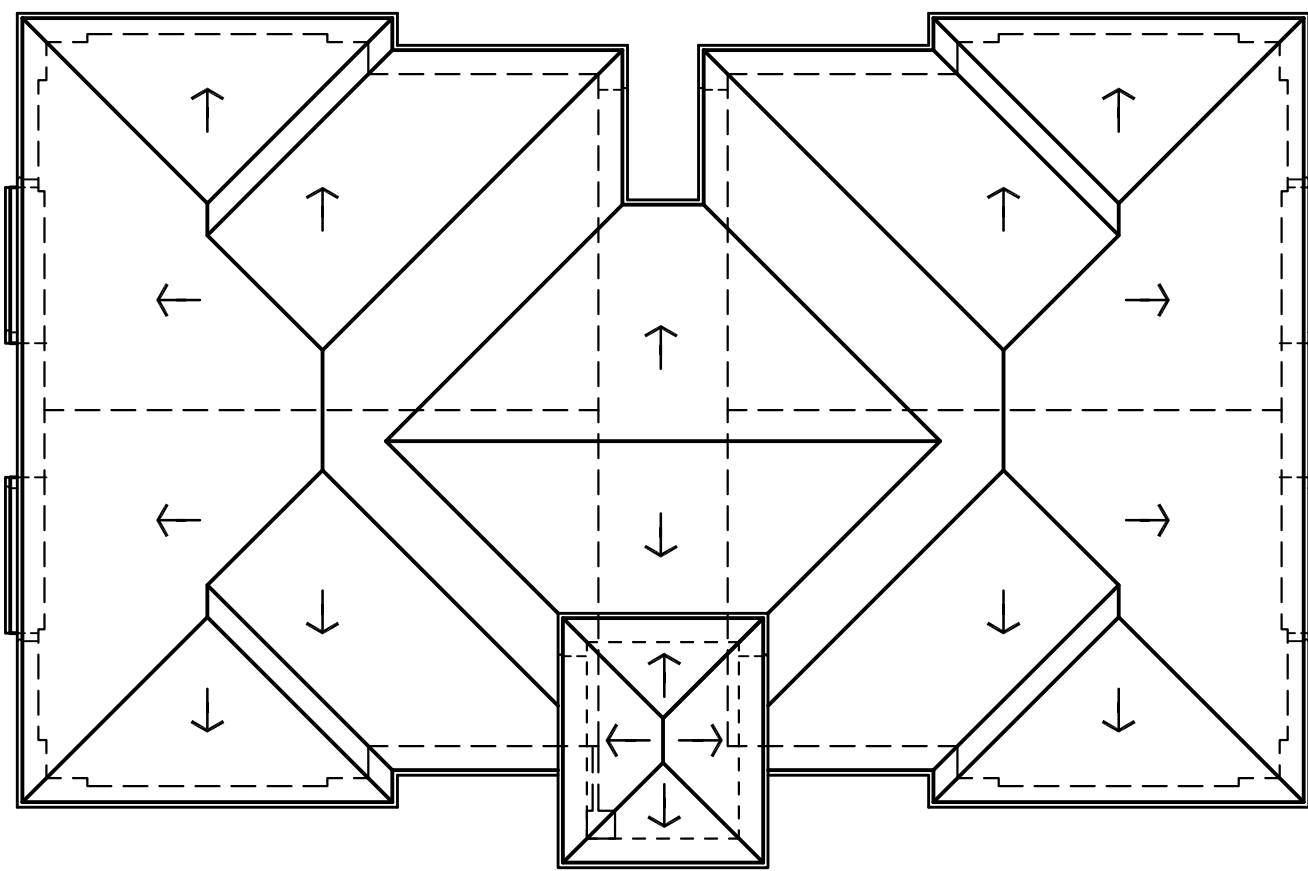


# BUILDING B - 24 UNITS

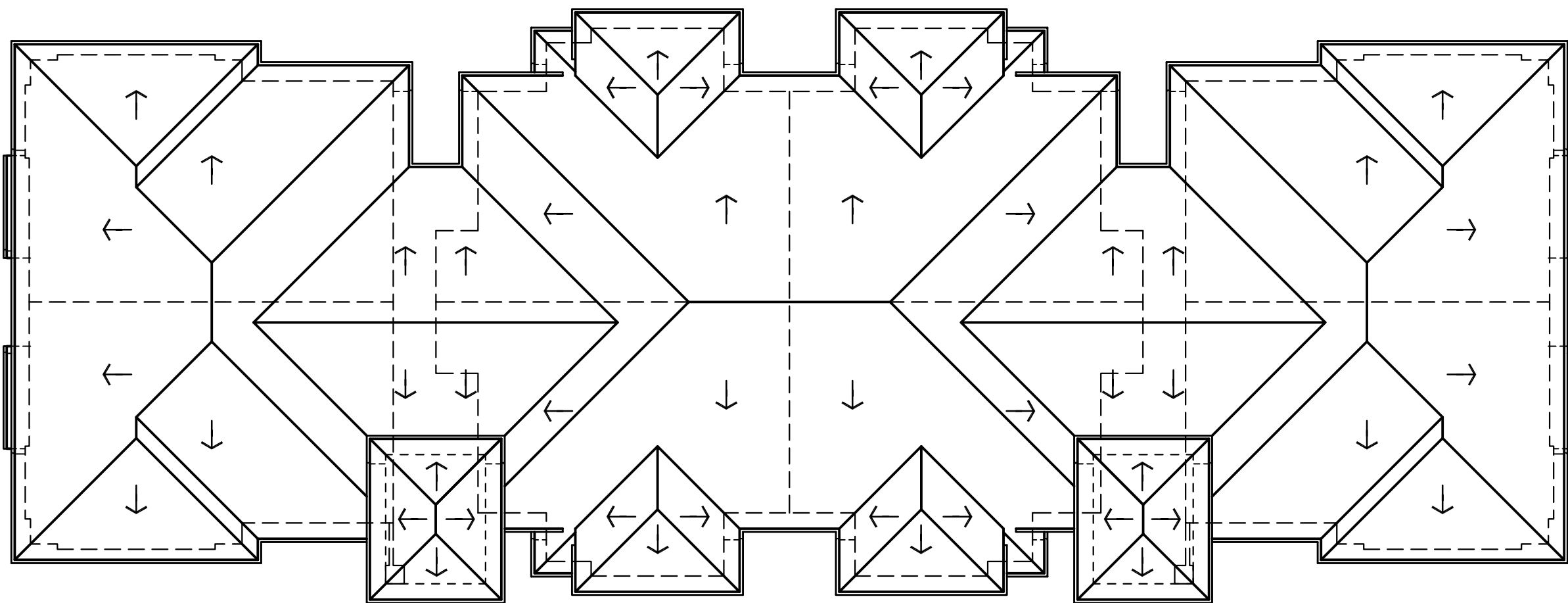
26,868 SF LIVING AREA  
 UNIT 1 = 0 UNITS  
 UNIT 2 = 12 UNITS  
 UNIT 3 = 0 UNITS  
 UNIT 4 = 12 UNITS

## CONCEPTUAL MASSING PLANS

SCALE: 1/16" = 1'-0"



# BUILDING A



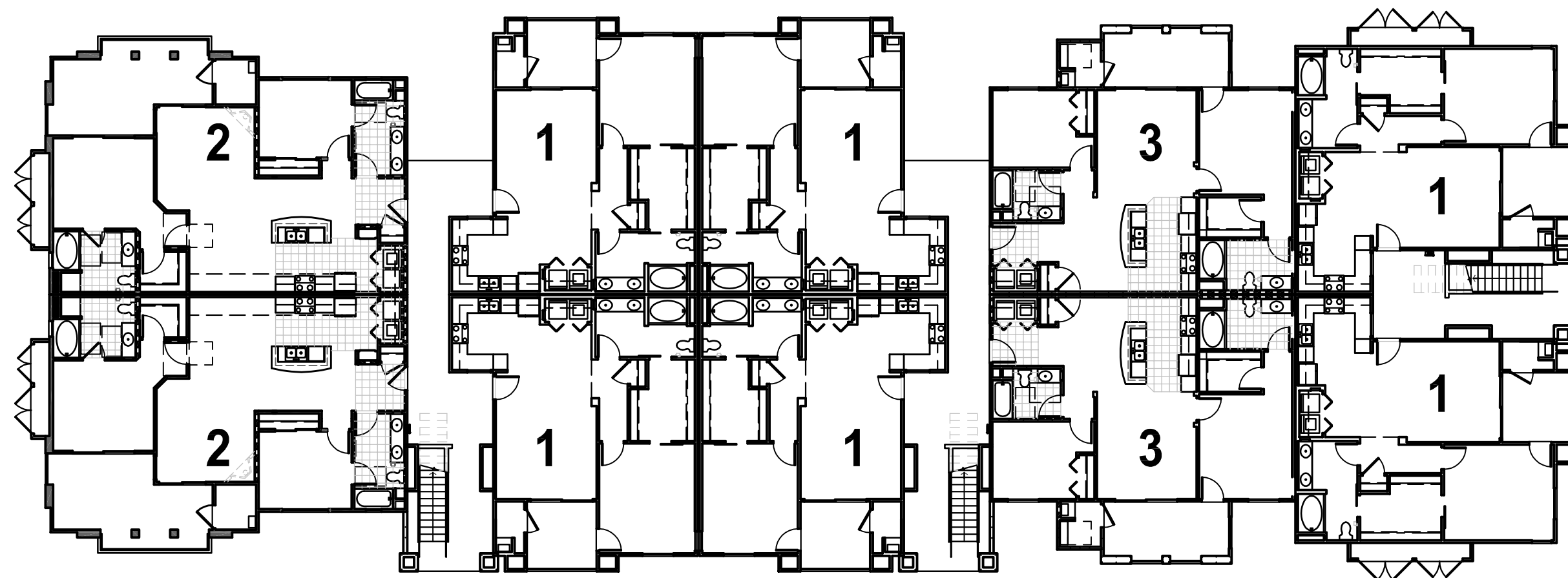
# BUILDING B

## CONCEPTUAL ROOF PLANS

SCALE: 1/16" = 1'-0"

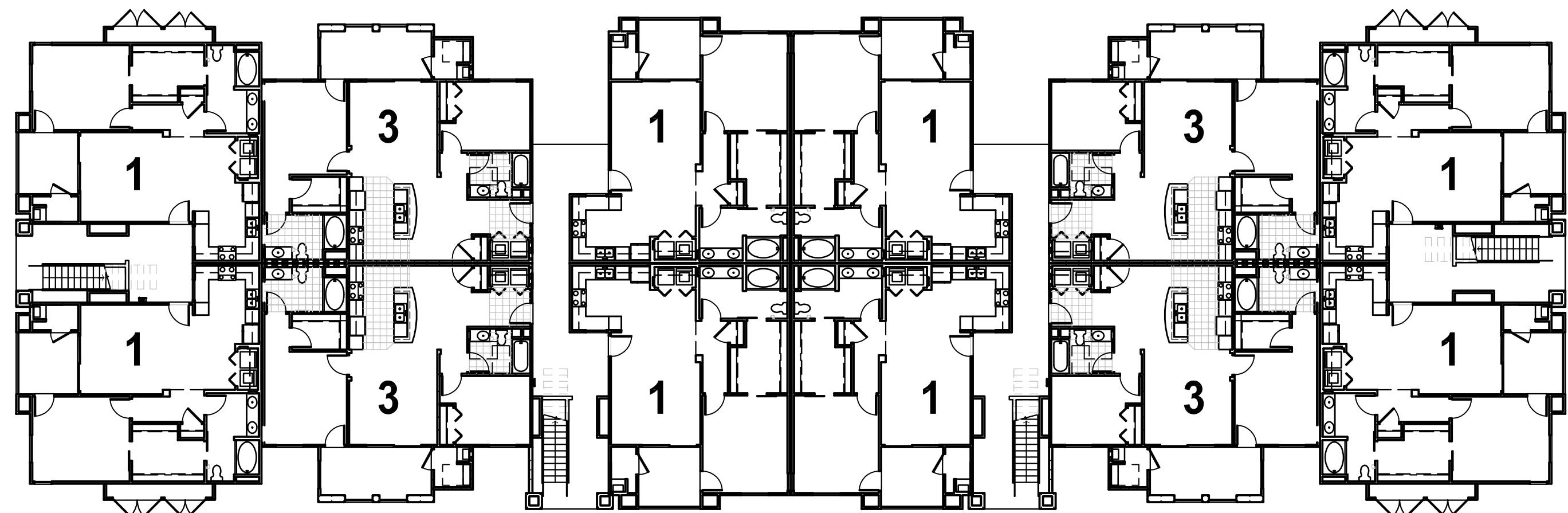






# BUILDING C - 30 UNITS

28,446 SF LIVING AREA  
 UNIT 1 = 18 UNITS  
 UNIT 2 = 6 UNITS  
 UNIT 3 = 6 UNITS  
 UNIT 4 = 0 UNITS

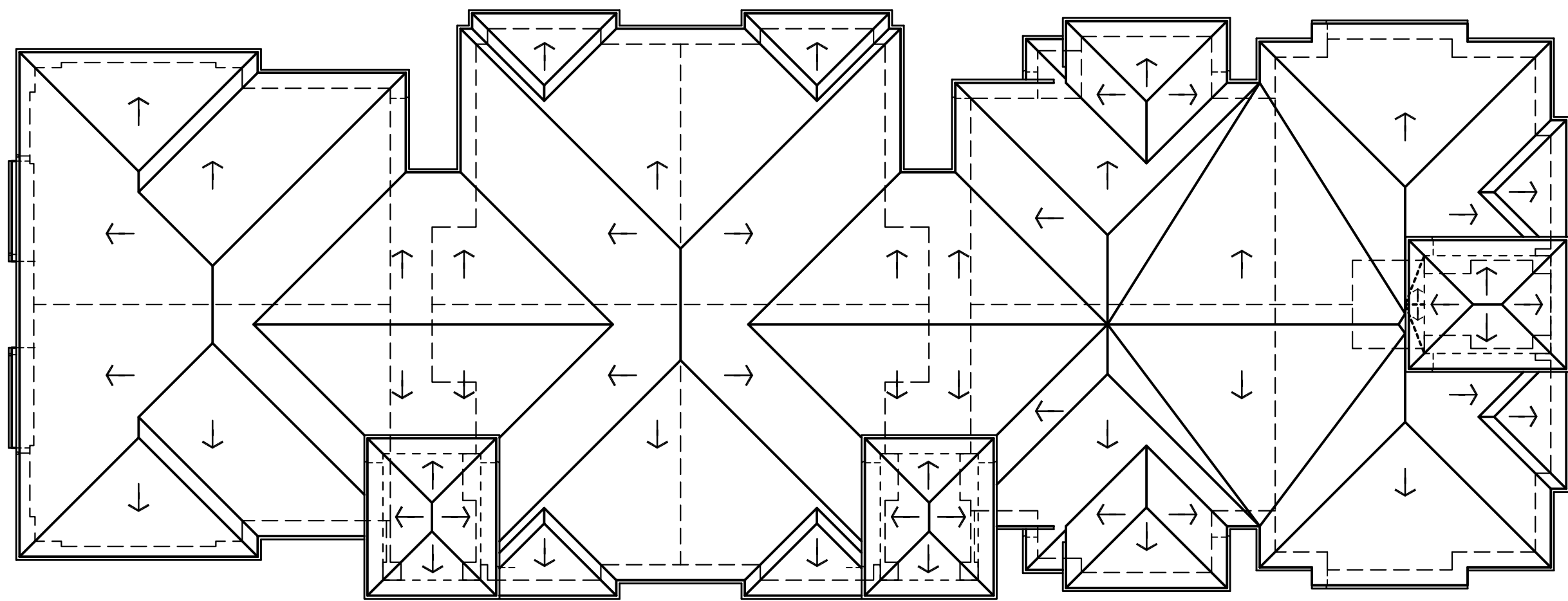


# BUILDING D - 36 UNITS

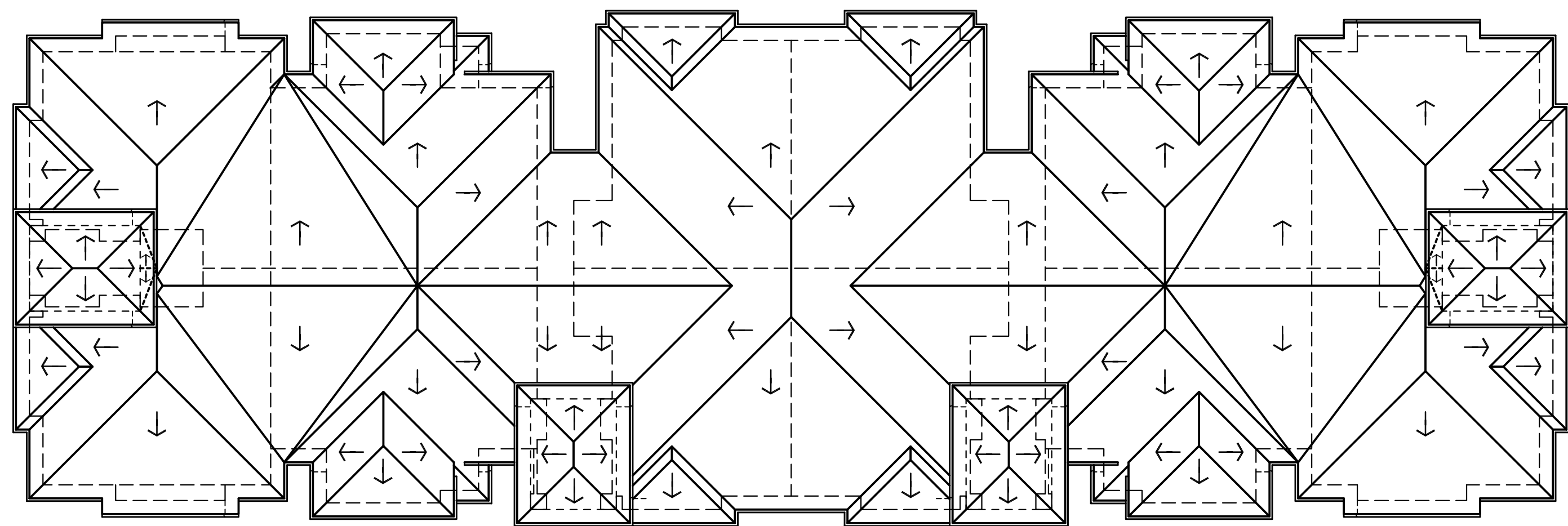
32,988 SF LIVING AREA  
 UNIT 1 = 24 UNITS  
 UNIT 2 = 0 UNITS  
 UNIT 3 = 12 UNITS  
 UNIT 4 = 0 UNITS

## CONCEPTUAL MASSING PLANS

SCALE: 1/16" = 1'-0"



# BUILDING C



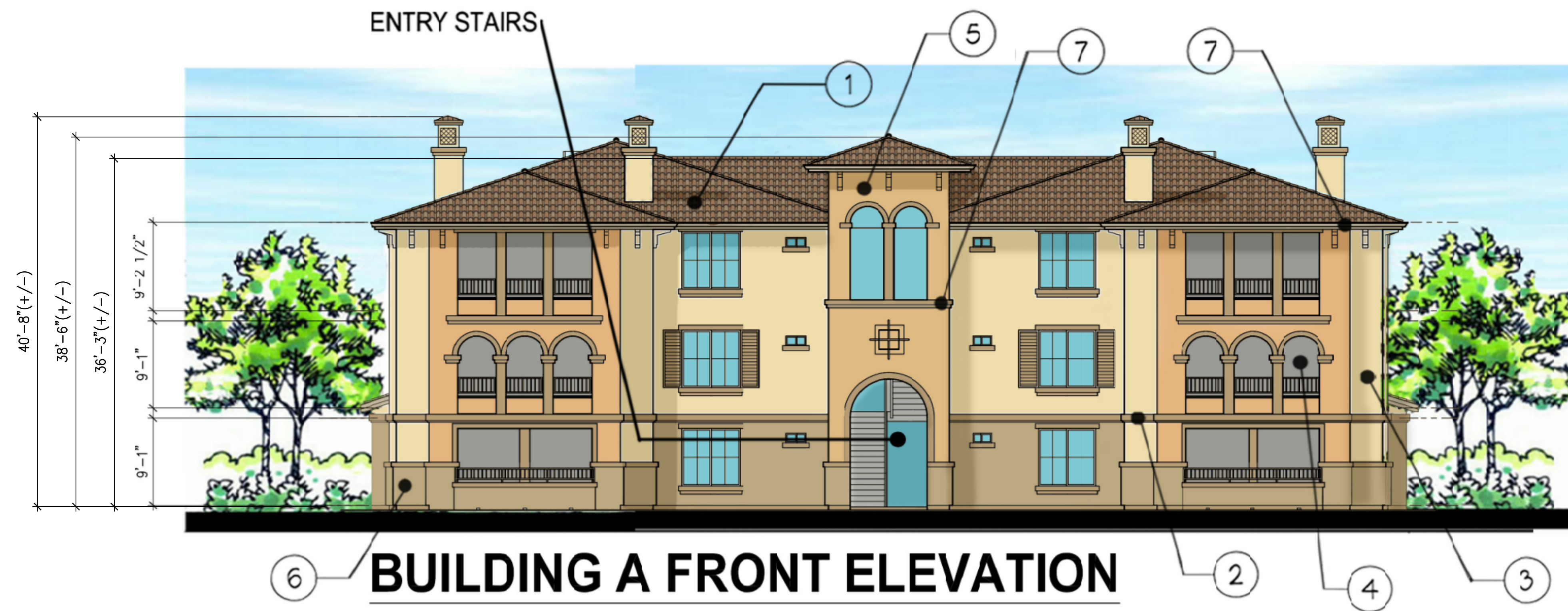
# BUILDING D

## CONCEPTUAL ROOF PLANS

SCALE: 1/16" = 1'-0"





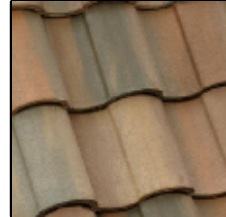
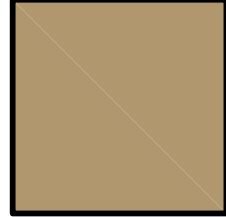
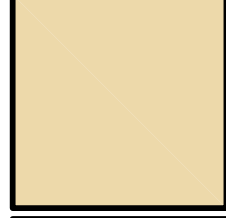
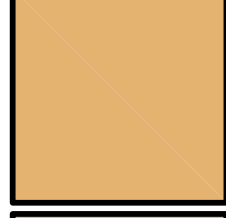
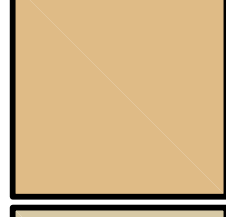
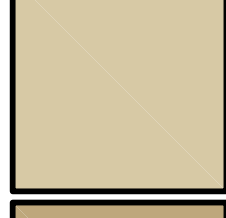
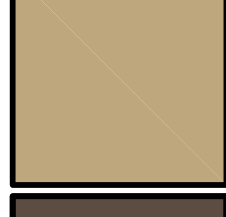


## CONCEPTUAL ELEVATIONS

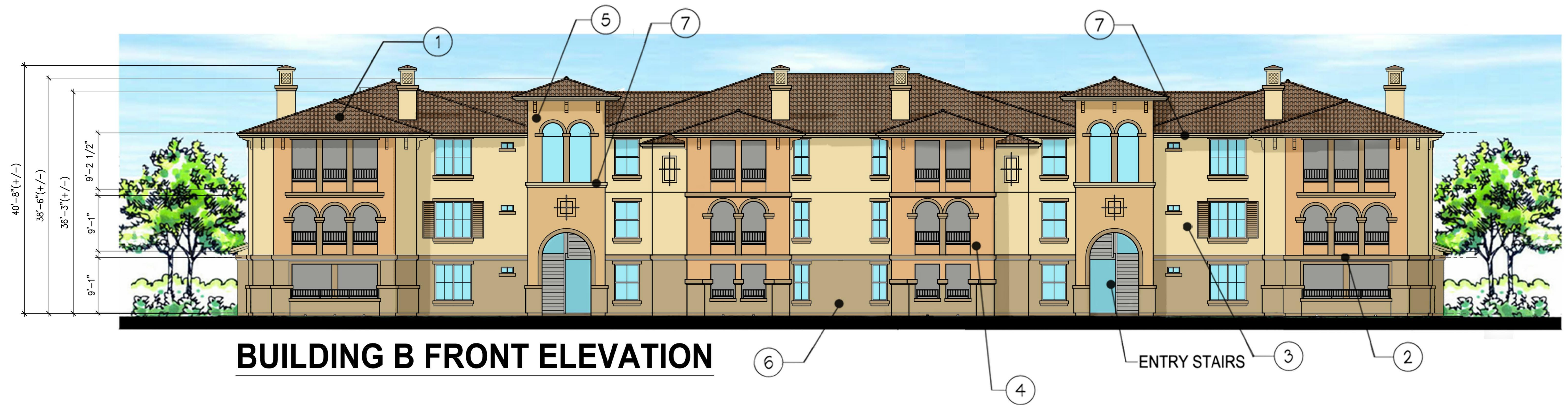
SCALE: 1/8" = 1'-0"



### COLOR CHART

|                                                                                       |   |                                                                       |
|---------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------|
|  | 1 | ROOF<br>EAGLE ROOF<br>CONCRETE TILE<br>CAPISTRANO<br>ADOBE BLEND 3723 |
|  | 2 | TRIM<br>KELLY MOORE<br>KM 4671<br>EMPEROR'S GOLD                      |
|  | 3 | BODY COLOR 1<br>KELLY MOORE<br>KM 5236<br>GOLDEN FLEECE               |
|  | 4 | BODY COLOR 2<br>KELLY MOORE<br>KM 5356<br>EYE OF THE TIGER            |
|  | 5 | BODY COLOR 3<br>KELLY MOORE<br>KM 5265<br>HONEY ROBBER                |
|  | 6 | BASE COLOR<br>KELLY MOORE<br>KM 4690<br>SPA SANGRIA                   |
|  | 7 | FASCIA / ACCENT<br>KELLY MOORE<br>KM 5733<br>SONORA HILLS             |
|  | 8 | RAILINGS<br>KELLY MOORE<br>KM 4024-5<br>LATTE PLEASE                  |
|  | 9 | ACCENT TILE<br>DAL TILE<br>DM 14<br>COBALT                            |





## CONCEPTUAL ELEVATIONS

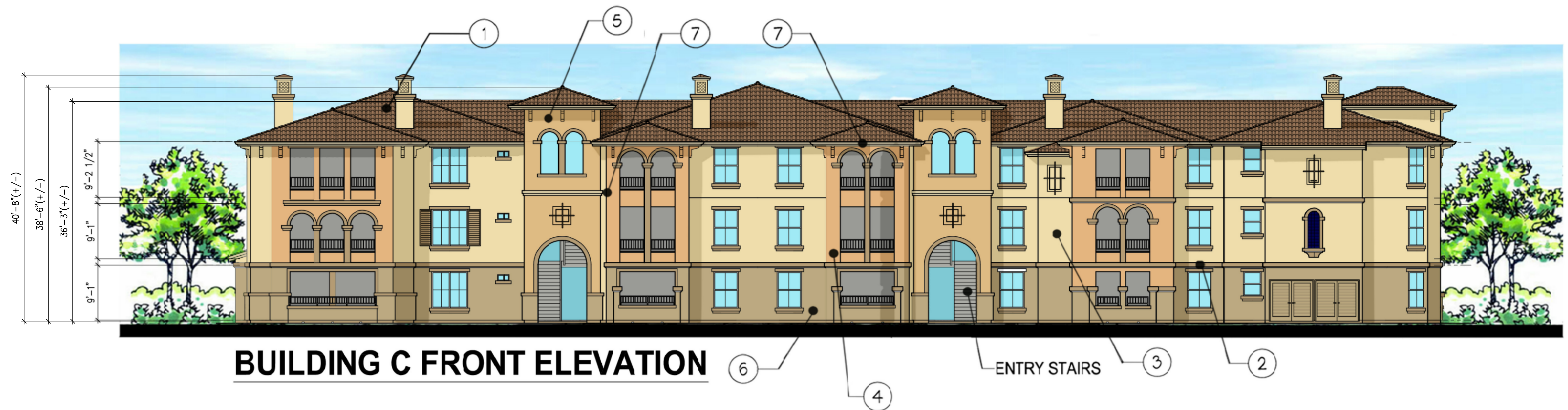
SCALE: 1/8" = 1'-0"



## COLOR CHART

|  |   |                                                                       |
|--|---|-----------------------------------------------------------------------|
|  | 1 | ROOF<br>EAGLE ROOF<br>CONCRETE TILE<br>CAPISTRANO<br>ADOBE BLEND 3723 |
|  | 2 | TRIM<br>KELLY MOORE<br>KM 4671<br>EMPEROR'S GOLD                      |
|  | 3 | BODY COLOR 1<br>KELLY MOORE<br>KM 5236<br>GOLDEN FLEECE               |
|  | 4 | BODY COLOR 2<br>KELLY MOORE<br>KM 5356<br>EYE OF THE TIGER            |
|  | 5 | BODY COLOR 3<br>KELLY MOORE<br>KM 5265<br>HONEY ROBBER                |
|  | 6 | BASE COLOR<br>KELLY MOORE<br>KM 4690<br>SPA SANGRIA                   |
|  | 7 | FASCIA / ACCENT<br>KELLY MOORE<br>KM 5733<br>SONORA HILLS             |
|  | 8 | RAILINGS<br>KELLY MOORE<br>KM 4024-5<br>LATTE PLEASE                  |
|  | 9 | ACCENT TILE<br>DAL TILE<br>DM 14<br>COBALT                            |

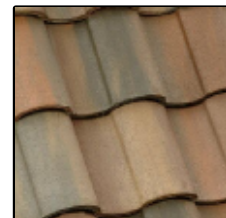
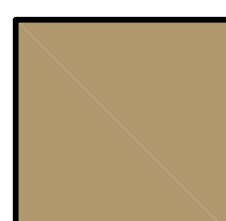
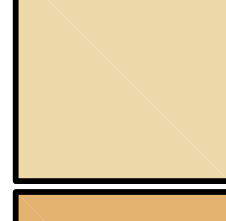
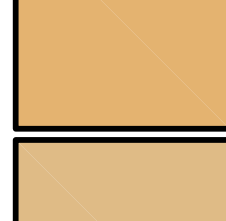
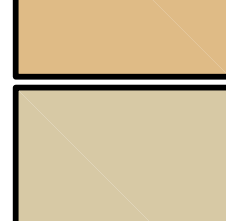




**BUILDING C FRONT ELEVATION**



**BUILDING C REAR ELEVATION**

| COLOR CHART                                                                         |                                                                         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|  | 1 ROOF<br>EAGLE ROOF<br>CONCRETE TILE<br>CAPISTRANO<br>ADOBE BLEND 3723 |
|  | 2 TRIM<br>KELLY MOORE<br>KM 4671<br>EMPEROR'S GOLD                      |
|  | 3 BODY COLOR 1<br>KELLY MOORE<br>KM 5236<br>GOLDEN FLEECE               |
|  | 4 BODY COLOR 2<br>KELLY MOORE<br>KM 5356<br>EYE OF THE TIGER            |
|  | 5 BODY COLOR 3<br>KELLY MOORE<br>KM 5265<br>HONEY ROBBER                |
|  | 6 BASE COLOR<br>KELLY MOORE<br>KM 4690<br>SPA SANGRIA                   |
|  | 7 FASCIA / ACCENT<br>KELLY MOORE<br>KM 5733<br>SONORA HILLS             |
|  | 8 RAILINGS<br>KELLY MOORE<br>KM 4024-5<br>LATTE PLEASE                  |
|  | 9 ACCENT TILE<br>DAL TILE<br>DM 14<br>COBALT                            |



**BUILDING C SIDE ELEVATION**



**BUILDING C SIDE ELEVATION**

**CONCEPTUAL ELEVATIONS**

SCALE: 1/8" = 1'-0"







### CONCEPTUAL ELEVATIONS

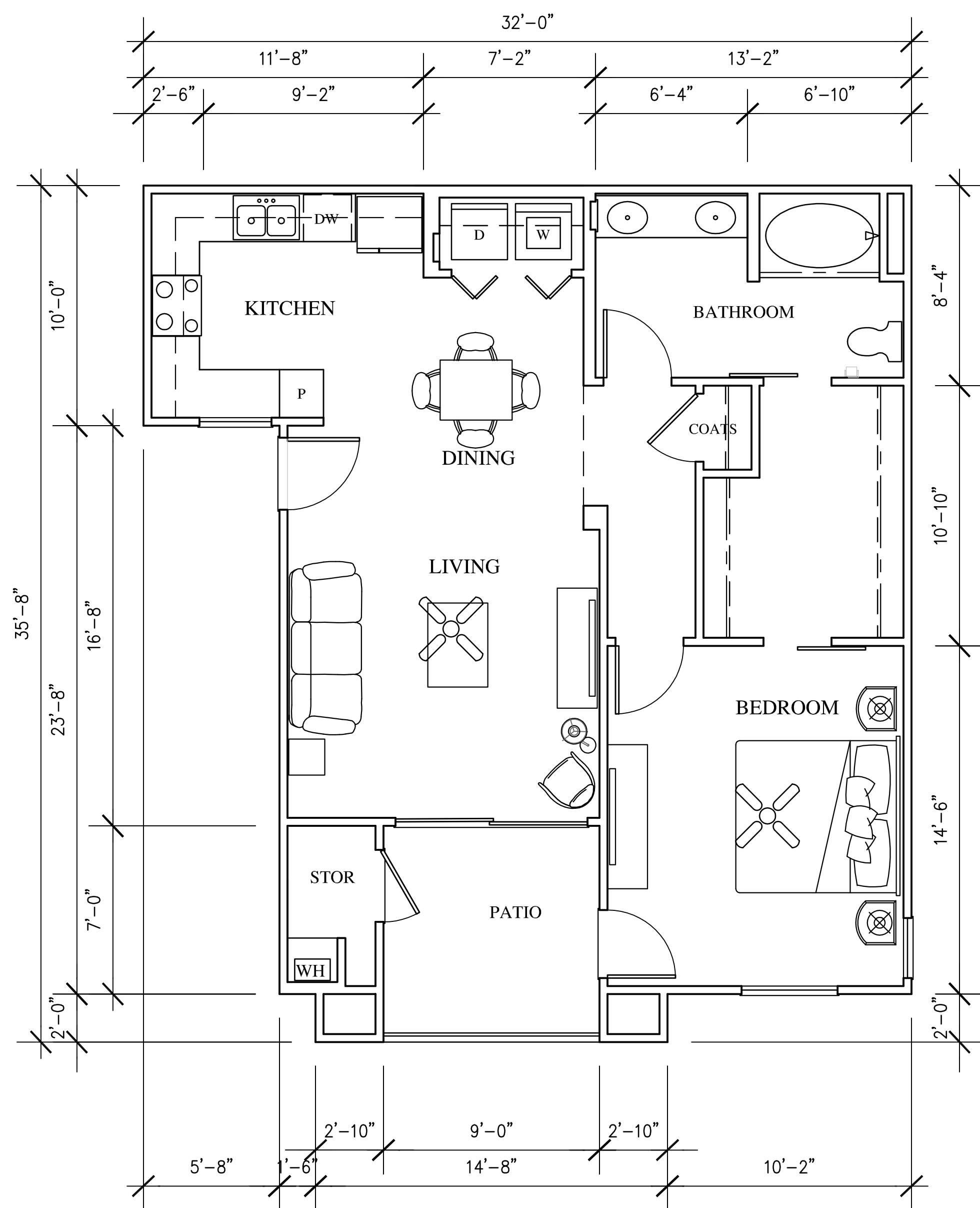
SCALE: 1/8" = 1'-0"



### COLOR CHART

|                                                                                       |   |                                                                       |
|---------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------|
|  | 1 | ROOF<br>EAGLE ROOF<br>CONCRETE TILE<br>CAPISTRANO<br>ADOBE BLEND 3723 |
|  | 2 | TRIM<br>KELLY MOORE<br>KM 4671<br>EMPEROR'S GOLD                      |
|  | 3 | BODY COLOR 1<br>KELLY MOORE<br>KM 5236<br>GOLDEN FLEECE               |
|  | 4 | BODY COLOR 2<br>KELLY MOORE<br>KM 5356<br>EYE OF THE TIGER            |
|  | 5 | BODY COLOR 3<br>KELLY MOORE<br>KM 5265<br>HONEY ROBBER                |
|  | 6 | BASE COLOR<br>KELLY MOORE<br>KM 4690<br>SPA SANGRIA                   |
|  | 7 | FASCIA / ACCENT<br>KELLY MOORE<br>KM 5733<br>SONORA HILLS             |
|  | 8 | RAILINGS<br>KELLY MOORE<br>KM 4024-5<br>LATTE PLEASE                  |
|  | 9 | ACCENT TILE<br>DAL TILE<br>DM 14<br>COBALT                            |

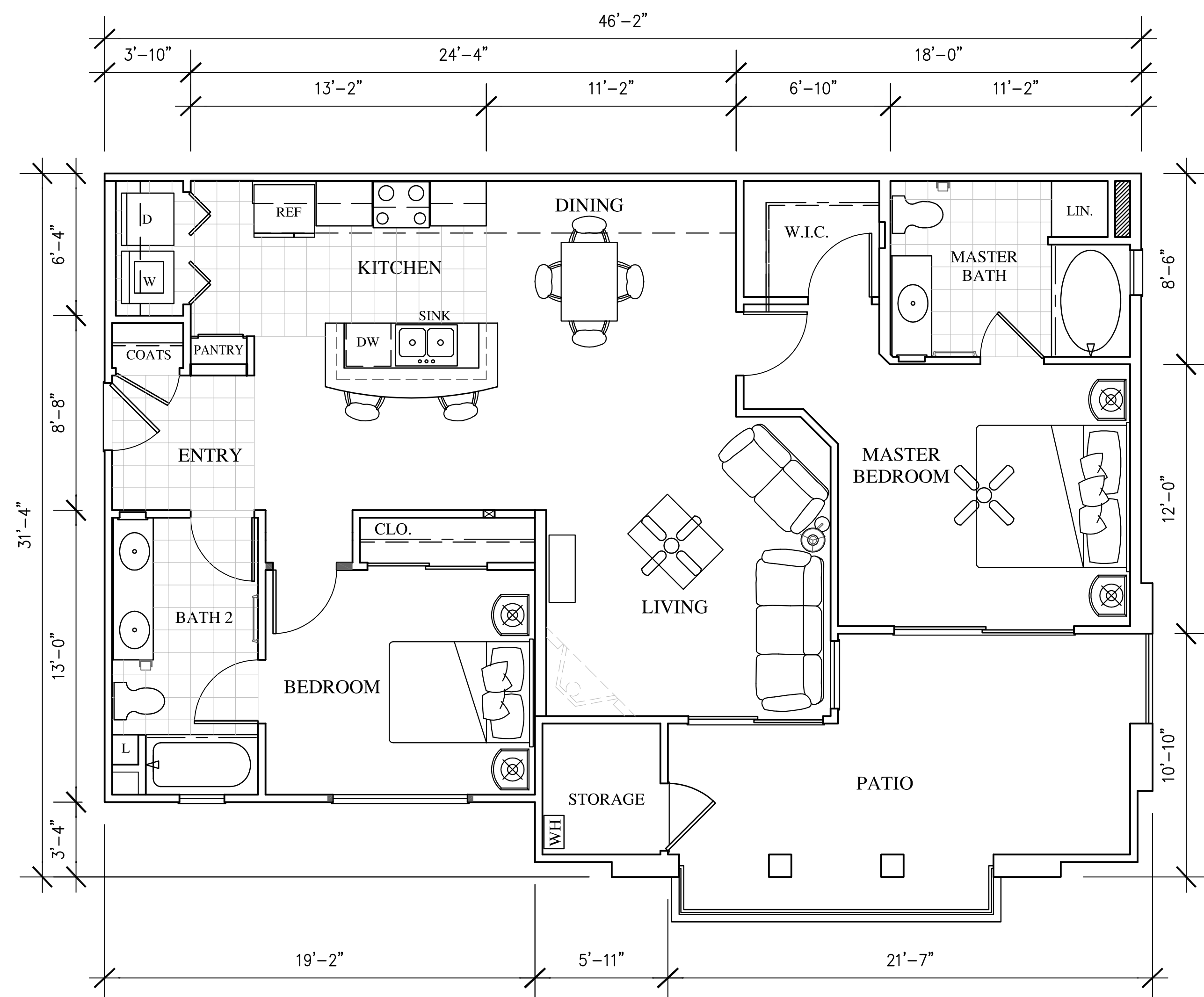




## UNIT 1

1 BR / 1 BATH

UNIT AREA = 850 SF  
 PRIVATE STORAGE = 24 SF  
 DECK (PRIVATE OS) = 114 SF



## UNIT 2

2 BR / 2 BATH

UNIT AREA = 1,142 SF  
 PRIVATE STORAGE = 35 SF  
 PATIO (1ST FLOOR) = 224 SF  
 DECK (2ND & 3RD FLOOR) = 185 SF

### CONCEPTUAL UNIT PLANS

SCALE: 1/4" = 1'-0"



WWW.LCA-ARCHITECTS.COM  
 CARL E. CAMPOS  
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 590 YONACIO VALLEY ROAD, SUITE 310  
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 OAKLAND, CALIFORNIA 94612  
 (510) 272-1090

SAN MARCO VILLAS III  
 PITTSBURG, CALIFORNIA

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UNIT  
 FLOOR PLANS

SCALE: AS SHOWN  
 DATE: 01 / 10 / 2020

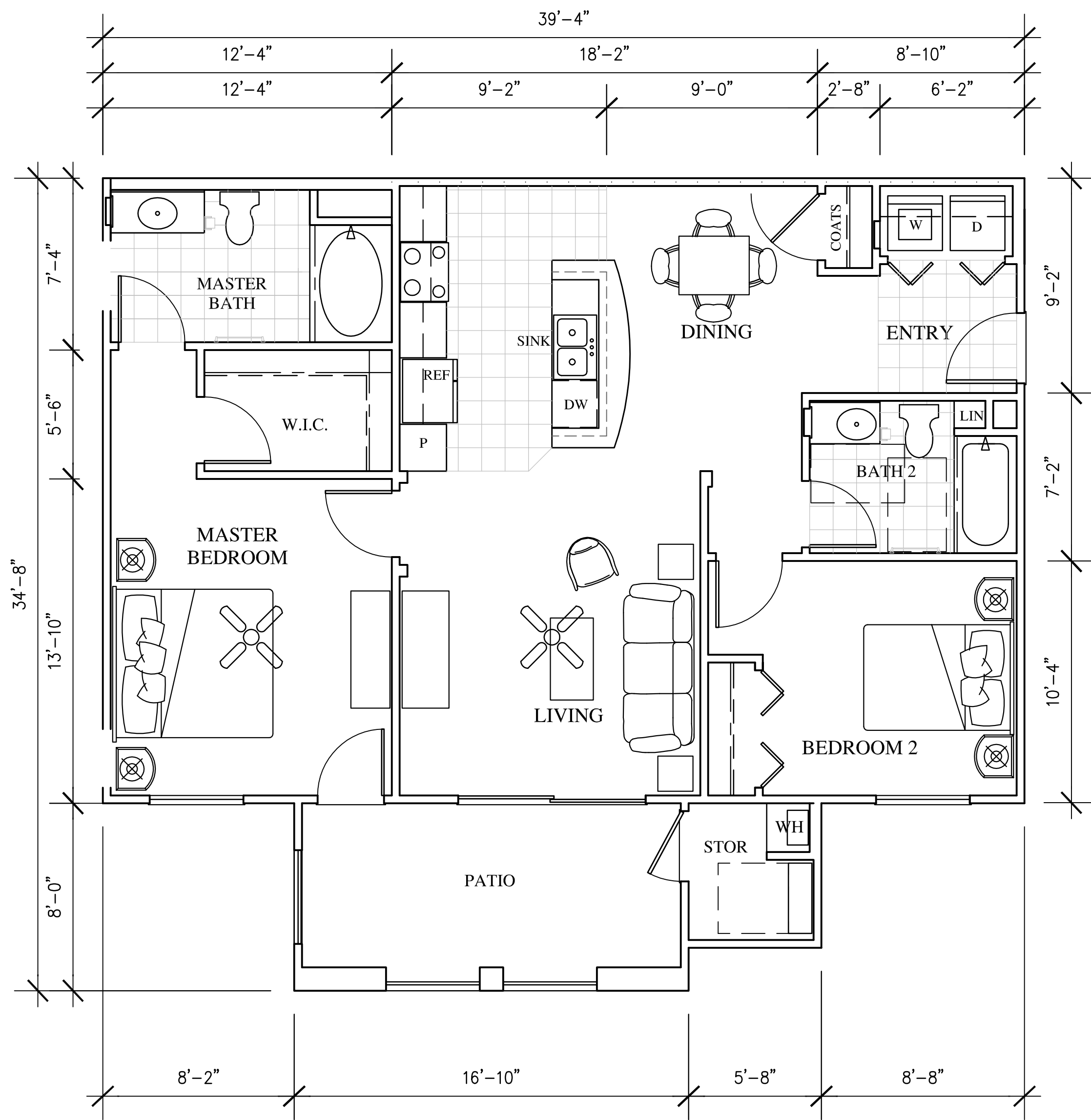
REVISIONS:  
 03 / 27 / 2020

PROJECT NO. 18112

A4.1

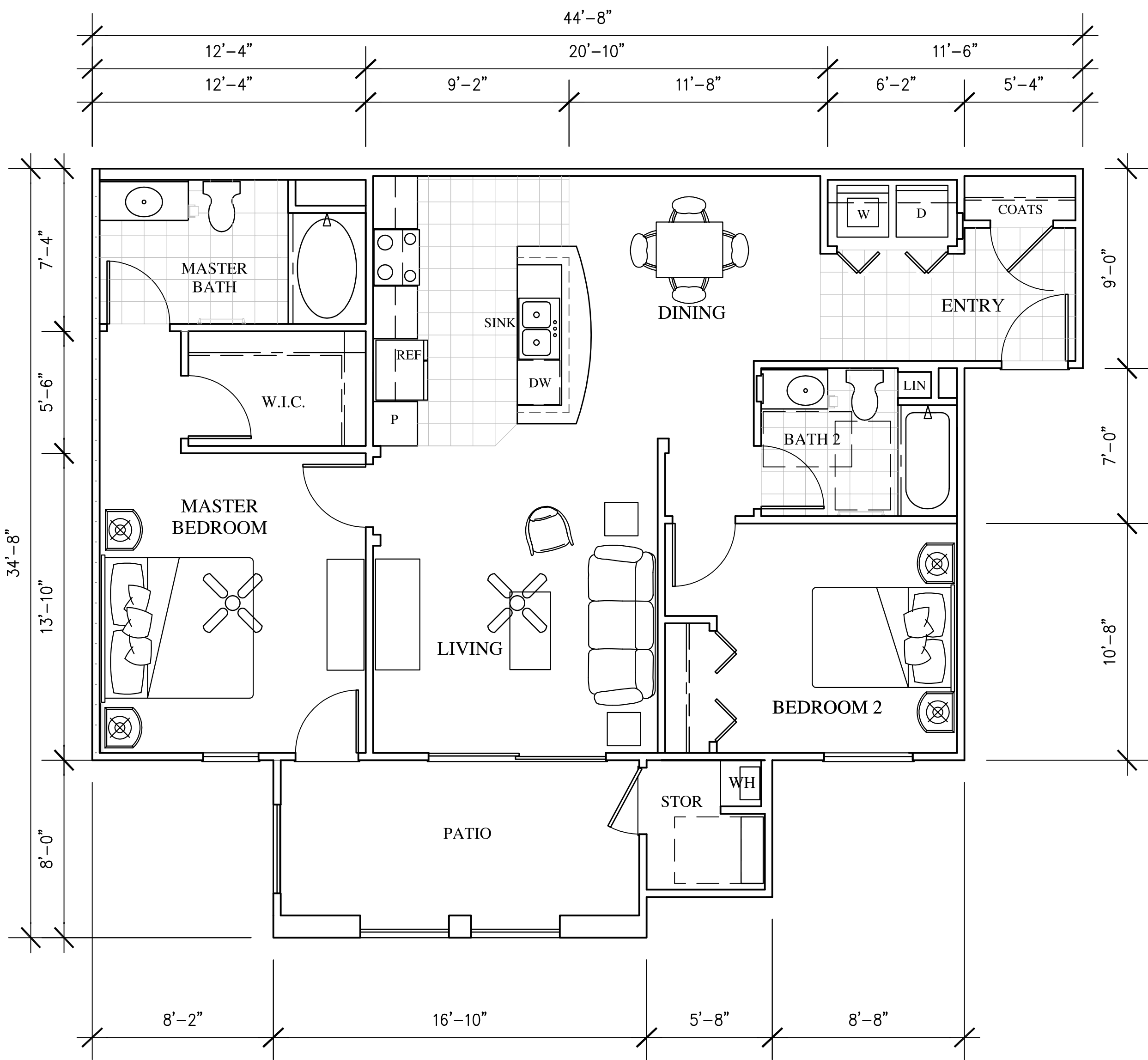
SHEET OF





UNIT 3  
2 BR / 2 BATH

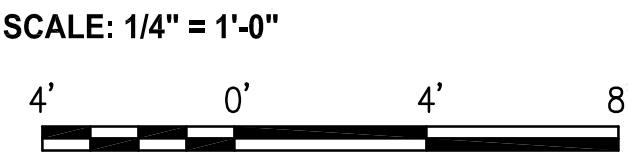
UNIT AREA = 1,049 SF  
PRIVATE STORAGE = 37 SF  
PATIO (1ST FLOOR) = 133 SF  
DECK (2ND & 3RD FLOOR) = 133 SF



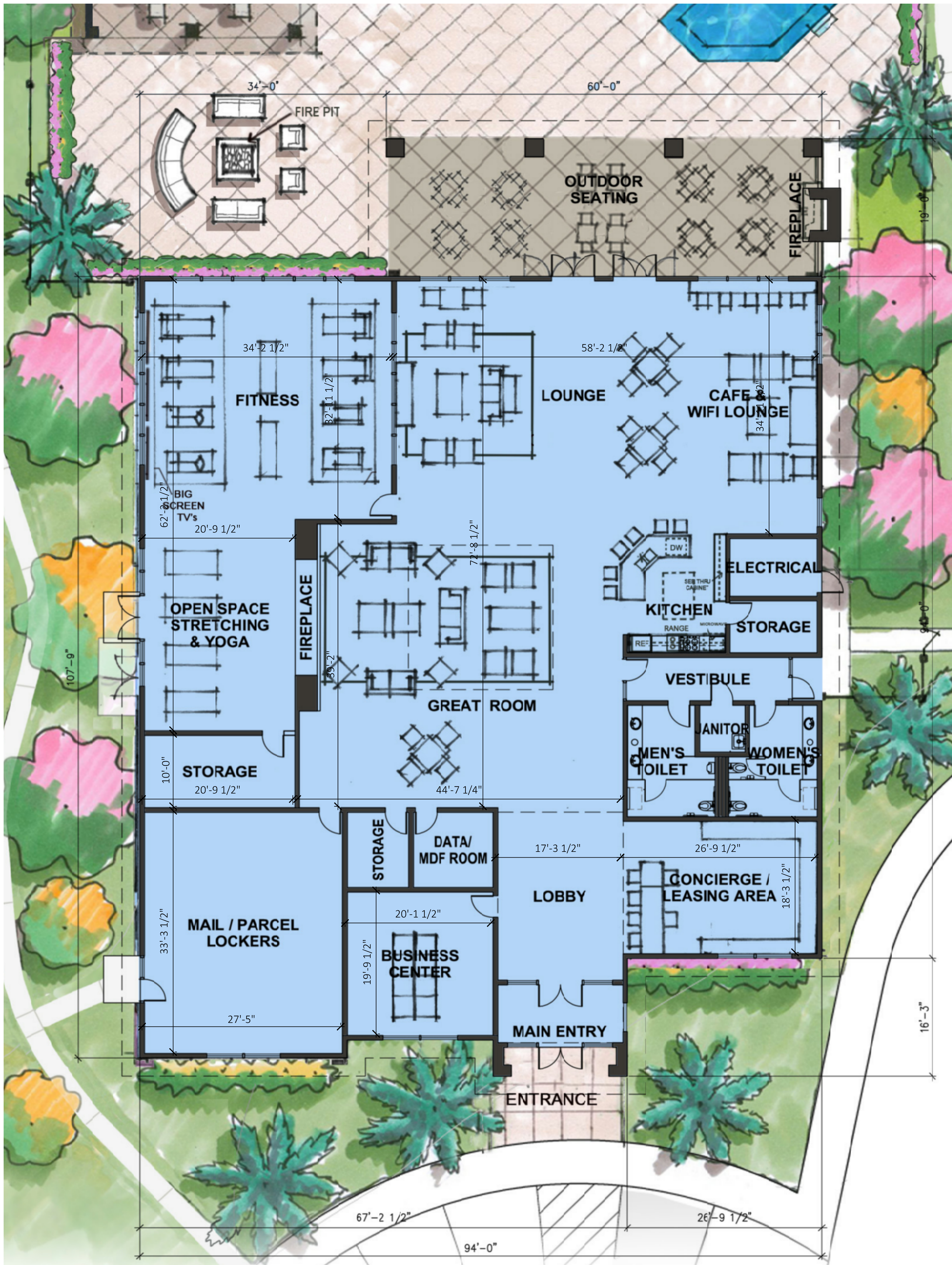
UNIT 4  
2 BR / 2 BATH

UNIT AREA = 1,097 SF  
PRIVATE STORAGE = 37 SF  
PATIO (1ST FLOOR) = 133 SF  
DECK (2ND & 3RD FLOOR) = 133 SF

CONCEPTUAL UNIT PLANS

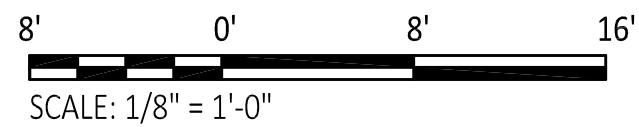






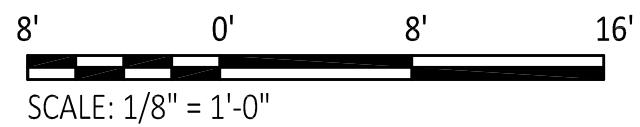
# CONCEPTUAL RECREATION BUILDING FLOOR PLAN

SCALE: 1/8" = 1'-0"



# CONCEPTUAL RECREATION BUILDING ROOF PLAN

SCALE: 1/8" = 1'-0"



WWW.LCA-ARCHITECTS.COM  
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(510) 272-1060

SAN MARCO VILLAS III  
PITTSBURG, CALIFORNIA

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CONCEPTUAL RECREATION  
BUILDING  
FLOOR PLAN

SCALE: NO SCALE  
DATE: 01 / 10 / 2020

REVISIONS:  
03 / 27 / 2020

PROJECT NO. 18112

A5.1  
SHEET OF

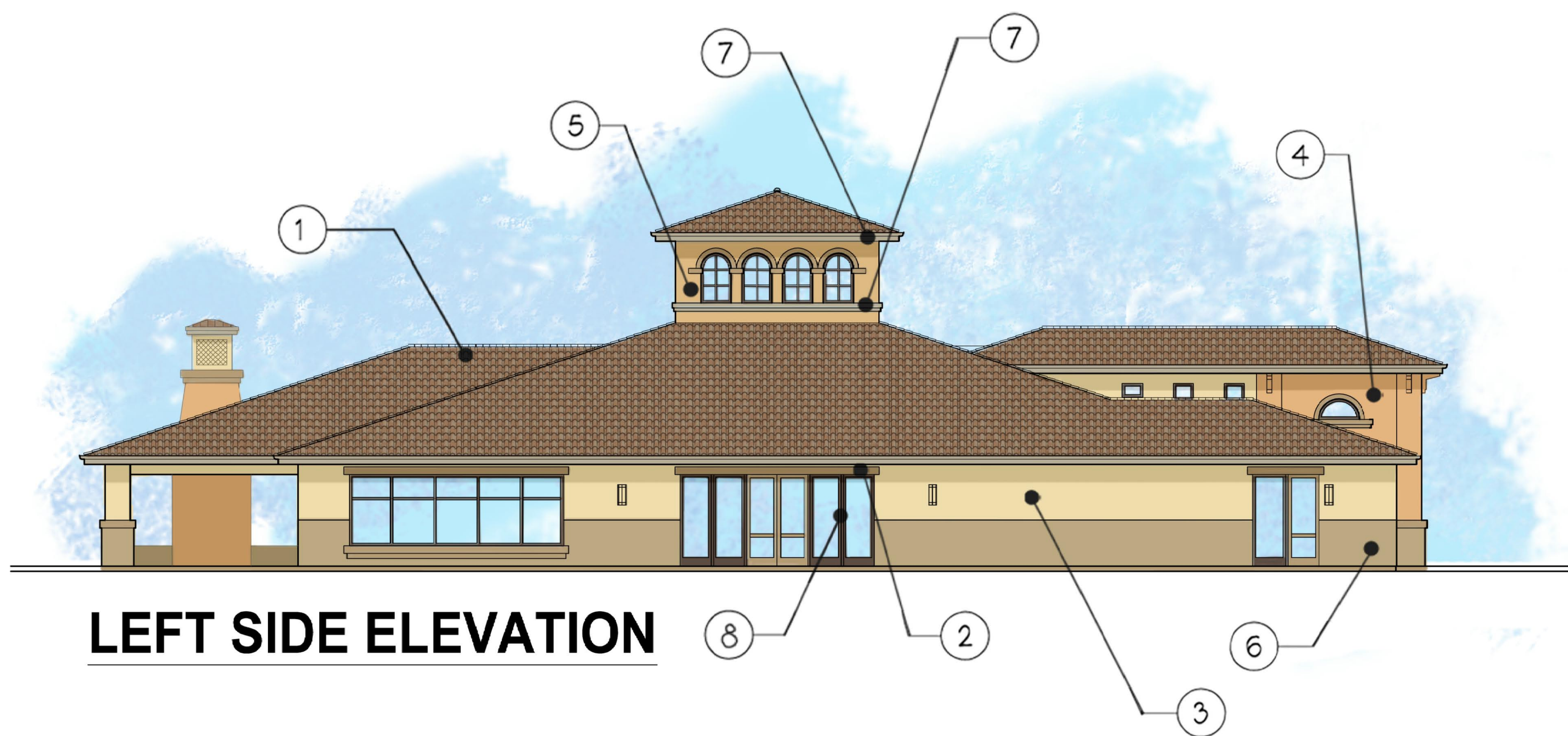




**RIGHT SIDE ELEVATION**



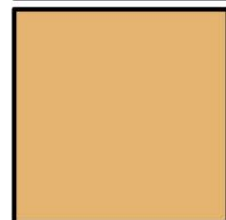
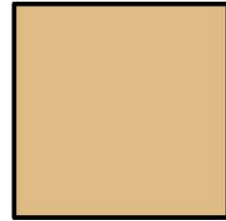
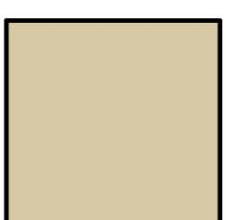
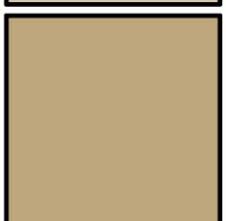
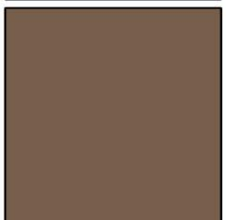
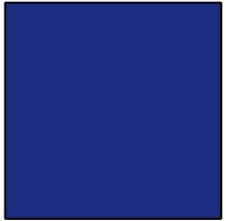
**FRONT ELEVATION**



**LEFT SIDE ELEVATION**

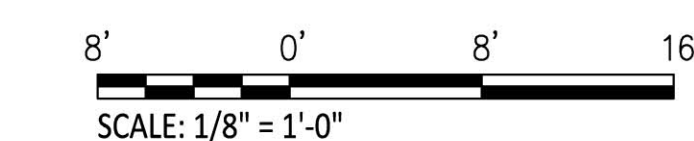


**REAR ELEVATION**

| COLOR CHART                                                                         |   |                                                                       |  |
|-------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------|--|
|  | 1 | ROOF<br>EAGLE ROOF<br>CONCRETE TILE<br>CAPISTRANO<br>ADOBE BLEND 3723 |  |
|  | 2 | TRIM<br>KELLY MOORE<br>KM 4671<br>EMPEROR'S GOLD                      |  |
|  | 3 | BODY COLOR 1<br>KELLY MOORE<br>KM 5236<br>GOLDEN FLEECE               |  |
|  | 4 | BODY COLOR 2<br>KELLY MOORE<br>KM 5356<br>EYE OF THE TIGER            |  |
|  | 5 | BODY COLOR 3<br>KELLY MOORE<br>KM 5265<br>HONEY ROBBER                |  |
|  | 6 | BASE COLOR<br>KELLY MOORE<br>KM 4690<br>SPA SANGRIA                   |  |
|  | 7 | FASCIA / ACCENT<br>KELLY MOORE<br>KM 5733<br>SONORA HILLS             |  |
|  | 8 | RAILINGS<br>KELLY MOORE<br>KM 4024-5<br>LATTE PLEASE                  |  |
|  | 9 | ACCENT TILE<br>DAL TILE<br>DM 14<br>COBALT                            |  |

**CONCEPTUAL RECREATION  
BUILDING ELEVATIONS**

SCALE: 1" = 10'





COLOR CHART

1

ROOF

EAGLE ROOF

CONCRETE TILE

CAPISTRANO

ADOBE BLEND 3723

2

TRIM

KELLY MOORE

KM 4671

EMPEROR'S GOLD

3

BODY COLOR 1

KELLY MOORE

KM 5236

GOLDEN FLEECE

4

BODY COLOR 2

KELLY MOORE

KM 5356

EYE OF THE TIGER

5

BODY COLOR 3

KELLY MOORE

KM 5265

HONEY ROBBER

6

BASE COLOR

KELLY MOORE

KM 4690

SPA SANGRIA

7

FASCIA / ACCENT

KELLY MOORE

KM 5733

SONORA HILLS

8

RAILINGS

KELLY MOORE

KM 4024-5

LATTE PLEASE

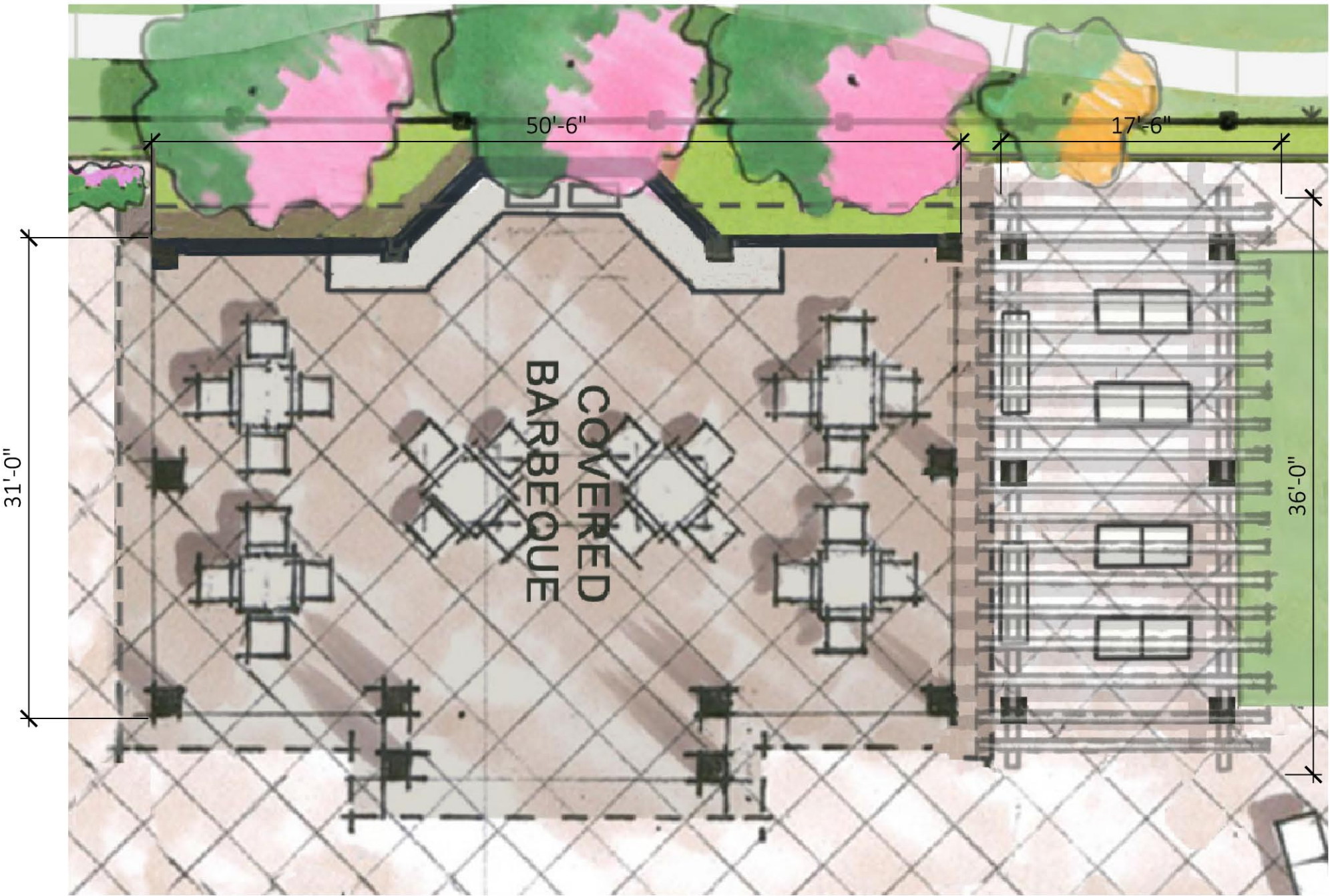
9

ACCENT TILE

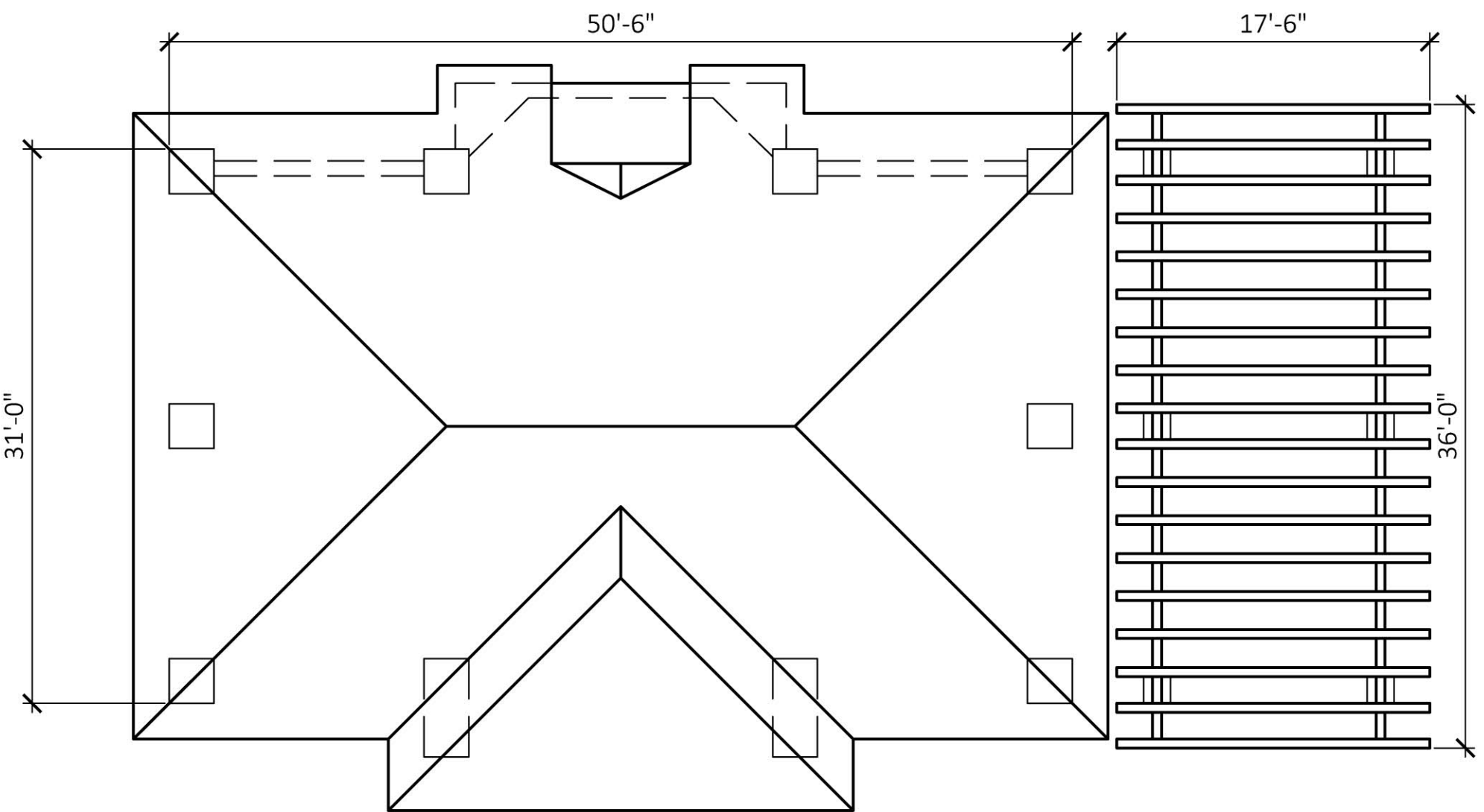
DALTILE

DM 14

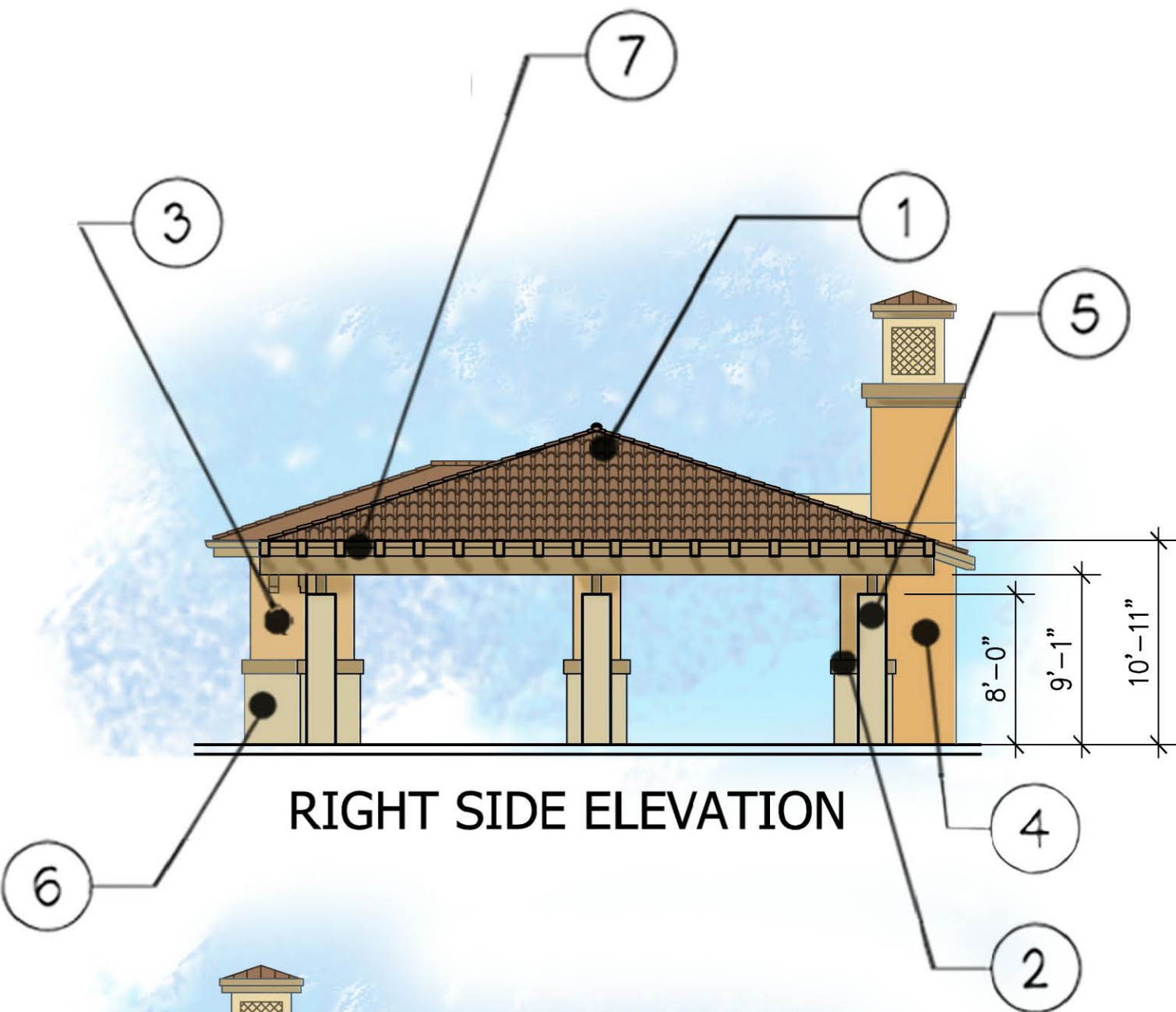
COBALT



FLOOR PLAN



ROOF PLAN



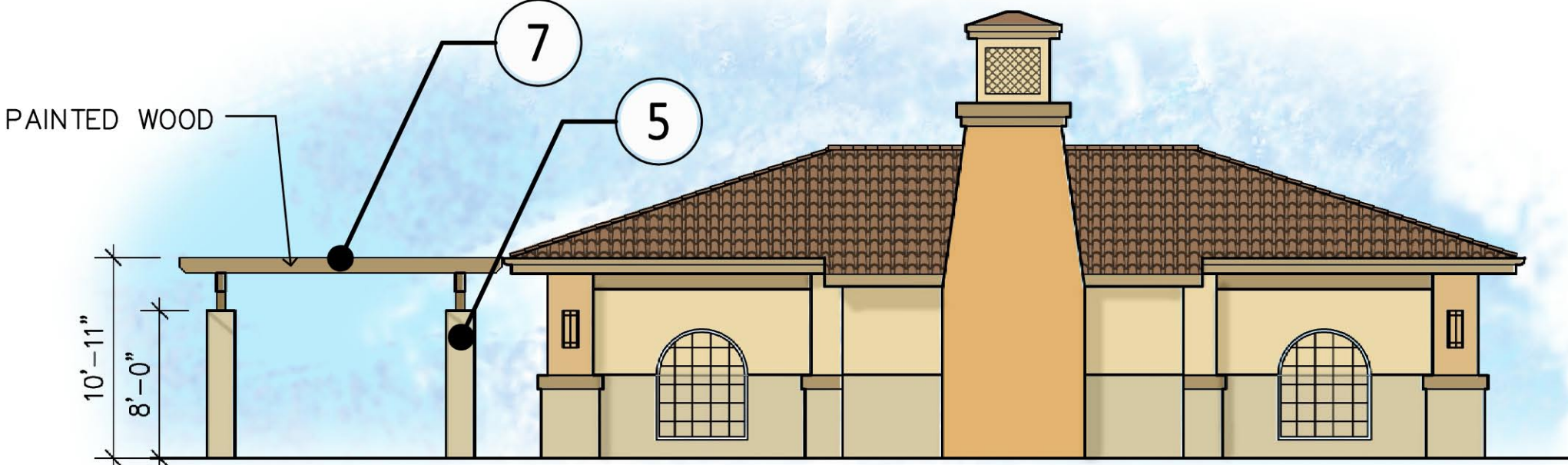
RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION

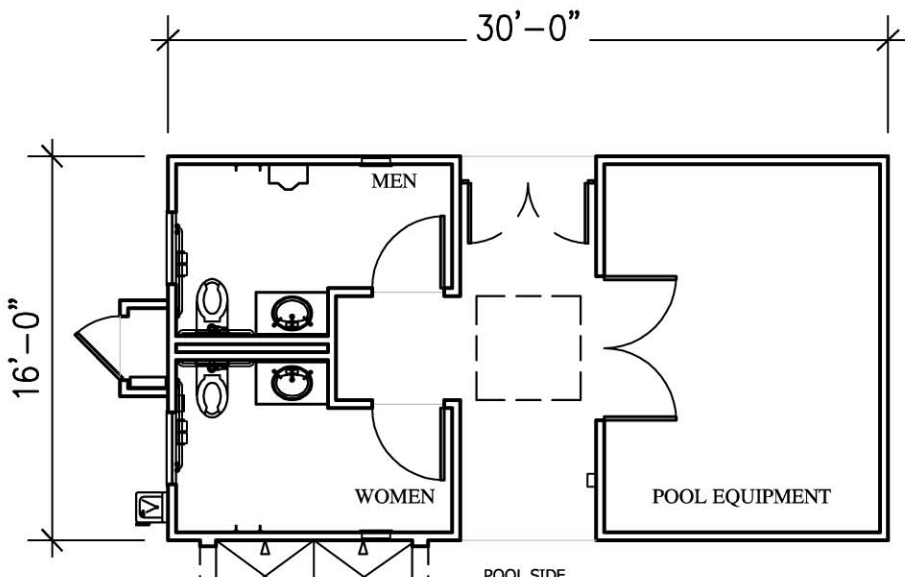


FRONT (POOL SIDE) ELEVATION

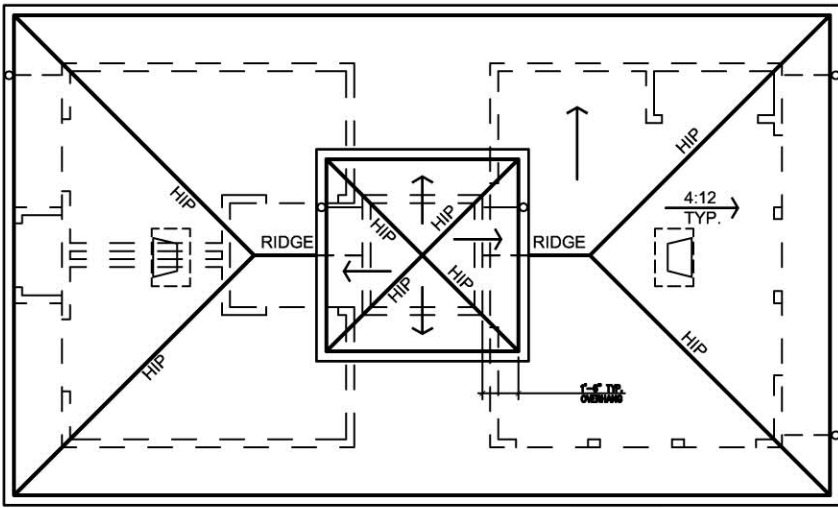


REAR ELEVATION

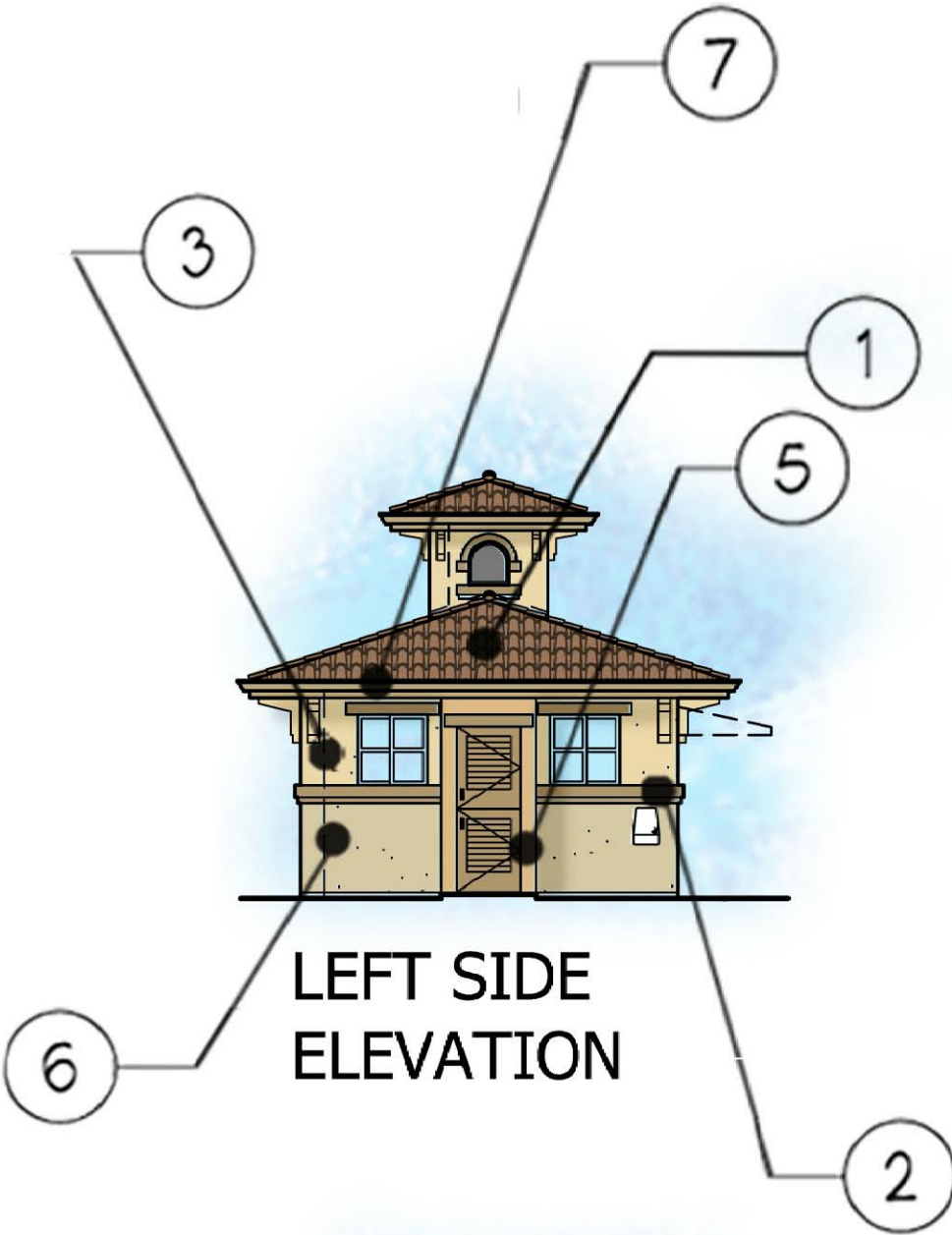
### CONCEPTUAL COVERED LOGGIA BUILDING PLANS AND ELEVATIONS



FLOOR PLAN



ROOF PLAN



LEFT SIDE ELEVATION



RIGHT SIDE ELEVATION



FRONT ELEVATION

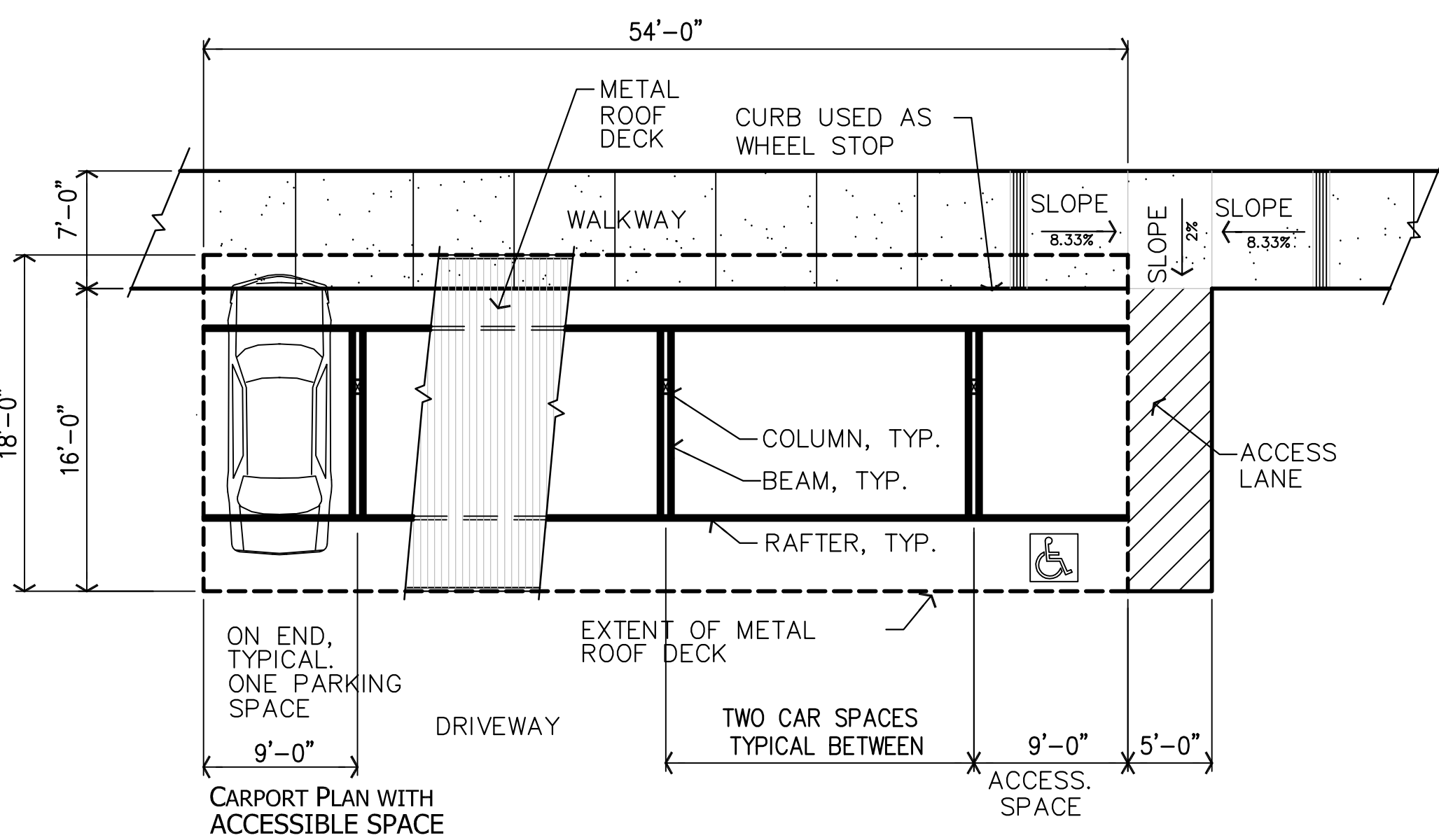


REAR ELEVATION

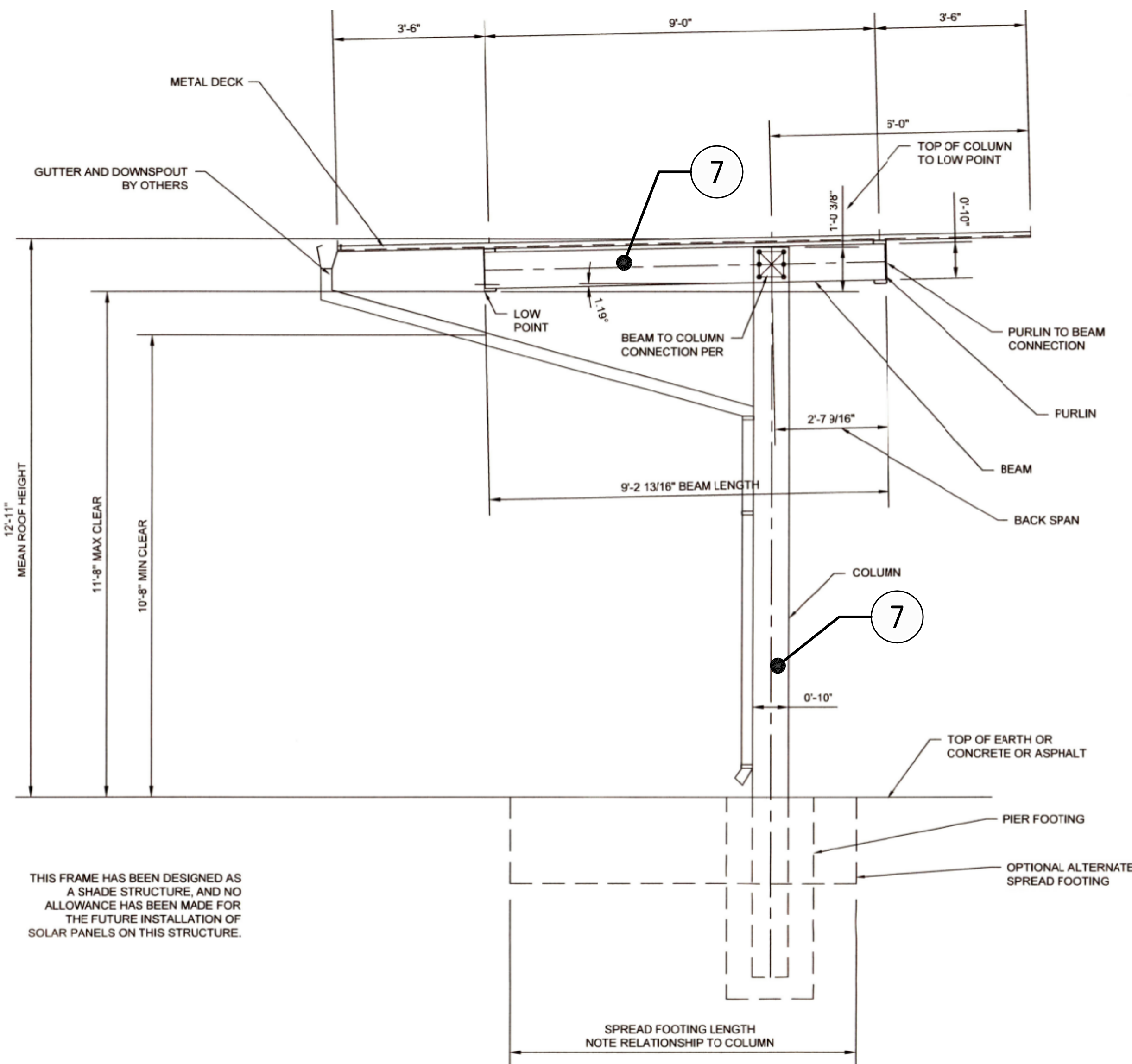
### CONCEPTUAL CABANA BUILDING PLANS AND ELEVATIONS



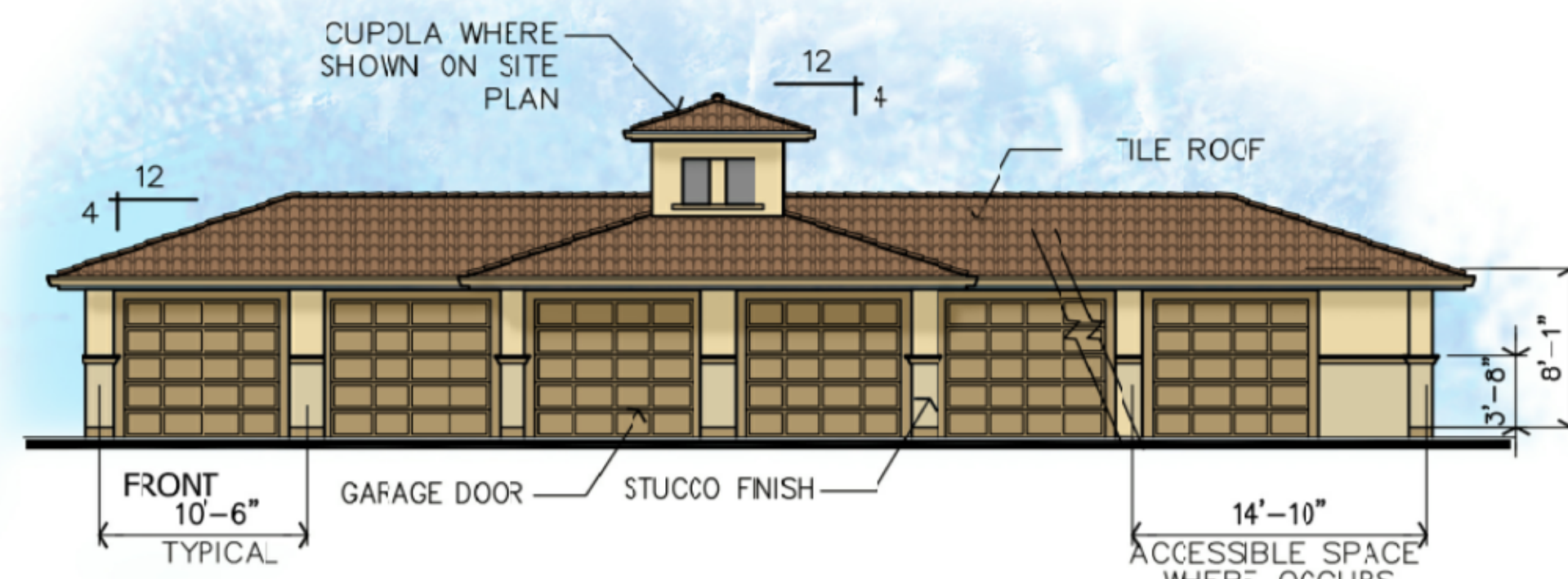
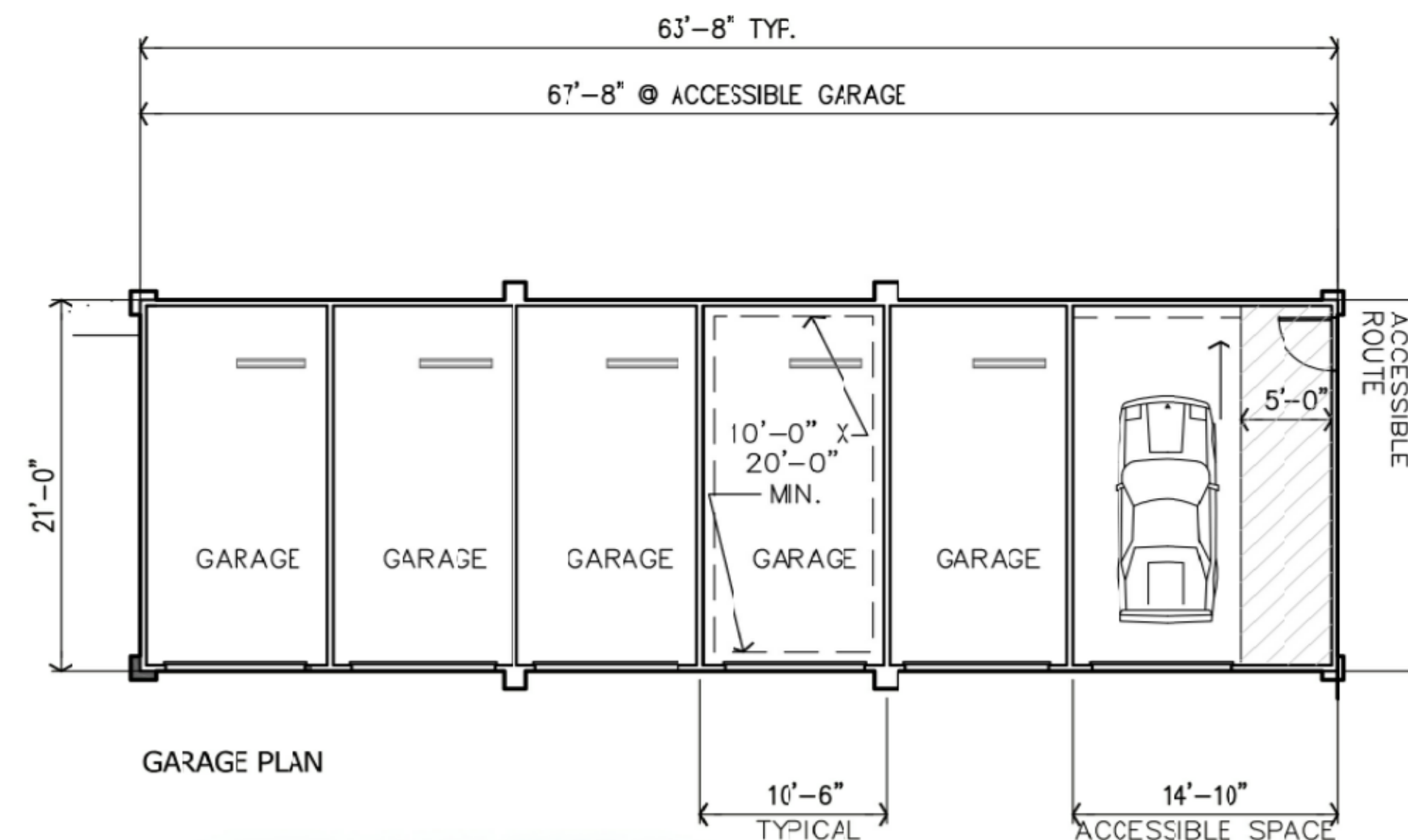




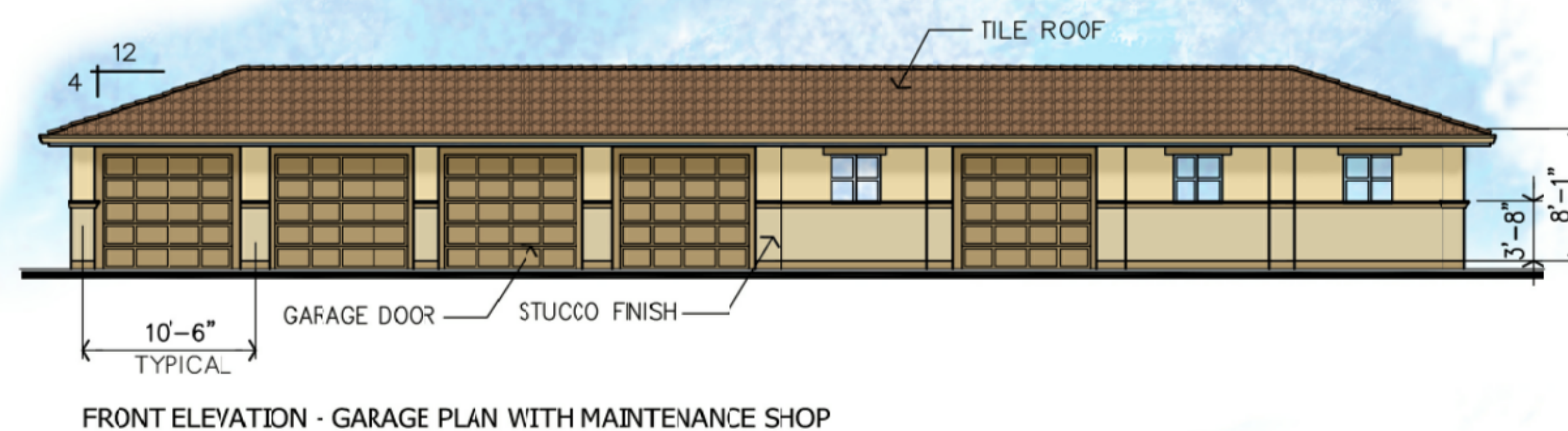
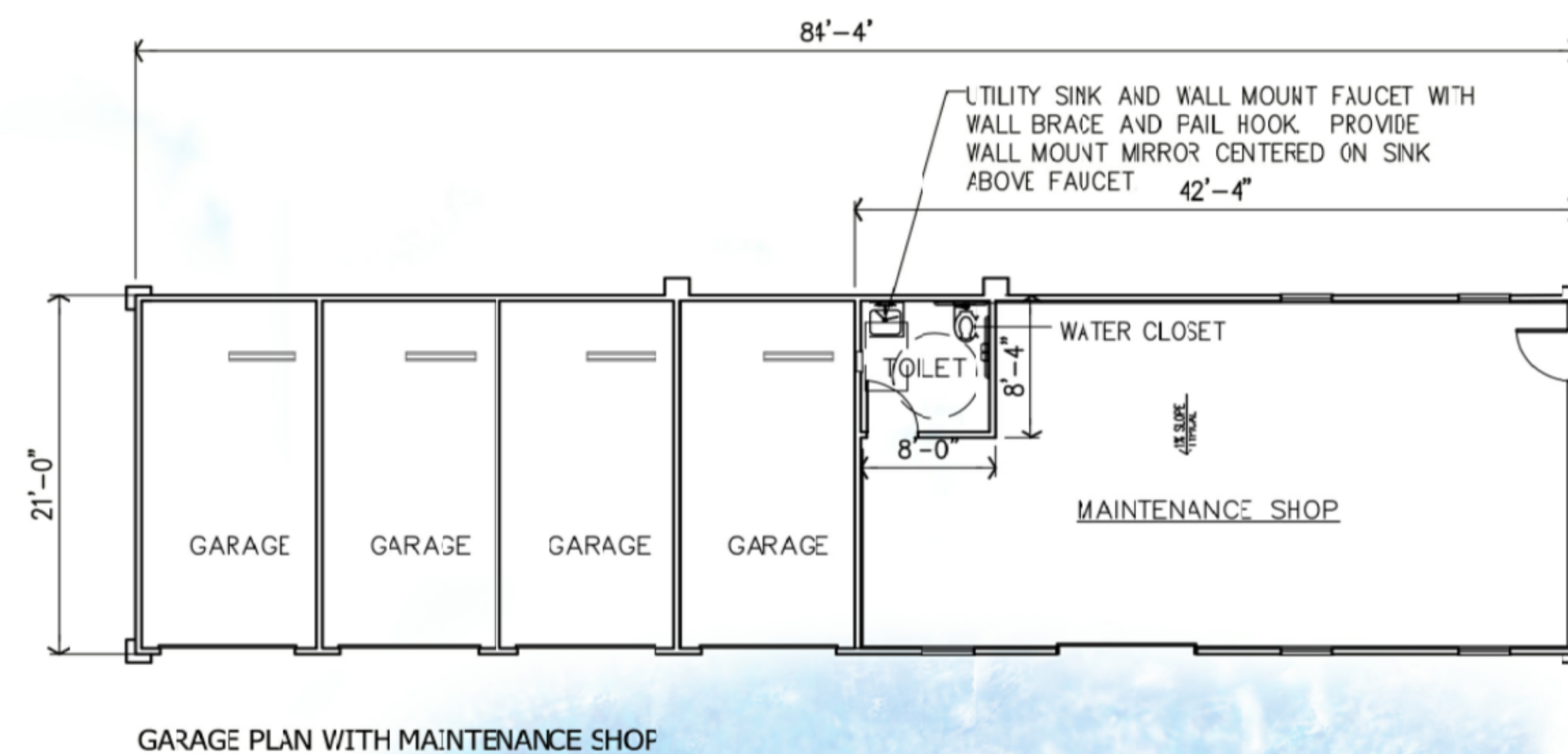
**CONCEPTUAL CARPORT PLAN**  
SCALE: 1/8"=1'-0"



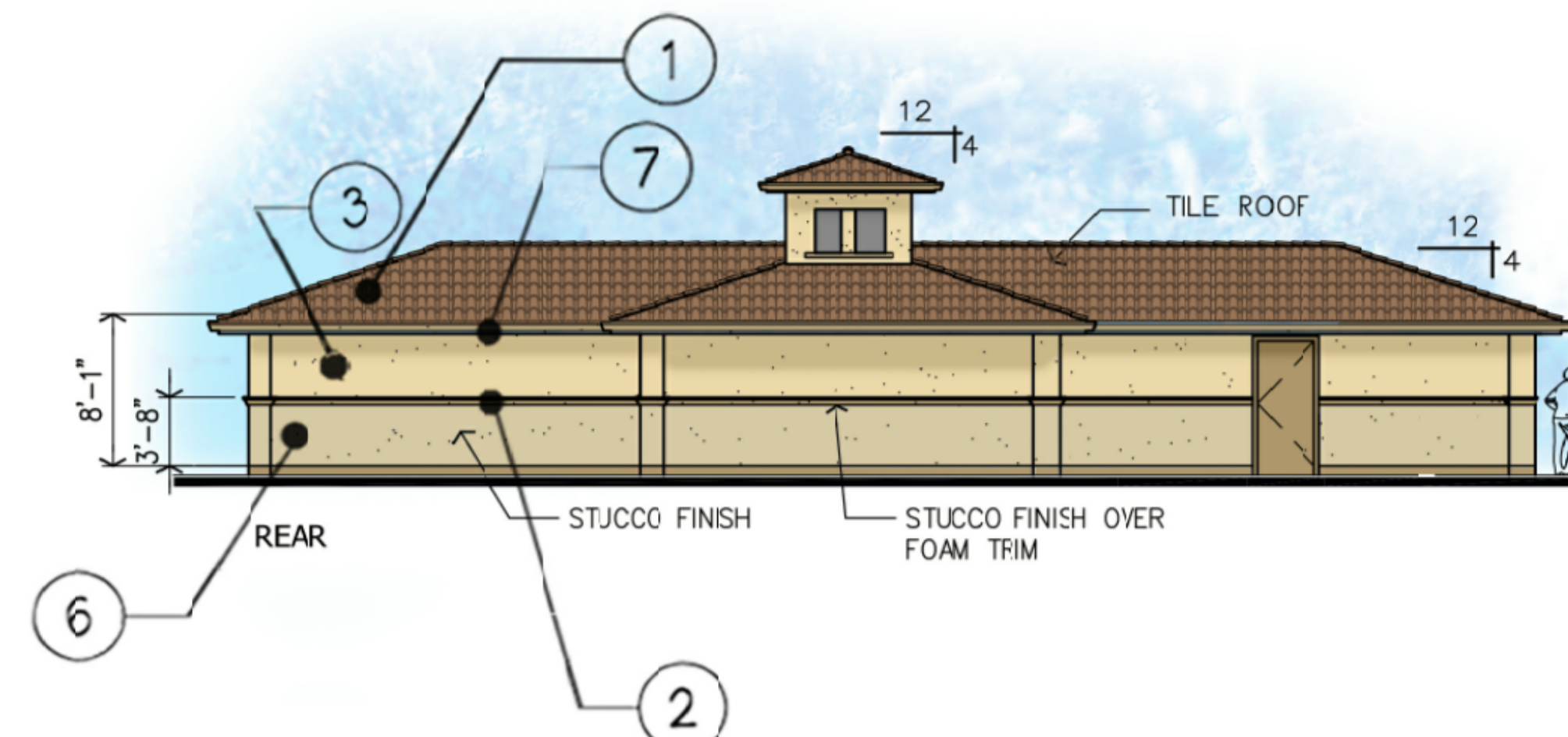
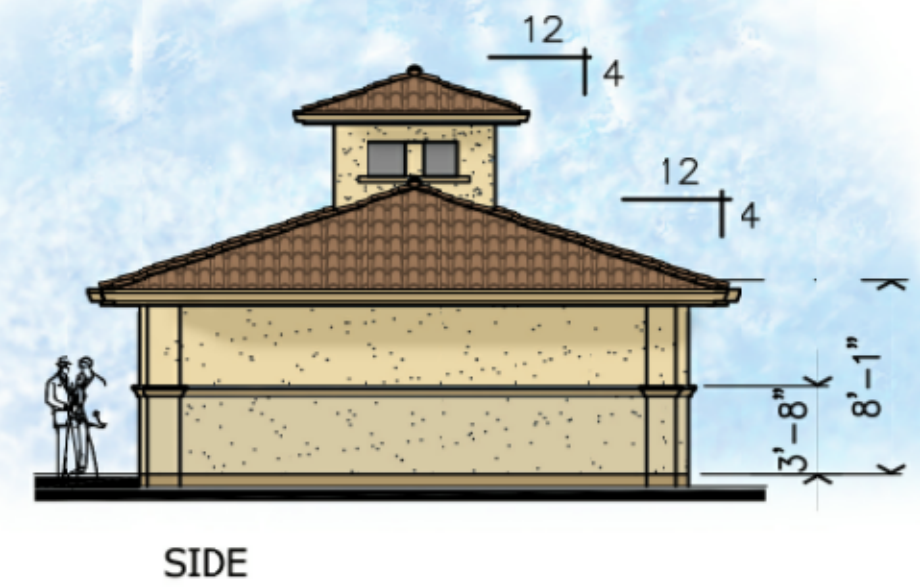
**CONCEPTUAL CARPORT SECTION**  
SCALE: 1/2"=1'-0"



**GARAGE PLAN & ELEVATION**  
SCALE: 1/8"=1'-0"



**GARAGE PLAN & ELEVATION WITH MAINTENANCE SHOP**  
SCALE: 1/8"=1'-0"

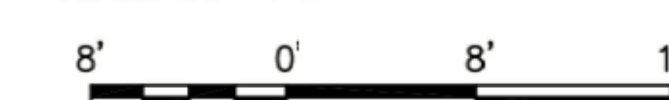


#### COLOR CHART

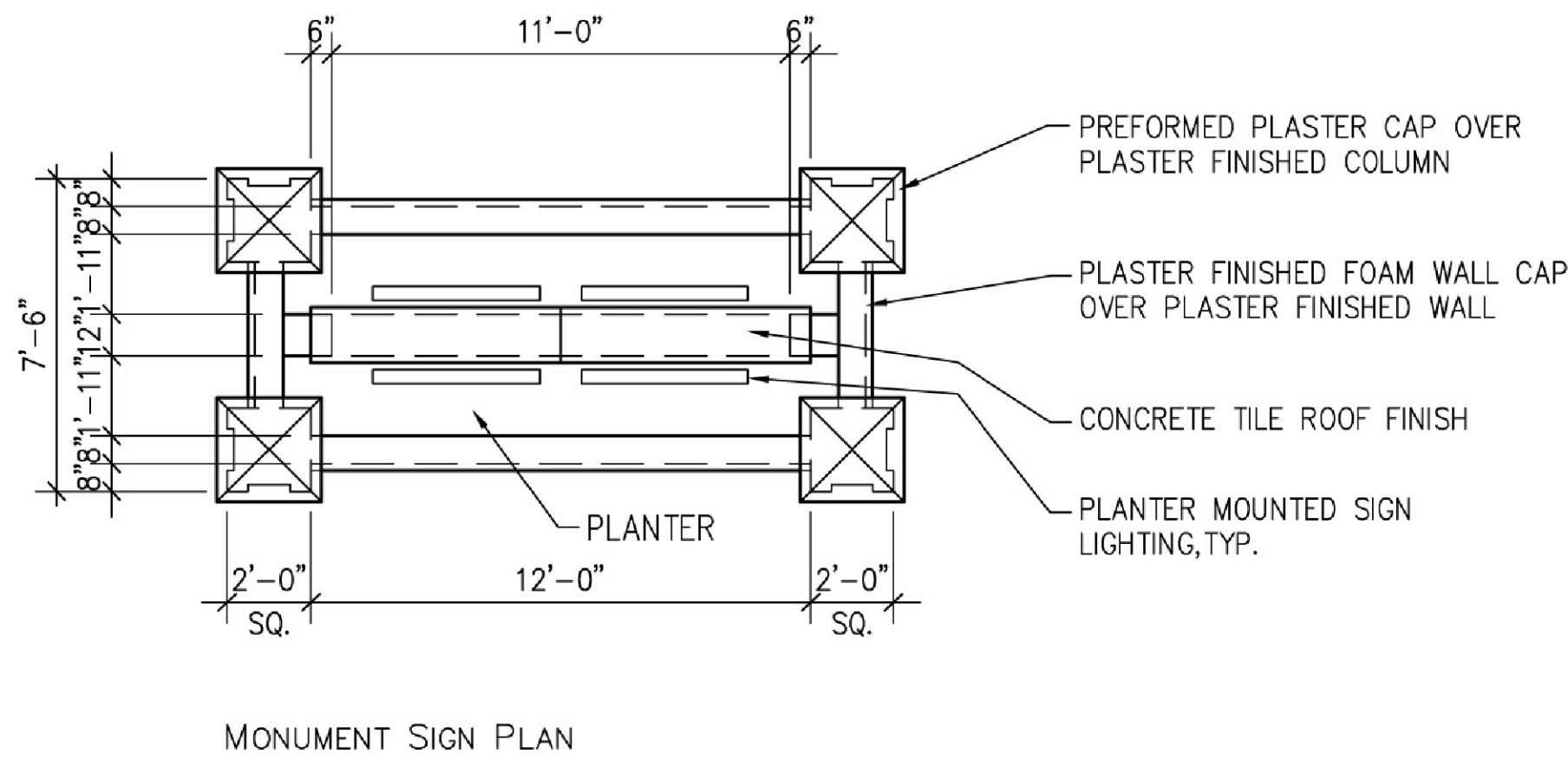
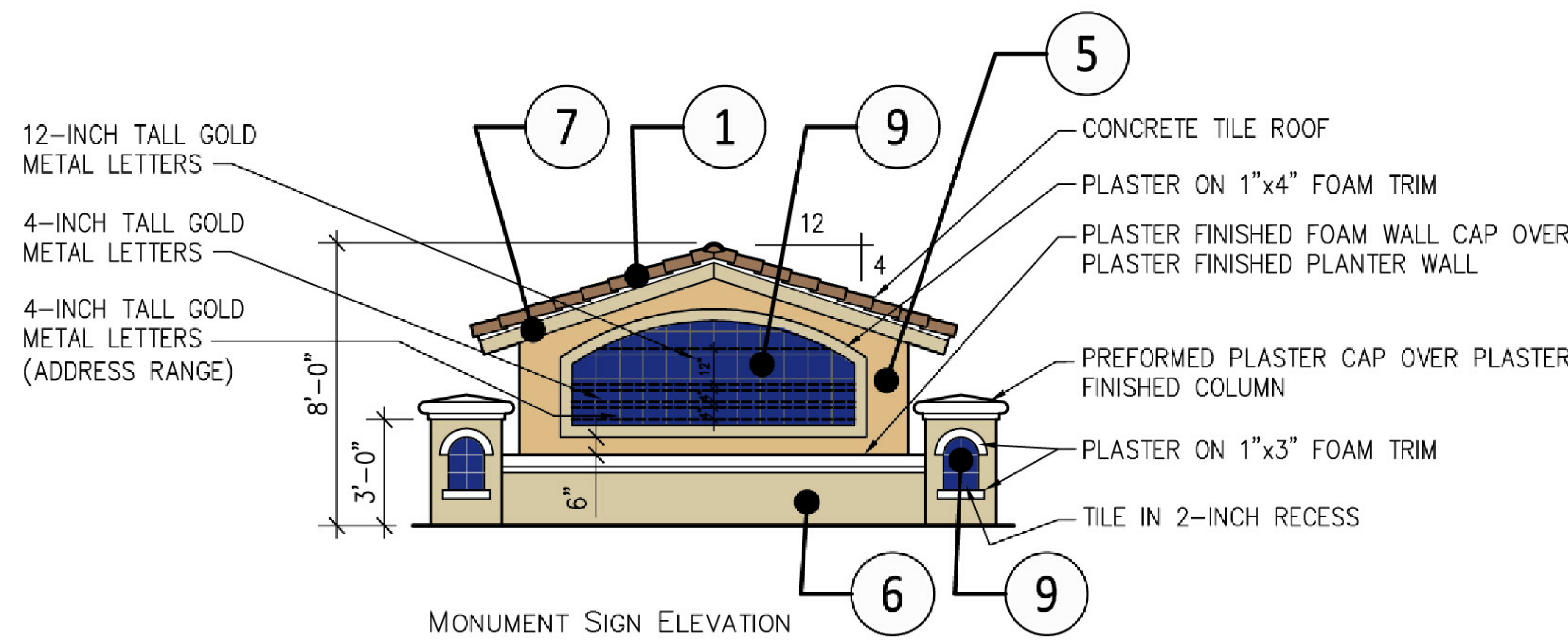
|  |                                                                         |  |                                                             |
|--|-------------------------------------------------------------------------|--|-------------------------------------------------------------|
|  | 1 ROOF<br>EAGLE ROOF<br>CONCRETE TILE<br>CAPISTRANO<br>ADOBE BLEND 3723 |  | 6 BASE COLOR<br>KELLY MOORE<br>KM 4690<br>SPA SANGRIA       |
|  | 2 TRIM<br>KELLY MOORE<br>KM 4671<br>EMPEROR'S GOLD                      |  | 7 FASCIA / ACCENT<br>KELLY MOORE<br>KM 5733<br>SONORA HILLS |
|  | 3 BODY COLOR 1<br>KELLY MOORE<br>KM 5236<br>GOLDEN FLEECE               |  | 8 RAILINGS<br>KELLY MOORE<br>KM 4024-5<br>LATTE PLEASE      |
|  | 4 BODY COLOR 2<br>KELLY MOORE<br>KM 5356<br>EYE OF THE TIGER            |  | 9 ACCENT TILE<br>DAL TILE<br>DM 14<br>COBALT                |
|  | 5 BODY COLOR 3<br>KELLY MOORE<br>KM 5265<br>HONEY ROBBER                |  |                                                             |

#### CONCEPTUAL ACCESSORY BUILDINGS

SCALE: 1/8"=1'-0"

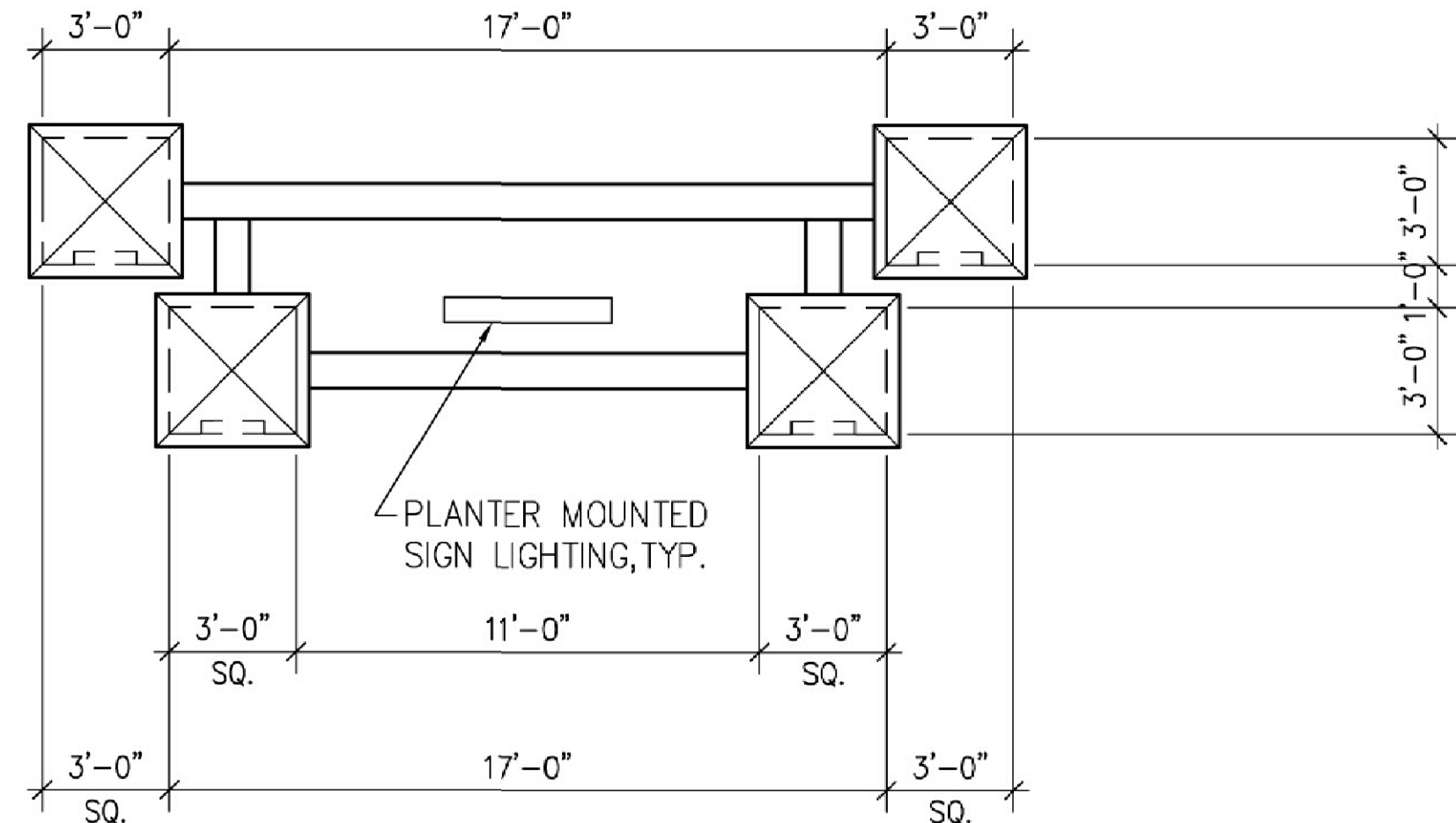
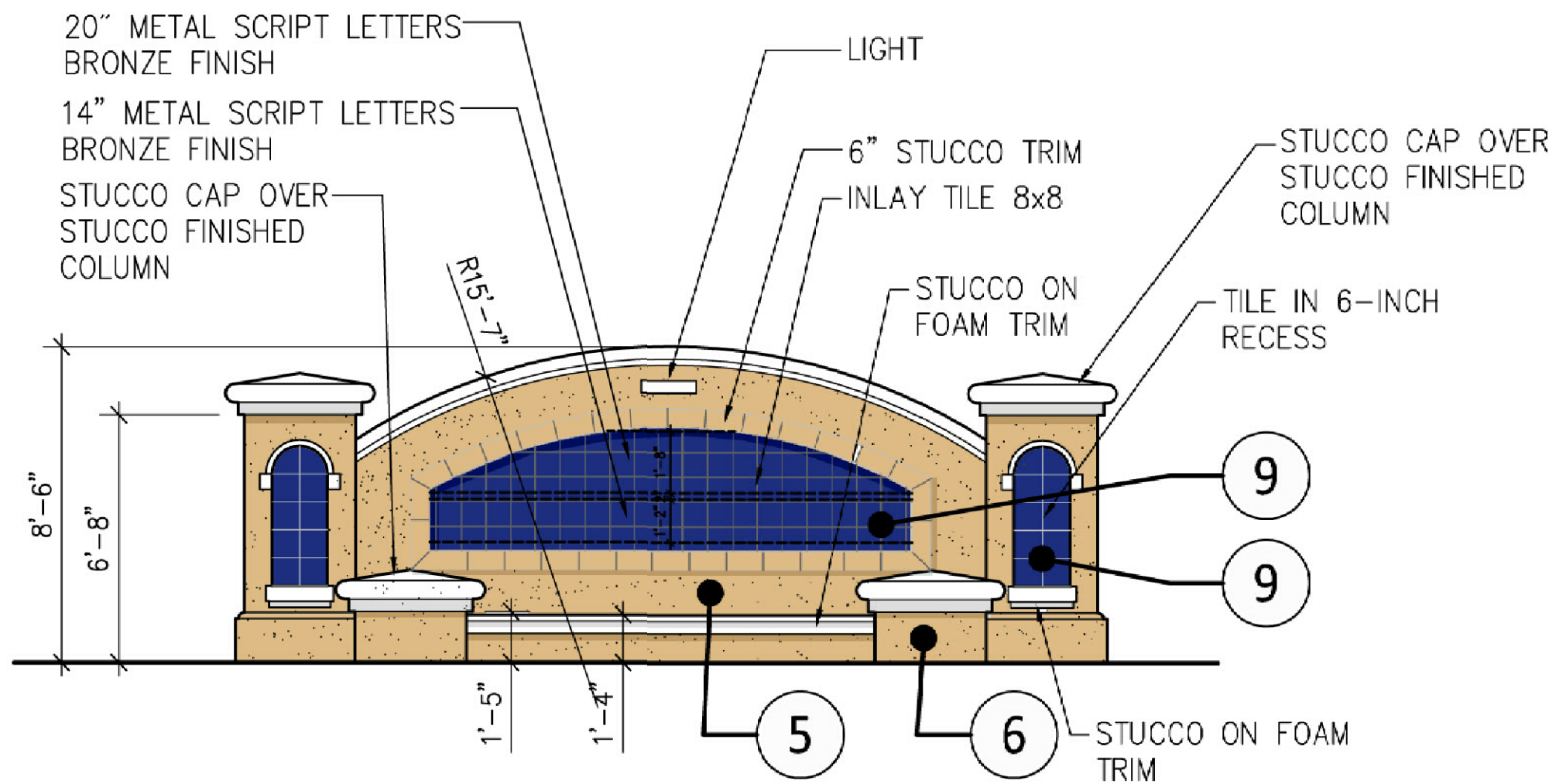






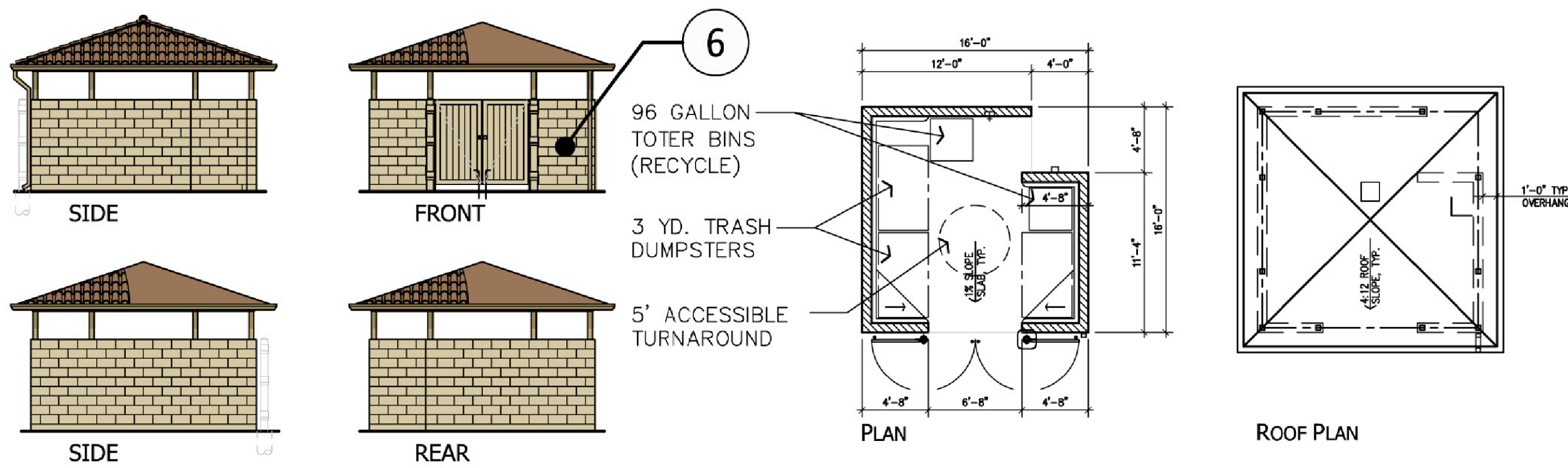
### WEST LELAND ROAD MONUMENT SIGN PLAN, ELEVATION, & DETAILS

SCALE: 1/4"=1'-0"



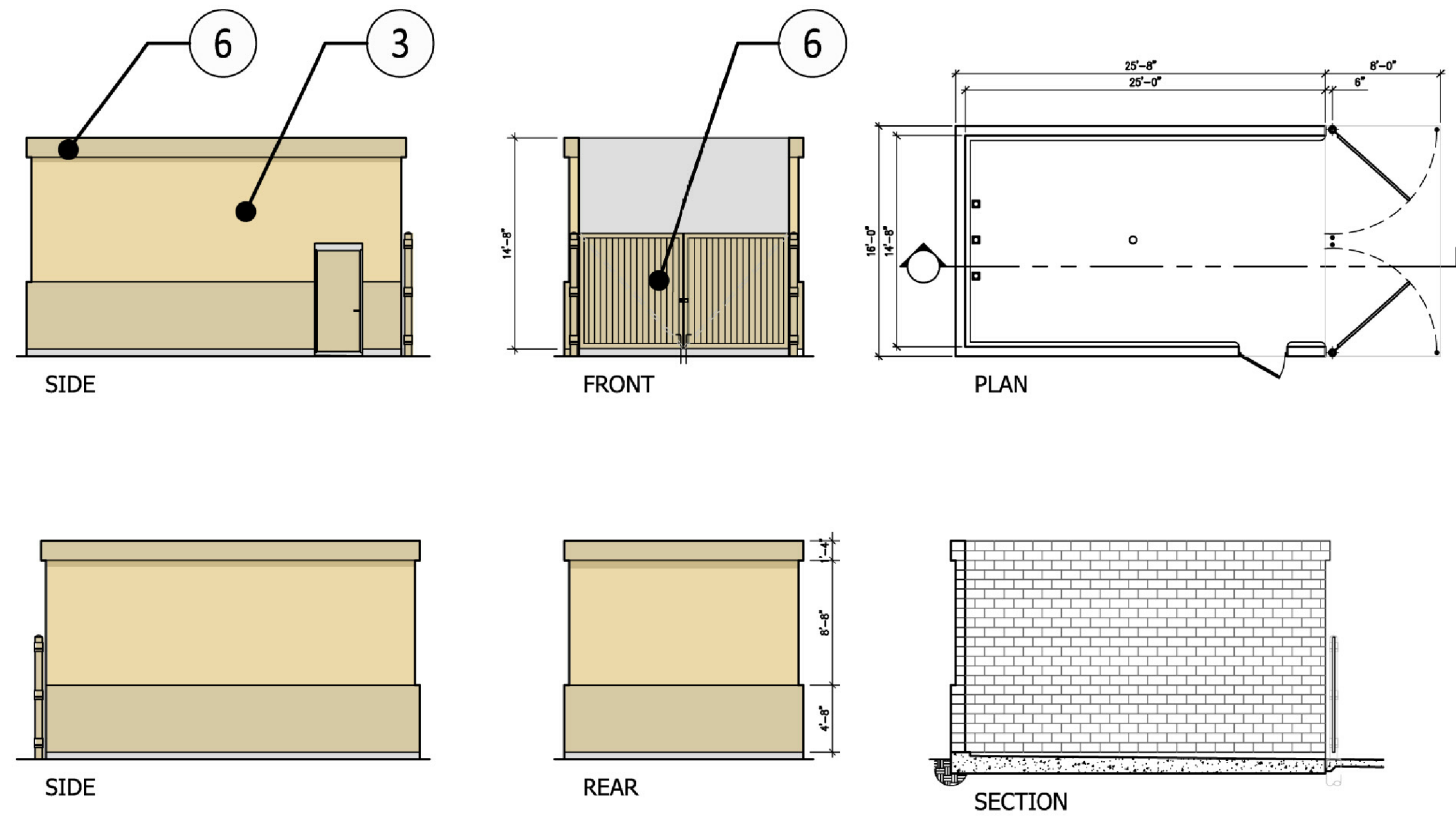
### VILLA DRIVE MONUMENT SIGN PLAN, ELEVATION, & DETAILS

SCALE: 1/4"=1'-0"



### TRASH ENCLOSURE PLAN & ELEVATIONS

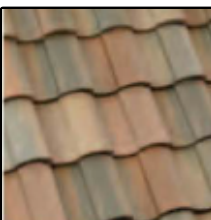
SCALE: 1/8"=1'-0"



### TRASH COMPACTOR PLAN, ELEVATION, & SECTION

SCALE: 1/8"=1'-0"

# COLOR CHART



1

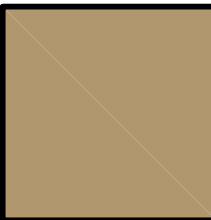
ROOF

EAGLE ROOF

CONCRETE TILE

CAPISTRANO

ADOBE BLEND 3723



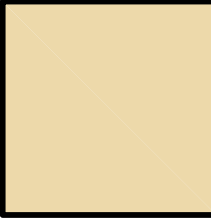
2

TRIM

KELLY MOORE

KM 4671

EMPEROR'S GOLD



3

BODY COLOR 1

KELLY MOORE

KM 5236

GOLDEN FLEECE



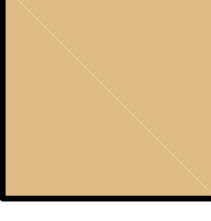
4

BODY COLOR 2

KELLY MOORE

KM 5356

EYE OF THE TIGER



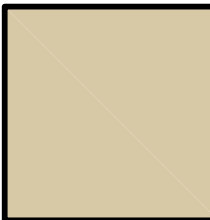
5

BODY COLOR 3

KELLY MOORE

KM 5265

HONEY ROBBER



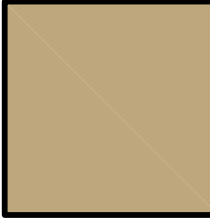
6

BASE COLOR

KELLY MOORE

KM 4690

SPA SANGRIA



7

FASCIA / ACCENT

KELLY MOORE

KM 5733

SONORA HILLS



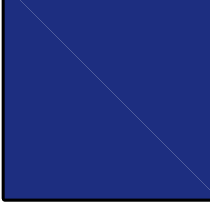
8

RAILINGS

KELLY MOORE

KM 4024-5

LATTE PLEASE



9

ACCENT TILE

DAL TILE

DM 14

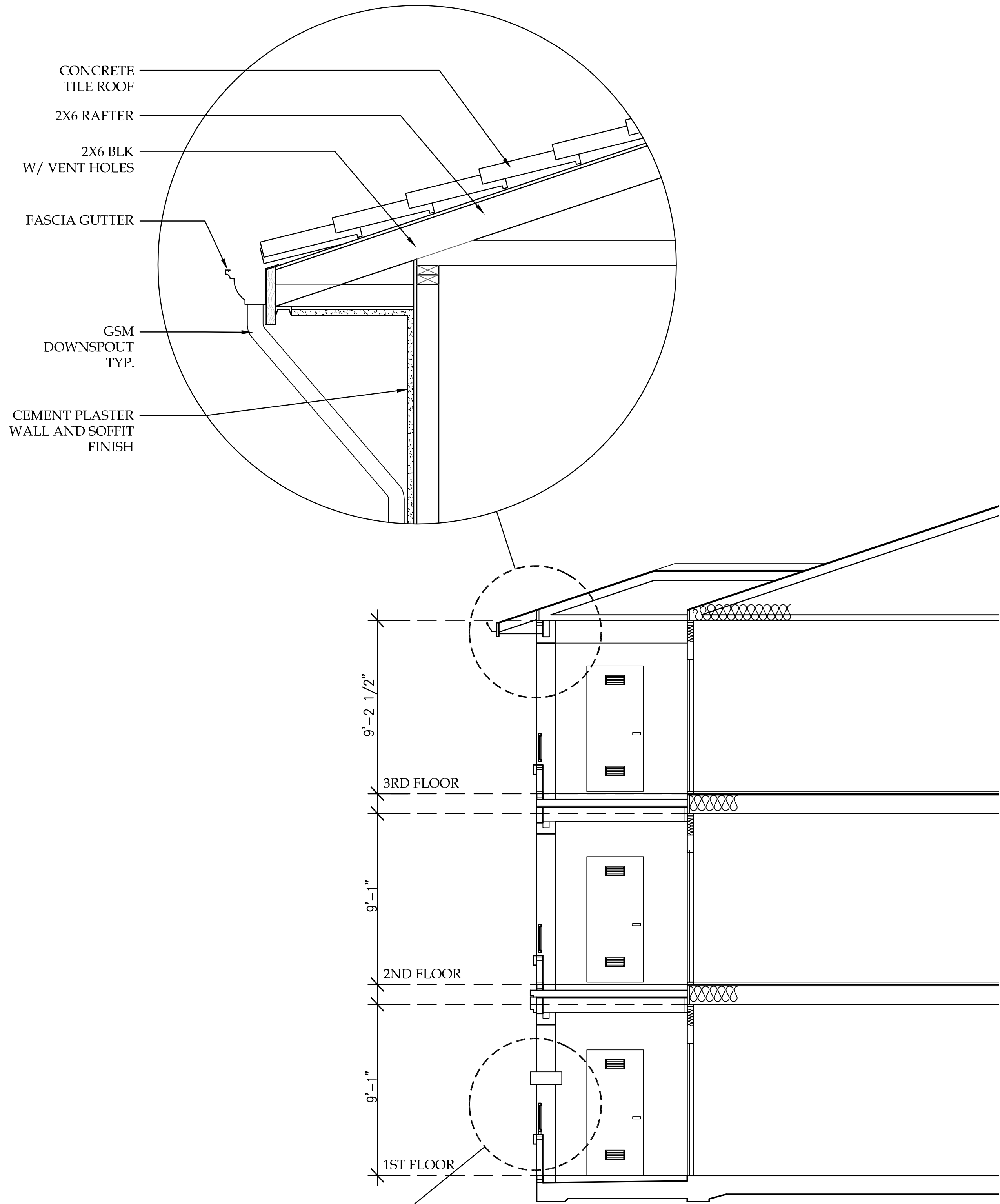
COBALT

### CONCEPTUAL ACCESSORY BUILDINGS

SCALE: 1/8"=1'-0"







## CONCEPTUAL ELEVATION DESIGN ELEMENTS & SECTION

SCALE: 1/4" = 1'-0"





## Project Location and Surrounding Land Uses Map

San Marcos Villas III, AP-20-1498 (DR)

West Leland Road and San Marco Boulevard (Terminus of Villa Drive)

APN: 091-050-047



Site Photos:

Site facing Villas Drive and W Leland Road



View of the site from W Leland Road – looking north.







*Transportation Impact Analysis*  
**San Marco Villas 3 Apartment Project**  
City of Pittsburg

Prepared for:  
City of Pittsburg  
65 Civic Avenue  
Pittsburg, CA 94565  
Attn: Paul Reinders

Prepared by:  
Abrams Associates  
1875 Olympic Boulevard, Suite 210  
Walnut Creek CA 94596



**Abrams Associates**  
TRAFFIC ENGINEERING, INC.

**July 31, 2020**

# **San Marco Villas 3 Project**

## ***City of Pittsburgh***

---

### **TRANSPORTATION IMPACT ANALYSIS**

---

#### **1) Executive Summary**

This transportation impact analysis describes the existing and future conditions for transportation with and without the proposed project, which consists of an apartment project with 270 apartment units within ten three-story buildings. This study presents information on the regional and local roadway networks that serve the project site, the pedestrian and transit conditions in the area, and provides an analysis of the effects on transportation facilities associated with the project.

This study also describes the regulatory setting; the criterion used for determining if the project would have adverse environmental effects; and summarizes potential environmental effects and appropriate countermeasures. This study has been conducted in accordance with the requirements and methodologies set forth by the City of Pittsburgh, the Contra Costa Transportation Authority (CCTA) and Caltrans.

**Summary of Adverse Effects and Countermeasures** - The following is a summary of the adverse effects from the project and the proposed countermeasures to address the transportation effects of the project. Based on a detailed analysis of traffic operations with and without each of the proposed mitigations, implementation of the following countermeasures would adequately address the adverse effects identified.

**Adverse Effect #1 The project would contribute to LOS operations exceeding the established standards at the following four intersections:**

#### **West Leland Road at San Marco Boulevard (Intersection #3)**

The addition of traffic from the proposed project would contribute to this intersection exceeding the established LOS standards in the plus project scenarios. With implementation of the recommended mitigations, the development of the proposed project would still result in potentially adverse effects to the LOS at the above mentioned intersections.



### **Countermeasure #1**

*Feasible mitigation includes the improvements listed below which are currently included in the City's 5-year capital improvement program and are eligible for funding from the Local Traffic Mitigation Fund. Prior to construction of the identified improvements the project would mitigate the above-identified adverse effects by paying a proportionate share of the construction costs, consistent with City ordinances. The intersection mitigations required for the project to meet the established LOS standards include the following:*

CM 1(a) West Leland Road at San Marco Boulevard – Widening of northbound San Marco Boulevard north of West Leland Road to allow for a full free-right turn from westbound West Leland Road onto San Marco Boulevard.

### **Adverse Effect #2 The project would contribute to traffic operations exceeding the established standards on the State Route 4 Freeway**

The development of the proposed project would increase the total traffic during both AM and PM peak hours. For SR 4 the East County Action Plan specifies a maximum delay index of 2.5. As shown in Table 9 in Section 5.12 the proposed project would not significantly increase the delay index under existing or cumulative conditions. However, the proposed project would add traffic to State Route 4 in the westbound direction during the AM peak hour, which is forecast to exceed the County's established delay index standard of 2.5. Therefore, the proposed project would have an adverse effect on freeway operations.

### **Countermeasure #2**

*Prior to construction the project would mitigate the above-identified adverse effects by paying the required traffic impact fees, subject to City approval.*

CM 2 Payment of the Regional Transportation Development Impact Mitigation Fee – The project will pay the Regional Transportation Development Impact Mitigation Fee (the "RTDIM") to fund regional freeway system improvements including State Route 4 improvements. Because the project applicant and the City of Pittsburg do not control the funding, prioritization and/or construction of improvement projects, it is assumed that payment of the RTDIM fees may not be sufficient to guarantee full elimination of the project's adverse effects to State Route 4. Please note the CCTA's planned SR4 Operational Improvements Project (OIP) and the SR4 Integrated Corridor Management (ICM) project are expected to improve SR4 delay index.

## 2) PROJECT DESCRIPTION

As noted above, the proposed project would consist of an apartment project with 270 apartment units within ten three-story buildings. The project would meet its parking demand by providing 561 on-site parking spaces. The project would be located on West Leland Road just west of the existing San Marco Villas Apartments in the City of Pittsburgh. All access to the project site will be from the extension of Villa Drive into the project site. **Figure 1** shows the location of the project and the surrounding roadway network. **Figure 2** shows the site plan for the project.

## 3) ENVIRONMENTAL SETTING

This section of the report describes the roadways, traffic conditions and other existing transportation characteristics in the vicinity of the project. The primary basis of the analysis is the peak hour level of service for the key intersections. Throughout this report, these peak hours will be identified as the AM and PM peak hours, respectively.

### 3.1 Project Study Intersections

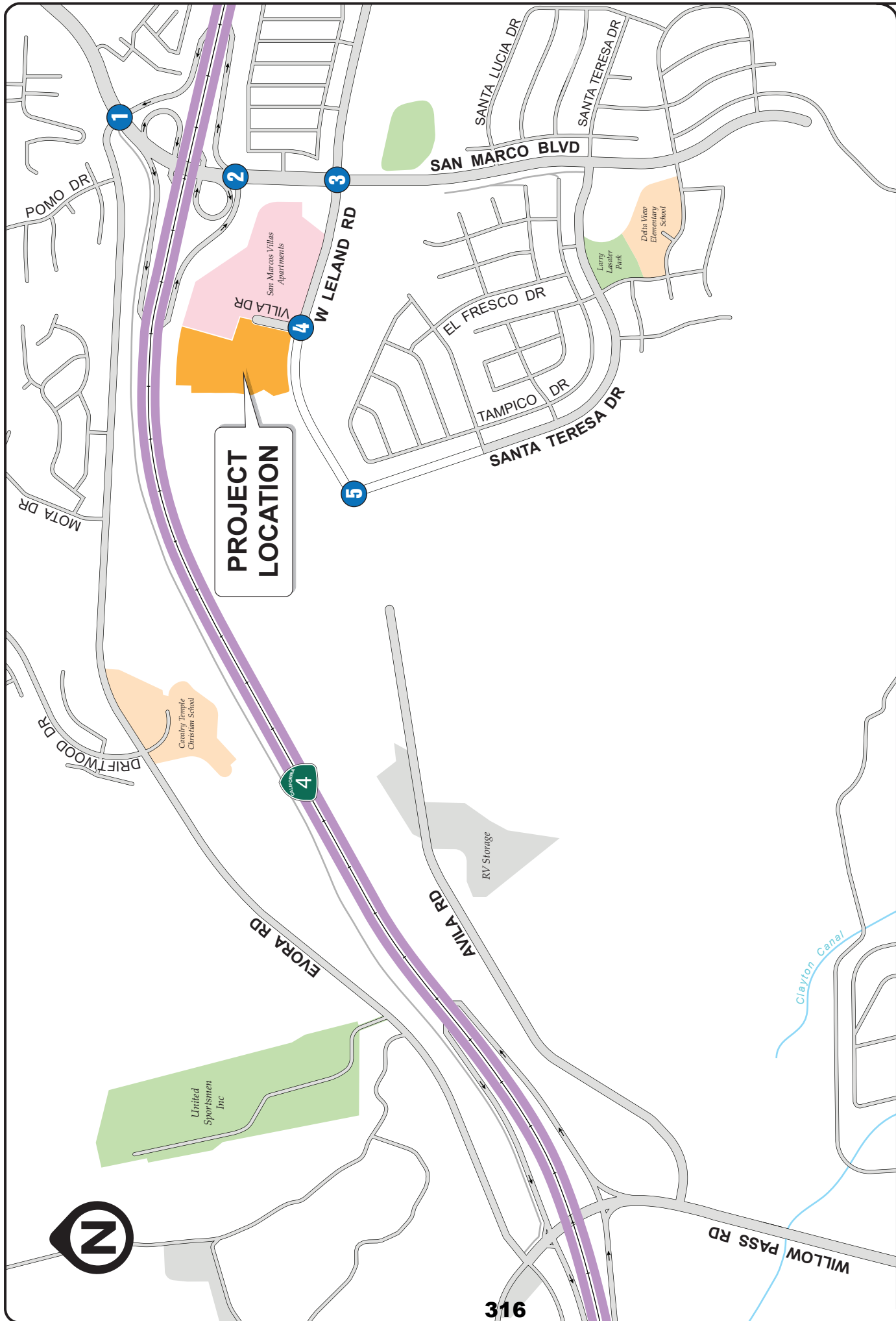
Based on the project's trip generation and the potential for adverse effects a list of project study intersections was prepared including all signalized intersections where more than 50 peak hour trips would be added as per the Contra Costa Transportation Authority's Technical Procedures.<sup>1</sup> **Figure 1** shows the location of the project study intersections. As mentioned above, all access to the site will be via driveways onto San Marco Boulevard and West Leland Road. There are eleven (11) study intersections included in the analysis.

#### Project Study Intersections

1. State Route 4 Westbound Off-Ramp/Evora Road and Willow Pass Road
2. State Route 4 Eastbound Off-Ramp and San Marco Boulevard/Willow Pass Road
3. San Marco Boulevard and West Leland Road
4. West Leland Road and Villa Drive (the Project Entrance)
5. West Leland Road and Santa Teresa Drive

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<sup>1</sup> *Final Technical Procedures*, Contra Costa Transportation Authority, Walnut Creek, CA, January 16, 2013.



**FIGURE 1 | PROJECT LOCATION**  
**TRANSPORTATION IMPACT ANALYSIS**  
**San Marco Villas 3**  
 City of Pittsburgh







### 3.2 Traffic Analysis Scenarios

The study intersections were evaluated for the following five scenarios:

- Scenario 1: *Existing Conditions* – Level of Service (LOS) based on existing peak hour volumes and existing intersection configurations.
- Scenario 2: *Existing Plus Project* – Existing traffic volumes plus trips from the proposed project.
- Scenario 3: *Baseline (No Project) Conditions* – The Baseline scenario is based on the existing volumes plus growth in background traffic plus the traffic from all reasonably foreseeable developments that could substantially affect the volumes at the project study intersections.
- Scenario 4: *Baseline Plus Project Conditions* – This scenario is based on the Baseline traffic volumes plus the trips from the proposed project.
- Scenario 5: *Cumulative Conditions* – This scenario includes year 2040 cumulative volumes based on planned and approved projects the Countywide Travel Demand Model. This scenario assumes the completion of the planned connection from Avila Road to West Leland Road.
- Scenario 6: *Cumulative Plus Project Conditions* – This scenario includes year 2040 cumulative volumes based on the Countywide Travel Demand Model plus the trips from the proposed project.

### 3.3 Existing Roadway Network

**Routes of Regional Significance** - Routes of Regional Significance (RRS) are major roadway and freeway corridors that serve regional traffic. These are identified in Action Plans adopted by the Contra Costa Transportation Authority under the countywide Measure J program. State Route 4, West Leland Road, Willow Pass Road and Bailey Road are all identified as RRS in the East County Action Plan.

As discussed previously, the project location and the surrounding roadway network are illustrated in **Figure 1**. The following is a more detailed description of the arterials that could be affected by the project:

- **State Route 4 (SR 4)/SR 4 Bypass** – SR 4 is the primary east-west corridor in Contra Costa County. It connects Interstate 80 in the city of Hercules to the west with SR 160 and the cities of Oakley and Brentwood to the east. SR 4 is currently a two-

lane roadway through Oakley and Brentwood and is a divided freeway from Interstate 680 east through Concord, Pittsburg, and Antioch. Interchanges along SR 4 within the study area include San Marco Boulevard and Bailey Road.

- **San Marco Boulevard** – San Marco Blvd is a four-lane arterial which starts at the Highway 4 freeway interchange. It currently is the main access for a series of single family neighborhoods and Delta View Elementary School. San Marco Blvd is planned be extended south until it intersects with Bailey Road, providing another point of access into the area. In the Pittsburg 2020 General Plan, San Marco Blvd is expected to be a Route of Regional Significance once it is extended to Bailey Road.
- **West Leland Road** – West Leland Road is a four-lane arterial which starts just west of San Marco Boulevard and extends to the east to end at Century Boulevard where it continues as Delta Fair Boulevard. West Leland Road provides two lanes in each direction with a landscaped center median and bike lanes in the project vicinity.
- **Willow Pass Road** – Willow Pass Road is a discontinuous four lane roadway with a center two-way left turn lane. The speed limit on Willow Pass Road is 35 mph in the project study area. Please note that there are two sections of Willow Pass Road in the area. One is the western segment that begins south of SR 4 and extends into downtown Concord and the other is the eastern segment in Bay Point which eventually becomes West 10th Street before it extends into downtown Pittsburg.

### 3.4 Intersection Analysis Methodology

Existing operational conditions at the eleven (11) study intersections have been evaluated according to the requirements set forth by the Contra Costa County Transportation Authority (CCTA) using the methodology set forth in the Final Technical Procedures Update (dated January 16, 2013). Analysis of traffic operations was conducted using the 2010 *Highway Capacity Manual (HCM)* Level of Service (LOS) methodology with Synchro software.<sup>2</sup> Level of service is an expression, in the form of a scale, of the relationship between the capacity of an intersection (or roadway segment) to accommodate the volume of traffic moving through it at any given time. The level of service scale describes traffic flow with six ratings ranging from A to F, with “A” indicating relatively free flow of traffic and “F” indicating stop-and-go traffic characterized by traffic jams.

As the amount of traffic moving through a given intersection or roadway segment increases, the traffic flow conditions that motorists experience rapidly deteriorate as the capacity of the intersection or roadway segment is reached. Under such conditions, there is general instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays that lead to traffic congestion. This near-capacity situation is labeled level of service (LOS) E. Beyond LOS E, the intersection or

<sup>2</sup> 2010 *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2011

roadway segment capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it. For signalized intersections, The *HCM* methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average control delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average control delay and LOS are presented for the intersection. A summary of the HCM results and copies of the detailed HCM LOS calculations are included in the appendix to this report. **Table 1** summarizes the relationship between LOS, average control delay, and the volume to capacity ratio at signalized intersections. **Table 2** summarizes the relationship between LOS and average control delay at unsignalized intersections. For unsignalized (all-way stop controlled and two-way stop controlled) intersections, the average control delay and LOS operating conditions are calculated by approach (e.g., northbound) and movement (e.g., northbound left-turn) for those movements that are subject to delay. In general, the operating conditions for unsignalized intersections are presented for the worst approach.

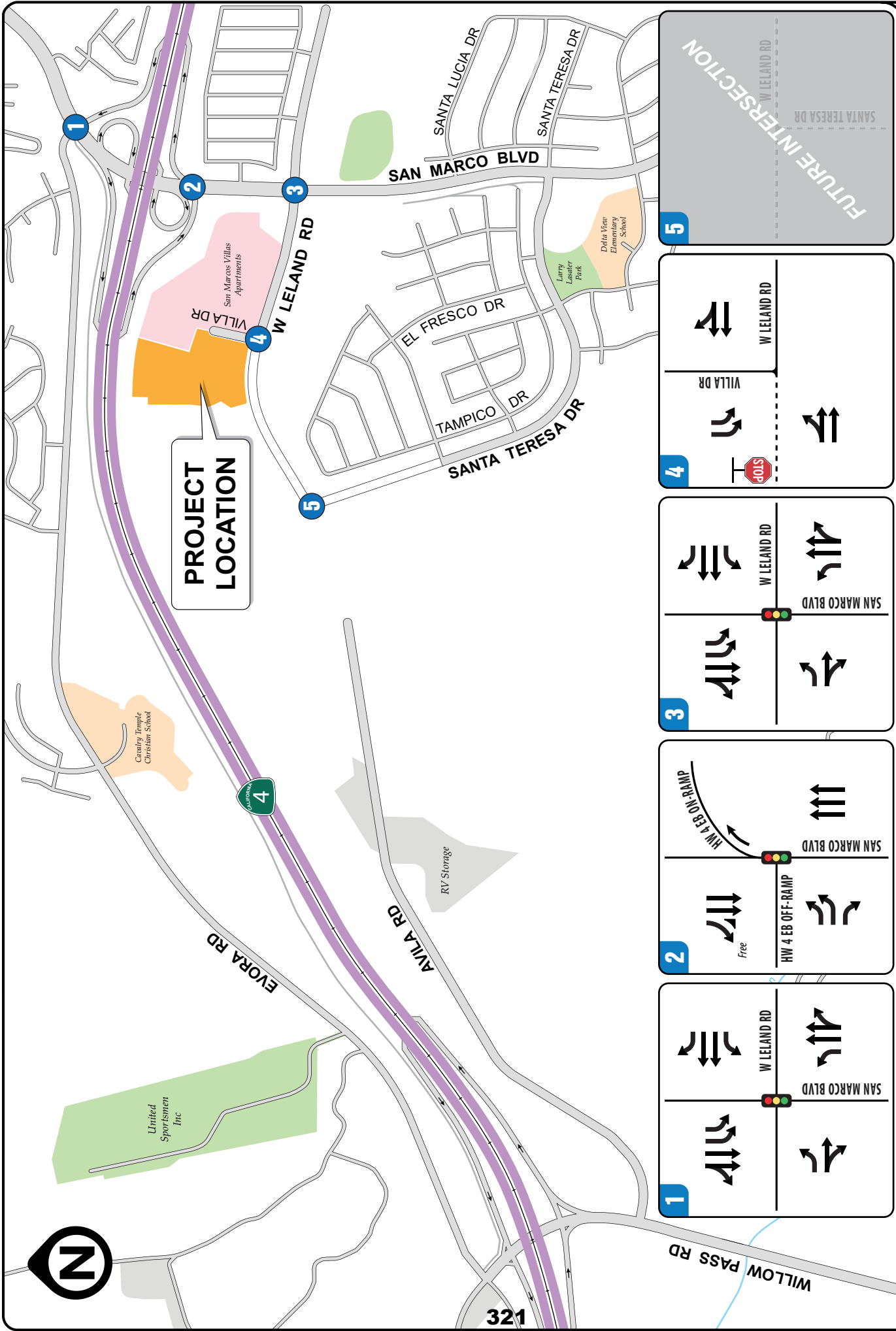
### 3.5 Existing Intersection Capacity Conditions (Scenario 1)

The existing intersection geometry at each of the project study intersections can be seen in **Figure 3** and the existing traffic volumes at each are presented in **Figure 4**. Traffic counts at the study intersections were conducted in May and October of 2018 as part of the EIR for the Alves Ranch Project.<sup>3</sup> Please note that data was supplemented with AM and PM peak hour traffic counts that were conducted in March of 2019 at intersections #5 and #6. It should be noted that during these counts there were no pedestrians observed crossing West Leland Road in the vicinity of the project site and Ray Giacomelli Park during these traffic counts. **Table 3** summarizes the associated LOS computation results for the existing weekday AM and PM peak hour conditions. Please note that the corresponding LOS analysis calculation sheets are presented in the *Traffic Analysis Appendix*.

As shown in **Table 3**, all of the existing project study intersections currently have acceptable during the weekday AM and PM peak hours with the exception of Intersections #3 (West Leland Road at San Marco Boulevard) which would exceed the established thresholds described below in Section 4.3. Please note that during the AM peak hour queues regularly extend back from the ramp meters at the westbound State Route 4 on-ramp up San Marco Boulevard. The queues typically extend through the San Marco Boulevard/West Leland Road intersection and onto the segment of West Leland Road along the frontage of the proposed project site.

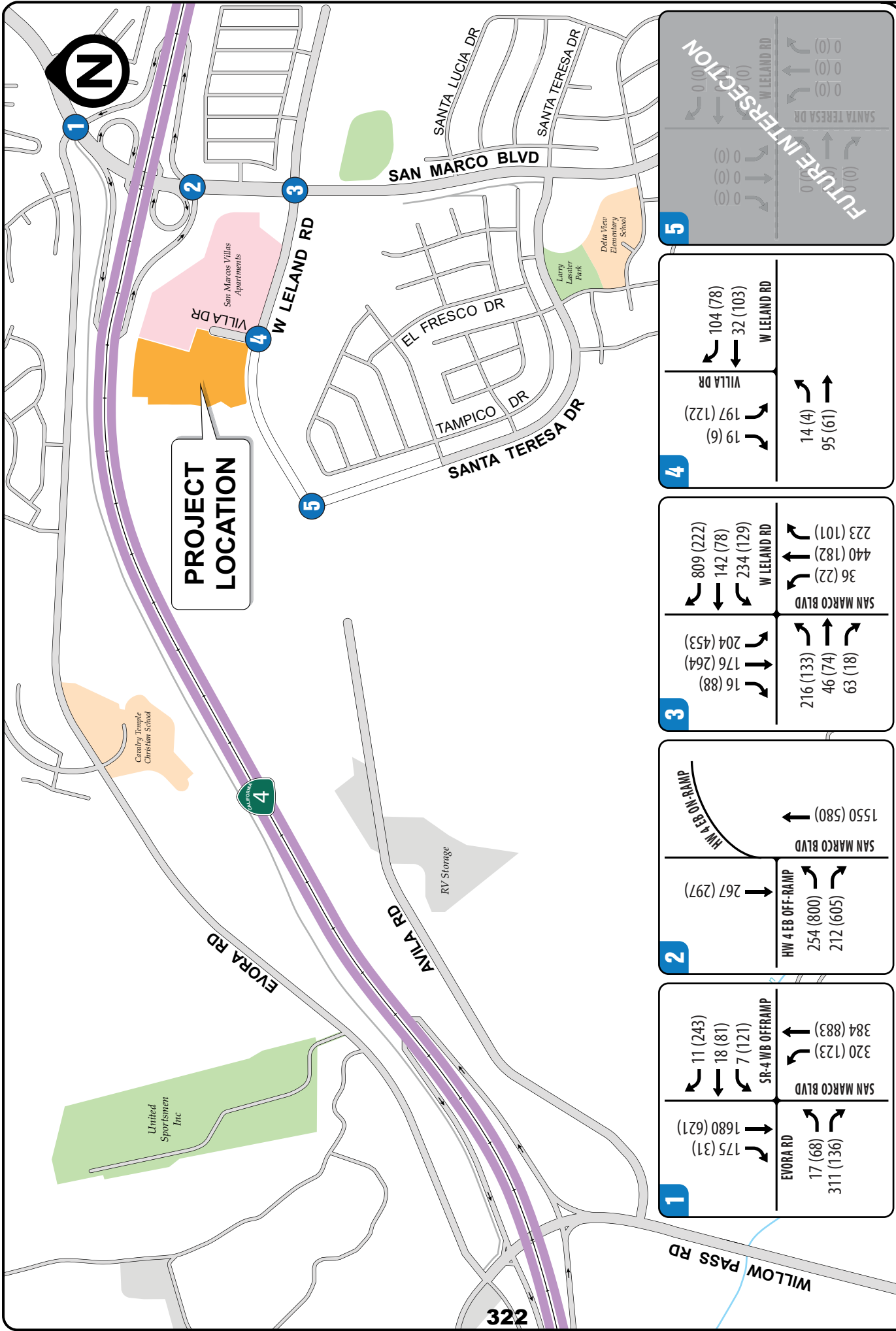
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<sup>3</sup> *Alves Ranch Transportation Impact Assessment*, Fehr and Peers, Walnut Creek, CA, March 2019



**FIGURE 3 | EXISTING LANE CONFIGURATIONS**  
 TRANSPORTATION IMPACT ANALYSIS  
**San Marco Villas 3**  
 City of Pittsburgh





**FIGURE 4 | EXISTING AM(PM) PEAK HOUR TRAFFIC VOLUMES**  
 TRANSPORTATION IMPACT ANALYSIS  
**San Marco Villas 3**  
 City of Pittsburgh

**TABLE 1**  
**SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS**

| <u>Level of Service</u> | <u>Description of Operations</u>                                                                                                               | <u>Average Delay (sec/veh)</u> | <u>Volume to Capacity Ratio</u> |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|
| A                       | Insignificant Delays: No approach phase is fully used and no vehicle waits longer than one red indication.                                     | $\leq 10$                      | $< 0.60$                        |
| B                       | Minimal Delays: An occasional approach phase is fully used. Drivers begin to feel restricted.                                                  | $> 10$ to $20$                 | $> 0.61$ to $0.70$              |
| C                       | Acceptable Delays: Major approach phase may become fully used. Most drivers feel somewhat restricted.                                          | $> 20$ to $35$                 | $> 0.71$ to $0.80$              |
| D                       | Tolerable Delays: Drivers may wait through no more than one red indication. Queues may develop but dissipate rapidly without excessive delays. | $> 35$ to $55$                 | $> 0.81$ to $0.90$              |
| E                       | Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues from upstream.       | $> 55$ to $80$                 | $> 0.91$ to $1.00$              |
| F                       | Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.                      | $> 80$                         | $> 1.00$                        |

**SOURCES:** 2010 *Highway Capacity Manual*, Transportation Research Board, 2011. *Technical Procedures Update*, Contra Costa Transportation Authority, January 16, 2013.

**TABLE 2**  
**UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS**

| <u>Level of Service</u> | <u>Description of Operations</u>                                                                       | <u>Average Delay (seconds/vehicle)</u> |
|-------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------|
| A                       | No delay for stop-controlled approaches.                                                               | 0 to 10                                |
| B                       | Operations with minor delays.                                                                          | $> 10$ to $15$                         |
| C                       | Operations with moderate delays.                                                                       | $> 15$ to $25$                         |
| D                       | Operations with some delays.                                                                           | $> 25$ to $35$                         |
| E                       | Operations with high delays and long queues.                                                           | $> 35$ to $50$                         |
| F                       | Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers. | $> 50$                                 |

**SOURCE:** 2010 *Highway Capacity Manual*, Transportation Research Board, 2011.

**TABLE 3**  
**EXISTING INTERSECTION LEVEL OF SERVICE CONDITIONS**

| INTERSECTION |                                                           | CONTROL          | PEAK HOUR | EXISTING |     |
|--------------|-----------------------------------------------------------|------------------|-----------|----------|-----|
|              |                                                           |                  |           | Delay    | LOS |
| 1            | EVORA ROAD / SR-4 WB OFF-RAMP & WILLOW PASS ROAD          | Signalized       | AM        | 46.2     | D   |
|              |                                                           |                  | PM        | 9.9      | A   |
| 2            | SR-4 EB OFF-RAMP & SAN MARCO BOULEVARD / WILLOW PASS ROAD | Signalized       | AM        | 8.6      | A   |
|              |                                                           |                  | PM        | 9.6      | A   |
| 3            | SAN MARCO BOULEVARD & W. LELAND ROAD                      | Signalized       | AM        | > 80.0   | F   |
|              |                                                           |                  | PM        | 21.0     | C   |
| 4            | VILLA DRIVE & W. LELAND ROAD                              | Side Street Stop | AM        | 11.1     | B   |
|              |                                                           |                  | PM        | 10.5     | B   |
| 5            | SANTA TERESA DRIVE & W. LELAND ROAD                       | Future           | AM        | N/A      | N/A |
|              |                                                           |                  | PM        | N/A      | N/A |

**SOURCE:** Abrams Associates, 2020

**NOTES:** HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop controlled intersections the results for the worst side street approach are presented.

### 3.6 Pedestrian and Bicycle Facilities

Bicycle paths, lanes and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the following three classes:

*Class I* – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.

*Class II* – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.

*Class III* – Provides a route designated by signs or permanent markings and shared with pedestrians and motorists.

*Class IV* – Provides an exclusive facility for bicyclists that is located within or directly adjacent to the roadway and is physically separated from motor vehicle traffic with a vertical element. They are sometimes referred to as a separated bike lane.

In the immediate project vicinity there are sidewalks in most areas. There are also marked crosswalks, pedestrian push buttons, and pedestrian signals provided at the nearby signalized intersection of West Leland Road at San Marco Boulevard. West Leland Road has Class II bicycle lanes in the study area. Class II facilities are also provided on Bailey Road between Willow Pass Road and just south of the City limit, and on San Marco Boulevard between West Leland Road and Willow Pass Road. There are also several Class I trails in the area, including the Delta De Anza Regional Trail and a Class I trail along the west side of San Marco Boulevard.

*Pittsburg Moves Pedestrian and Bicycle Plan* – In March 2018, the City was awarded grant funding from Caltrans to prepare the Pittsburg Active Transportation and Safe Routes Plan, also known as 'Pittsburg Moves'. The Pittsburg Moves plan is expected to be adopted soon and will spell out clear policies, programs, and practices to help support the safety and comfort of people walking and biking in Pittsburg. Another goal of the plan is to encourage new walking and biking trips by creating and maintain a robust and comfortable active transportation network, especially near schools, parks, and transit stations.

### **3.7 Transit Service**

Two major public transit operators provide service within or adjacent to the study area. These include BART and the Eastern Contra Costa Transit Authority (or Tri Delta Transit). These are described below.

**Bay Area Rapid Transit (BART)** – BART is a rapid mass transit system which provides regional transportation connections to much of the Bay Area. It runs from the North Bay Area in Richmond to the South Bay Area in Fremont. In the east-west direction it runs from Pittsburg to the San Francisco Airport and Milbrae with several connections in Oakland. The Pittsburg/Bay Point BART station, which is closest to the proposed project, serves all of Pittsburg, Bay Point, Antioch, and all other surrounding cities and runs from 4:00 am to 12:00 am daily, with a weekday frequency of 15 minutes. An E-BART extension to Hillcrest Avenue in Antioch connects with BART at the Bay Point BART station. Please note there is also an E-BART Station at Railroad Avenue.

**Tri Delta Transit** - Tri Delta Transit serves the East County including Brentwood, Oakley, Pittsburg, Antioch, Bay Point and unincorporated areas of East County. Tri Delta Transit operates fourteen local bus routes from Monday to Friday, including three express services, and four local bus routes during weekends and Holidays. The Tri Delta Transit route that runs closest to the proposed project is Route 200 with bus stops about a third of a mile from the project site near the intersection of West Leland Road and San Marco Boulevard. This route operates on weekdays from about 6:30 AM to 6:00 PM with approximately one-hour headways. The route provides a connection to the Pittsburg/Bay Point BART station where ten of the nineteen TriDelta Transit bus routes make connections (Routes 200, 201, 380, 387, 388, 389, 390, 392, 394 and 396).

## **4) REGULATORY CONTEXT**

Existing policies, laws and regulations that apply to the proposed project are summarized below.

### **4.1 State**

The California Department of Transportation (Caltrans) has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, such as SR 4. Any improvements to these roadways would require Caltrans' approval. The



Guide for the Preparation of Traffic Impact Studies provides consistent guidance for Caltrans staff who review local development and land use change proposals. The Guide also informs local agencies about the information needed for Caltrans to analyze adverse effects on state highway facilities which include freeway segments, on- or off-ramps, and signalized intersections.

## 4.2 Local

**Contra Costa Countywide Comprehensive Transportation Plan Update (2017)** - The transportation policies that are currently applicable within Contra Costa County are based on the Contra Costa County Comprehensive Transportation Plan. This document identifies the criteria for analyzing adverse effects on transportation and sets forth plans for future roadway improvements in the county.

**City of Pittsburg General Plan** - The Transportation and Circulation Element included in the City of Pittsburg General Plan was prepared pursuant to Section 65302(b) of the California Government Code. The Transportation and Circulation Element addresses the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. The General Plan identifies roadway and transit goals and policies that have been adopted to ensure that the transportation system of the City will have adequate capacity to serve planned growth. These goals and policies are intended to provide a plan and implementation measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the City.

## 4.3 Significance Criteria

The project would be considered to have an adverse effect if it would:

- *Conflict with an applicable program, plan, ordinance or policy establishing measures of effectiveness for the performance of addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian facilities/paths?*

The goal of the City of Pittsburg (City) is to maintain a Level of Service (LOS) D during the peak hours with LOS E permissible at intersections along Bailey Road, as established in the East County Action Plan.<sup>4</sup> Please note that all project study intersections are located on roadways designated as routes of regional significance. Please note the City does not have plans, ordinances, or policies establishing measures of effectiveness for the performance of other parts of its circulation system.

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<sup>4</sup> *East County Action Plan for Routes of Regional Significance*, Fehr & Peers Associates, Walnut Creek, CA, September 2017.

This analysis also includes intersections under the jurisdiction of Contra Costa County and Caltrans. For the Caltrans freeway facilities, the operational standards and significance criteria are established by the Contra Costa Transportation Authority (CCTA) acting as the designated Congestion Management Agency (CMA) representing the jurisdictions of Contra Costa County. As the acting CMA, the CCTA establishes the traffic LOS standards for all state highway facilities in Contra Costa County, which supersede the general Caltrans operational standard for all state highways.<sup>5</sup>

The City's and CCTA's measures of effectiveness are summarized below:

*Signalized Intersections* - Project-related adverse effects on the signalized study intersections in the City of Pittsburg are considered significant if project-related traffic causes the Level of Service (LOS) rating to deteriorate from LOS D to LOS E or F, or from LOS E to LOS F on routes of regional significance. For intersections already operating at an unacceptable LOS without the project it is considered an adverse effect if the project increases the average intersection delay by more than 5 seconds.

*Unsignalized Intersections* - Project-related adverse effects on unsignalized intersections are considered significant if project generated traffic causes the worst-case movement (or average of all movements for all-way stop-controlled intersections and roundabouts) to deteriorate from LOS D or better to LOS E or F. For intersections already operating at an unacceptable LOS without the project it is considered an adverse effect if the project increases the average intersection delay by more than 5 seconds.

*SR 4 Freeway* - For the State Route 4 freeway the East County Action Plan specifies a maximum MTSSO delay index of 2.5.<sup>3</sup> The MTSSO delay index and average speed is measured over the length of SR 4 from Willow Pass Grade to SR 160. For the Caltrans freeway facilities being studied, the operational standards and significance criteria are established by the CCTA acting as the designated Congestion Management Agency (CMA) representing the jurisdictions of CCC. As the acting Congestion Management Agency (CMA), the CCTA establishes the traffic LOS standards for all state highway facilities in CCC, which supersede the general Caltrans operational standard for all state highways. The LOS standard established for the two segments of SR 4 in the vicinity of the project is LOS F.

- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections).
- Result in inadequate emergency vehicle access.

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<sup>5</sup> 2017 Contra Costa Congestion Management Plan, Contra Costa Transportation Authority, Walnut Creek, CA, 94598, March 2018.

## 5) ADVERSE EFFECTS AND COUNTERMEASURES

### 5.1 Project Trip Generation

The proposed project would consist of an apartment project with 270 apartment units within ten three-story buildings. The resulting trip generation calculations are shown in **Table 4**. They are based on the trip generation rates for apartments (Land Use Code 220) from the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 10<sup>th</sup> Edition.

**TABLE 4**  
**PROJECT TRIP GENERATION CALCULATIONS**

| Land Use                                  | ITE Code | Size | ADT          | AM Peak Hour |           |            | PM Peak Hour |           |            |
|-------------------------------------------|----------|------|--------------|--------------|-----------|------------|--------------|-----------|------------|
|                                           |          |      |              | In           | Out       | Total      | In           | Out       | Total      |
| ITE Apartment Trip Rates - Trips per unit | 220      |      | 7.32         | 0.11         | 0.36      | 0.46       | 0.35         | 0.21      | 0.56       |
| <b>Project Trip Generation</b>            |          |      | <b>1,976</b> | <b>29</b>    | <b>96</b> | <b>124</b> | <b>95</b>    | <b>56</b> | <b>151</b> |

**SOURCE:** Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington D.C., 2019.

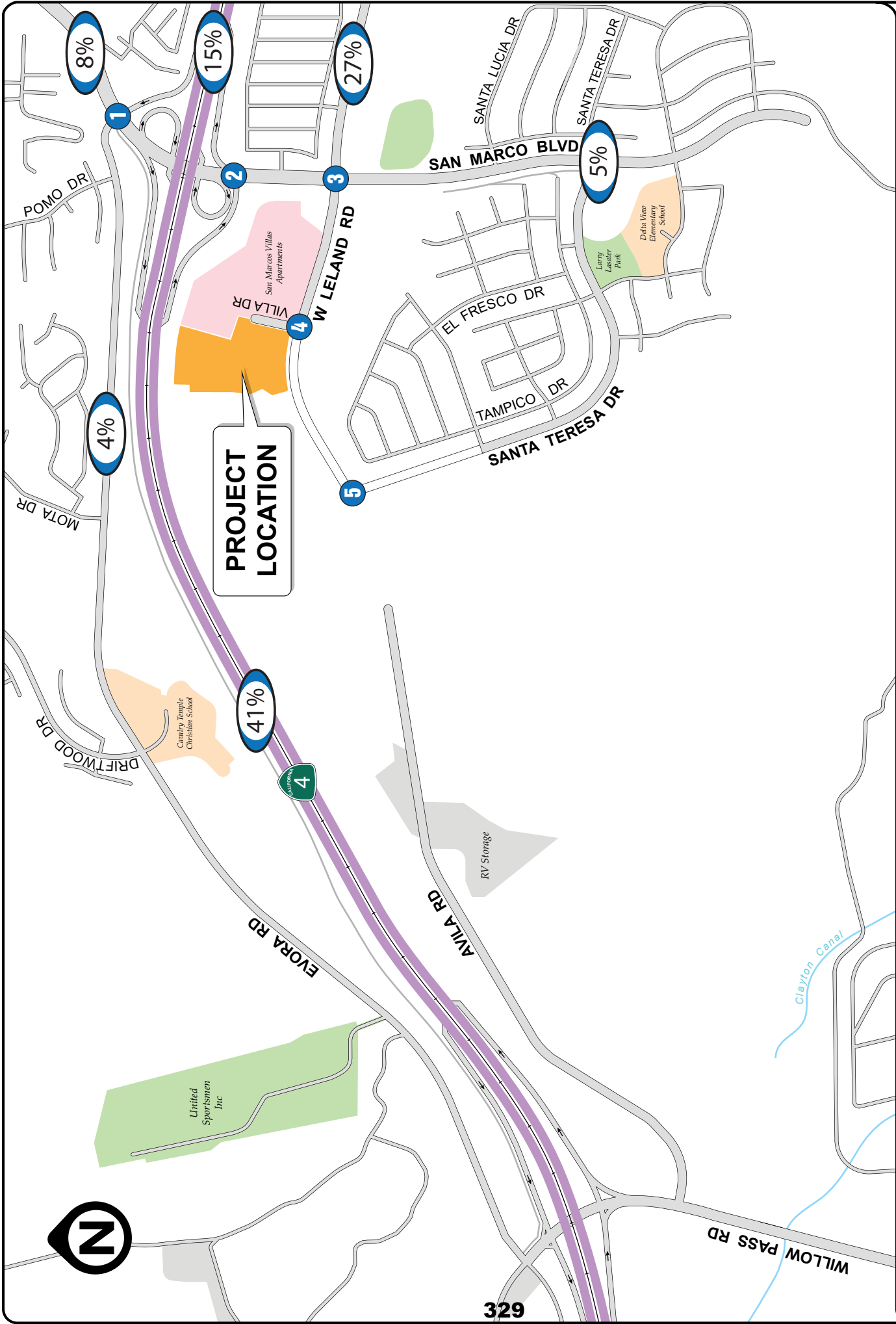
The total trip generation reflects all vehicle trips that would be counted at the project driveways, both inbound and outbound. For purposes of determining the reasonable worst-case effects of traffic on the surrounding street network from a proposed project, the trips generated by this proposed development are estimated for the peak commute hours which represent the peak of "*adjacent street traffic*". This is the time period when the project traffic would generally contribute to the greatest amount of congestion. As shown in **Table 4**, the project is forecast to generate approximately 124 net new vehicle trips on the surrounding roadway system during the AM peak hour and 151 trips during the PM peak hour.

### 5.2 Project Trip Distribution

The trip distribution assumptions have been based on the project's proximity to freeway interchanges, the existing directional split at nearby residential neighborhoods and local intersections, and the overall land use patterns in the area as determined from the Countywide Travel Demand Model. **Figure 5** shows the percentage of project traffic assigned to various study roadways. **Figure 6** shows the project traffic that would be added at each of the study intersections.

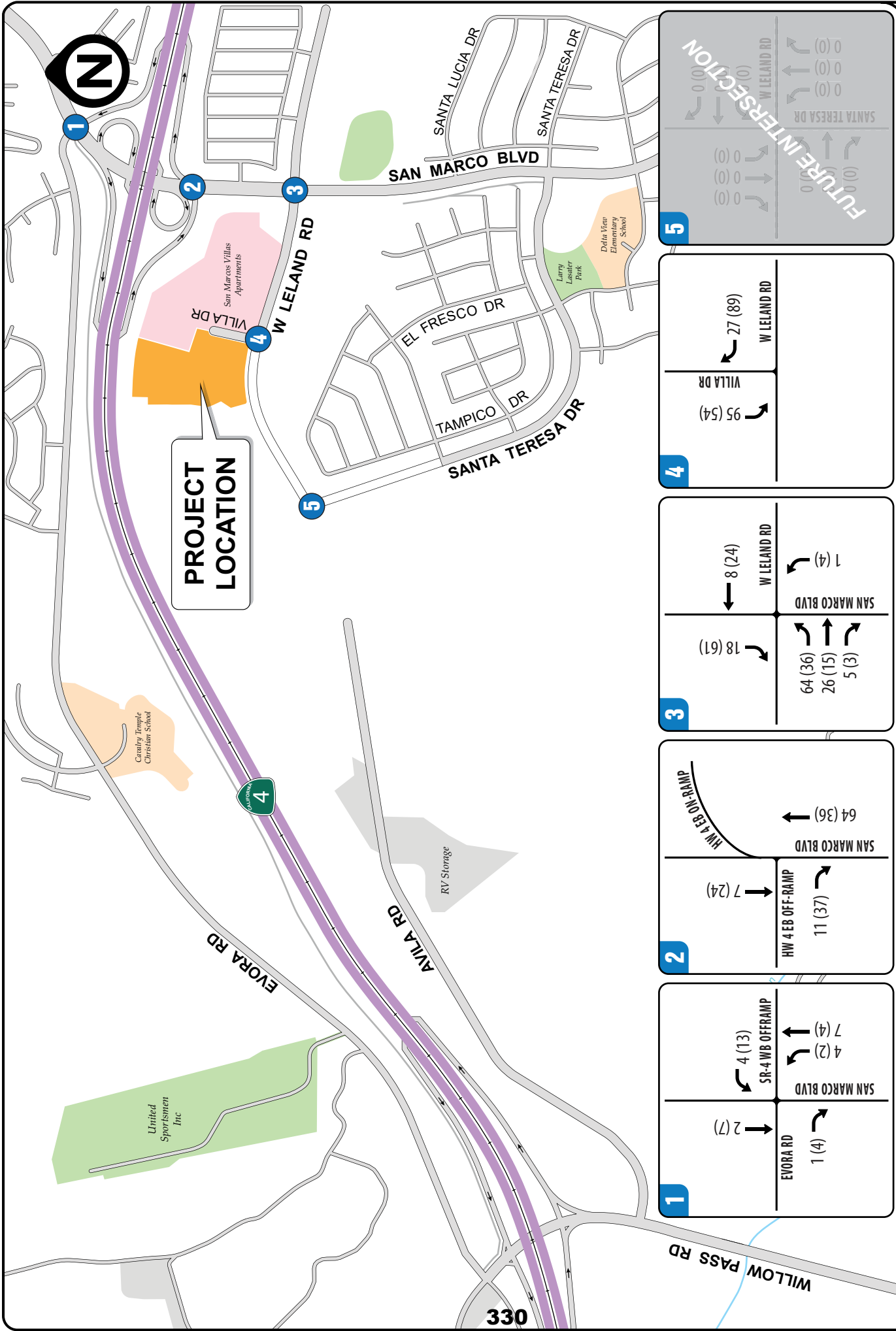
### 5.3 Existing Plus Project Traffic Capacity Conditions (Scenario 2)

This scenario evaluates the existing conditions with the addition of traffic from the proposed project. The traffic volumes for each of the study intersections for the Existing Plus Project scenario are shown in **Figure 7**. The capacity calculations for the Existing Plus Project scenario are shown in **Table 5**. The corresponding LOS analysis calculation sheets are presented in the

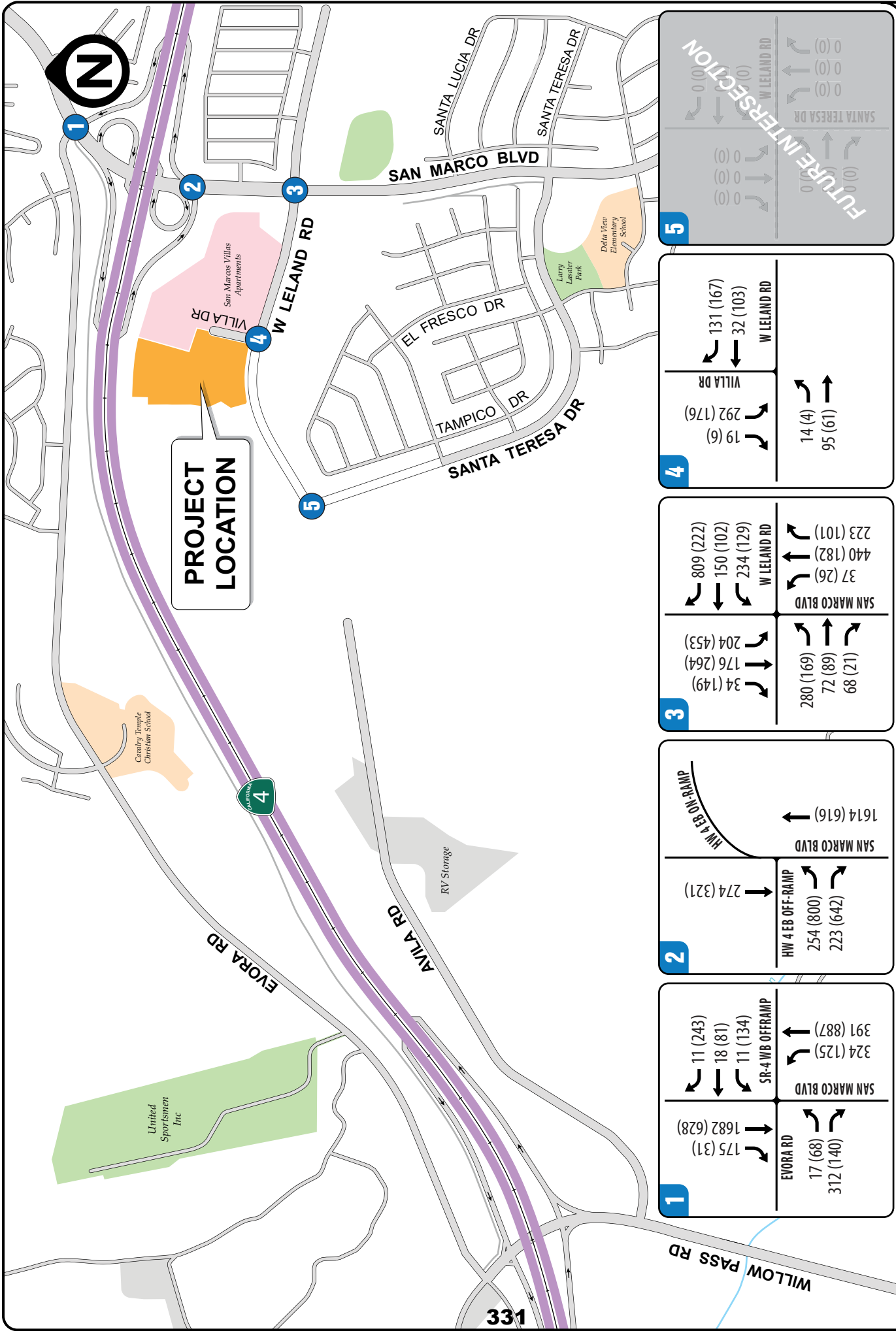


**FIGURE 5 | PROJECT TRIP DISTRIBUTION**  
**TRANSPORTATION IMPACT ANALYSIS**  
**San Marco Villas 3**  
 City of Pittsburgh





**FIGURE 6 | PROJECT AM(PM) PEAK HOUR TRIPS**  
**TRANSPORTATION IMPACT ANALYSIS**  
**San Marco Villas 3**  
 City of Pittsburgh



**FIGURE 7 | EXISTING PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES**

**TRANSPORTATION IMPACT ANALYSIS**  
**San Marco Villas 3**  
 City of Pittsburgh

Traffic Analysis Appendix. As shown in **Table 5**, all of the existing project study intersections currently have acceptable during the weekday AM and PM peak hours with the exception of Intersection #3 (West Leland Road at San Marco Boulevard) which would continue to exceed the established LOS thresholds. Please note the addition of project traffic would be considered an adverse effect at Intersection # 3 (San Marco Boulevard and West Leland Road) and would increase the intersection delay by more than five seconds as per the criteria described in Section 4.3. This intersection is forecast to continue exceeding the City's LOS standards regardless of whether or not the proposed project is implemented. Mitigations to improve the operations at these intersections are discussed in Section 5.13.

**TABLE 5**  
**EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS**

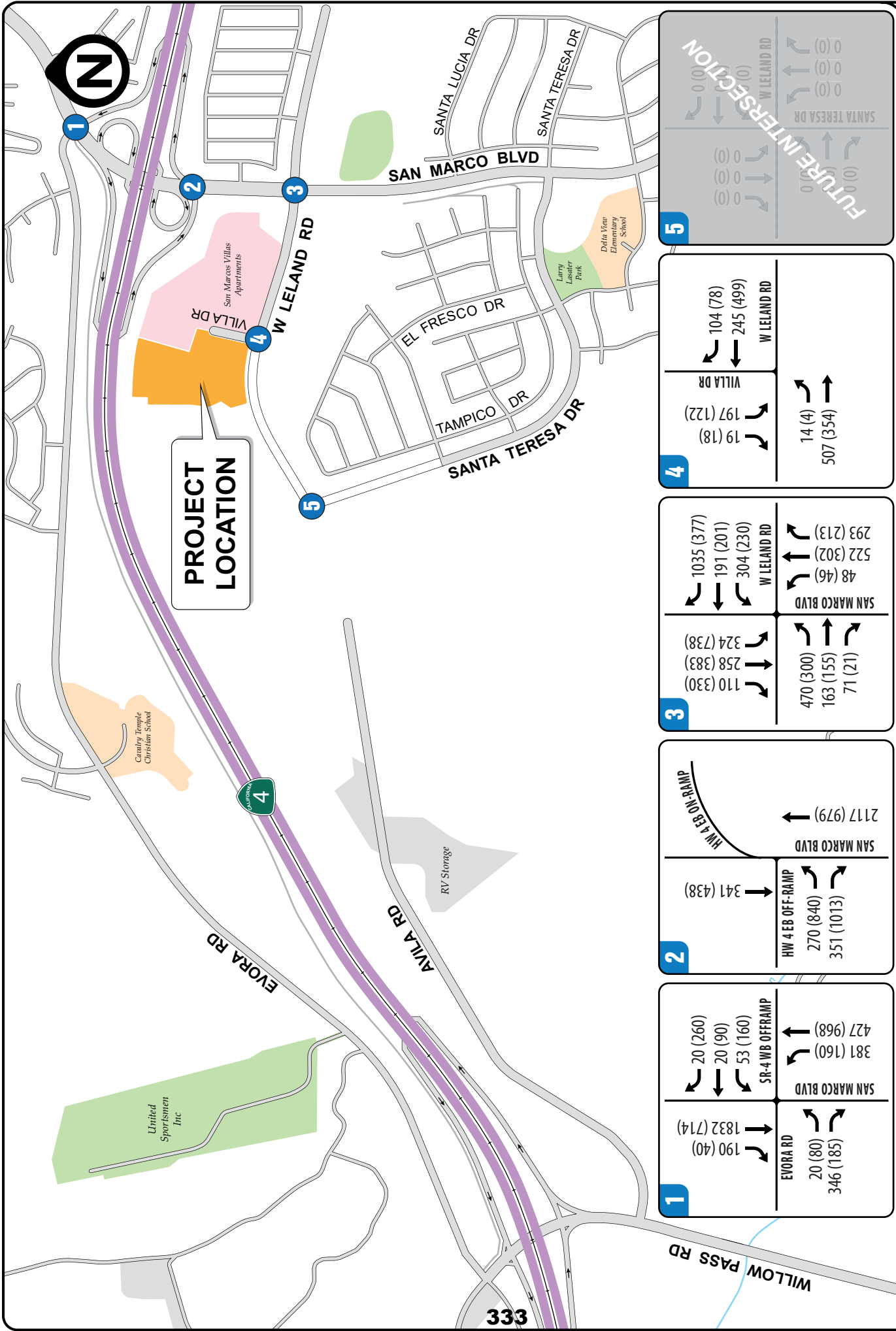
| INTERSECTION |                                                           | CONTROL          | PEAK HOUR | EXISTING |     | EXISTING PLUS PROJECT |     |
|--------------|-----------------------------------------------------------|------------------|-----------|----------|-----|-----------------------|-----|
|              |                                                           |                  |           | Delay    | LOS | Delay                 | LOS |
| 1            | EVORA ROAD / SR-4 WB OFF-RAMP & WILLOW PASS ROAD          | Signalized       | AM        | 46.2     | D   | 46.7                  | D   |
|              |                                                           |                  | PM        | 9.9      | A   | 10.0                  | B   |
| 2            | SR-4 EB OFF-RAMP & SAN MARCO BOULEVARD / WILLOW PASS ROAD | Signalized       | AM        | 8.6      | A   | 9.1                   | A   |
|              |                                                           |                  | PM        | 9.6      | A   | 10.3                  | B   |
| 3            | SAN MARCO BOULEVARD & W. LELAND ROAD                      | Signalized       | AM        | > 80.0   | F   | > 80.0                | F   |
|              |                                                           |                  | PM        | 21.0     | C   | 22.1                  | C   |
| 4            | VILLA DRIVE & W. LELAND ROAD                              | Side Street Stop | AM        | 11.1     | B   | 12.7                  | B   |
|              |                                                           |                  | PM        | 10.5     | B   | 11.7                  | B   |
| 5            | SANTA TERESA DRIVE & W. LELAND ROAD                       | Future           | AM        | N/A      | N/A | N/A                   | N/A |
|              |                                                           |                  | PM        | N/A      | N/A | N/A                   | N/A |

**SOURCE:** Abrams Associates, 2020

**NOTES:** HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop controlled intersections the results for the worst side street approach are presented.

## 5.4 Baseline Traffic Capacity Conditions (Scenario 3)

The Baseline scenario evaluates the existing conditions with the addition of traffic from reasonably foreseeable projects in the area and general baseline growth in traffic. The traffic volumes for each of the study intersections for the Baseline scenario are shown in **Figure 8**. **Table 6** summarizes the associated LOS computation results for the Baseline weekday AM and



|                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>1</div><div><div><div>EVORA RD</div><div>20 (80)</div><div>346 (185)</div></div><div><div>190 (40)</div><div>1832 (714)</div></div></div><div><div>SR-4 WB OFFRAMP</div><div>20 (260)</div><div>20 (90)</div><div>53 (160)</div></div><div><div>SAN MARCO BLVD</div><div>381 (160)</div><div>427 (968)</div></div></div> | <div><div>2</div><div><div><div>HW 4 EB OFF-RAMP</div><div>270 (840)</div><div>351 (1013)</div></div><div><div>341 (438)</div></div></div><div><div>SAN MARCO BLVD</div><div>2117 (979)</div></div><div><div>HW 4 EB ON-RAMP</div></div></div> | <div><div>3</div><div><div><div>470 (300)</div><div>163 (155)</div><div>71 (21)</div></div><div><div>110 (330)</div><div>258 (383)</div><div>324 (738)</div></div></div><div><div>SAN MARCO BLVD</div><div>48 (46)</div><div>522 (302)</div><div>293 (213)</div></div><div><div>W LELAND RD</div><div>1035 (377)</div><div>191 (201)</div><div>304 (230)</div></div></div> | <div><div>4</div><div><div><div>19 (18)</div><div>197 (122)</div></div><div><div>VILLA DR</div><div>104 (78)</div><div>245 (499)</div></div></div><div><div>W LELAND RD</div><div>14 (4)</div><div>507 (354)</div></div></div> | <div><div>5</div><div><div><div>0 (0)</div><div>0 (0)</div><div>0 (0)</div></div><div><div>0 (0)</div><div>0 (0)</div><div>0 (0)</div></div></div><div><div>W LELAND RD</div><div>0 (0)</div><div>0 (0)</div><div>0 (0)</div></div><div><div>SANTA TERESA DR</div><div>0 (0)</div><div>0 (0)</div><div>0 (0)</div></div></div> <div><div>FUTURE INTERSECTION</div></div> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**FIGURE 8 | BASELINE AM(PM) PEAK HOUR TRAFFIC VOLUMES**  
**TRANSPORTATION IMPACT ANALYSIS**  
**San Marco Villas 3**  
 City of Pittsburgh



**TABLE 6**  
**BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS**

| INTERSECTION |                                                           | CONTROL    | PEAK HOUR | BASELINE |     | BASELINE PLUS PROJECT |     |
|--------------|-----------------------------------------------------------|------------|-----------|----------|-----|-----------------------|-----|
|              |                                                           |            |           | Delay    | LOS | Delay                 | LOS |
| 1            | EVORA ROAD / SR-4 WB OFF-RAMP & WILLOW PASS ROAD          | Signalized | AM        | 48.5     | D   | 48.9                  | D   |
|              |                                                           |            | PM        | 11.1     | B   | 11.3                  | B   |
| 2            | SR-4 EB OFF-RAMP & SAN MARCO BOULEVARD / WILLOW PASS ROAD | Signalized | AM        | 17.6     | B   | 18.9                  | B   |
|              |                                                           |            | PM        | 32.4     | C   | 37.2                  | D   |
| 3            | SAN MARCO BOULEVARD & W. LELAND ROAD                      | Signalized | AM        | > 80.0   | F   | > 80.0                | F   |
|              |                                                           |            | PM        | 64.1     | E   | 68.9                  | E   |
| 4            | VILLA DRIVE & W. LELAND ROAD                              | Signalized | AM        | 7.4      | A   | 8.6                   | A   |
|              |                                                           |            | PM        | 6.8      | A   | 7.8                   | A   |
| 5            | SANTA TERESA DRIVE & W. LELAND ROAD                       | Future     | AM        | N/A      | N/A | N/A                   | N/A |
|              |                                                           |            | PM        | N/A      | N/A | N/A                   | N/A |

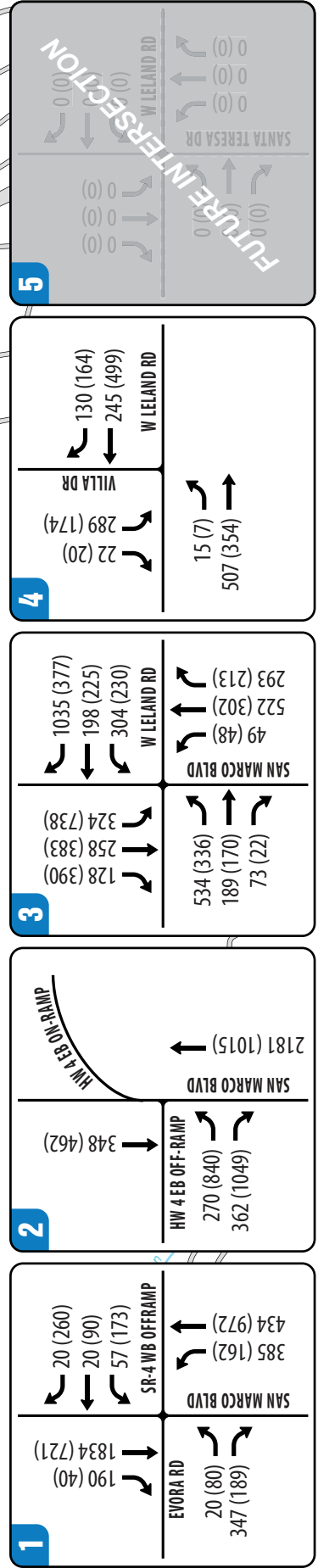
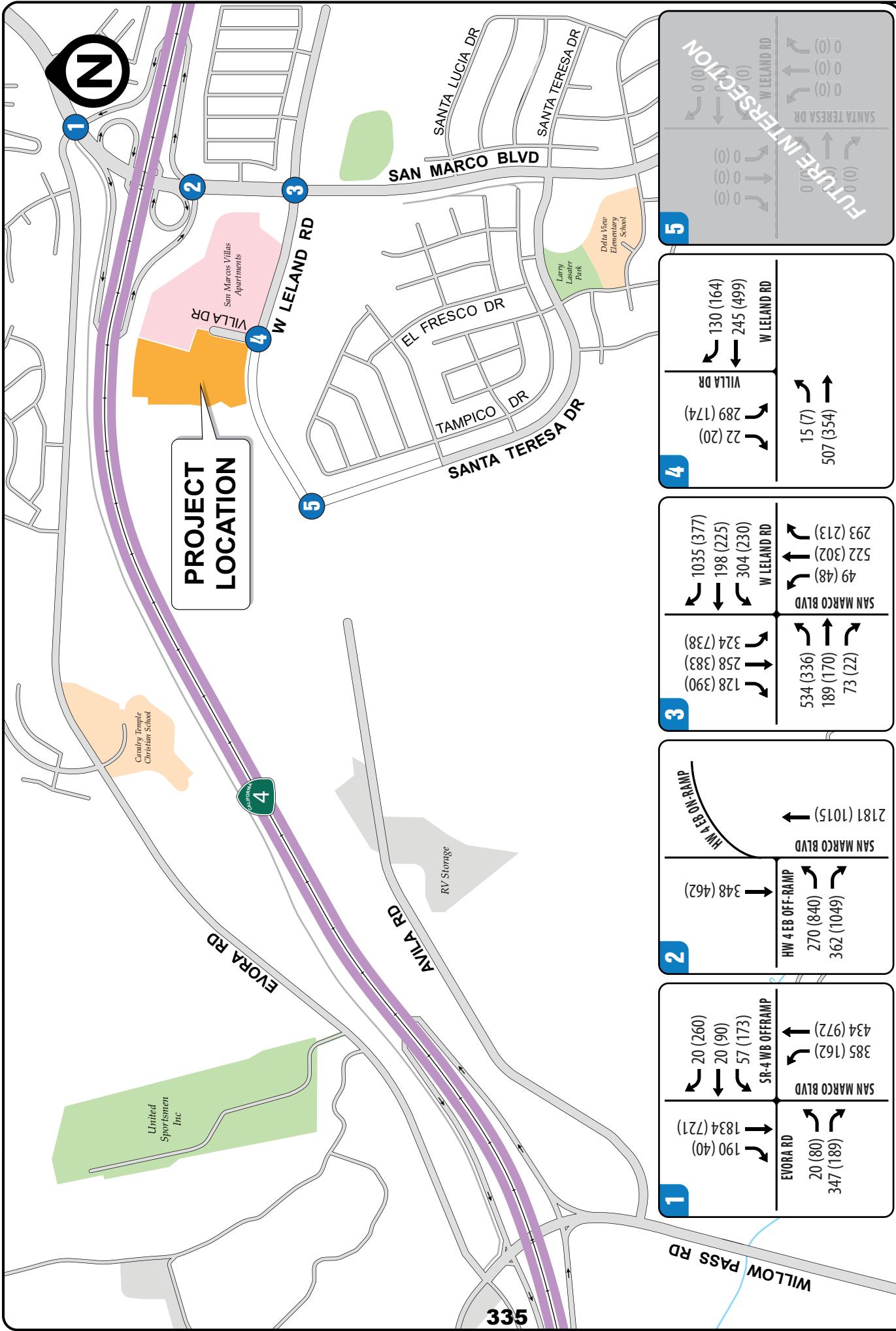
**SOURCE:** Abrams Associates, 2020

**NOTES:** HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop controlled intersections the results for the worst side street approach are presented.

PM peak hour conditions. For this analysis the baseline volumes were developed based on the assumption that the project completion and full occupancy date would be 2022 with an average traffic growth of 1% per year. Traffic volumes for approved projects in the area were also derived from the Alves Ranch TIA.<sup>3</sup> This scenario also assumes the planned construction of a traffic signal at Intersection #4 (West Leland Road and Villa Drive).

## 5.5 Baseline Plus Project Traffic Capacity Conditions (Scenario 4)

The Baseline plus proposed project traffic forecasts were developed by adding traffic from proposed project to the baseline traffic volumes. The traffic volumes for each of the study intersections for the Baseline Plus Project scenario are shown in **Figure 9**. **Table 6** summarizes the LOS results for the Baseline and Baseline Plus Project weekday AM and PM peak hour conditions. The corresponding LOS analysis calculation sheets and a trip distribution figure for this scenario are presented in the appendix. As shown in **Table 6**, all of the signalized study intersections would continue to have acceptable conditions (LOS D or better) under the Baseline Plus Project scenario during the weekday AM and PM peak hours with the exception



**FIGURE 9 | BASELINE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES**

TRANSPORTATION IMPACT ANALYSIS

**San Marco Villas 3**

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of Intersection #3 (West Leland Road at San Marco Boulevard) which would continue to exceed the established LOS thresholds. Please note the addition of project traffic would be considered to have an adverse effect at Intersection #3 (San Marco Boulevard and West Leland Road) and would increase the intersection delay by more than five seconds as per the criteria described in Section 4.3. This intersection is forecast to continue exceeding the City's LOS standards regardless of whether or not the proposed project is implemented. Mitigations to improve the operations at these intersections are discussed in Section 5.13.

## 5.6 Internal Circulation and Safety

No internal site circulation or access issues have been identified that would cause a traffic safety problem or any unusual traffic congestion or delay. The proposed main access intersection (West Leland and Villa Drive) is forecast to have acceptable operations with the planned traffic signal. Please note a stop sign would also be required at the existing San Marco Villas Apartments exit where it connects to Villa Drive since this would become a through roadway into the proposed project, whereas the roadway is currently a dead end. An analysis of sight distance was conducted at the existing project exit from San Marco Villas on Villa Drive and determined the intersection would continue to meet the minimum required sight distance, in particular for vehicles coming from the right from the San Marco Villas 3 project. However, it should be noted that there is the potential for the planned monument sign and any fences or landscaping on the west side of Villa Drive to restrict sight distance at the existing San Marco Villas exit. On the west side of Villa Drive near where the roadway turns left into San Marco Villas 3 these features would need to be designed/located so they do not interfere with sight distance at existing San Marco Villas exit. If any fences ultimately need to be located within this area they would need to be designed so that they would not significantly limit visibility of oncoming traffic. In addition, any landscaping proposed in this area would need to be designed appropriately so that ground cover is no higher than 2 feet and all trees are limbed up to at least 8 feet. In general, the project was not found to cause (or substantially increase) any safety hazards due to any design features or incompatible uses. Although the project would increase vehicle and pedestrian traffic in the project vicinity it is not expected to adversely affect or change the design of any existing facilities or create any new safety problems in the area. Based on the City's significance criteria the project's effects on transportation safety would be less than significant and no mitigation would be required.

## 5.7 Parking Analysis

**Parking Requirements Based on the Pittsburg Municipal Code** - Parking analysis is provided for planning and informational purposes only. This section discusses the City of Pittsburg's municipal code requirements for the project, which are outlined in Section 18.78.040. As per the City's Municipal Code, the minimum off-street parking requirement for this project this equates to a requirement of 561 spaces and the project is proposing to provide 561 off-street parking spaces in on-site surface parking lot.

**Parking Demand Based on ITE Parking Generation Rates** - To provide additional justification for the parking demand analysis, Table 8 provides a summary of the parking demand results using the average ITE peak parking demand rates for apartments. The rates were taken from the 5th Edition of the ITE Parking Generation Manual. As shown in **Table 7**, the parking demand generated would be forecast to be approximately 448 parking spaces based on the ITE data.

**Table 7**  
**Off-Street Parking Calculations Using Parking Data from**  
**the Institute of Transportation Engineers**

| Land Use   | Size |       | Parking Ratio | Estimated Demand |
|------------|------|-------|---------------|------------------|
| Apartments | 270  | units | 1.66          | 448              |

## 5.8 Pedestrian and Bicycle Conditions

The City does not have level of service standards for pedestrian or bicycle facilities. Nevertheless, use of existing facilities by the users of the project would not be expected to overcrowd those facilities or decrease their performance or safety. The proposed project would not adversely affect or change the design of any existing pedestrian facilities and should not create any new safety problems for pedestrians in the area. The project will add some bicyclists in the area but the volumes added would not be expected to adversely affect any existing bicycle facilities. In relation to the existing conditions, the proposed project would not cause substantial changes to the pedestrian or bicycle traffic in the area and would not adversely affect or require changes to the design of any existing bicycle or pedestrian facilities. However, consistent with the City and County General Plans, the project would be required to provide adequate pedestrian facilities that connect it to the surrounding pedestrian network. The *Pittsburg Moves* pedestrian and bicycle plan is expected to be adopted soon and will spell out clear policies, programs, and practices to help encourage people to walk and bike in Pittsburg.

## 5.9 Transit

The project would not result in degradation of the level of service (or a significant increase in delay) on any roadway segments currently being utilized by bus transit in the area and, as such, no adverse effects to bus transit are expected. The proposed project would not interfere with BART or any existing bus routes and would not remove or relocate any existing bus stops. The proposed project could potentially help support existing bus services and BART service with additional transit ridership and would not conflict with any transit plans or goals of BART or Tri Delta Transit. As a result, the project would not be expected to result in any adverse effects on bus transit service in the area.

## 5.10 Cumulative Traffic Capacity Conditions (Scenario 5)

For the cumulative conditions, the intersection traffic volumes were based on the existing turning movements plus incremental growth in background traffic based on the County's traffic



model and consistent with the Alves Ranch TIA.<sup>3</sup> Future traffic was also added from the planned apartment project (Village M) on the south side of West Leland Road at Toscana Drive, consistent with the TIA for the Toscana Project.<sup>6</sup> **Figure 10** presents the cumulative build-out traffic volumes for the project study intersections. Future roadway improvements in the study area include the extension of West Leland Road to Avila Road, providing a connection to Willow Pass Road in Concord, and the signalization of the intersection of West Leland Road and Santa Teresa Drive. **Table 8** summarizes the LOS results for the Cumulative (Year 2040) traffic conditions at each of the project study intersections. As shown on this table, the project study intersections would continue to have acceptable conditions during the weekday AM and PM peak commute hours with the exception of Intersection #3 (West Leland Road at San Marco Boulevard) which would continue to exceed the established LOS thresholds.

## 5.11 Cumulative Plus Project Traffic Capacity Conditions (Scenario 6)

**Table 8** summarizes the LOS results for the Cumulative Plus Project (Year 2040) traffic conditions at each of the project study intersection. **Figure 11** presents the cumulative build-out traffic volumes including the traffic from the proposed project. A trip distribution figure for this scenario accounting for the West Leland Road extension is presented in the appendix. As shown on this table, all of the signalized study intersections would continue to have acceptable conditions during the weekday AM and PM peak commute hours with the exception of Intersections #3 (West Leland Road at San Marco Boulevard) which would continue to exceed the established LOS thresholds. Please note the addition of project traffic would be considered an adverse effect at Intersection # 3 (San Marco Boulevard at West Leland Road) and would increase the intersection delay by more than five seconds as per the criteria described in Section 4.3. This intersection is forecast to exceed City standards regardless of whether or not the project is implemented but mitigations to improve the operations at this intersection are discussed in Section 5.13.

## 5.12 Caltrans Freeway Facilities

**Analysis of the Delay Index on the State Route 4 Freeway** - The delay index measures travel congestion and is expressed as the ratio of the time required to travel between two points during the peak hour (the congested travel time) and the time required during un-congested off-peak times. A delay index of 2.0 means that congested travel time is twice as long as during an off-peak travel time.

The following shows the formula for calculating delay indices:

$$\text{Delay Index} = \text{Measured Peak Hour Travel Time} / \text{Free Flow Travel Time}$$

<sup>6</sup> *Toscana at San Marco (Village A) Traffic Impact Study*, Abrams Associates Traffic Engineering, Walnut Creek, CA, April 13, 2012.

**TABLE 8**  
**CUMULATIVE PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS**

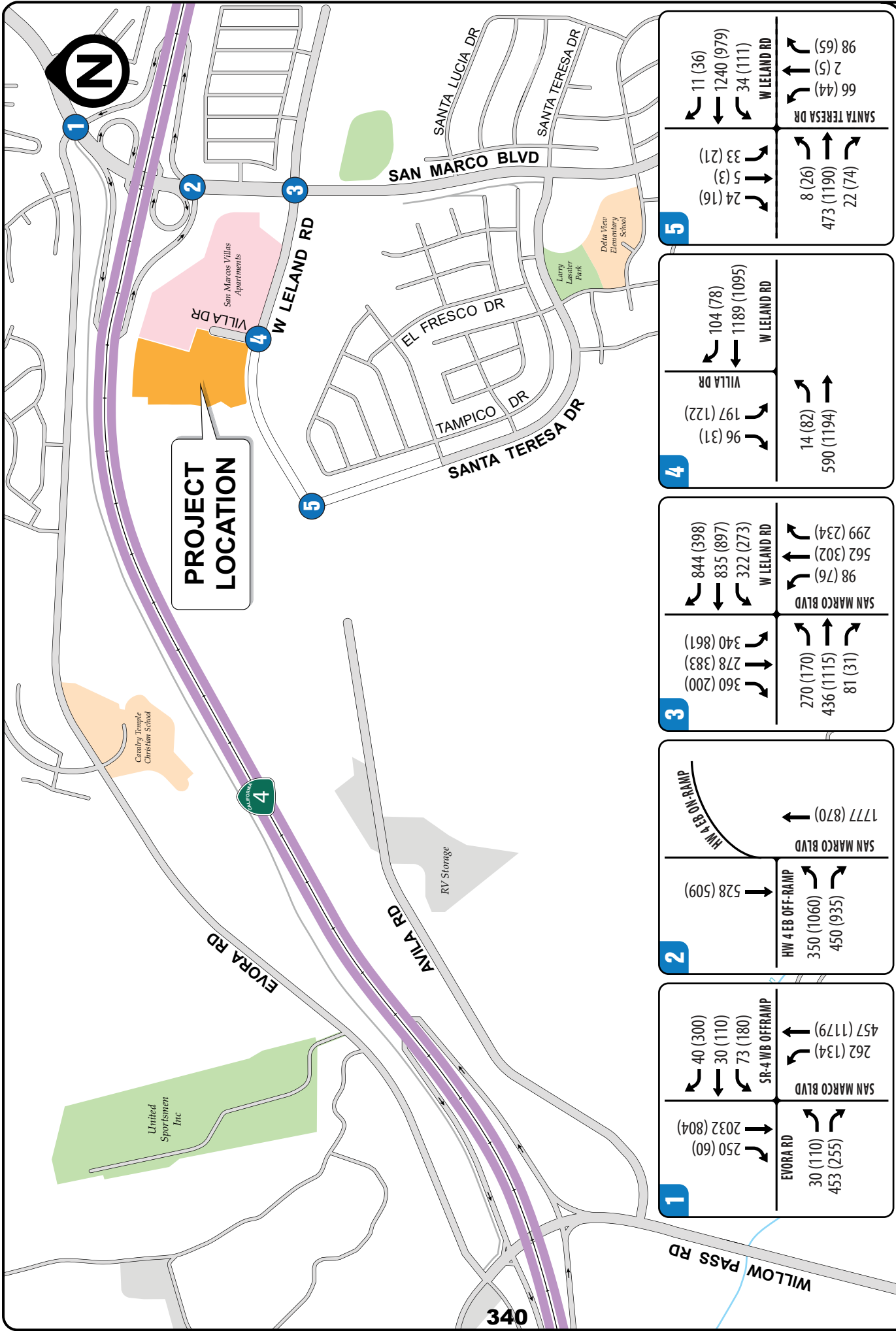
| INTERSECTION |                                                           | CONTROL    | PEAK HOUR | CUMULATIVE |     | CUMULATIVE PLUS PROJECT |     |
|--------------|-----------------------------------------------------------|------------|-----------|------------|-----|-------------------------|-----|
|              |                                                           |            |           | Delay      | LOS | Delay                   | LOS |
| 1            | EVORA ROAD / SR-4 WB OFF-RAMP & WILLOW PASS ROAD          | Signalized | AM        | 52.6       | D   | 53.0                    | D   |
|              |                                                           |            | PM        | 11.8       | B   | 11.9                    | B   |
| 2            | SR-4 EB OFF-RAMP & SAN MARCO BOULEVARD / WILLOW PASS ROAD | Signalized | AM        | 18.0       | B   | 18.8                    | B   |
|              |                                                           |            | PM        | 22.5       | C   | 24.6                    | C   |
| 3            | SAN MARCO BOULEVARD & W. LELAND ROAD                      | Signalized | AM        | > 80.0     | F   | > 80.0                  | F   |
|              |                                                           |            | PM        | 77.4       | E   | 78.7                    | E   |
| 4            | VILLA DRIVE & W. LELAND ROAD                              | Signalized | AM        | 9.9        | A   | 12.4                    | B   |
|              |                                                           |            | PM        | 7.9        | A   | 9.9                     | A   |
| 5            | SANTA TERESA DRIVE & W. LELAND ROAD                       | Signalized | AM        | 10.0       | B   | 10.2                    | B   |
|              |                                                           |            | PM        | 10.5       | B   | 10.9                    | B   |

**SOURCE:** Abrams Associates, 2020

**NOTES:** HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop controlled intersections the results for the worst side street approach are presented.

The numerator of the delay index formula, the measured peak hour travel time, was determined from speed runs conducted along State Route 4 during the AM and PM peak hours in the spring of 2017 as part of the Contra Costa Transportation Authority's Congestion Management Program 2017 Monitoring Report. The denominator of the delay index formula, the free flow travel time is defined as *"the time it takes to traverse a roadway segment at the speed limit including the average uncongested delay experienced at traffic signals."* It is important to note that achievement of the MTSO delay index and average speed is measured over the length of SR 4 from Willow Pass Grade to Balfour Road in the City of Brentwood. For SR 4 the East County Action Plan specifies a maximum delay index of 2.5.<sup>7</sup> As shown in **Table 9** the project would not significantly increase the delay index under existing or cumulative conditions. However, the delay index on westbound SR 4 during the AM peak hour is forecast to exceed the MTSO of 2.5 under cumulative plus project conditions and therefore the addition of project traffic would be considered an adverse effect.

<sup>7</sup> Draft East County Action Plan for Routes of Regional Significance, Fehr & Peers Associates, Walnut Creek, CA, November 2013.



**FIGURE 10 | CUMULATIVE AM(PM) PEAK HOUR TRAFFIC VOLUMES**

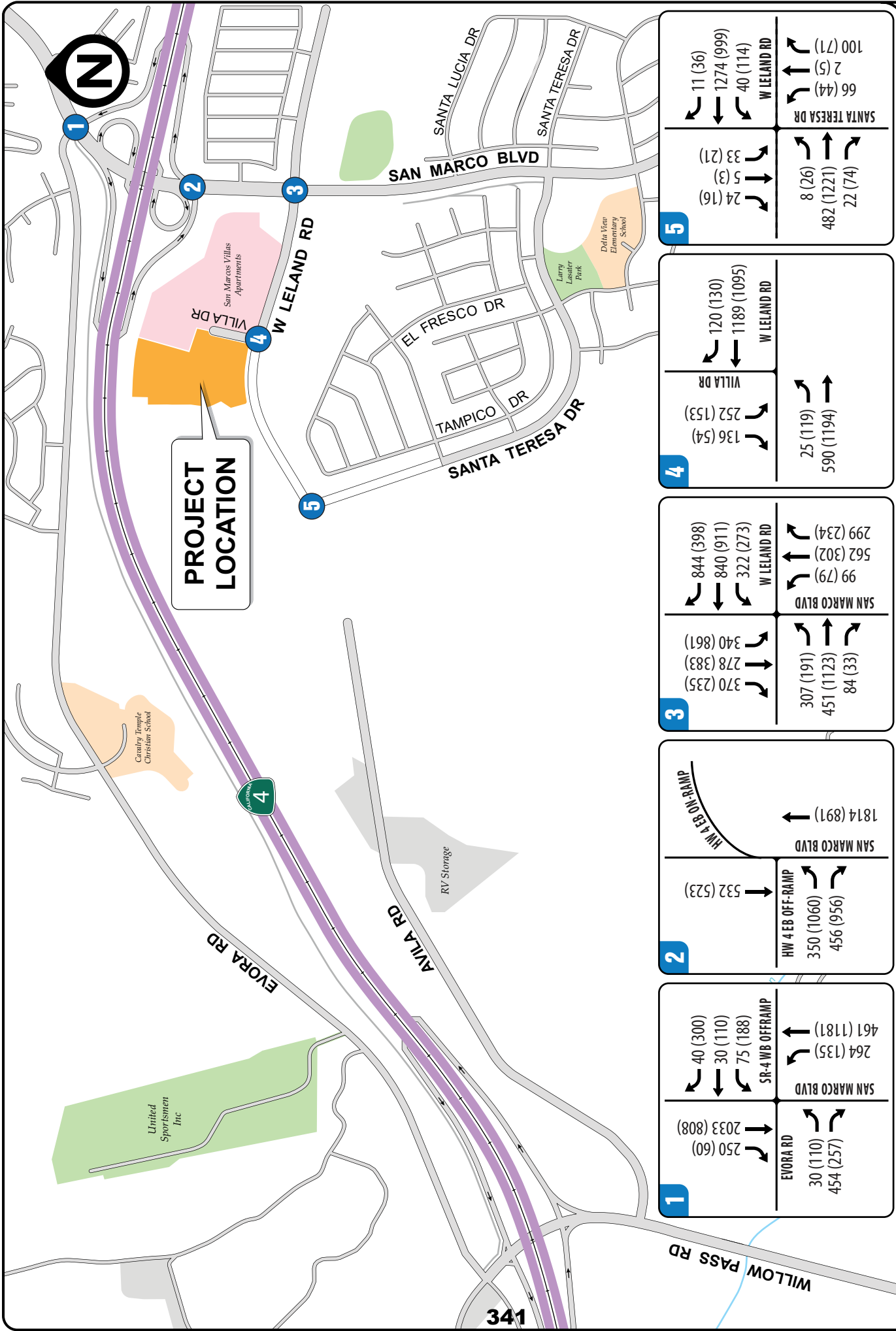
TRANSPORTATION IMPACT ANALYSIS

**San Marco Villas 3**

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**Abrams Associates**  
TRAFFIC ENGINEERING, INC.



**FIGURE 11 | CUMULATIVE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES**

TRANSPORTATION IMPACT ANALYSIS

**San Marco Villas 3**

City of Pittsburgh



**Abrams Associates**  
TRAFFIC ENGINEERING, INC.



**TABLE 9**  
**STATE ROUTE 4 FREEWAY DELAY INDEX CALCULATION RESULTS**  
**WITH AND WITHOUT THE PROPOSED PROJECT**

| <i>Scenario</i>                | <i>Direction</i> | <i>MTSO</i> | <i>No Project</i> | <i>With Project</i> |
|--------------------------------|------------------|-------------|-------------------|---------------------|
| Existing AM Peak Hour (2018)   | Eastbound        | 2.5         | 1.1               | 1.2                 |
|                                | Westbound        | 2.5         | 2.5               | 2.5                 |
| Existing PM Peak Hour (2018)   | Eastbound        | 2.5         | 1.4               | 1.4                 |
|                                | Westbound        | 2.5         | 1.3               | 1.3                 |
| Cumulative AM Peak Hour (2040) | Eastbound        | 2.5         | 1.3               | 1.3                 |
|                                | Westbound        | 2.5         | 3.1               | 3.1                 |
| Cumulative PM Peak Hour (2040) | Eastbound        | 2.5         | 1.8               | 1.8                 |
|                                | Westbound        | 2.5         | 1.5               | 1.5                 |

**SOURCE:** Abrams Associates, 2020

**Analysis of Level of Service on the State Route 4 Freeway** – A detailed analysis of existing traffic operations on nearby segments of the SR 4 Freeway was conducted by the Contra Costa Transportation Authority in 2017.<sup>8</sup> The results of the surveys are presented in **Table 10**. As shown in **Table 10**, the LOS standard for the two key segments of SR 4 in the vicinity of the Willow Pass Road interchange are LOS F. Please note there is recurring congestion that occurs on State Route 4 in the vicinity of the San Marco Boulevard interchange during both the AM and PM commute periods.

**TABLE 10**  
**STATE ROUTE 4 FREEWAY EXISTING TRAFFIC OPERATIONS**

| SEGMENT INFORMATION |                                |           | AM PEAK |     | PM PEAK |     | LOS STANDARD |
|---------------------|--------------------------------|-----------|---------|-----|---------|-----|--------------|
| ROUTE               | LIMITS                         | DIRECTION | SPEED   | LOS | SPEED   | LOS |              |
| SR-4                | STATE ROUTE 242 TO BAILEY ROAD | EB        | 65.1    | A   | 40.9    | E   | F            |
| SR-4                | STATE ROUTE 242 TO BAILEY ROAD | WB        | 27.4    | F   | 65.2    | A   | F            |
| SR-4                | BAILEY ROAD TO LOVERIDGE ROAD  | EB        | 66.5    | A   | 56.6    | C   | F            |
| SR-4                | BAILEY ROAD TO LOVERIDGE ROAD  | WB        | 21.4    | F   | 66.8    | A   | F            |

**SOURCE:** Abrams Associates, 2020

<sup>8</sup> *Congestion Management Program 2017 Monitoring Report*, Contra Costa Transportation Authority, Walnut Creek, CA, March, 2018.

## 5.13 Summary of Adverse Effects and Countermeasures

The following is a list of adverse effects from the project and the proposed countermeasures to address the transportation effects of the project. Based on a detailed analysis of traffic operations with and without each of the proposed mitigations, implementation of the following countermeasures would adequately address the adverse effects identified.

### **Adverse Effect #1 The project would contribute to LOS operations exceeding the established standards at the following intersection:**

#### **West Leland Road at San Marco Boulevard (Intersection #3)**

The addition of traffic from the proposed project would contribute to this intersection exceeding the established LOS standards in the plus project scenarios. With implementation of the recommended mitigations, the development of the proposed project would still result in potentially adverse effects to the LOS at the above mentioned intersections.

#### **Countermeasure #1**

*Feasible mitigation includes the improvements listed below which are currently included in the City's 5-year capital improvement program and are eligible for funding from the Local Traffic Mitigation Fund. Prior to construction of the identified improvements the project would mitigate the above-identified adverse effects by paying a proportionate share of the construction costs, consistent with City ordinances. The intersection mitigations required for the project to meet the established LOS standards include the following:*

CM 1(a) West Leland Road at San Marco Boulevard – Widening of northbound San Marco Boulevard north of West Leland Road to allow for a full free-right turn from westbound West Leland Road onto San Marco Boulevard.

### **Adverse Effect #2 The project would contribute to traffic operations exceeding the established standards on the State Route 4 Freeway**

The development of the proposed project would increase the total traffic during both AM and PM peak hours. For SR 4 the East County Action Plan specifies a maximum delay index of 2.5. As shown in Table 9 in Section 5.12 the proposed project would not significantly increase the delay index under existing or cumulative conditions. However, the proposed project

would add traffic to State Route 4 in the westbound direction during the AM peak hour, which is forecast to exceed the County's established delay index standard of 2.5. Therefore, the proposed project would have an adverse effect on freeway operations.

## **Countermeasure #2**

*Prior to construction the project would mitigate the above-identified adverse effects by paying the required traffic impact fees, subject to City approval.*

**CM 2** *Payment of the Regional Transportation Development Impact Mitigation Fee* – *The project will pay the Regional Transportation Development Impact Mitigation Fee (the "RTDIM") to fund regional freeway system improvements including State Route 4 improvements. Because the project applicant and the City of Pittsburg do not control the funding, prioritization and/or construction of improvement projects, it is assumed that payment of the RTDIM fees may not be sufficient to guarantee full elimination of the project's adverse effects to State Route 4. Please note the CCTA's planned SR4 Operational Improvements Project (OIP) and the SR4 Integrated Corridor Management (ICM) project are expected to improve SR4 delay index.*

## **Adverse Effect #3 Adverse effects related to conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or potential decreases to the performance or safety of such facilities.**

The project would not result in degradation of the level of service (or a significant increase in delay) on any roadway segments currently being utilized by bus transit in the area and would not increase ridership beyond existing capacity. As such, no adverse effects to bus transit are expected. In addition, the proposed project would not adversely affect or change the design of any existing pedestrian facilities and should not create any new safety problems for pedestrians in the area. The project will add some bicyclists in the area but the volumes added would not be expected to adversely affect any existing bicycle facilities. In relation to the existing conditions, the proposed project would not cause substantial changes to the pedestrian or bicycle traffic in the area and would not adversely affect or require changes to the design of any existing bicycle or pedestrian facilities.

### Countermeasure(s)

*None required.*

#### **Adverse Effect #4 Adverse effects relating to demolition and construction activities.**

The increase in traffic as a result of demolition and construction activities associated with the proposed project has been quantified assuming a worst-case single phase construction period of 24 months.

##### *Heavy Equipment*

Approximately five pieces of heavy equipment are estimated to be transported on and off the site each month throughout the demolition and construction of the proposed project. Heavy equipment transport to and from the site could cause adverse effects to traffic conditions in the vicinity of the project site during construction. However, each load would be required to obtain all necessary permits, which would include conditions. Prior to issuance of grading and building permits, the project applicant would be required to submit a Traffic Control Plan.

The requirements within the Traffic Control Plan include, but are not limited to, the following: truck drivers would be notified of and required to use the most direct route between the site and SR 4, as determined by the City Engineering Department; all site ingress and egress would occur only at the main driveways to the project site and construction activities may require installation of temporary (or ultimate) traffic signals as determined by the City Engineer; specifically designated travel routes for large vehicles would be monitored and controlled by flaggers for large construction vehicle ingress and egress; warning signs indicating frequent truck entry and exit would be posted on San Marco Boulevard and West Leland Road; and any debris and mud on nearby streets caused by trucks would be monitored daily and may require instituting a street cleaning program. In addition, eight loads of heavy equipment being hauled to and from the site each month would be short-term and temporary.

##### *Employees*

The weekday work is expected to begin around 7:00 AM and end around 4:00 PM. The construction worker arrival peak would occur between 6:30 AM and 7:30 AM, and the departure peak would occur between 4:00 PM and 5:00 PM. These peak hours are slightly before the citywide commute peaks. It should be noted that the number of trips generated during construction would not only be temporary, but would also be substantially less than the proposed project at buildout. Based on past construction of similar projects, construction workers could require parking for up to 75 vehicles during the peak construction period. Additionally, deliveries, visits,



and other activities may generate peak non-worker parking demand of 10 to 15 trucks and automobiles per day. Therefore, up to 85 vehicle parking spaces may be required during the peak construction period for the construction employees. Furthermore, the Traffic Control Plan requires construction employee parking be provided on the project site to eliminate conflicts with nearby residential areas. Because the construction of the project can be staggered so that employee parking demand is met by using on-site parking, construction-related employee traffic and parking would not be expected to result in adverse effects.

#### *Construction Material Import/Export*

The project would also require removal of existing debris as well as the importation of construction material, including raw materials for the building pads, the buildings, the parking area, and landscaping. During the maximum peak construction period, the project could generate approximately 50 truck trips per day. Furthermore, under the provisions of the Traffic Control Plan, if importation and exportation of material becomes a traffic nuisance, then the City Engineer may limit the hours the activities can take place.

#### *Traffic Control Plan*

The Traffic Control Plan would indicate how parking for construction workers would be provided during construction and ensure a safe flow of traffic in the project area during construction. This analysis assumed construction of the entire project in one phase to identify the potential worst-case traffic effects. If the project is built in phases over time, the effects of each phase will be the same or less. Each phase will be subject to a Traffic Control Plan and oversight by the City Engineer. The last phase may require added worker parking measures, depending on the circumstances, as there will not be any remaining vacant land for parking. Therefore, the demolition and construction activities associated with the proposed project or its individual phases would not be forecast to lead to noticeable congestion in the vicinity of the site or result in any adverse effects.

#### Countermeasure(s)

*None required.*

#### **Adverse Effect #5 Adverse effects related to site access and circulation.**

The proposed project would have driveways on San Marco Boulevard and West Leland Road that would be controlled with stop signs on the side street approaches. The proposed stop controlled intersections providing

access to the project are forecast to have acceptable operations. Based on a review of the proposed site plan it was determined that the site circulation should function well and would not cause any safety or operational problems. The project site design has been required to conform to City design standards and is not expected to create any adverse effects to pedestrians, bicyclists or traffic operations. Therefore, the project would not be expected to result in any adverse effects on access or circulation in the vicinity of the project.

Countermeasure(s)

*None required.*

**Adverse Effect #6 Adverse effects regarding emergency vehicle access on and surrounding the proposed project site.**

Sufficient emergency access is determined by factors such as number of access points, roadway width, and proximity to fire stations. The land use plan for the proposed project would include entrances on both San Marco Boulevard and West Leland Road. All lane widths within the project would meet the minimum width that can accommodate an emergency vehicle; therefore, the width of the internal roadways would be adequate. In addition, with the proposed mitigations the addition of traffic from project traffic would not result in any significant changes to emergency vehicle response times in the area. Therefore, subject to approval from the City and the fire department, the development of the proposed project is not expected to have any adverse effects on emergency vehicle access.

Countermeasure(s)

*None required.*



## NOTICE OF PUBLIC MEETING

**NOTICE IS HEREBY GIVEN** that the **PLANNING COMMISSION** of the City of Pittsburg will conduct a public meeting on:

**DATE:** September 8, 2020

**TIME:** 7:00 p.m.

**PLACE:** Zoom Teleconference via Streaming Media on the City's homepage,  
[www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us) (see public advisory on last page)

Concerning the following matter:

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### **Villas III Apartments at San Marco (Village B and C), AP-20-1498 (DR)**

This is a public meeting on a request for Planning Commission approval on a design review application to construct a 270-unit extension, consisting of eleven new three-story buildings and one clubhouse, to the existing San Marco Villas apartment complex located at the northwest corner of West Leland Road and San Marco Boulevard with access off of Villa Drive. The project site consists of approximately 14.92 acres and is zoned PD (Planned Development, City Council Ordinance No. 12-1362) District. APN: 091-050-047.

**PROJECT PLANNER:** Trishia Caguiat, (925) 252-4855 or [tcaguiat@ci.pittsburg.ca.us](mailto:tcaguiat@ci.pittsburg.ca.us)

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**Why am I receiving this notice?** You are receiving this notice because you have either previously requested notifications from the Planning Division, or a project has been proposed in your neighborhood and all property owners within a minimum 300-foot radius of the project site are required to be notified under the Pittsburg Municipal Code.

### **Where can I get more information about this project?**

The complete file for this project is available for public inspection; please contact the project planner listed above to make necessary arrangements.

### **What can I do if I have comments on the project?**

Comments or objections to the project can be made by writing or through e-mailed testimony during the public hearing. Written comments citing the project name may be emailed to the project planner listed above, or may be mailed or delivered to: Pittsburg Planning Division, 65 Civic Avenue, Pittsburg, CA 94565. Comments can be submitted via email to [meetingcomments@ci.pittsburg.ca.us](mailto:meetingcomments@ci.pittsburg.ca.us).

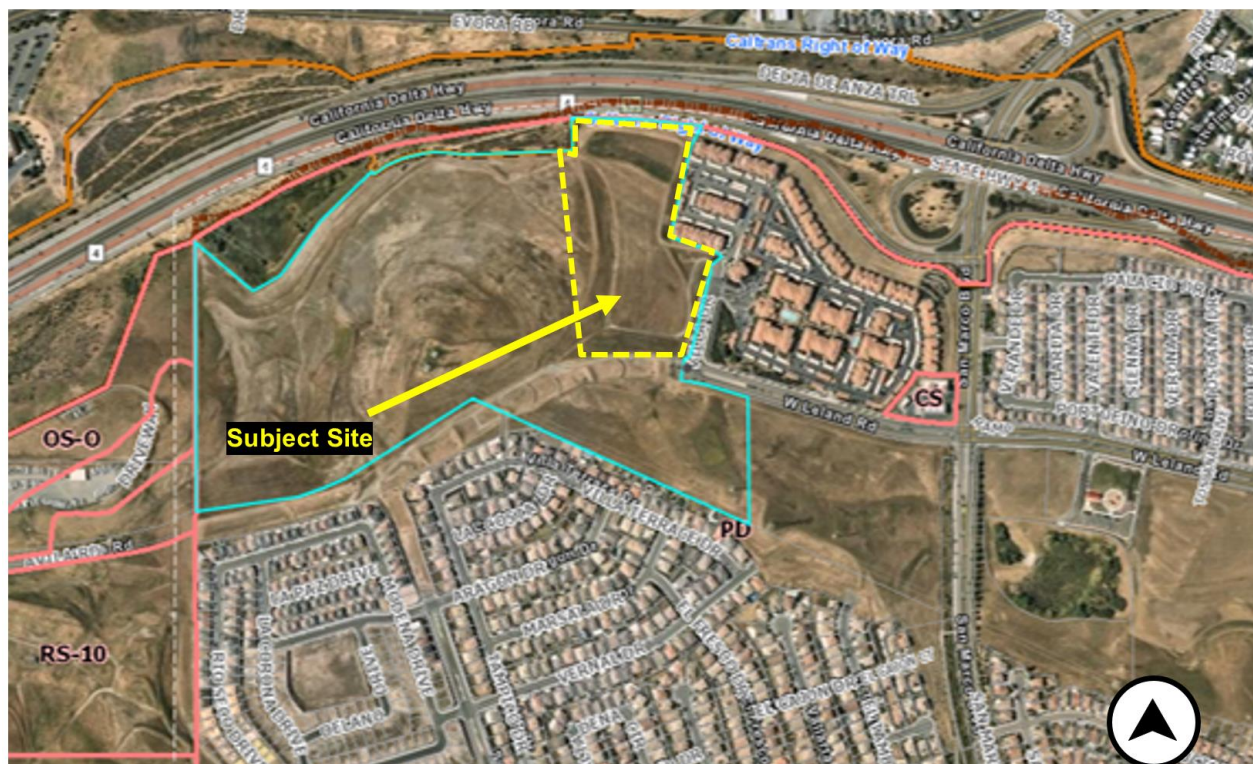
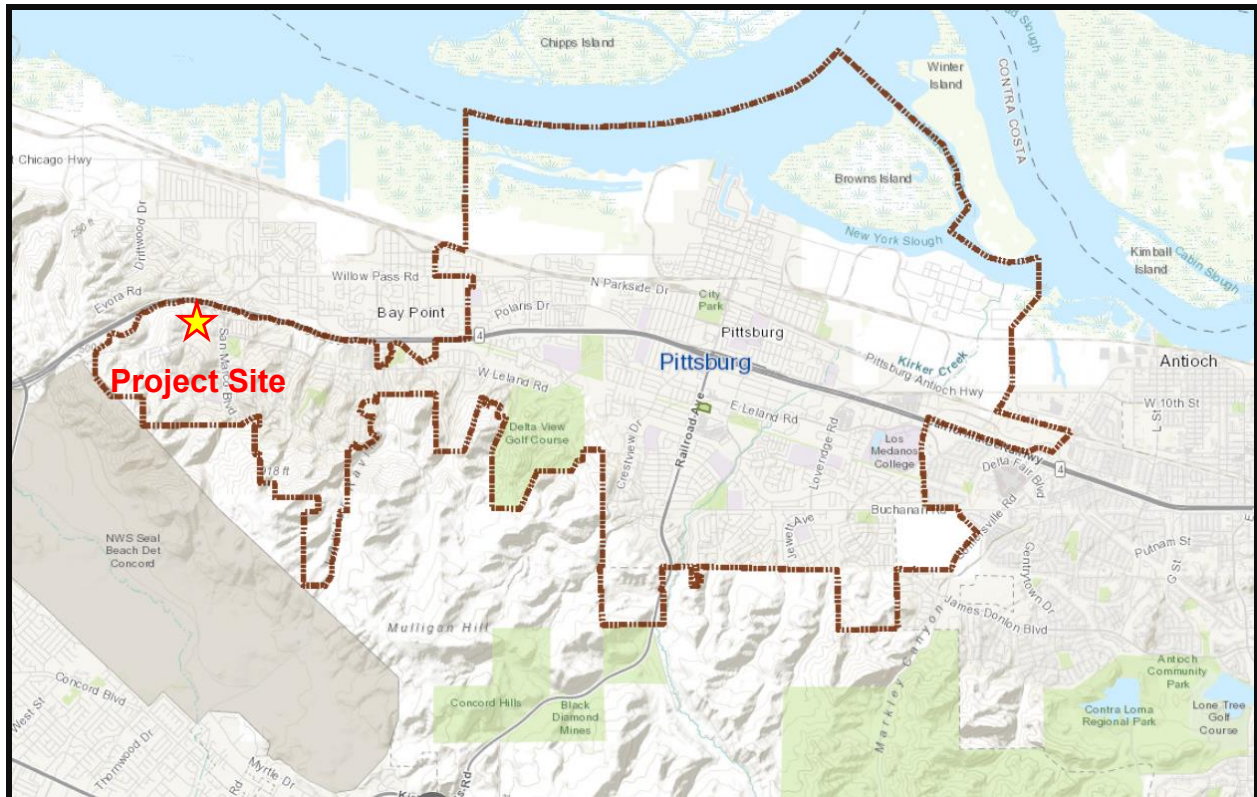
Pursuant to Section 65009 of the California Government Code, if you challenge this matter in court, you may be limited to those issues you or someone else raised at the public hearing described in this notice, or in written correspondence on the matter delivered to this agency at, or prior to the public hearing. Any written correspondence delivered to the Planning Division before the hearing body's action on the matter will become a part of the administrative record.

*Para información en  
español:  
(925) 252-4920*

HECTOR ROJAS FOR  
KRISTIN POLLOT, SECRETARY  
PITTSBURG PLANNING COMMISSION



**Project Title:** Villas III at San Marco, AP-20-1498 (DR)  
**Location:** Terminus of Villas Drive





**PUBLIC ADVISORY:**  
**THE CITY COUNCIL CHAMBER WILL NOT BE OPEN TO THE PUBLIC**

Pursuant to Section 3 of Executive Order N-29-20, issued by Governor Newsom on March 17, 2020, the regular meeting of the Planning Commission for September 8, 2020 will be conducted telephonically through Zoom and broadcast live through the City's homepage.

Please be advised that pursuant to the Executive Order, and to ensure the health and safety of the public by limiting human contact that could spread the COVID-19 virus, the Council Chamber will not be open for the meeting. Planning Commissioners will be participating telephonically and will not be physically present in the Council Chamber.

**To view the meeting online during its broadcast:**

1. Go to [www.ci.pittsburg.ca.us](http://www.ci.pittsburg.ca.us)
2. On the right-hand side of the page, click the "Streaming Media" button

**Comments on this item can be submitted via email to:**

[meetingcomments@ci.pittsburg.ca.us](mailto:meetingcomments@ci.pittsburg.ca.us)

If you wish to have your comments read to the Planning Commissioners during the appropriate Public Comment period, please indicate in the Subject Line "FOR PUBLIC COMMENT" and list the item number you wish to comment on. If your comment is for a non-agenda item, indicate "FOR PUBLIC COMMENT – NON-AGENDA." Comments that you want read to the Commission will be subject to the three minute time limitation (approximately 350 words). Written comments that are only to be provided to Commission and not read at the meeting will be distributed to the Commission prior to the meeting if received by 5:00 p.m. the date of the meeting. Comments via text and social media (Facebook, Nextdoor, etc.) will not be accepted.

The City of Pittsburg thanks you in advance for taking all precautions to prevent spreading the COVID-19 virus.



City of  
Pittsburgh

San Marco Villas III  
Design Review Application No. AP -20-1498  
September 22, 2020

# Surrounding Context



# Site



View from W Leland Road and Villa Dr

Project  
Site





# Site



354



View from Villas II – facing Villa Dr

# San Marcos Villas III



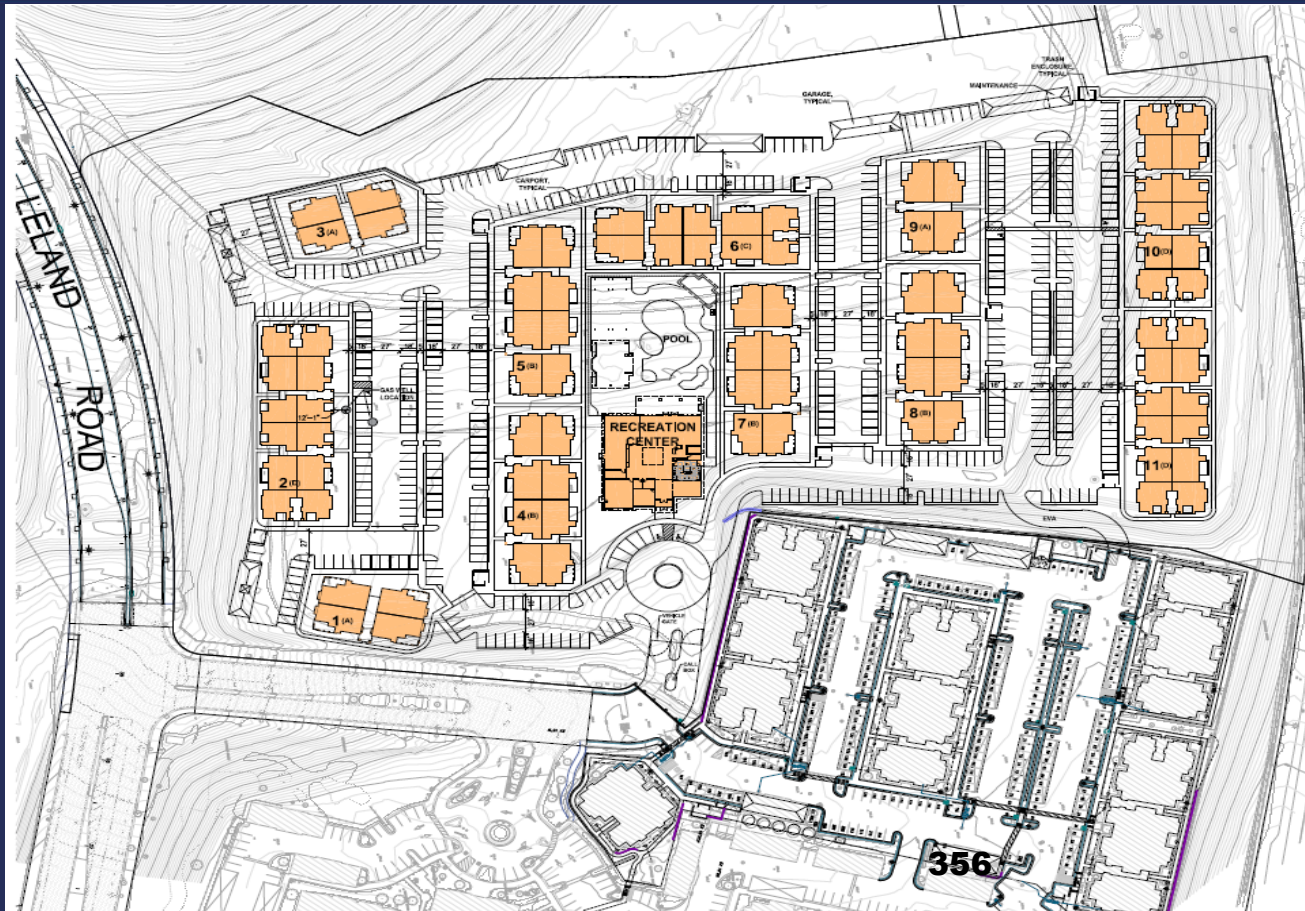
Existing Villas II elevation



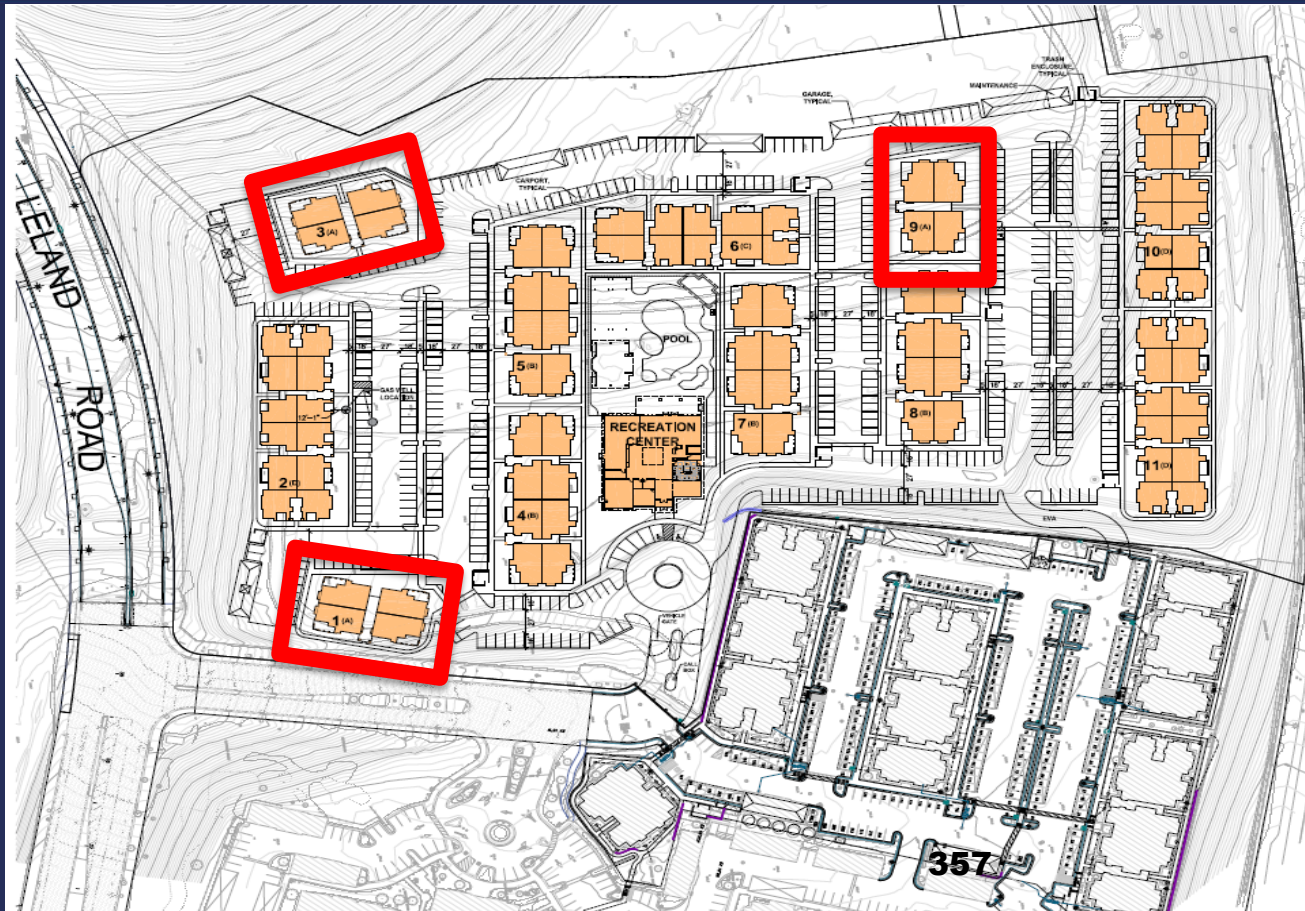
- Known as 'Village C'
- 270 Multifamily Units
- 14.92 acres
- Planned Development Zoning



# Site Layout

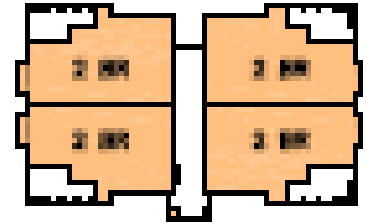


# Site Layout



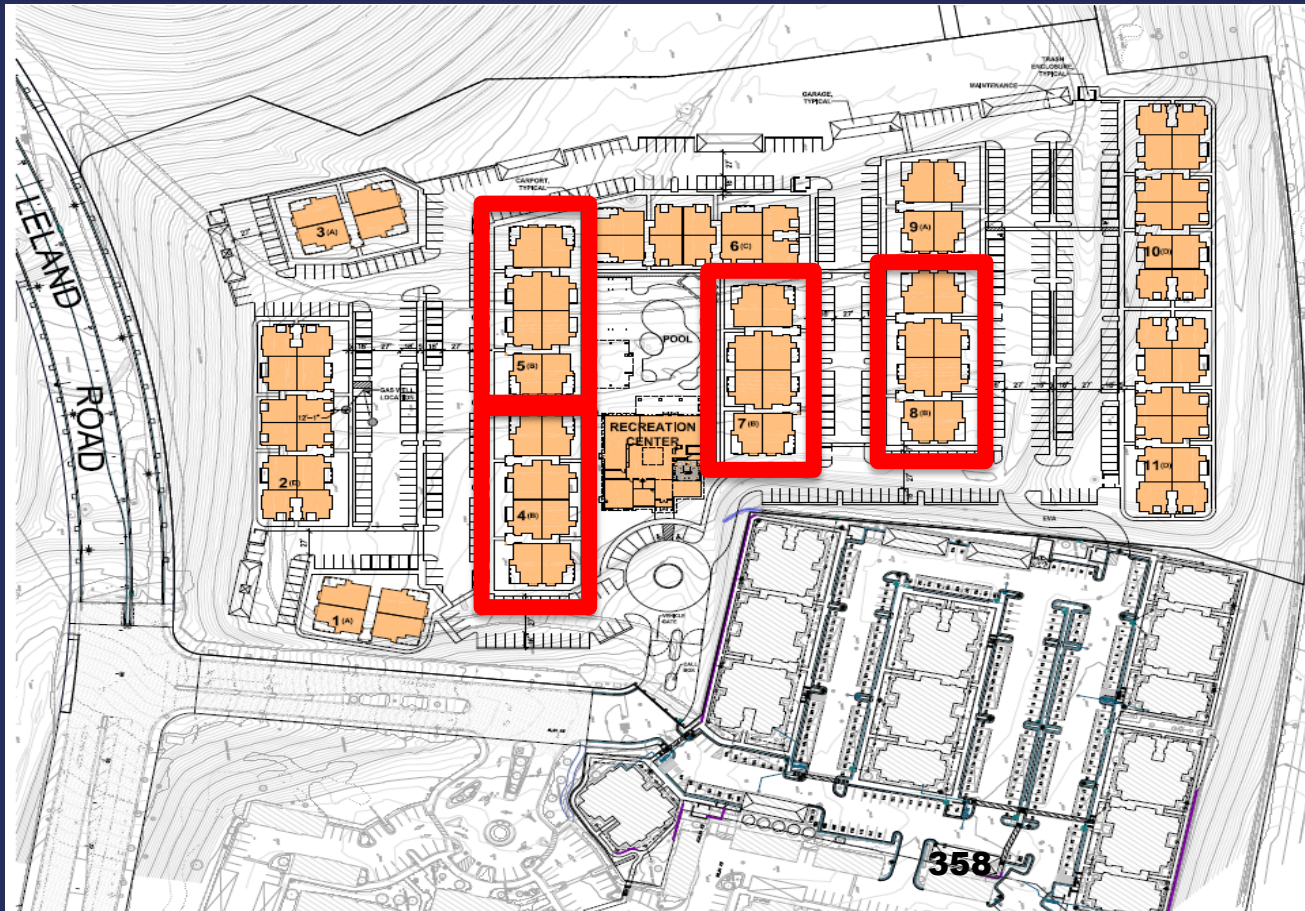
## Residential Type A:

- 3 stories
- 12 units



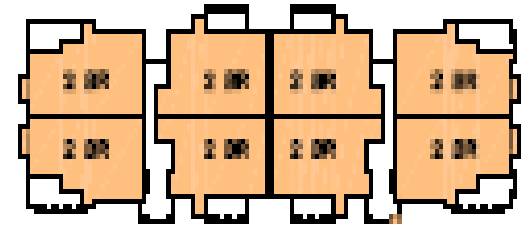


# Site Layout

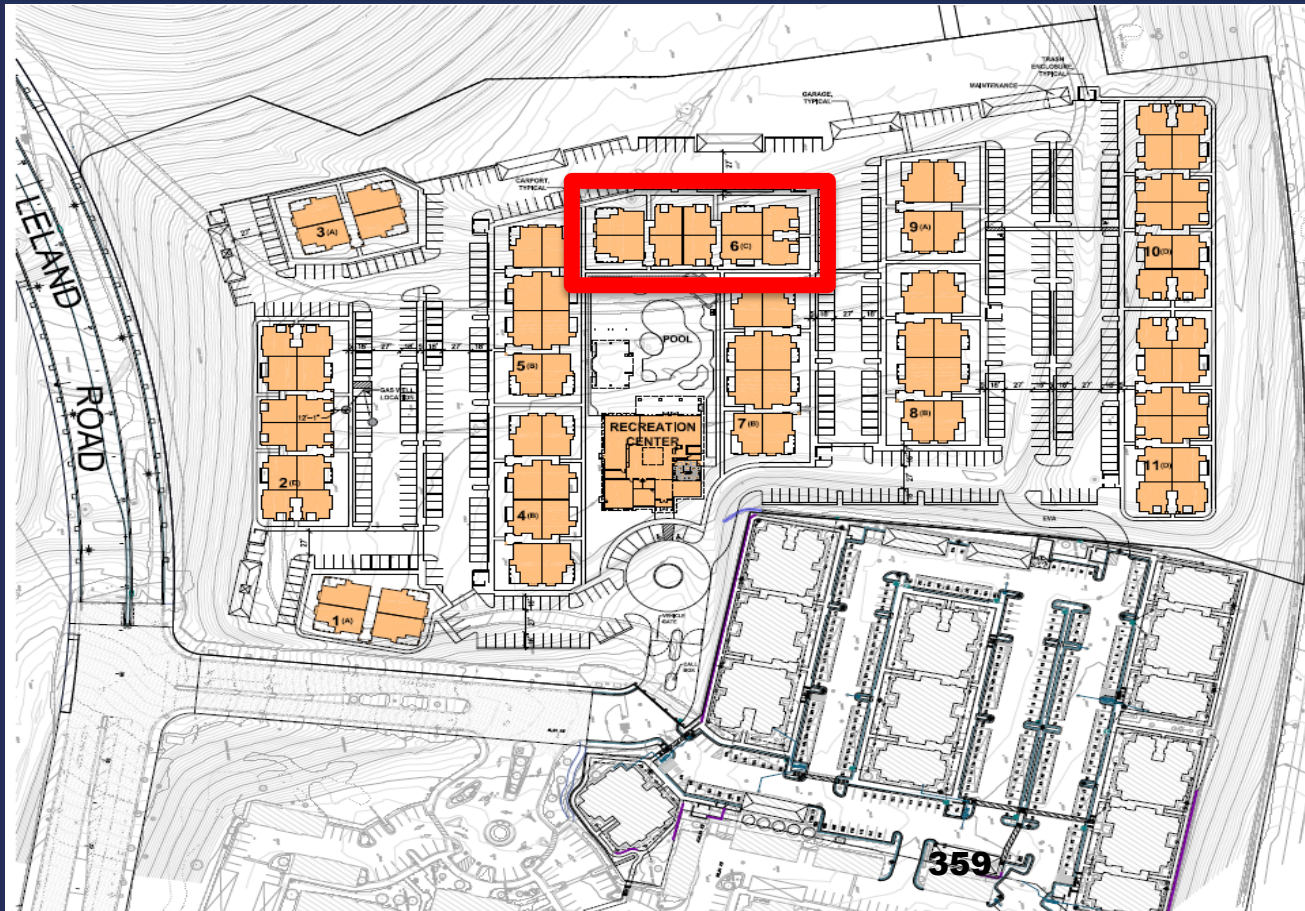


## Residential Type B:

- 3 stories
- 24 units

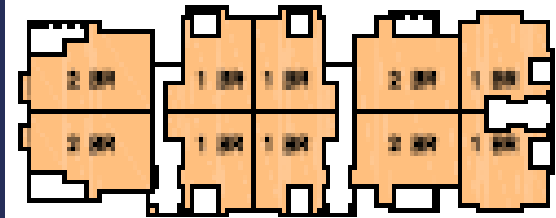


# Site Layout



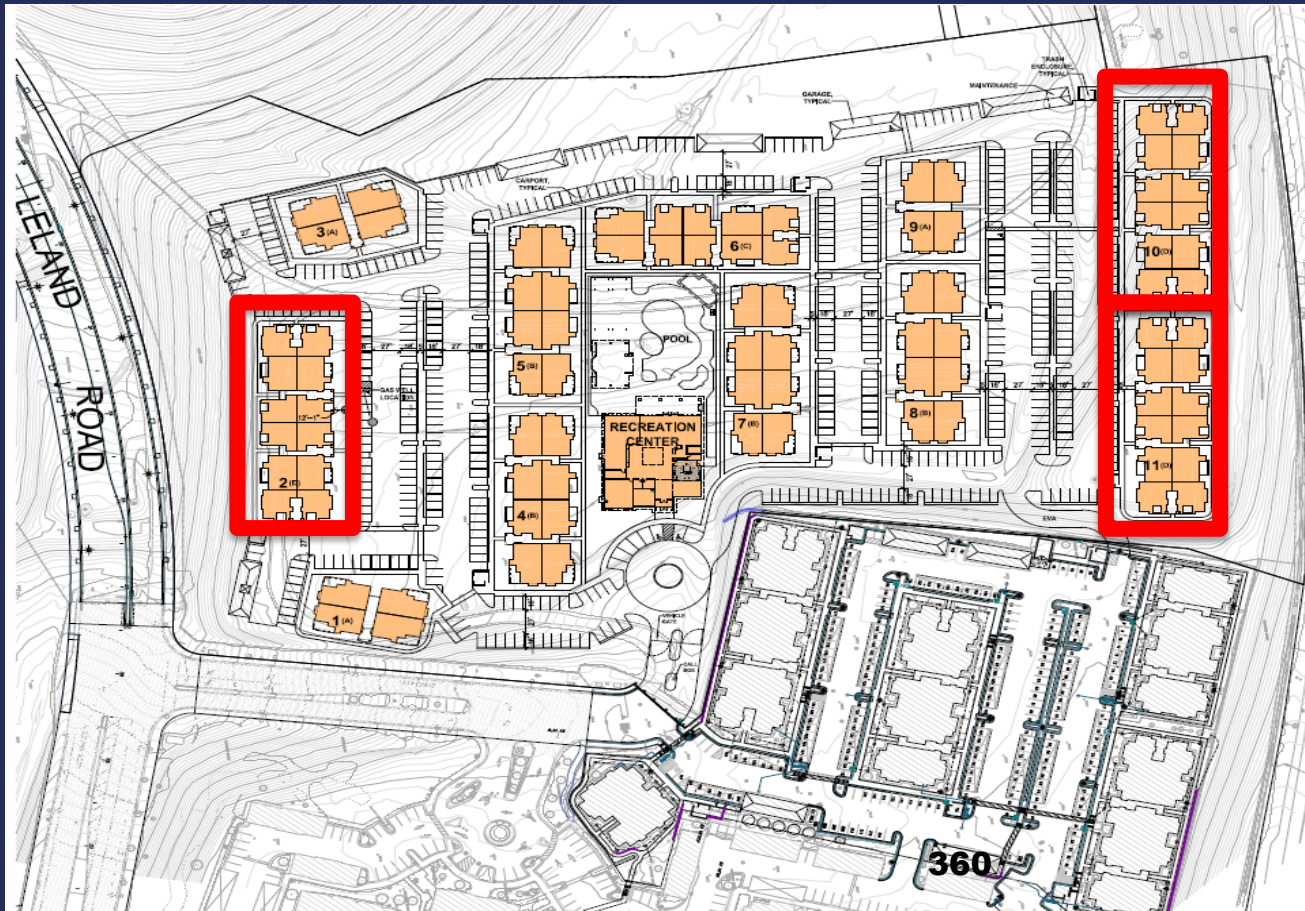
## Residential Type C:

- 3 stories
- 30 units



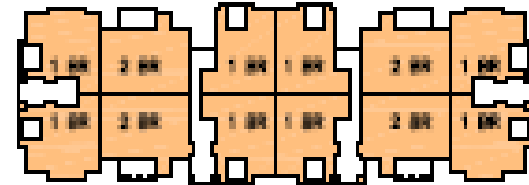


# Site Layout



## Residential Type D:

- 3 stories
- 36 units







# Rendering (Sample Elevation)



Existing Villas I and II elevations

# General Plan and Zoning



- ☐ **Consistent with the San Marco PD and 1988 General Plan**

- ☐ 60 units remaining under Village C

- ☐ **Multifamily Residential use**

- ☐ Italian Mediterranean inspired design
- ☐ Village style walk up units in a townhome design

- ☐ **No additional onsite parking required**

- ☐ Provides opportunity for bicycle, electric vehicle, pedestrian, and/or solar-ready parking amenities

- ☐ **No Inclusionary Housing required**

# Recommendation



Move to adopt Resolution No. 10155 approval of design review for the San Marcos Villas III apartments, subject to conditions.

## Trishia Caguiat

---

**From:** Kristin Pollot  
**Sent:** Wednesday, September 09, 2020 3:19 PM  
**To:** Trishia Caguiat  
**Subject:** FW: Public Comment: Item 3 (San Marco Villas 279 unit expansion)

FYI

Kristin Pollot  
(925) 252-6941

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**From:** Bruce Ole Ohlson <bruceoleohlson@hotmail.com>  
**Sent:** Tuesday, September 8, 2020 7:57 PM  
**To:** Kristin Pollot <KPollot@ci.pittsburg.ca.us>  
**Subject:** Public Comment: Item 3 (San Marco Villas 279 unit expansion)

**\*\*External Sender: Use caution before opening links or attachments\*\***

Good evening Kristin,

Please ask the planner who is assigned to the expansion of the San Marco Villas apartments to discuss with the applicant the potential inclusion of a sidewalk along the west side of San Marco Boulevard between the gas station/convenience store on the corner of San Marco Boulevard and West Leland Road to the Highway 4 interchange.

I have prepared the enclosed comment on this design review application and would have submitted it tonight if the item had not been continued. I will submit it at the proper time when the item returns to the agenda.

Thank you for your work on this issue.

All best wishes,

~Ole

Bruce "Ole" Ohlson  
Bike East Bay  
Delta Pedalers Bicycle Club  
Contra Costa Countywide Bicycle Advisory Committee  
CCTA Bicycle & Pedestrian Advisory Committee  
Caltrans District 4 Bicycle Advisory Committee



TRANSPLAN appointee to Highway 4 Integrated Corridor Management Study  
Healthy and Livable Pittsburg Collaborative

Good Evening Planning Commissioners, Staff, and fellow members of the public,

The application before you will expand the San Marco Villas apartment complex by an additional 270 units. The originally constructed units border San Marco Boulevard. When San Marco Boulevard was originally constructed back during the 1990s, a sidewalk was built on only one side of the street, which is the east side of the street. At that time, our transportation planning considered only the needs of motorists and pretty much ignored the needs of pedestrians and bicyclists. Over the ensuing years, we as a culture have begun encouraging our citizens and residents to travel without using a personal motor vehicle. The City of Pittsburg's Active Transportation plan, which is planned to be adopted within the next two months by the City Council, calls for the construction of this sidewalk/trail. Caltrans has made several policy changes over the years and now requires the construction of sidewalks on both sides of any freeway crossing. The East Bay Regional Park District built a Regional Trail along the north side of the freeway. The Delta de Anza Regional Trail extends from Brentwood to Concord with plans to extend to Martinez. The City and the San Marco Developer built a trail along the west side of San Marco Boulevard between Larry Lasater Park/Delta View Elementary School and West Leland Road. The convenience store operator on the north-west corner of San Marco Boulevard and West Leland Road built a sidewalk along the San Marco frontage.

Pittsburg's bicycle and pedestrian community requests that the Planning Commission place a condition of approval on the construction of the extension of the San Marco Villas apartments that will require the developer to build an eight-foot wide sidewalk/trail along the east edge of the San Marco Villas apartment complex between the gas station and the Highway 4 interchange that will move us strongly in the direction of connecting these two segments of public trail.

To accomplish this, a member of the Planning Commission must move to amend the application to include this sidewalk as a condition of approval. Please indicate that the sidewalk must be substantially completed before the first apartment is occupied and that any trees that are cut down during the construction of the sidewalk must be replaced.

Times have changed over the past quarter century. Requiring the developer to build this sidewalk will bring this area of our City into the third decade of the twenty-first century.

Thank you for your consideration.



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