CITY OF PITTSBURG
AGENDA

NOVEMBER 04, 2019

CITY HALL COUNCIL CHAMBER
65 CIVIC AVENUE, PITTSBURG, CA

PLANNING COMMISSION APPEAL
6:00 P.M.

REGULAR MEETINGS
7:00 P.M.

CITY COUNCIL
PITTSBURG ARTS AND COMMUNITY FOUNDATION
PITTSBURG POWER COMPANY
SOUTHWEST PITTSBURG GHAD II

PRESIDING

Juan Antonio Banales, Mayor/Chair
Jelani Killings, Vice-Mayor/Chair
Marilyn "Merl" Craft, Council Member/Board Member
Holland Barrett White, Council Member/Board Member
Shanelle Scales-Preston, Council Member/Board Member

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

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

6:00 P.M. - PLANNING COMMISSION APPEAL

1. Appeal of the Planning Commission's Decision to Approve the Use Permit for the SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)

   On September 10, 2019, the Planning Commission approved a use permit that would allow the applicant, San Francisco Bay Aggregates, LLC (SFBA), to operate a small, temporary carbon capture and mineralization facility at 895 E. 3rd Street. On September 20, 2019, Charlie Davidson and Joanne Fanucchi filed a joint appeal of the Commission's decision. The appeal expresses concerns regarding potential environmental impacts that could occur if a larger, permanent facility were to be built at the project site; however, such a facility is not proposed at this time. The appeal does not oppose any of the findings that were made by the Commission in approving the use permit for the proposed project.

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

CALL TO ORDER

ROLL CALL

PLEDGE OF ALLEGIANCE

PROCLAMATIONS

2. Veterans Day

CITY MANAGER REPORTS/REMARKS

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

CITIZENS REMARKS

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

CITY COUNCIL MEETING

CONSIDERATION

3. Adoption of a City Council Resolution to Approve a Revision to Preferential Residential Permit Parking in Oak Hills to Begin at 6 a.m. on Weekdays

   The City has two Preferential Residential Permit Parking areas adjacent to BART stations. If approved, this resolution will extend the enforcement time period for parking permits in the Oak Hills neighborhood near Pittsburg-Bay Point BART to start at 6 a.m. instead of 9 a.m. on weekdays, consistent with

enforcement near Pittsburg Center BART.

4. By Minute Order, Select a Commission Appointment to a Vacancy on the Planning Commission

   One (1) opening exists on the Planning Commission. The appointment will fill the seat vacated by Michael Caliguire and will expire on February 28, 2021. The City has advertised for the openings and received two applications. Applicants were invited to interview with the City Council on October 21. One applicant was interviewed at that time.

CONFLICT OF INTEREST STATEMENT

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

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

5. Minutes of October 21, 2019

6. Adoption of an Ordinance Amending the Pittsburg Municipal Code by Repealing Chapter 9.98 Tow Car Regulation

   The City's adopted Purchasing Policy provides procedures for the contracting of outside services. For consistency, the Pittsburg Police Department is seeking City Council action to repeal Pittsburg Municipal Code 9.98, Tow Car Regulation, and will follow City contracting procedures for these services.

7. Adoption of a City Council Resolution to Authorize the City Manager to Execute the Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement between and amongst the City of Pittsburg; the City of Brentwood; the East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes.Inc. and West Coast Home Builders, Inc.

   To facilitate developer compliance with the Habitat Conservation Plan for the Tuscany Meadows subdivision, staff recommends the City Council authorize the City Manager to execute the Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement between and amongst the City of Pittsburg; City of Brentwood; East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes, Inc. and West Coast Home Builders, Inc.

COUNCIL REQUEST FOR FUTURE AGENDA ITEMS

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

COUNCIL MEMBER REPORTS/REMARKS

Council Members may make brief announcements or informal comments at this time. Council members may ask questions for clarification from City staff, and make a report on their activities, including reports on committee assignments (see attached list of ad hoc committees and other public agencies in which Council members participate). (No Action Required)

ADJOURNMENT to November 18, 2019

NOTICE TO PUBLIC

GENERAL INFORMATION

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

SPEAKER'S CARD

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

PUBLIC HEARINGS

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

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

NOTICE TO THE DISABLED AND VISUALLY OR HEARING IMPAIRED

In compliance with the Americans with Disabilities Act, the City of Pittsburg will provide special assistance for disabled 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 Council meetings. If you need special assistance to participate in this meeting, or are requesting a specially formatted agenda, please contact the City Clerk at 925-252-4850. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting or provide the requested agenda format. (28 CFR 35.102-35.104 ADA Title II)

DISRUPTIVE CONDUCT

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

LIVE MEDIA BROADCASTING ADVISEMENT

City Council meetings are webcast live on the City's website at www.ci.pittsburg.ca.us on the Streaming Media page. Past meetings are also archived on that webpage. City Council meetings are also broadcast live on CCTV, Channel 24 also re-run at a later date. For more information, please contact the City Clerk's office at 252-4850.

City Council Outside Agency / Liaison / Sub-Committees Assignments - 2019

Updated February 4, 2019

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

LIAISON TO	COUNCIL MEMBER(S)	TYPE	MEETS	STAFF
East Bay League of Calif. Cities	Jelani Killings / Juan Banales Alt.	Standing	3rd Thursday	*Rotational
Mayor's Conference	Juan Banales / Jelani Killings Alt.	Standing	1st Thursday	G. Evans
School Districts Committee (2x2)	Holland White & Jelani Killings / Merl Craft Alt.	Standing	4th Thursday even months	G. Evans

SUBCOMMITTEES	COUNCIL MEMBER(S)	TYPE	MEETS	STAFF
CAC CDBG Subcommittee	S. Scales-Preston & Jelani Killings / Holland White Alt.	Standing	As needed	M. Aliotti
Camp Stoneman Anniversary Celebration	Merl Craft & Shanelle Scales-Preston	Ad Hoc	As needed	Evans/Simonton
CIP	Juan Banales & Jelani Killings	Ad Hoc	As needed	G. Evans
Community Services Subcommittee	Juan Banales & Holland White	Ad Hoc	As needed	G. Evans/M. Aliotti
Flag Protocols	Holland White & Shanelle Scales-Preston	Ad Hoc	As needed	J. Davis
Hills Committee	Juan Banales & Holland White / Merl Craft Alt.	Ad Hoc	As needed	G. Evans
Pittsburg Recognition Committee	Merl Craft / Juan Banales Alt.	Ad Hoc	As needed	J. Hecht
Economic Develop/Waterfront Subcommittee	Jelani Killings & Holland White / Juan Banales Alt.	Standing	Quarterly	K. Simonton
Finance Subcommittee	Jelani Killings & Juan Banales / Merl Craft Alt.	Standing	As needed	B. Farmer
Land Use Subcommittee	Juan Banales & Holland White / Merl Craft Alt.	Ad Hoc	As needed	K. Pollot
Pittsburg Arts & Community Foundation	Merl Craft & S. Scales-Preston / Jelani Killings Alt.	Standing	As needed	G. Evans
Pittsburg Police Activities League (PAL)	S. Scales-Preston & Holland White / Juan Banales Alt.	Standing	Monthly	B. Addington
Power Company Advisory	S. Scales-Preston & Holland White / Merl Craft Alt.	Standing	As needed	D. Buchanan
Sister City Committee	Holland White & Merl Craft / Jelani Killings Alt.	Ad Hoc	As needed	K. Simonton
Successor Agency Subcommittee	Merl Craft & Jelani Killings / S. Scales-Preston Alt.	Standing	As needed	M. Aliotti

*Rotational Staff as assigned by City Manager
**Stipend of $209 per month
***Stipend of $100 per month

COMMISSION/SUBCOMMITTEE MEETING SCHEDULE

Following is a tentative list of currently scheduled Commission meetings for the upcoming month. For further information, please visit our website at www.ci.pittsburg.ca.us and click on the CALENDAR link for meetings, dates, times and locations.

Commission	Tentative Meeting Dates
Planning Commission	2nd and 4th Tuesdays
Community Advisory Commission	1st Wednesday

Planning Commission meetings are regularly held the second and fourth Tuesdays of the month in the Pittsburg City Hall Council Chambers.

Community Advisory Commission meetings are regularly held the first Wednesday of the month in the Pittsburg City Hall Council Chambers.

In addition to the Commission Meetings listed above, there are several Council Member Subcommittees that meet on an “as needed basis”. For a list of subcommittees that Council Members and staff are assigned to, please see the “Council Committee List” attached to the agenda.

Subcommittee Meetings that are anticipated to occur in the coming month vary. The meeting dates, times and locations for these meetings are yet to be determined. This information will be posted on the City’s website, www.ci.pittsburg.ca.us , as soon as it is determined. Please check the Calendar on the City’s website for information.

For further information, contact the City staff member assigned to that Commission or Subcommittee.

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

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Appeal of the Planning Commission's Decision to Approve the Use Permit for the SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP).

MEETING DATE: November 4, 2019

EXECUTIVE SUMMARY

On September 10, 2019, the Planning Commission approved a use permit that would allow the applicant, San Francisco Bay Aggregates, LLC (SFBA), to operate a small, temporary carbon capture and mineralization facility at 895 E. 3rd Street. On September 20, 2019, Charlie Davidson and Joanne Fanucchi filed a joint appeal of the Commission's decision. The appeal expresses concerns regarding potential environmental impacts that could occur if a larger, permanent facility were to be built at the project site; however, such a facility is not proposed at this time. The appeal does not oppose any of the findings that were made by the Commission in approving the use permit for the proposed project.

FISCAL IMPACT

There is no fiscal impact associated with the recommended action.

RECOMMENDATION

City Council receive a staff presentation; provide the appellants an opportunity to present their appeal; provide the applicant an opportunity for a rebuttal; open the public hearing and take public comment; close the public hearing; and move to adopt the attached resolution denying the appeal and upholding the Planning Commission's decision to adopt Resolution No. 10130, approving a Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and Use Permit for the SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP).

BACKGROUND

On February 22, 2019, San Francisco Bay Aggregates, LLC applied for approval of a use permit to operate a small, temporary carbon capture and mineralization facility on a 2.5-acre site located at 895 E. 3rd Street in the IG (General Industrial) District. The facility would

operate for up to 15 months and is intended to demonstrate the feasibility of SFBA's proprietary technology, which uses carbon dioxide gas (CO2) and waste concrete as raw materials to produce 'upcycled' and carbon-sequestered rocks for use in fresh concrete. The facility would operate between 8:00 AM and 5:00 PM daily with up to three employees working at the site. Minimal site improvements are proposed. SFBA would occupy an existing building located onsite, construct a new 120-square-foot trash enclosure, and restripe existing pavement areas for vehicle and truck parking. The remaining facility would largely consist of mobile, skid-mounted equipment arranged into four linked process modules. Ground disturbance would not be required for installation.

For the temporary facility, SFBA would most likely use CO2 from a natural gas-fired steam boiler that would be brought on site. If the temporary facility is successful, SFBA may request additional approvals from the City to develop a larger, permanent installation to sequester CO2 from a slipstream at the Calpine Los Medanos Energy Center (LMEC) – an existing 518-megawatt co-generation power plant located across the street from the project site. SFBA estimates a larger, permanent facility could recover up to 70% of Calpine LMEC's CO2 emissions (approximately 681.2 metric tons per year, depending on the size of the slipstream).

Pursuant to the provisions of the California Environmental Quality Act (CEQA) Guidelines, an Initial Study was prepared for the proposed project. Based on the analysis in the study, the Planning Manager determined that potentially significant effects of the project could be lessened through specified mitigations, and subsequently, a draft Mitigated Negative Declaration (MND) was prepared. On July 10, 2019, a Notice of Intent to Adopt a Mitigated Negative Declaration was distributed to the public for a 30-day review, in accordance with CEQA Guidelines section 15105(b). No comment letters were received prior to the close of the comment period. A copy of the Initial Study and MND is provided as part of the Planning Commission staff report, dated September 10, 2019 (Attachment 6 of this report). It is also available on the City's website at: www.ci.pittsburg.ca.us/publicreviews.

On September 10, 2019, the Planning Commission held a duly noticed public hearing on the proposed project, considered testimony, and voted 4-0 to adopt Resolution No. 10130, approving a mitigated negative declaration, mitigation monitoring and reporting program, and use permit for the project, subject to conditions. On September 20, 2019, Charlie Davidson and Joanne Fanucchi filed separate appeals of the Commission's decision (see Attachments 2 and 3 of this report). To reduce the cost of the appeal, the parties have agreed to combine their appeal, with Mr. Davidson as the primary appellant.

SUBCOMMITTEE FINDINGS

This item did not require subcommittee review.

STAFF ANALYSIS

The appeal consists of several statements or questions primarily intended to express concern about potential environmental impacts that could occur if SFBA were to build a larger, permanent facility. Responses to these statements or questions are included in Attachment 4 of this report. It is important to note that a larger, permanent facility is not proposed at this time. SFBA would determine whether to pursue a larger, permanent facility based on whether the proposed temporary facility is successful. It should also be noted that SFBA does not currently know whether the larger, permanent facility would be located at the same site. If a larger, permanent facility is proposed in the future, it would require additional

environmental review, public notice, and Planning Commission approval. Staff recommends the City Council deny the appeal as it does not object to the proposed project, nor does it oppose any of the findings that were made by the Planning Commission as part of its approval.

ATTACHMENTS:

1. Proposed Resolution
2. Declaration of Appeal by Charlie Davidson
3. Declaration of Appeal by Joanne Fanucchi
4. Responses to Declarations of Appeal
5. Notice of Public Hearing for November 4, 2019
6. Planning Commission Staff Report, dated September 10, 2019

Report Prepared By: Hector J. Rojas, AICP, Senior Planner

Attachment 1

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Resolution Denying an Appeal and Upholding Planning Commission Resolution No. 10130, for "SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)."	)	RESOLUTION NO. 19-

The Pittsburg City Council DOES RESOLVE as follows:

WHEREAS, on February 22, 2019, Jacob Schneider, on behalf of San Francisco Bay Aggregates, LLC (SFBA), filed Use Permit Application No. 19-1412, requesting approval of a use permit to operate a temporary carbon capture and mineralization facility (the "project") on a 2.5-acre site located at 895 E. 3rd Street in the IG (General Industrial) District. Assessor's Parcel No. 073-020-019; and

WHEREAS, on September 10, 2019, the Planning Commission held a duly noticed public hearing on Use Permit Application No. 19-1412, considered testimony, and voted 4-0 to adopt Resolution No. 10130, approving a Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and Use Permit for the proposed project; and

WHEREAS, on September 20, 2019, Charlie Davidson and Joanne Fanucchi filed a joint appeal of the Planning Commission's decision to approve the proposed project; and

WHEREAS, the appeal expresses concerns regarding potential environmental impacts that could occur if a larger, permanent facility is built on the project site, however, such a facility is not proposed at this time; and

WHEREAS, the appeal does not refute any of the findings adopted by the Planning Commission in accordance with Pittsburg Municipal Code (PMC) section 18.16.040 for approval of the proposed project; and

WHEREAS, on or prior to October 22, 2019, notice of the November 4, 2019 public hearing was posted at City Hall, near the proposed project site, and on the 'Public Notices' section of the city's website; was delivered for posting at the Pittsburg Library; and was mailed via first class or electronic mail to the applicant, to the property owner, to owners of property located within 300 feet of the proposed project site, to local service agencies expected to provide services to the building, and to individuals who had previously filed written request for such notice, in accordance with Pittsburg Municipal Code (PMC) section 18.14.010 and Government Code section 65091; and

WHEREAS, on November 4, 2019, the City Council held a public hearing on the appeal, at which time evidence from the Planning Commission public hearing on September 10, 2019 was reviewed and additional oral and/or written testimony was considered.

NOW, THEREFORE, the City Council finds and determines as follows:

Section 1. Findings:

Based on the City Council Staff Report entitled, "Appeal of Planning Commission Decision to Approve the Use Permit for the SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)," dated November 4, 2019, 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 public hearing, the City Council finds that:

1. All recitals above are true and correct and are incorporated herein by reference.

2. The Mitigated Negative Declaration for the project was prepared in compliance with Public Resources Code section 21000 et seq.

3. The proposed project 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 off-street parking requirements in PMC section 18.36.200.

   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, Contra Costa Health Services – Hazardous Materials Programs, the Regional Water Quality Control Board, and Delta Diablo.

   c) will not adversely affect the orderly development of property within the City, in that it is located near similar heavy industrial uses on E. 3rd Street including Koch Carbon (a terminal for bulk commodities including petroleum coke, coal, cement, pulp and paper, and sulfur), Los Medanos Energy Center (a natural gas-fired, combined-cycle cogeneration facility), and USS-POSCO (a steel finishing plant).

   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 the project will utilize the site for an industrial purpose consistent with its zoning and past use as a 20 megawatt cogeneration plant (owned and operated by GWF Power Systems Company, Inc.).

   e) will be consistent with site's 'Industrial' General Plan land use designation, in

that the designation is intended to provide sites for manufacturing uses. The project is also 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.

f) will 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) will not encourage marginal development within the neighborhood, in that the project will consist of a temporary facility with equipment to be removed after a 15-month period of operation.

h) 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, in that the project will have access to existing infrastructure, including fire, police, and water.

i) will not be inconsistent with the City's approved funding priorities, in that it does not require City funding.

Section 2. Decision:

Based on the findings set forth above, the City Council hereby denies the appeal and upholds the Planning Commission's decision to adopt Resolution No. 10130, approving a Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and Use Permit for the SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP).

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 4th day of November 2019, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Juan Antonio Banales, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

Attachment 2

RECEIVED

SEP 20 2019

PLANNING DIVISION

City of Pittsburg
Planning Department
65 Civic Avenue, Pittsburg, CA 94565
Phone: (925) 252-4920, Fax: (925) 252-4814

DECLARATION OF APPEAL

Name: Charlie DAVIDSON Phone No.: 510-837-8441

Address: 2108 Drake Lane

City: Hercules State: CA Zip: 94547

Appealed By: ☐ Applicant
☒ Interested Party (Please specify.): CHARLES DAVIDSON

Project Name: SFBA PILOT project Application No. (s): AP-19-1412 -UP, DR

Appealing Decision Of: ☐ City Staff
☐ Zoning Administrator
☒ Planning Commission

Date of Decision: 9/10/2019

Action Being Appealed: ☐ Code/Policy Interpretation

☒ Resolution No. 10130

☒ Other AP-19-1412-UP, DR

Specify reason(s) for appeal: (may attach additional page(s), if needed.

Attachment

Signature of Appellant Charles Davidson

FOR STAFF USE ONLY:
Resolution No(s): 10130 Date Received: 9/20/19
Deadline for Appeal: 9/20/19 Scheduled for:
Applicant Fee/Receipt No.: Interested Party Fee/Receipt No: 007583.0025

City of Pittsburg
Payment Center
65 Civic Ave
Pittsburg, CA 94565
www.ci.pittsburg.ca.us
Welcome

007583-0025 Morgan L. 09/20/2019 12:02PM

PLANNING RECEIPTS
Payment Tran Code:
Planning (10PLAN)
Description: Charlie
Davidson AP-19-1412
Planning (10PLAN)
2020 Item: 10PLAN
Planning (10PLAN) 150.00

150.00

Subtotal	**150.00**
Fee FEE	1.00
Total	**151.00**

CREDIT CARD	151.00

MasterCard **********6555
Ref=20190920120235074F16
Auth=402237
Terminal ID=XXXXXXXXXXXX427
Trans ID=000000375141
Trans Type=Purchase
Entry Legend=CHIP READ
Entry Method=CONTACT
AC=FFA354B4966CDA79
ATC=00CB
AID=A0000000041010
TVR=8000008000
TSI=6800
RESP CD=00
TRN REF #=MDJJYYW090920

Change due	**0.00**

Paid by: Charlie Davidson

Signature: _____

Thank you for your payment

CUSTOMER COPY

Environmental Justice, air and water quality questions related to the SFBP concrete aggregate upgrading project in Pittsburg, especially when considering the possibility of.a potential (or possible) much larger size future post-pilot project facility.

To: The City of Pittsburg - Planning Department 20 September 2019

Re: Appeal to the BluePlanet Carbon Capture and Mineralization (Pilot) Project

From: Charles Davidson Hercules CA 94547

charlesdavidson@me.com

(510) 837-8441

What additional mitigation procedures for airborne particulate matter/dust emissions and aquatic (concrete/aggregate) wash discharges would be required or considered for a larger future SFBP Pittsburg facility, which would or might be massively enlarged compared to the pilot project?

This appeal is not to oppose the City of Pittsburg SFBP pilot project, per se, but to establish the potential upper size limit of a future SFBP project at that site, *before* the pilot project is approved by the City and established on that site,.

Once established on that site, future project expansion tend to become more automatic and to a degree, more difficult to establish constraints or environmental mitigations.

The SFBP site is approximately one-half mile from the nearest Pittsburg neighborhood and the trucks going to and from SFBP will drive next to houses..

REFERENCES:

Carbon Capture and Mineralization Project. Public Draft Initial Study. Pittsburg CA. July

2019. http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=11138

Blue Planet I Economically Sustainable Carbon Capture. http://www.blueplanet-ltd.com

I. QUESTIONS primarily related to a potential full-size project at the projected SFBP Pittsburg site are actually very important to consider at this.time, i.e., when considering the permitting for a pilot project. The potential full-scale size SFBP project can be approximately projected from the pilot project's planned throughputs, in order to provide necessary context for understanding SFBP's upscaling intentions.

1) If the Pilot Project is successful, what would be the largest possible size of a full-scale SFBP crushed concrete aggregate upgrading project which could be placed on the SFBP Pittsburg site?

2) What would be the SFBP CO2 throughput captured from Los Medanos Energy Center CO2 emissions, when considering a full-scale SFBP project? (What percentage of LMEC's average annual 1,200,000nCO2 emissions?)

II. AIR QUALITY QUESTIONS:

II. Table 2 Projected Daily Volume of Material Movement.

Carbon Capture and Mineralization Pilot Project

Material Type[3]	Throughput Capacity	Truck[4] (No./day)
CO2	221 lb/hr	n/a
Inbound RCA	2.5 yd^3/hr	2.3

Coated Product	1.3 yd^3/hr	1.2
Upcycled RCA	1.1 yd^3/hr	1.0
SCM	0.1 yd^3/hr	0.1
TOTAL Throughput	2.6 yd^3/hr	3.0

GIVEN: that a) CalTrans concrete has a minimum percentage content requirement of Type F coal fly ash of 25 percent, plus b) coal fly ash has a high mercury content and c) respired ambient crushed concrete dust is a highly alkaline desiccant.

QUESTIONS:

1) How many daily trucks trips would.be required for a full-scale SFBP facility?

2) How many cubic yards/tons would the crushed concrete pile be at a full-scale SFBP facility ?

3) Would a full-scale SFBP plant perform any additional concrete crushing operations?

4) As a full-scale operation, would SFBP consider a physical dust-mitigating full enclosure (employing negative air pressure and a baghouse for containment) for the ambient crushed concrete dust, such as constructed at Coke Carbon?

5) How much HCl (Hydrochloric acid, 30% aqueous solution) and ammonia (Ammonia, 0.5 to 19 wt% aqueous solution) would a potential full-scale SFBP plant require daily and

6) What would be the volume of on-site storage vessels for aqueous HCl and NH3?

NOTE: Since 1997, Caltrans has stipulated the use of at least 25% fly ash replacement for Portland Cement in structural concrete mix designs to combat alkali-silica reactivity.

<https://www.acaa-usa.org/Portals/9/Files/PDFs/ASH01-2019.pdf>

<https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-climatechangerprt-final-april-2013-a11y-.pdf>

III. WATER QUALITY QUESTIONS:

GIVEN: "It is anticipated that during operations the Facility would use less than 30 gallons per minute (gpm) of water to wash the products, with less than 10% of this volume being used as mist for dust control.

Wastewater from washing and rinsing of product material, anticipated to be less than 30 gpm, would be collected and sent to the City sewer system in accordance with the City of Pittsburg's Clean Water Program.

"Wastewater discharges would be monitored according to the relevant limit values for specific parameters outlined in compliance documents received during the permitting process. The parameters are anticipated to include temperature, hardness, total chlorides, conductivity and metals. Monitoring of the wastewater would be done at least one (1) time during the planned 6-9 month operational duration, likely just after commissioning of the Facility and, if deemed necessary, after approximately 500 hours of the Facility being in operation.

"Monitoring would consist of internationally accepted standardized sampling, analysis, and quality assurance methods (e.g., ISO standards). Analyses would use the State Water Board's Thermal Plan (for thermal wastewater discharge) and the City's urban wastewater treatment (for discharge to sewer) for exceedance thresholds."

QUESTIONS:

1) What are SFBP's pilot project wastewater pre-treatment protocols employed. if any are currently planned, before discharge into the City's urban wastewater treatment (for discharge to sewer) ?

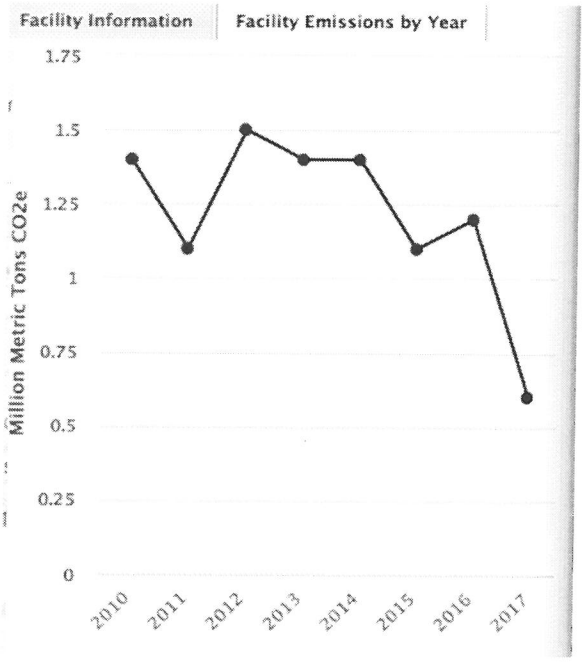
2) Have similar (independent) concrete-washing wastewater samples been tested for metal contamination, in order to understand (a priori) the planned discharges by SFBP

into Pittsburg's wastewater treatment plant ?

3) Why not monitor the pilot project's wastewater discharge (from concrete washing and misting) more frequently, such as once per month, instead of twice during the 15 months?

4) How many gallons per minute of concrete wash wastewater would be discharged by a full-scale SFBP plant?

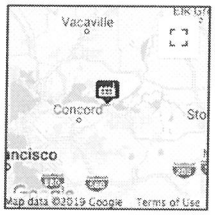
5) What protocol would the full-scale SFBP plant employ to mitigate the crushed concrete-washing wastewater contaminants before discharge to the Pittsburg public wastewater treatment plant ?



Data Year 2017

Los Medanos Energy Center, LLC

750 EAST THIRD ST
PITTSBURG, CA, 94565



Latitude: 38° 01.80' N
Longitude: 121° 52.25' W

GHGRP Id: 1001366
FRS Id: 110002929706
NAICS Code: 221112
Clean Air Markets Division Business Database Id: 1344

View reported data

Download reported data (XML)

Facility Information | Facility Emissions by Year

Total Facility Emissions in metric tons CO_2 equivalent (mt CO_2e) (AR4 GWPs, excluding Biogenic CO_2)	620,367
Emissions by Gas in mt CO_2e (AR4 GWPs)	
Carbon Dioxide (CO_2)	619,062
Methane (CH_4)	595
Nitrous Oxide (N_2O)	710
Emissions by Source/Process in mt CO_2e (AR4 GWPs, excluding Biogenic CO_2)	
Stationary Combustion	19,308
Electricity Generation	601,058
Information on Stationary Combustion	
Types of Fuels Used	Natural Gas
Measurement Methods Used	Mass Balance
Number of equipment groupings	1
Information on Electricity Generation	
Types of Fuels Used	Natural Gas
Measurement Methods Used	Mass Balance
Number of equipment groupings	2

Attachment 3

RECEIVED

SEP 20 2019

ENGINEERING DIVISION

City of Pittsburg
Planning Department
65 Civic Avenue, Pittsburg, CA 94565
Phone: (925) 252-4920, Fax: (925) 252-4814

DECLARATION OF APPEAL

Name: Joanne Fanucchi Phone No.: 925-497-4759

Address: 53 Alvarado Ave

City: Pittsburg State: CA Zip: 94565

Appealed By: ☒ Applicant
X Interested Party (Please specify.): Joanne Fanucchi

Project Name: SFBA Pilot Project Application No. (s): AP-19-1412 UP, DR

Appealing Decision Of: ☐ City Staff
☐ Zoning Administrator
☒ Planning Commission

Date of Decision: 9/10/19

Action Being Appealed: ☐ Code/Policy Interpretation

☒ Resolution No. 10130

☒ Other Approval of AP-19-1412-DR

Specify reason(s) for appeal: (may attach additional page(s), if needed.

See attached

Signature of Appellant: [signature]

FOR STAFF USE ONLY:
Resolution No(s): 10130 Date Received: 9/20/19
Deadline for Appeal: 9/20/19 Scheduled for:
Applicant Fee/Receipt No.: Interested Party Fee/Receipt No:

Letter to file for an Appeal

Planning Commission Decision

SFBA Carbon Capture and Mineralization Facility Pilot Project AP-19-1412 (UP,DR)

9/20/2019

The SF Bay Aggregate company is coming into town to start a pilot program to reconfigure rock aggregate into something green. I am writing this appeal because if the speculative project goes according to plan, they might want to expand their operations here. There are many reasons why we should not let this happen, as follows:

Public Notification

The notices sent by the city were limited to neighborhoods mostly around Harbor Street and to property owners in a 300 foot radius around the site SFBA wants to occupy. There aren't many personal property owners in that part of town, just other industry business owners, so very few of us were informed prior to the meeting.

The Land

Pittsburg is in the Sacrifice Zone of the Refinery Corridor. A Sacrifice Zone is defined as "A geographic area that has been permanently impaired by environmental damage or economic disinvestment. These zones are most commonly found in low income and minority communities." BAAQMD labeled Pittsburg as one of these zones. I understand that the ground beneath the proposed site has been found stable by an environmental assessment but it contradicts BAAQMD's evaluation of the land here. Burying toxic contaminants in the ground is a false solution. It's business as usual, but a serious denial of the damage we've been causing all along. The land may be stable, but it is nowhere near healed.

The Air

Contra Costa has one of the worst air quality ratings in the U.S.

Los Medanos Energy Center is one of the top ten toxic air contaminators in the county.

Add to that whatever SFBA's emissions rate will be, the fallout from Shell currently, and then factor in when PBF takes over Shell, who boasts that they will triple their output, meaning triple GHG emissions, transport, and storage which will inevitably blow our way. Add to that all of the other noxious toxins we're forced to breathe in including trucks and cars, then add in carbon offsets from Cap and Trade. Then compare that to how much carbon SFBA says they can capture.

It makes much more sense to shut down LMEC. A suit opposing that installation was filed with the EPA 20 years ago, and just look where we're at now.

The Water

Water is for drinking, nurturing plants, animals, fish and people, not for recreation or profit. We have scarcely enough clean water as it is. All of our rivers are burdened with algae, round-up, other chemicals from Dow, and many other Pittsburg polluters. The smelt are gone, and the Chinook Salmon cannot survive the passage through the South Delta where the water turns from salt into fresh. The Salmon also go through a physical change from salt water to fresh water loving creatures to try to get home to McCloud River in Shasta to spawn. Water should be *respected*; cleaned up and preserved for the purposes it was intended, not wasted as when SFBA proposes to wet down piles of uncovered toxic materials which we all know spraying 3 times a day in 100+ degree weather will do nothing. Any wastewater with anything inorganic in it, any rise in temperature is dangerous to all life. Water **is** Life.

With all of the effects that fossil fuel industries have on all of the elements of our Earth, we have brought it to the brink of disaster. We cannot move forward without considering its needs above our own.

Pittsburg has an opportunity to be a mitigation leader for Climate Justice. You may not be able to stop the whole train from crashing, but you can still slow it down enough to give future generations more of a chance at a safer, cleaner, healthier life.

Joanne Fanucchi, MS TCM, L.Ac.

Resident of Pittsburg, Ca.

hhtps://envisionContraCosta2040.org).

https://scorecard.goodguide.com/env-releases/cap/county.tcl?fips_county_code=06013#maps).

https://californiawaterblog.com/2018/08/21/science-the-delta-and-the-future-of-san-joaquin-salmon/

https://Run4Salmon

Attachment 4
Responses to Declarations of Appeal
SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)

Charlie Davidson Appeal

1. What additional mitigation procedures for airborne particulate matter/dust emissions and aquatic (concrete/aggregate) wash discharges would be required or considered for a future SFBA Pittsburg facility, which would or might be massively enlarged to the pilot project?

   Response to 1: *A larger, permanent facility is not proposed at this time. If such a facility is proposed in the future, a separate environmental review would be required to identify potential impacts and appropriate mitigation measures. Any subsequent environmental document would be reviewed by the appropriate regulatory agencies which include the Bay Area Air Quality Management District and the San Francisco Bay Regional Water Quality Control Board.*

2. This appeal is not to oppose the City of Pittsburg's pilot project, per se, but to establish the potential upper size limit of a future SFBA project at the site before the pilot project is approved by the City and established on that site.

   Response to 2: *A larger permanent facility is not proposed at this time. If such a facility is proposed in the future, it would require additional environmental review, public notice, and Planning Commission approval of a new use permit. The Commission may consider limiting the size of a larger, permanent facility as part of the approval process for such a facility if limits or restrictions are required to mitigate environmental impacts.*

3. Once established on that site future project expansion tend to become more automatic and to a degree, more difficult to establish constraints or environmental mitigations.

   Response to 3: *A larger, permanent facility would not be automatically approved if the proposed temporary facility is established. Condition No. 2 from the approval Resolution No. 10130, specifies the operational lifespan for the use and any operation beyond those limits would require subsequent review by the City. If the temporary facility is successful and SFBA decides to pursue a larger, permanent facility, such a facility would require a new use permit application with additional environmental review, public notice, and Planning Commission action. The Commission's action on any future application would also be subject to appeal.*

4. The SFBA site is approximately one-half mile from the nearest Pittsburg neighborhood and the trucks going to and from SFBA will drive next to houses.

   Response to 4: *As stated in the Planning Commission staff report, dated September 10, 2019, trucks with a 20-ton capacity would be used to transport inbound recycled concrete and outbound upcycled rock product. The estimated daily volume of material processed by the facility is 2.6 yd^3 per hour. This volume would result in roughly six truck trips (or three roundtrips) per day. Trucks coming into and out of the temporary facility would use existing truck routes designated by the City of Pittsburg, including E. 3rd Street, Harbor Street, and Pittsburg-Antioch Highway.*

5. If the Pilot Project is successful, what would be the largest possible size of the full scale SFBP crushed concrete aggregate upgrading project which could be placed on the SFBA site?

   Response to 5: *SFBA would need the results from the operation of the temporary facility to inform the size of a larger, permanent facility. However, a larger, permanent facility is not proposed at this time. If a larger facility is proposed in the future, the City would require SFBA to file a new use permit application with a written project description and plan drawings to determine the scale of the facility.*

6. What would be the SFBA CO_2 throughput captured from Los Medanos Energy Center CO_2 emissions, when considering a full-scale SFBA project? (what percentage of LMEC's average annual 1,200,000n CO_2 emissions?)

   Response to 6: *A larger, permanent facility is not proposed at this time. Therefore, it is unknown how much CO_2 gas from LMEC could be captured by such a facility. Staff will request this information as part of the use permit application for any future facility.*

7. How many daily truck trips would be required for a full-scale SFBA facility?

   Response to 7: *A larger, permanent facility is not proposed at this time. Therefore, it is unknown how many daily truck trips would be associated with such a facility. Staff will require this information as part of the use permit application for any future facility.*

8. How many cubic yards/tons would be crushed concrete pile be at a full-scale SFBA facility?

   Response to 8: *A larger, permanent facility is not proposed at this time. Therefore, the number, volume, and type of piles associated with such a facility is unknown. Staff will require this information as part of the use permit application for any future facility.*

9. Would a full-scale SFBA plant perform any additional concrete crushing operations?

   Response to 9: *A larger, permanent facility is not proposed at this time. Therefore, the extent of such a facility's operations is unknown. Staff will require this information as part of the use permit application for any future facility.*

10. As a full-scale operation, would SFBA consider a physical dust mitigating full enclosure (employing negative air pressure and a baghouse for containment) for the ambient crushed concrete dust, such as constructed at Coke Carbon?

    Response to 10: *A larger, permanent facility is not proposed at this time. If such a facility is proposed in the future, it would require additional environmental analysis. This analysis would assist in the determination of whether the larger, permanent facility would require a full enclosure to mitigate potential impacts related to fugitive dust.*

11. How much HCL (Hydrochloric acid, 30% aqueous solution) and ammonia (Ammonia, 0.5 to 19 wt% aqueous solution) would a potential full-scale SFBA plant require daily?

    See response to 12 below.

12. What would be the volume of on-site storage vessels for aqueous HCL and NH_3 ?

    Response to 11 and 12: *A larger, permanent facility is not proposed at this time. Therefore, the volume of chemicals and storage vessels associated with such a facility are unknown at this time. Staff will require this information as part of the use permit application for any future facility.*

13. Since 1997, Caltrans has stipulated the use of at least 25% fly ash replacement for Portland Cement in structural concrete mix designs to combat alkali-silica reactivity.

    Response to 13: *SFBA does not anticipate using concrete waste from Caltrans as part of the proposed temporary facility. However, SFBA will use concrete waste as a feed to leach out constituents required for the overall carbon capture and mineralization process. SFBA will use mildly acidic ammonium chloride solution in its process to extract metal ions and oxides from concrete waste. Those constituents will serve to produce the metal carbonate products of the process, for example, calcium carbonate aggregates for use in fresh concrete. The constituents will be trapped in the aggregate products and will not leach out.*

14. What are SFBA's pilot project wastewater pre-treatment protocols employed. If any are currently planned before discharge into the City's urban wastewater treatment (for discharge to sewer)?

    See response to 16 below.

15. Have similar (independent) concrete-washing wastewater samples been tested for metal contamination, in order to understand (a priori) the planned discharges by SFBA into Pittsburg's wastewater treatment plant?

    See response to 16 below.

16. Why not monitor the pilot project's wastewater discharge (from concrete washing and misting) more frequently, such as once per month, instead of twice during the 15 months?

    Response to 14-16: *Delta Diablo's Industrial Monitoring Department will be responsible for regulating the wastewater discharge from SFBA's temporary facility to ensure that hazardous substances are not discharged into the sewer system. As part of their permitting process, Delta Diablo will determine the sampling and monitoring protocols for the temporary facility. It is anticipated Delta Diablo would require sampling at least twice during operation of the temporary facility; however, Delta Diablo could require additional sampling as part of its permitting. For reference purposes, wastewater samples would be analyzed in a lab certified by the Environmental Laboratory Accreditation Program (ELAP). Total toxic organics would*

be screened using Environmental Protection Agency (EPA) Methods 608, 624, and 625. CAM17 Metals would be analyzed using EPA Methods 200.7 and 200.8.

17. How many gallons per minute of concrete wash wastewater would be discharged by a full-scale SFBA plant?

    Response to 17: *A larger, permanent facility is not proposed at this time. Therefore, the volume of wastewater that could be generated by such a facility is unknown. Staff will require this information as part of the use permit application for any future facility. For reference purposes, the temporary facility is anticipated to generate less than 30 gallons of wastewater per minute during plant operation and is not specifically concrete wash wastewater.*

18. What protocol would the full-scale SFBA plant employ to mitigate the crushed concrete-washing wastewater contaminants before discharge to the Pittsburg public wastewater treatment plant?

    Response to 18: *Delta Diablo's Industrial Monitoring Department would also be responsible for regulating the wastewater discharge from a larger, permanent facility, if such a facility were to be proposed in the future. Delta Diablo would also determine the sampling and monitoring protocols for a larger, permanent facility as part of their permitting process.*

Joanne Fanucci Appeal

19. The SFBA Aggregate company is coming into town to start a pilot project to reconfigure rock aggregate into something green. I am writing this appeal because if the speculative project goes according to plan, they might want to expand their operations here. There are many reasons why we should not let this happen.

20. Public Notification: The notices sent by the city were limited to neighborhoods mostly around Harbor Street and to property owners in a 300-foot radius around the site SFBA wants to occupy. There aren't many personal property owners in that part of town, just other industry business owners, so very few of us were informed prior to the meeting.

    Response to 20: *On or prior to August 30, 2019, notice of the September 10, 2019, public hearing was posted at City Hall, near the proposed project site, and on the 'Public Notices' section of the City's website; was delivered for posting at the Pittsburg Library; and was mailed via first class or electronic mail to the applicant, to the property owner, to owners of property located within 300 feet of the proposed pilot project site, to local service agencies expected to provide services to the building, and to individuals who had previously filed written request for such notice, in accordance with Pittsburg Municipal Code (PMC) section 18.14.010 and Government Code section 65091. Although not required under the PMC, the notice was also posted on www.nextdoor.com ("Nextdoor") and was sent directly to all subscribed residents in the "Downtown Pittsburg", "Harbor and School St", "Old*

Town Pittsburg", "The Village at New York Landing", and "W 8th" Nextdoor neighborhoods.

21. The Land: Pittsburg is in the Sacrifice Zone of the Refinery Corridor. A Sacrifice Zone is defined as "a geographic area that has been permanently impaired by environmental damage or economic disinvestment. These zones are most commonly found in low-income and minority communities." BAAQMD labeled Pittsburg as one of these zones. I understand that the ground beneath the proposed site has been found stable by an environmental assessment, but it contradicts BAAQMD's evaluation of the land here. Burying toxic contaminants in the ground is a false solution. It's business as usual, but a serious denial of the damage we've been causing all along. The land may be stable, but it is nowhere near healed.

    Response to 21: *As stated in the Planning Commission staff report, dated September 10, 2019, the project site is a 2.5-acre trapezoidal parcel located along a privately-owned and maintained portion of E. 3rd Street, east of Harbor Street. The site is enclosed with a chain link fence and there are two extant buildings totaling approximately 3,800 square feet. The site previously hosted a 20-megawatt cogeneration power plant, owned and operated by GWF Power Systems Company, Inc. (GWF). The power plant was decommissioned in 2012 and the site has since been an empty lot used for truck parking. Site remedial actions were taken prior to the construction of the GWF power plant which resulted in the excavation of contaminated soils and their consolidation and capping under building floors and asphalt pavements. In August 2018, Groundwater & Environmental Services, Inc. completed an environmental assessment confirming that the capping infrastructure remains intact and prevents exposure to contaminated soils. Minimal improvements are proposed as part of SFBA's temporary facility. SFBA would occupy one of the existing buildings and restripe existing pavement areas for vehicle and truck parking. The remaining facility would largely consist of mobile, skid-mounted equipment arranged into four linked process modules. Ground disturbance would not be required for installation of the equipment and the project would not involve burying additional contaminants at the site.*

22. The Air: Contra Costa has one of the worst air quality ratings in the U.S.. Los Medanos Energy Center is one of the top ten toxic air contaminators in the county. Add to that whatever SFBA's emissions rate will be, the fallout from Shell currently, and then factor in when PBF takes over Shell, who boasts that they will triple their output, meaning triple GHG emissions, transport, and storage which will inevitably blow our way. Add to that all the other noxious toxins we're forced to breathe in including trucks and cars, then add in carbon offsets from Cap and Trade. Then compare that to how much carbon SFBA says they can capture. It makes more sense to shut down LMEC. A suit opposing that installation was filed with EPA 20 years ago, and just look where we're at now.

    Response to 22: *The Bay Area Air Quality Management District has reviewed the proposed temporary facility. Based on its small size, the District has determined the facility would be exempt from obtaining an Authority to Construct Permit (ATC) or*

Permit to Operate (PTO). If a larger, permanent facility is proposed in the future, the Bay Area Air Quality Management District would determine if such facility would require ATC or PTO permits prior to its operation.

23. The Water: Water is for drinking, nurturing plants, animals, fish and people, not for recreation or profit. We have scarcely enough water as it is. All of our rivers are burdened with algae, round-up, other chemicals from Dow, and many other Pittsburg polluters. The smelt are gone, and the Chinook Salmon cannot survive the passage through the South Delta where the water turns from salt into fresh. The Salmon also go through a physical change from saltwater to fresh water loving creatures to try to get home to McCloud River in Shasta to spawn. Water should be respected; cleaned up and preserved for the purposes it was intended, not wasted as when SFBA proposes to wet down piles of uncovered toxic materials which we all know spraying three times a day in 100+ degree weather will do nothing. Any wastewater with anything inorganic in it, any rise in temperature is dangerous to all life. Water is life. With all the effects that fossil fuel industries have on all of the elements of our Earth, we have brought it to the brink of disaster. We cannot move forward without considering its needs above our own. Pittsburg has an opportunity to be a mitigation leader for Climate Justice. You may not be able to stop the whole train from crashing, but you can still slow it down enough to give future generations more of a chance at a safer, cleaner, healthier life.

Response to 23: *The temporary facility would utilize two uncovered concrete waste piles measuring approximately 17 feet in diameter and five feet in height. It should be noted that concrete waste is not considered a hazardous material. Overall, temporary facility would use less than 30 gallons per minute (gpm) of water to wash the products, with less than 10% of this volume being used as mist for dust control. Wastewater from upcycled rock product washing would be collected and sent to the public sewer system to be recycled by Delta Diablo. Water used for process cooling would be discharged into New York Slough through an existing six-inch outfall pipe located at the northeast corner of the property. The average discharge into the slough would be 24,000 gallons per day (gpd) with the maximum discharge being 72,000 gpd. The thermal discharge to the slough would adhere to the San Francisco Bay Regional Water Quality Control Board's Thermal Plan, which prohibits discharges four degrees (Fahrenheit) above the receiving water's ambient temperature to protect Delta fish and wildlife communities.*

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 **CITY COUNCIL** of the City of Pittsburg will conduct a public hearing on:

DATE: **November 4, 2019**
TIME: **6:00 p.m.**
PLACE: **City Council Chamber at City Hall**
65 Civic Avenue, Pittsburg, California

Concerning the following matter:

Appeal of Planning Commission Decision to Approve the Use Permit for the SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP).
On September 10, 2019, the Planning Commission approved a request by San Francisco Bay Aggregates (SFBA) for a use permit to operate a temporary carbon capture and mineralization facility on a 2.5-acre site located at 895 E. 3rd Street in the IG (General Industrial) District. Assessor's Parcel No. 073-020-019. On September 20, 2019, Charlie Davidson and Joanne Fanucchi filed a joint appeal expressing questions or concerns regarding the potential environmental impacts from a larger, permanent facility that is not proposed at this time.

PROJECT PLANNER: Hector J. Rojas, (925) 252-4043 or 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 at the Planning Division, weekdays during the hours of 8:00 AM to 12:00 PM and 1:00 PM to 5:00 PM. You can also find out more about the project by contacting the project planner listed above.

What can I do if I have comments on the project?
Comments or objections to the project can be made by writing or through oral testimony during the study session. 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. You may also register your comments or objections by attending the study session on the date and time listed above.

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

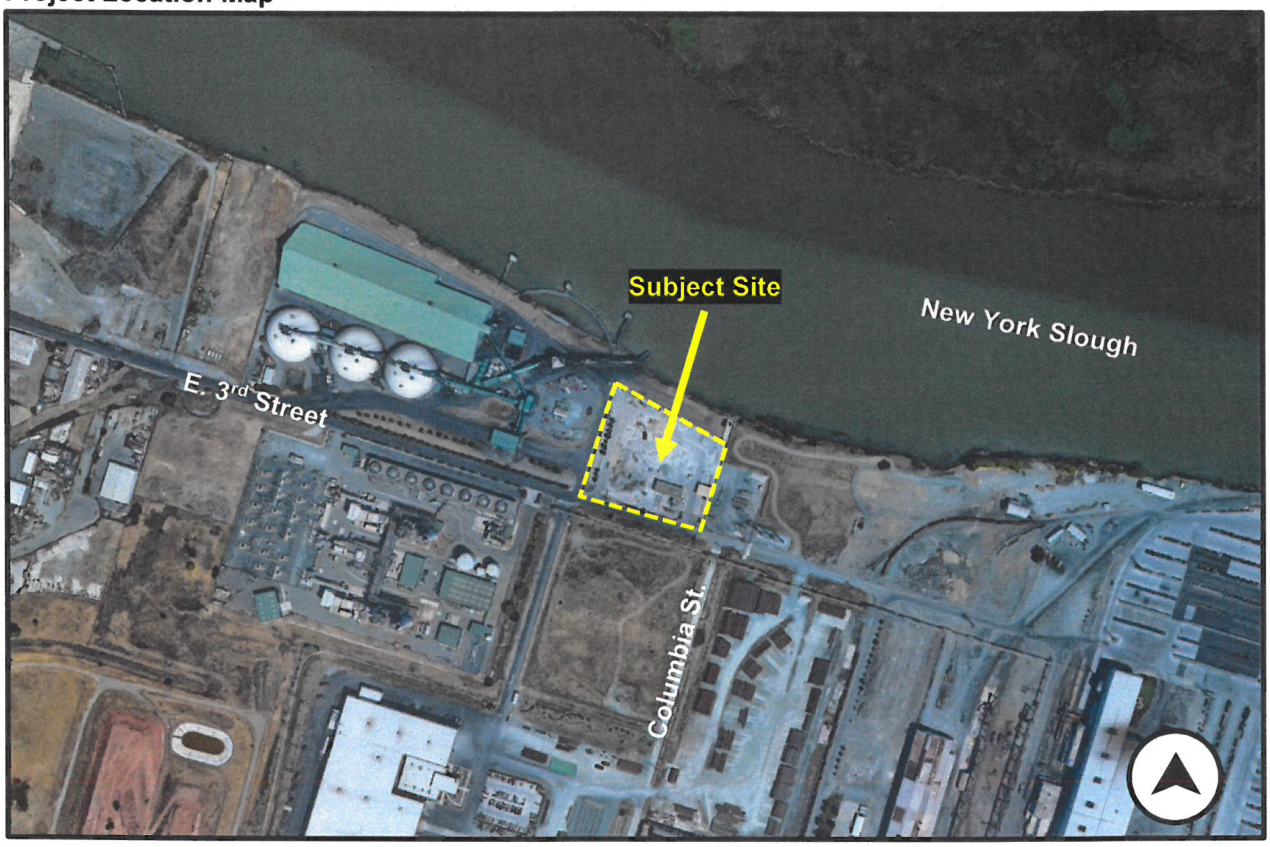
Alice E. Evenson

ALICE EVENSON, CITY CLERK

Project Title: Appeal of Planning Commission Decision to Approve SFBA Carbon Capture & Mineralization Facility Pilot Project Use Permit, AP-19-1412 (UP).

Location: 895 E. 3rd Street

Project Location Map



City of Pittsburg

Community Development Department - Planning Division
65 Civic Avenue
Pittsburg, CA 94565

NOTICE OF PUBLIC HEARING

Attachment 6 - Part A

CITY OF PITTSBURG
PLANNING COMMISSION
STAFF REPORT
September 10, 2019

ITEM: **SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP, DR).**

ORIGINATED BY: Jacob Schneider on behalf of San Francisco Bay Aggregates, 100 Cooper Court, Suite A, Los Gatos, CA. 95032

SUBJECT: This is a public hearing on a request for use permit to operate a temporary carbon capture and mineralization facility on a 2.5-acre site located at 895 E. 3rd Street in the IG (General Industrial) District. Assessor's Parcel No. 073-020-019.

RECOMMENDATION:

Staff recommends that the Planning Commission adopt Resolution No. 10130, approving Use Permit Application No. 19-1412, subject to conditions.

BACKGROUND:

San Francisco Bay Aggregates, LLC (SFBA) is a wholly owned subsidiary of Blue Planet, Ltd. (Blue Planet), a cleantech start-up company founded in 2012 by Brent R. Constantz, Ph.D., and headquartered in Los Gatos, California. Blue Planet is developing technology, products and services related to economically sustainable carbon capture. The company created SFBA in 2017 with the intent to develop a project in Pittsburg to demonstrate its carbon capture and mineralization process, which uses carbon dioxide gas (CO_2) and waste concrete as raw materials to produce 'upcycled' and carbon-sequestered rocks for use in fresh concrete. SFBA intends to sell these rock products to Bay Area businesses, governments and consumers for use in a wide range of low carbon and high-performance concrete applications. It is anticipated that the successful development of SFBA by Blue Planet will allow Pittsburg and the greater Bay Area to be a world leader in sustainable construction materials.

PROJECT DESCRIPTION:

Existing Conditions: The project site is a 2.5-acre trapezoidal parcel located along a privately-owned and maintained portion of East 3rd Street, east of Harbor Street. The site is enclosed with a chain link fence and there are two extant buildings totaling approximately 3,800 square feet (refer to Attachment 3 for site photos). The site previously hosted a 20-megawatt cogeneration power plant, owned and operated by GWF Power Systems Company, Inc. (GWF). The power plant was decommissioned in 2012 and the site has since been an empty lot used for truck parking. Site remedial actions were taken prior to the construction of the GWF power plant which resulted in the excavation of contaminated soils and their consolidation and capping under building floors and asphalt pavements. In August 2018, Groundwater & Environmental Services,

Inc. completed an environmental assessment confirming that the capping infrastructure remains intact and prevents exposure to contaminated soils.

Surrounding Land Uses:

North: New York Slough
West: Koch Carbon
South: Calpine Los Medanos Energy Center
East: PG&E Substation, USS POSCO Industries

Refer to Attachment 4 for a map of the site and surrounding uses.

Proposed Project: SFBA is requesting approval of a use permit to operate a temporary carbon capture and mineralization facility at the project site. The facility would operate for up to 15 months and is intended to demonstrate the feasibility of a proprietary technology that combines carbon-dioxide (CO_2) emissions with recycled concrete to manufacture upcycled rock products. The facility would operate between 8:00 AM and 5:00 PM daily with up to three employees working at the site. Minimal improvements are proposed (refer to Attachment 6 for project plans). SFBA would occupy one of the existing buildings, construct a new 120-square-foot trash enclosure, and restripe existing pavement areas for vehicle and truck parking. The remaining facility would largely consist of mobile, skid-mounted equipment arranged into four linked process modules. Equipment height would vary between five and 30 feet. The equipment would be placed over 150 feet away from East 3rd Street. Ground disturbance would not be required for installation.

Four types of chemicals would be used in the manufacturing process. The chemicals and their physical state are listed in Table 1 (below) along with the approximate quantities to be stored at the facility.

Table 1 - Chemicals and Storage Volumes

Chemical	Common Name	Physical State	Approximate Quantities
NH_4Cl	Ammonium chloride	solid	One pallet (roughly 2,200 lb.)
NH_3	Ammonia	0.5-19% aqueous solution	One tank (less than 260 gal.)
HCl	Hydrochloric acid	30% aqueous solution	One tank (less than 260 gal.
$CaCl_2$	Calcium chloride	solid	One pallet or (roughly 2,200 lb.)

Trucks with a 20-ton capacity would be used to transport inbound recycled concrete and outbound upcycled rock product. The materials would be stored outdoors in four separate piles located near the process modules. Front-loaders would be used to move the materials between the piles, process modules, and loading/unloading areas. The estimated daily volume of material processed by the facility is 2.6 yd^3 per hour. This volume would result in roughly six truck trips (or three roundtrips) per day. Trucks

coming into and out of the facility would use existing truck routes, including East 3rd Street, Harbor Street, and Pittsburg-Antioch Highway (refer to Attachment 7 for a map of truck routes in Pittsburg).

It is anticipated the facility would be powered with 100% renewable electricity available from MCE Contra Costa. The facility plans to source process water either from the City or non-potable canal water would be sourced from USS POSCO Industries. During operations, it is expected the facility would use less than 30 gallons of water per minute (gpm) to wash products and provide mist for dust control purposes. In addition, it is estimated that less than 50 gpm would be used to replace process water lost through evaporation and other means.

Wastewater from upcycled rock product washing would be collected and sent to the public sewer system. Water used for process cooling would be discharged through an existing six-inch outfall pipe that exits at the northeast corner of the site into New York Slough. The average discharge into the slough would be 24,000 gallons per day (gpd) with the maximum discharge being 72,000 gpd. The thermal discharge to the slough would adhere to the San Francisco Bay Regional Water Quality Control Board's Thermal Plan, which prohibits discharges four degrees (Fahrenheit) above the receiving water's ambient temperature.

GENERAL PLAN/CODE COMPLIANCE:

General Plan: The project site is designated 'Industrial' under the Pittsburg General Plan. This 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 project site 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 project would be consistent with the General Plan designation and goals. It would establish a temporary manufacturing use that maintains the industrial character of the area and would not alter any marshlands.

Zoning: The project site is zoned 'IG (General Industrial) District'. The proposed use falls under the 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 its operation in the IG District. Design review is also required for projects involving the construction of a buildings over 120 square feet (PMC section 18.36.200). However, the proposed facility does not include construction of any buildings that would require design review.

The minimum parking requirement for heavy industrial uses is one space per 1,000 square feet of building area (PMC section 18.78.040, Schedule A). As stated earlier, SFBA would occupy one of the extant buildings on site. The building to be occupied is approximately 2,500 square feet in size, so a total of three off-street parking spaces

would be required. As part of the proposed striping improvements, SFBA would provide six parking stalls, including four standard stalls and two truck stalls.

Required Use Permit Findings: In accordance with PMC section 18.16.040, a use permit may be granted only if the Planning 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; and,

9. is consistent with the City's approved funding priorities.

Environmental: 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, the Planning Manager determined that potentially significant effects of the project could be lessened through specified mitigations, and subsequently, a draft Mitigated Negative Declaration (MND) was prepared. On July 10, 2019, a Notice of Intent to Adopt a Mitigated Negative Declaration was distributed to the public for a 30-day review, in accordance with CEQA Guidelines section 15105(b). Public distribution of the NOI consisted of delivery to 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. No comment letters were received prior to the close of the comment period. A copy of the Initial Study and MND is provided as Exhibit A of Attachment 1 and is also available on the City's website at: www.ci.pittsburg.ca.us/publicreviews.

Public Notice: On or prior to August 30, 2019, notice of the September 10, 2019, public hearing was posted at City Hall, near the proposed project site, and on the 'Public Notices' section of the city's website; was delivered for posting at the Pittsburg Library; and was mailed via first class or electronic mail to the applicant, to the property owner, to owners of property located within 300 feet of the proposed pilot project site, to local service agencies expected to provide services to the building, and to individuals who had previously filed written request for such notice, in accordance with Pittsburg Municipal Code (PMC) section 18.14.010 and Government Code section 65091. The notice was also posted on www.nextdoor.com ("Nextdoor") and was sent directly to all subscribed residents in the "Downtown Pittsburg", "Harbor and School St", "Old Town Pittsburg", "The Village at New York Landing", and "W 8th" Nextdoor neighborhoods.

ANALYSIS:

The Bay Area Air Quality Management District (BAAQMD) adopted the latest Clean Air Plan in 2017. The Plan is a blueprint for clean air and climate protection in the Bay Area. It seeks to reduce Bay Area greenhouse gas (GHG) emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The proposed project presents a unique opportunity for Pittsburg to become a leader in emerging GHG reduction technology. For the temporary facility, SFBA would most likely use CO_2 from a natural gas-fired steam boiler that would be brought on site. If the temporary facility is successful, SFBA may request additional approvals from the City to develop a larger, permanent installation to sequester CO_2 from a slipstream at the Calpine Los Medanos Energy Center (LMEC) – an existing 518-megawatt co-generation power plant located across the street from the project site. SFBA estimates a larger, permanent facility could recover up to 70% of Calpine LMEC's CO_2 emissions (approximately 681.2 metric tons per year, depending on the size of the slipstream).

The proposed project would be consistent with the City's Zoning Ordinance by establishing a heavy manufacturing use on property zoned specifically for such use. It would also promote orderly development of the area by locating near similar heavy industrial uses on E. 3rd Street including Koch Carbon (a terminal for bulk commodities including petroleum coke, coal, cement, pulp and paper, and sulfur), Calpine LMEC (a natural gas-fired, combined-cycle cogeneration facility), and USS-POSCO (a steel finishing plant).

The Initial Study and MND identifies several mitigation measures to address the project's potential impacts. Measure AIR-1 would require SFBA to wet project site surfaces at least three times a day to minimize dust generation. Measure TRANS-1 would require inbound and outbound trucks carrying material and product to be covered and have at least six inches of freeboard in the truck bed during transport to prevent spillage onto roadways. Measures BIO-1 through BIO-4 would establish standard procedures designed to protect biological resources that may occur in the area including special-status fish, pond turtles, plants, and migratory birds. For example, SFBA would be required to hire an experienced biologist to educate workers on sensitive species that could occur onsite. The biologist would also identify presence of species prior to

project installation activities and provide guidance for impact minimization and avoidance.

As stated earlier, SFBA would use several chemicals in their manufacturing process including ammonia. The use of ammonia is regulated under the California Accidental Release Prevention (CalARP) program. The purpose of this program is to prevent accidental releases of substances that can cause serious harm to the public and the environment and to minimize the damage if releases occur. CalARP accomplishes this by requiring a Risk Management Plan (RMP) for businesses that handle substances regulated by CalARP. An RMP is a detailed analysis of the potential accident factors that would be present at a facility using regulated substances. An RMP also identifies mitigation measures to reduce the potential for accidental releases. Common measures include establishing industry-standard operating procedures, training and maintenance requirements, and procedures for compliance audits and incident investigations.
In Contra Costa County, the CalARP program is implemented by Contra Costa Health Services – Hazardous Materials Programs (CCHSHMP). State law would require SFBA to submit an RMP to the CCHSHMP prior to the use of ammonia in concentrations of one percent or greater exceeding 500 lbs. (or 60 gallons) at its facility. SFBA would also be required to submit a Hazardous Material Business Plan (HMBP) to CCHSHMP. In the HMBP, SFBA would be required to discuss its proposed operations; provide an inventory of all chemicals to be used; establish an emergency response/contingency plan; and include its employee safety training program.

ACTION REQUIRED:

Move to adopt Resolution No. 10130 approving Use Permit Application No. 19-1412, subject to conditions.

ATTACHMENTS:

1. Proposed Resolution No. 10130
    a. Initial Study/Mitigate Negative Declaration
    b. Mitigation Monitoring and Reporting Program
2. Location Map
3. Site Photos
4. Map of Surrounding Uses
5. Development Regulations Table
6. Project Plans
7. Truck Routes Map
8. Public Hearing Notice

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

Attachment 1

PROPOSED
BEFORE THE PLANNING COMMISSION OF THE CITY OF PITTSBURG

In the Matter of:

Resolution Approving a Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and Use Permit to Install a Temporary Carbon Capture and Mineralization Facility on a 2.5-Acre Site Located at 895 E. 3rd Street, for "SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)."	)	Resolution No. 10130

The Planning Commission of the City of Pittsburg DOES RESOLVE as follows:

Section 1. Background

A. On February 22, 2019, Jacob Schneider, on behalf of San Francisco Bay Aggregates, LLC (SFBA), filed Use Permit Application No. 19-1412, requesting approval of a use permit to operate a temporary carbon capture and mineralization facility (the "project") on a 2.5-acre site located at 895 E. 3rd Street in the IG (General Industrial) District. Assessor's Parcel No. 073-020-019. The proposed pilot project would operate for 15 months and is intended to demonstrate the feasibility of a proprietary carbon sequestration process for production of "upcycled" rock aggregates.

B. The proposed project is governed by the Pittsburg General Plan and Pittsburg Municipal Code (PMC) Title 18 (Zoning).

C. 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, the Planning Manager determined that potentially significant effects of the project could be lessened through specified mitigations, and subsequently, a Mitigated Negative Declaration was prepared.

D. On July 10, 2019, a Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) was distributed to the public for a 30-day review, in accordance with CEQA Guidelines section 15105(b). Public distribution of the NOI consisted of delivery to 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.

E. On or prior to August 30, 2019, notice of the September 10, 2019, public hearing was posted at City Hall, near the proposed project site, and on the 'Public Notices' section of the city's website; was delivered for posting at the Pittsburg Library; and was mailed

via first class or electronic mail to the applicant, to the property owner, to owners of property located within 300 feet of the proposed pilot project site, to local service agencies expected to provide services to the building, and to individuals who had previously filed written request for such notice, in accordance with Pittsburg Municipal Code (PMC) section 18.14.010 and Government Code section 65091. The notice was also posted on www.nextdoor.com ("Nextdoor") and was sent directly to all subscribed residents in the "Downtown Pittsburg", "Harbor and School St", "Old Town Pittsburg", "The Village at New York Landing", and "W 8th" Nextdoor neighborhoods.

F. On September 10, 2019, the Planning Commission held a public hearing on Use Permit Application No. 19-1412, at which time oral and/or written testimony was considered.

Section 2. Findings

A. Based on the Planning Commission Staff Report entitled, "SFBA Carbon Capture & Mineralization Pilot Project, AP-19-1412 (UP)," and based on all the information contained in the Planning Division files on the pilot 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 Mitigated Negative Declaration for the 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.

Conditional Use Permit

3. The proposed project 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 off-street parking requirements in PMC section 18.36.200.

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, Contra Costa Health Services – Hazardous Materials Programs, and the Regional Water Quality Control Board.

c) will not adversely affect the orderly development of property within the City, in that it is located near similar heavy industrial uses on E. 3rd Street including Koch Carbon (a terminal for bulk commodities including petroleum coke, coal, cement, pulp and paper, and sulfur), Los Medanos Energy Center (a natural gas-fired, combined-cycle cogeneration facility), and USS-POSCO (a steel finishing plant).

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 the project will utilize the site for an industrial purpose consistent with its zoning and past use as a 20 megawatt cogeneration plant (owned and operated by GWF Power Systems Company, Inc.).

e) will be consistent with site's 'Industrial' General Plan land use designation, in that the designation is intended to provide sites for manufacturing uses. The project is also 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.

f) will 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) will not encourage marginal development within the neighborhood, in that the project will consist of a temporary facility with equipment to be removed after a 15-month period of operation.

h) 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, in that the project will have access to existing infrastructure, including fire, police, and water.

i) will not be inconsistent with the City's approved funding priorities, in that it does not require City funding.

B. The staff report entitled, "SFBA Carbon Capture & Mineralization Pilot Project, AP-19-1412 (UP)," dated September 10, 2019, is referenced hereto as additional support for the findings.

Section 3. Decision

A. Based on the findings set forth above, the Planning Commission hereby adopts the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program in Exhibits A and B of this resolution and approves Use Permit Application No. 19-1412, subject to the following conditions listed below.

Planning Conditions

1. Conformity with Project Plans: The temporary carbon capture & mineralization facility (the "facility") shall be established in substantial conformity with the project plans date-stamped February 22, 2019, except as may be hereinafter modified. Any major changes to the project plans shall be subject to review and approval by the Planning Commission at the City Planner's discretion.

2. Operational Lifespan: In accordance with the nature of a ‘pilot project’ the facility shall have a total operational lifespan of 15 months, measured from the first date of production of carbonate-based aggregates. The facility shall cease operations at the conclusion of this lifespan; however, if additional time is needed, an extension request may be filed with the Planning Division prior to the 15-month expiration date and would be subject to review and approval by the Planning Commission.

3. Hazardous Materials Business Plan: The applicant shall submit a Hazardous Material Business Plan (HMBP) to the Contra Costa Health Services – Hazardous Materials Programs (CCHSHMP) prior to commencement of facility operations. The HMBP shall describe in detail the type and volume of all chemicals to be used at the facility and must include a reporting and monitoring process for any spills that may occur. It shall also include requirements for safety equipment, automatic shut-off valves, and other safety procedures that may be required, depending on the types and volumes of chemicals stored and used.

4. In/Outbound Material Movement: The facility shall generate no more than three (3) truck roundtrips per day. Each truck shall have a maximum material capacity of 20 US tons (10 yd^3). Trucks shall be limited to the use of truck routes designated by the City of Pittsburg.

5. Landscaping: Where determined feasible by the City Planner, the applicant shall install a combination of drought-tolerant plants, trees, and mulch cover in all the existing landscape areas located throughout the site. Installation shall be completed prior to commencement of facility operations.

6. Lighting: All lighting 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.

7. Heat, Humidity, and Odors: The facility 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).

8. Noise: The facility shall comply with PMC chapter 9.44 (Noise).

9. Property Maintenance: Each exterior of a building or other structure shall be kept in a good state of repair and the exterior finish shall be kept clean and well maintained. The entire site including paved, unpaved, and landscaped areas shall be kept in a neat and orderly manner, free of weeds, loose trash, debris, and other litter (PMC section 18.82.050).

10. Graffiti Removal: All graffiti shall be removed on any part of the property within 48 hours of its appearance.

11. Environmental Mitigation Measures: The applicant shall comply with the environmental impact mitigation measures identified below. Where there may be a conflict between the mitigation measures of this resolution and the Mitigation Monitoring and Reporting Program (attached as Exhibit B of this resolution), the specific measures of this resolution shall govern.

    a. Minimize Dust Generation (Measure AIR-1): During construction and full operations of the proposed project, surface wetting of the project site shall occur every 2-3 hours for a total of three times a day.

    b. Protection of Special-Status Fish Species (Measure BIO-1): The applicant shall implement of the following avoidance and protection measures if construction or operational activities are necessary along the shoreline of New York Slough:

        - The identification and protection of special-status species populations and habitats shall be a part of a Worker Environmental Awareness Program (WEAP) for all workers onsite. Documentation of participation shall be kept onsite for review by City and/or resource agencies.

        - No operations or construction shall occur within the waters of New York Slough.

        - All discharges through the stormwater outfall to New York Slough shall be the same as with current and past use of the site, i.e. conveyance and discharge of runoff from the project site only, through existing catchments and culverts.

        - No alteration or reconfiguration of the shoreline at the stormwater outfall shall occur. The existing rock slope protection and soil on the shoreline shall be left in place.

        - No change to the location or operation of the 6-inch thermal wastewater outfall shall occur. The discharge shall be operated according to previously permitted operation ORDER NO. R2-2010-0095 parameters with regard to volume of the discharge and allowable temperature changes within the aquatic environment or outlined in a future NPDES permit specific to the proposed project.

        - To ensure toxic substances are not released into the aquatic environment, the following measures shall be followed: all engine-powered equipment shall be well-maintained and free of leaks of fuel, oil, hydraulic fluid or any other potential contaminant; all engine-powered equipment used and operated from the decks of barges, or boats shall be positioned over drip-pans; a spill prevention and response plan shall be prepared in advance of the commencement of work; a spill kit with appropriate clean-up supplies shall be kept on hand during the construction and operations phases of the project; and refueling and maintenance of mobile equipment shall not be performed directly over the waters of the Sacramento/San Joaquin Delta. Only

approved and certified fuel cans with “no-spill” spring-loaded nozzles shall be used.

- Any wildlife encountered during work shall be allowed to leave the construction area unharmed and shall not be flushed, hazed, or herded away from the project site.

- Any special-status species detected shall be reported to the California Department of Fish and Wildlife (CDFW) and a survey form shall be submitted to the California Natural Diversity Database (CNDDB) by project biologist.

c. Protection of Pacific Pond Turtle (Measure BIO-2): Boats, barges and project-related floating or submerged equipment shall be prevented from contacting the shoreline to avoid crushing individuals that may move through the work area.

   If pond turtles are observed, they shall be permitted to move out of the work area on their own. If pond turtles are stationary and remain in areas where they would be disturbed by activities, they may be relocated. Only a qualified biologist with a valid scientific collecting permit and prior authorization from the CDFW may relocate Pacific pond turtles. The project biologist shall confirm and report sightings, relocations or mortalities of Pacific pond turtle to the CDFW;

d. Protection of Special Status Plants (Measure BIO-3): The location of special-status plants and suitable habitat shall be designated as environmentally sensitive areas and clearly marked by project biologist in the field with high visibility construction fencing or staking prior to construction and operations.

   The identification and protection of special-status plant populations and habitats shall be a part of a worker environmental awareness program (WEAP). Documentation of participation in training shall be kept onsite for review by City and/or resource agencies.

   Alteration of the riprap at the stormwater outfall shall be avoided. Boats, barges and any floating or submerged equipment shall be prevented from contacting the shoreline to avoid crushing native vegetation.

   A Project Biologist with a minimum of 3 years of professional biological experience in the San Francisco Bay Delta region (resume onsite for City and/or resource agency review) shall inspect the shoreline for proper maintenance of the construction fencing or staking and identify activities that may pose a risk of impacting special-status plant populations and habitats annually.

   The project biologist shall report rare plant observations to the CNDDB. Accidental impacts to rare plant populations shall be reported to the CDFW. Discovery of any additional special status plants species will be reported to the CDFW, and a suitable response agreed upon before restating work in that area.

If changes to the condition of the shoreline are determined to be necessary, then the project applicant will prepare a Mitigation and Monitoring Plan (MMP) subject to approval by CDFW and or Regional Water Quality Control Board (RWQCB) including launching boats from shoreline or working on the storm drain or cooling water discharge pipe.

e. Protection of Special Status and Migratory Birds (Measure BIO-4): If construction activities are scheduled to occur outside of the breeding season (i.e., September 1 through January 31), no preconstruction surveys or other mitigation measures are necessary.

   If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey shall be conducted of the identified work area and a buffer zone shall be established (see bullet below). The survey shall be performed by a qualified biologist no more than two weeks prior to the initiation of work. If no nesting or breeding activity is observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 76 m (250 ft) for raptors and 33 m (100 ft) for passerines should be mapped.

   For active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for passerines), the project biologist shall make a determination as to whether or not construction activities are likely to disrupt reproductive behavior. If it is determined that construction is unlikely to disrupt breeding behavior, construction may proceed. If it is determined that construction may disrupt breeding, the no-construction buffer zone should be expanded. The ultimate size of the no-construction buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of sight between the work area and the nest, physical barriers, and the ambient level of human activity. For raptors, the project biologist should contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments.

   If it is determined that construction activities are likely to disrupt raptor breeding, construction activities within the no-construction buffer zone may not proceed until the project biologist determines that the nest is long longer occupied.

   If maintenance of a no-construction buffer zone is not practicable, active nests should be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If it is determined that construction activities might cause nest abandonment, work should cease until the project biologist determines that the nest is no longer occupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management should be contacted by the project biologist for guidance.

f. Development of Risk Management Plan (Measure HAZARDS-1): A Risk Management Plan (RMP) shall be developed for the use of ammonia concentration of 1% or greater exceeding 500 lbs (60 gallons) 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. The RMP shall be incorporated into the Site-Specific Safety Plan. Contra Costa County is the designated Certified Unified Program Agency (CUPA) for the facility responsible for approving the RMP.

g. Control Spillage of Hard Substrate Materials from Hauling Trucks (Measure TRANS-1): All trucks carrying recycled/crushed aggregate (RCA), carbonate coated aggregate, or remediated RCA aggregate shall be covered and have at least six inches of freeboard in the truck bed during transport to eliminate spillage of materials onto the roadway.

Engineering Conditions – Fees

12. Grading Plan Review Fees: If the project will require grading of 50 cubic yards or more, the applicant will be required to obtain a grading permit. The applicant shall provide an initial payment for review of the grading plans with the first submittal. The grading plan review fee is based on the engineer's estimated cost for site grading, which shall be submitted with the plans. 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 the total fee is to be paid with the initial submittal of plans and engineer's cost estimate. This initial payment will be credited towards the final fee. The fee balance shall be due payable prior to issuance of the grading permit.

13. Grading Inspection Fees: If the project will require grading of 50 cubic yards or more, the applicant will be required to pay a grading inspection fee at the time of grading permit issuance. The grading inspection fee is 3% of the engineer's estimated cost of grading, or it may 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.

14. Facility Reserve Charge: If the project will require an increase in size of water or sewer services to accommodate the project, the applicant shall pay the City of Pittsburg 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 incremental amounts in effect when the applicant obtains a building permit. 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. This fee shall be due payable prior to issuance of building permits.

Engineering Conditions - NPDES

15. Stormwater Pollution Protection During Construction: If the project will require grading of 50 cubic yards or more, the applicant will be required to obtain a grading permit. Prior to issuance of the grading permit, the applicant shall submit the

following to the Engineering Divisions for review: 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. 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.

16. Water Discharge: The facility shall not discharge liquids of any kind into a public or private sewage system, watercourse, body of water, or the ground, except in compliance with California Water Code, Division 7, Article 4.

17. State Industrial General Permit Coverage: The applicant shall obtain coverage under the State General Industrial Permit for any discharge of wastewater to New York Slough. Proof of permit coverage from the State Water Boards shall be submitted to the Engineering Division prior to commencement of facility operations.

<u>Standard Conditions</u>

18. Grounds for Revocation: Operation in a manner inconsistent with that described in the staff report, 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 the use permit (PMC section 18.28.100).

19. 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.

20. Other Agency Requirements: The applicant shall comply with all the requirements of the City's Community Development Department, Contra Costa County Fire Protection 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.

21. Indemnification: 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, City may select its own legal counsel at applicant's sole cost and expense. Applicant may select its own legal counsel to represent applicant's interests at applicant's sole cost and expense. 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.

22. Expiration of Approval: This use permit will expire on September 10, 2021, unless the use has been legally established, or a written request for 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 10th day of September 2019, 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. 10130 was adopted by the Planning Commission of the City of Pittsburg on September 10, 2019.

_____
KRISTIN POLLOT, AICP, SECRETARY
PITTSBURG PLANNING COMMISSION

Exhibit A
of Resolution No. 10130

Carbon Capture and Mineralization Project

Public Draft

Initial Study

July 2019

Prepared for:
City of Pittsburg

Prepared by:
Brezack & Associates Planning

Carbon Capture and Mineralization Project Description

Introduction and Overview

San Francisco Bay Aggregates (SFBA) (Applicant), a wholly owned subsidiary of Blue Planet Ltd. (BP), is proposing to develop, own, and operate a carbon capture and mineralization pilot facility located in Pittsburg, California using proprietary BP technology (Process).

An outlet stream of gas from the gas-fired steam boiler process equipment onsite would provide the source of CO_2 that would be combined with locally sourced recycled/crushed concrete aggregate (RCA), to produce new "CO_2 sequestered" and "upcycled" rock products. Upcycling is the process of transforming by-products or waste materials into new materials or products of better quality or for better environmental value. It is anticipated the final product would exceed ASTM C33 Standard Specification for Concrete Aggregates that defines the quality of aggregate for use in concrete.

These upcycled rock products would be sold to Bay Area businesses, governments and consumers for use in a wide range of low carbon and high performance concrete applications.

This pilot project would be constructed and have the proof of concept operations completed in a total of fifteen months. Ultimately, the proposed project would remove carbon dioxide (CO_2) from a slipstream[1] of flue gas from Calpine's Los Medanos Energy Center (LMEC); however, the transfer of the fluegas to the project area would likely not be ready for use by the pilot project. After completion of the pilot project, BP may decide to pursue a larger operation at the location of the pilot project in the City of Pittsburg or somehwhere else in the region depending on the results of the proposed pilot project. The larger operations would undergo a separate CEQA analysis as additional details beyond the pilot project have not been determined for the expanded operations.

Project Purpose

The proposed project purpose includes:

- Verify that the proof of concept, to produce sustainable construction materials, is viable for investment in a larger facility.
- Use of 100 percent carbon free energy to power the proposed Project.
- Provide pre-marketing volumes of CO_2 sequestered and upcycled rock products for planned construction projects in the Bay Area

The broader objectives of the Project are to substantiate the potential of the following local environmental and economic priorities:

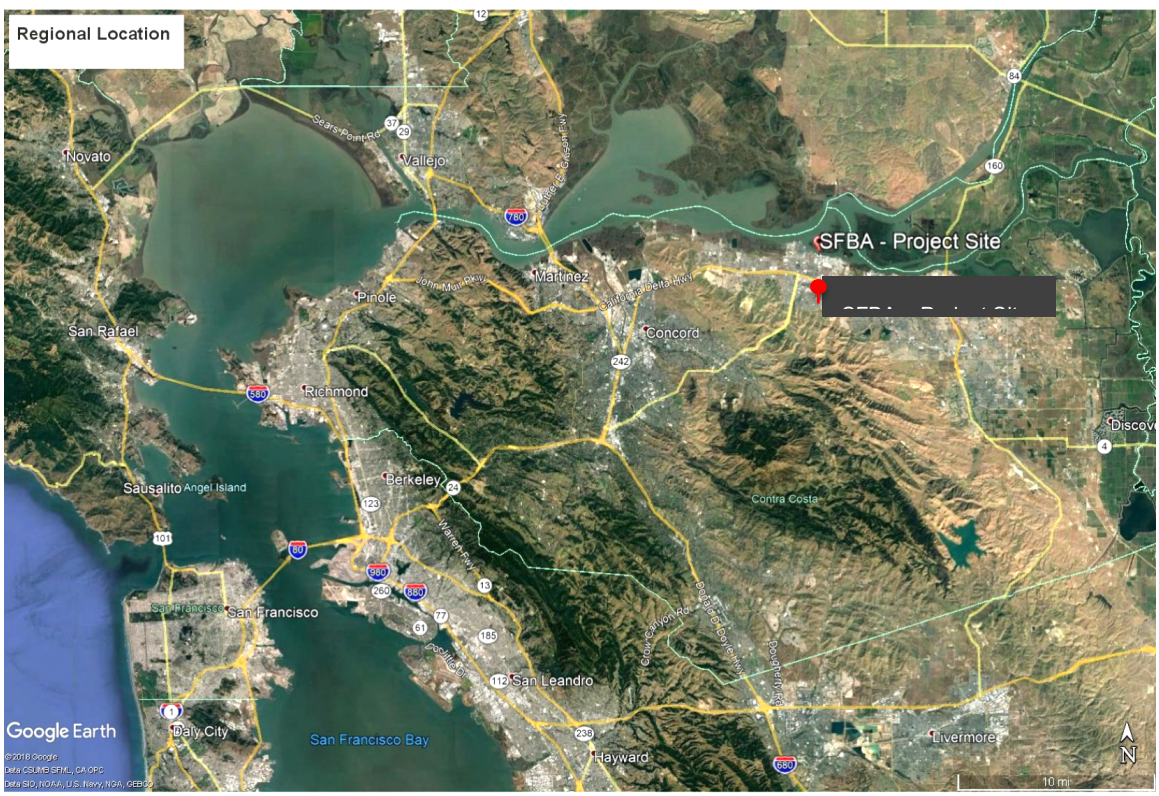
[1] Gas driven by a propellor.

- Reduction in greenhouse gas emissions, specifically CO_2, by the proposed Project for the capture and permanent sequestration of CO_2 from a slipstream of LMEC flue gas.
- Reduction in the environmental impact of quarrying virgin aggregate for construction projects, through remediation and upcycling of RCA from Bay Area construction projects into useable aggregate products.
- Finalize development of BP's technology for capturing and using CO_2 allowing the City of Pittsburg and the greater Bay Area to be a world leader in sustainable construction materials.

Project Location

SFBA intends to construct and operate the proposed Project on a 2.5 acre parcel of land located at 895 East 3rd Street, Pittsburg, California 94565 in Contra Costa County. The Assessor's Parcel Number for the proposed project site is 073-020-019-3. As shown on Figure 1, the parcel is bounded to the north by New York Slough, Suisun Bay, part of the Sacramento-San Joaquin River Delta; to the east by land owned by USS-POSCO Industries (UPI) and by a PG&E substation; to the south by an easement that runs along East 3rd Street; and to the west by Koch Carbon Inc.

Figure 1: Project Vicinity



Project Area Land Use and Development

The Pittsburg General Plan (City of Pittsburg, 2010) designates an approximately 689-acre area as the "Northeast River Planning Subarea." This Subarea is primarily characterized by established, large-scale heavy industrial operations. The proposed project is situated in the northwestern portion of the Subarea.

The Pittsburg General Plan indicates the proposed project area 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.

Project Setting

The proposed project site was previously host to a 20 megawatt cogeneration power plant, owned and operated by GWF Power Systems Company, Inc. (GWF). The facility was decommissioned in 2012 and the site has since been an empty lot used for truck parking. The proposed project site has a perimeter chain link fence. As shown on Figure 2, two buildings remain in place. Site remedial actions, prior to the construction of the GWF plant, resulted in contaminated soil excavation, consolidation and capping under building floors, asphalt pavements and landscaped areas that remain intact.[2] A Phase 1 environmental site assessment completed in August 2018 by Groundwater & Environmental Services, Inc. verified that the capping infrastructure remains in place sealing any contaminated soil from exposure to the environment and workers.

The property does not abut a public right of way; pedestrian access from the nearest public roadway does not exist. Access to the site is via a private road at the end of the public portion of 3rd Street.

The site provides the following infrastructure that will facilitate operations of the proposed project:

- Close proximity to flue gas input, a small slipstream of which will be diverted from LMEC, a neighbor to the project site at its southwest corner.
- Access to material transport, for raw materials and products, by way of East 3rd Street via standard trucking routes through the City of Pittsburg.
- An existing outfall pipe for discharge of thermal wastewater to the Sacramento-San Joaquin River Delta; previously in use while the GWF power plant was operating, the outfall was verified in December 2018 to be in good working condition.

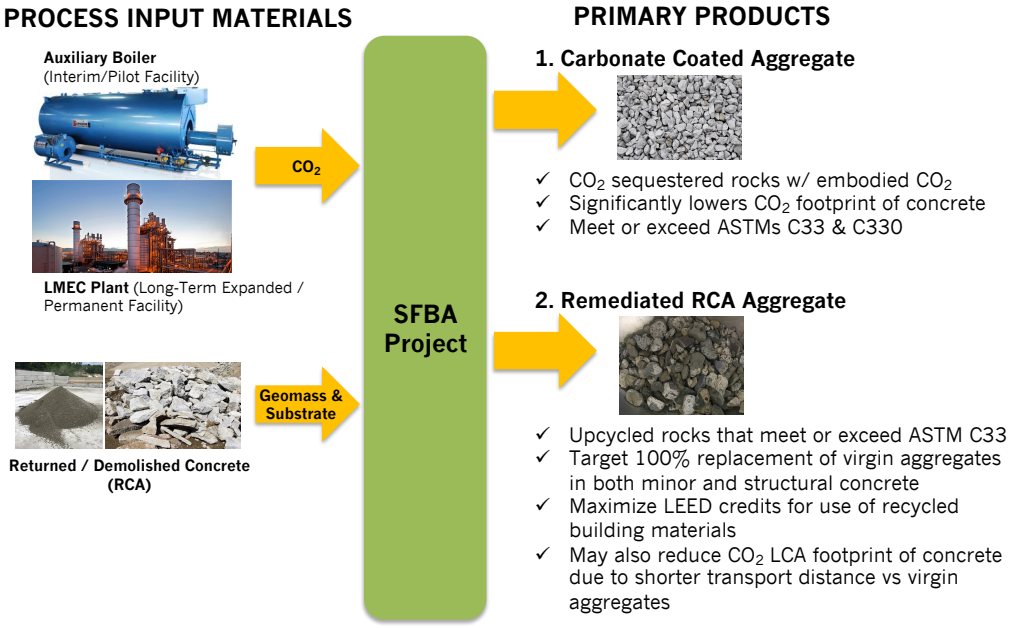
[2] Information located on Envirostor https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07490047

Figure 2 View of Project Site looking west down 3rd Street.

Project Description

The primary function of the proposed project is to take flue gas from LMEC and RCA feeds from local ready-mix concrete producers and recyclers to produce CO_2 sequestered and upcycled rocks for fresh concrete production as shown on Figure 3 the Process Diagram. On a temporary basis, the CO_2 outlet stream of gas from the gas-fired steam boiler process equipment would be used until the flue gas transfer operations from LMEC is online.

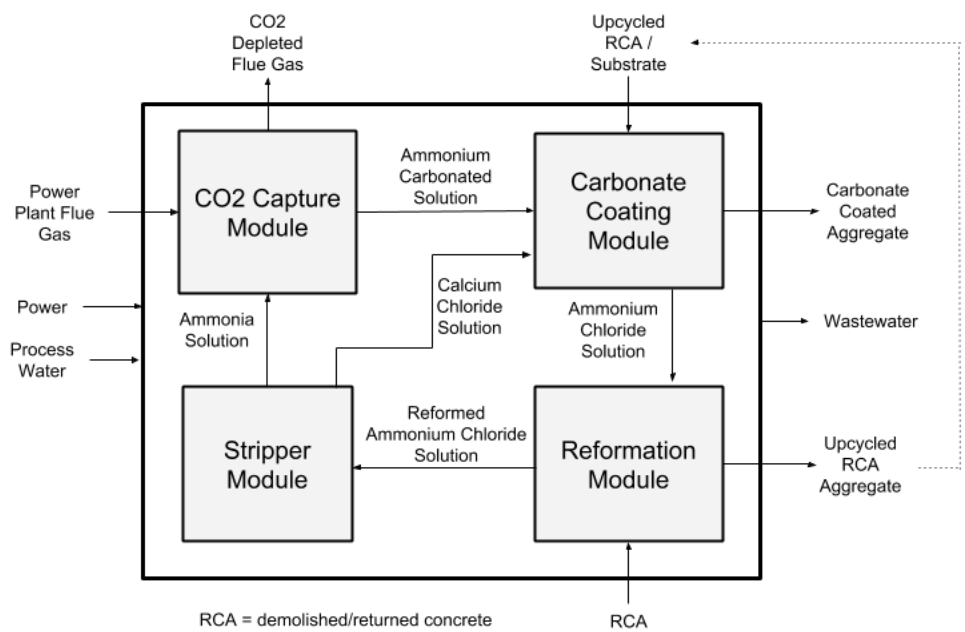
Figure 3 Process Diagram



The proposed project would link together four (4) component modules into a cycle for the overall Process. A module is a set of equipment from which an interim product is produced. Each module is made separately, and the completed modules are joined together to form the process of producing ingredients for fresh concrete production. The four modules are presented on Figure 4 are:

1. CO_2 Capture Module – removal of CO_2 from flue gas,
2. Carbonate Coating Module – calcium carbonate ($CaCO_3$) coating on the surface of the substrate rock,
3. Reformation Module – creation of upcycled rock for coating or placement in fresh concrete, and
4. Stripper Module– separation of aqueous ammonia and calcium chloride solutions for use in the CO_2 Capture and Carbonate Coating modules.

Figure 4 Modules of the Process



Project Construction

The construction of the proposed project would not require any disturbance of soil beneath the existing site caps. The majority of the equipment would be skid mounted for mobilization to and from the proposed project site. No new foundation construction or new buildings would be constructed.

The duration of construction of the proposed project is estimated to be 3 to 4 months. It is estimated that a maximum of six (6) construction workers are required. Construction activity entails off-loading transported equipment and connecting the separate Modules together. Equipment used during construction would include:

- Forklift,
- Loader,
- Dump truck, and
- Transporter truck.

Staging areas and parking of worker vehicles would be contained to the 2.5 acre project site. A mobile office trailer would be installed for use during the operation of the proposed project. ADA parking and accessible portable restrooms would be set up during construction.

There are no planned changes to the existing site drainages. No new impervious surfaces are planned. Sediment barriers would be added to the existing drop inlets and would follow standard protocol:

1. Sandbags shall be laid tightly together.
2. Trapped sediment would be removed after each storm event and any required repairs made promptly thereafter.
3. Down slope elevations must be greater than the ponding height to prevent runoff from bypassing the inlet. A sandbag dike on the down slope may be necessary to prevent bypassing of the inlet as determined during operations.

Proposed Operations

Up to three (3) people per shift would be required to operate the Facility. There would be one eight (8) hour shift per day. Operations would include occupancy of one of the existing buildings onsite. The proposed project would run the four (4) component modules that can operate continuously during the eight hour shift or in batch mode. This section describes the details of each module presented in Figure 4.

CO_2 Capture Module

In this module, the LMEC flue gas and aqueous ammonia (NH_3) solution from the Stripping Module are blended in gas scrubbing equipment to remove CO_2 from the flue gas. The resulting aqueous ammonium carbonated solution (mixtures of aqueous ammonium bicarbonate (NH_4HCO_3) and of aqueous ammonium carbonate ($(NH_4)_2CO_3$) serves as a feed into the Carbonate Coating Module.

Carbonate Coating Module

In this module, captured CO_2 from the flue gas is removed from the Process. Aqueous ammonium carbonated solution from the CO_2 Capture Module and aqueous calcium chloride ($CaCl_2$) solution from the Stripper Module are streamed into a rotating drum containing a substrate rock, sourced either as quarried rock or as upcycled rock from the Reformation Module. As the materials move through the length of the drum, a solid calcium carbonate ($CaCO_3$) coating forms on the surface of the substrate rock; any $CaCO_3$ formed, but not coated on the substrate produces precipitated $CaCO_3$. The resulting CO_2 sequestered products are washed with recycled water and are sent to market for placement in fresh concrete. Aqueous solution remaining from the coating drum contains ammonium chloride (NH_4Cl) salt and this solution is piped to the Reformation Module.

Reformation Module

This module uses aqueous ammonium chloride solution from the Carbonate Coating Module to extract calcium ions (Ca^{2+}) and alkalinity (O^{2-}) from demolished/returned concrete feed. Mixing of these constituents in a drum yields remediated

demolished/returned concrete rocks and reformed ammonium chloride solution. The upcycled rocks are either (i) used as substrate rock in the Carbonate Coating Module or (ii) washed with recycled water and sent to market for placement in fresh concrete. The reformed ammonium chloride solution, that now contains calcium chloride and free ammonia, flows to the Stripper Module for separation. Wastewater generated from the washing of material products would be minimized using recycling of water on-site.

Stripper Module

Aqueous ammonia is separated or stripped out of the reformed ammonium chloride solution that comes from the Reformation Module. The pilot project may validate different methods of stripping; conventional stripping processes are driven by heat, for example, by using process steam produced from a separate boiler unit; other techniques such as vacuum distillation and air stripping may be used to separate the reformed ammonium chloride solution into aqueous ammonia and calcium chloride solutions. After separation, and to essentially complete the circular cycle of the overall Process, the former is condensed ahead of flowing to the CO_2 Capture Module, while the latter is flowed to the Carbonate Coating Module.

Figure 5 includes the detailed list of each piece of equipment included in each of the four modules.

Figure 5 Module Components

CO2 Capture Module	- Forced draft fan - Gas-liquid contactors - Contactors heat exchanger - Contactor ammonia pump - Ammonia scrubber - Stack	
Carbonate Coating Module	- Substrate hopper - Substrate vibratory feeder - Aggregate dray conveyor - Substrate belt conveyor - CaCO3 thickener clarifier - Thickener pump	- Vacuum dryer - Wash water pump - Product screen - Product bins
Reformation Module	- RCA unloading hopper - RCA feeder - Reformation drum - Separation conveyor - Reformation pump - RCA thickener clarifier	- Thickener pump - Vacuum dryer - Reformed solution tank - Ammonium chloride tank
Stripper Module	- Stripper column - Thermosyphon reboiler - Ammonia condenser - Calcium chloride storage tank - Calcium chloride pump - Stripper heat exchanger	- Ammonia surge tank - Ammonia pump - Gas-fired steam boiler

Process Input

Existing utility service and/or are service connections in place include gas, electric, potable and non-potable water hookups, as well as an existing outfall pipe that extends into New York Slough.

Flue Gas

The ultimate process of obtaining flue gas involves a tie-in pipeline to one of LMEC's flue gas stacks and a pipeline to transport the flue gas through LMEC's site across East 3rd Street to the project site. The Applicant anticipates the timing of getting the slipstream of flue gas to the project site from LMEC may delay the project schedule. Therefore in the interim, the project would use the outlet stream of gas from the gas-fired steam boiler process equipment as an interim source of CO_2 input to the Facility. A blower would be used to move the outlet gas from the gas-fired steam boiler through an air-cooled heat exchanger that conditions the gas before it enters the process equipment for CO2 removal. This boiler supplied flue gas is similar to what would be delivered in a slipstream from LMEC. The onsite boiler gas would allow the project operations to be initiated while the slipstream of flue gas from LMEC is being connected to the facility.

Water

The Process would use non-potable water for non-contact process cooling, washing of material products, and to replace evaporative losses of process water. SFBA plans to source non-potable canal water from UPI, via their water rights to the 47 mile Contra Costa Canal aqueduct that runs through central Contra Costa County. The canal is managed by the Contra Costa Water District (CCWD) and is delivered to UPI through a two-mile pipeline system owned and maintained by UPI. UPI also owns and operates a filter plant at its facility in Pittsburg, located to the south and to the east of the project site, through which it treats all canal water received from the CCWD. UPI controls an existing 6-inch pipe (previously constructed by GWF) running from its facility to the project site. It is estimated that a 1-inch meter would be needed to measure the quantities of water delivered to the project.

The Facility would use a closed process water loop for cooling; this process water does not come in direct contact with any other water in the Facility. It is anticipated that during operations the Facility would use less than 30 gallons per minute (gpm) of water to wash the products, with less than 10% of this volume being used as mist for dust control. In addition, the estimated quantity of make-up water during operations is less than 50 gpm and is anticipated to come from the UPI non-potable water and from City water.

Gas & Electric

Pacific Gas & Electric (PG&E) has gas and electric hookups at the site. The last "new construction" was in 2013 (for electric) and the site was last inspected by PG&E in 2014. The main electric connection is 400A/480V/3-phase with meter (currently in service), and the site does have additional single phase meters. It is anticipated that the Process would be powered with 100% renewable electricity available from the grid through the City of Pittsburg's participation in Contra Costa County's CCE program provided by MCE Contra Costa.

The project would use a gas steam boiler to help drive the Stripper Module component of the Process. The existing gas infrastructure to the site consists of a 230 foot, 3-inch steel pipeline from the main with delivery of 15/80 PSI; it was cut and capped in 2012 and would need a meter installed to start service.

Chemical Storage and Use/Safety Procedures

All chemicals delivered to the site in bulk quantities would be stored in fully contained bulk storage tanks and/or storage vessels having a capacity of less than 260 gallons (or as otherwise restrained by vapor pressure requirements, types of materials stored, etc.). All chemical storage, handling, and feed facilities would be designed, constructed, and maintained in compliance with all applicable governmental codes and regulations. California law requires the Project Applicant, as the operator of the facility, to submit a Hazardous Material Business Plan (HMBP), that describes in detail the type and volume of chemicals to be used at the facility, to the Contra Costa Health Services - Hazardous Materials Programs (CCHSHMP). The CCHSHMP is the Certified Unified Program Agency (CUPA) for Contra Costa County.

The HMBP must include a reporting and monitoring process for any spills that may occur. It also must include requirements for safety equipment, automatic shut-off valves, and other safety procedures that may be required, depending on the types and volumes of chemicals stored and used. The potential for facility upset conditions and accidents would be minimized with design of secondary containments sized to confine the entire contents of stored chemicals, proper training of operators, and having an emergency response plan in place that outlines procedures to quickly react in the event of an accident or spill. Chemicals and other inputs used in the Process are listed in Table 1. All chemical storage would include secondary containment.

Table 1 Chemicals and Quantities Stored Onsite

Chemical	Common Name, Physical State	Approximate Storage Volume	Location of Chemical Addition
NH_4Cl	Ammonium chloride, solid	One (1) pallet or roughly 2,200 lb; 40 x 50 lb bags	Reformer Module
NH_3	Ammonia, 0.5 to 19 wt% aqueous solution	One (1) tank of less than 260 gal; less than 2,100 lb	CO_2 Capture Module
HCl	Hydrochloric acid, 30% aqueous solution	One (1) tank of less than 260 gal; less than 2,500 lb	CO_2 Capture Module, Carbonate Coating Module
$CaCl_2$	Calcium chloride, solid	One (1) pallet or roughly 2,200 lb; 40 x 50 lb bags	Carbonate Coating Module
n/a	Waste concrete aggregate, solid	Two (2) piles or roughly 25 cubic yards; 17 ft. w x 17 ft. l x 5 ft. h piles	Reformer Module

A Site-Specific Safety Plan to address safety issues specific to the facility would be developed and be consistent with the existing Safety Program and Policies in the SFBA Safety Plan. The plans would be developed as part of the Site-Specific Safety Plan for the project and include:

- Scope of Project,
- Health & Safety Responsibilities,
- General Safety Procedures,
- Jobsite Safety Procedures, and
- Safety Program & Policy Limitations.

The Project would include the development of an industrial fire safety plan consistent with applicable standards and fire codes. Fire systems that would be in place include fire extinguishers, fire sprinkler and smoke and fire alarm systems as required, as well as exit signs and emergency lighting. Any additional access lighting required for personnel and for security would consist of permanently mounted fixtures secured to structures, equipment, walls, and poles as required, and would be designed to provide nighttime lighting levels consistent with applicable standards.

Process Output

Figure 3 illustrates the primary function of the Project operations to use flue gas and RCA feeds to produce CO_2 sequestered and upcycled rocks for incorporation into fresh concrete. Several other byproducts, produced during the Process, are discussed below.

Treated Flue Gas

The treated flue gas, depleted of CO_2 during the Carbon Capture Module, would be scrubbed by a secondary set of gas scrubbing equipment. This scrubbing equipment would be located just upstream of the stack to recover any fugitive ammonia vapor. The remains of the treated flue gas would then be exhausted through the stack into atmosphere.

Wastewater

The estimated maximum thermal wastewater generated during operations is 50 gpm that would be discharged through the existing outfall at the site. Wastewater from washing and rinsing of product material, anticipated to be less than 30 gpm, would be collected and sent to the City sewer system in accordance with the City of Pittsburg's Clean Water Program.

Water used for cooling in the Process would be discharged through the outfall pipe that exits at the northeast corner of the project site into New York Slough for 12 months from the time of the initial operations of the pilot project. The average discharge would be 24,000 gallons per day and the maximum discharge would be 72,000 gallons per day. The discharge to the Slough would not come into direct contact with the facility processes. Any thermal wastewater discharge to the River Delta would adhere to San Francisco Bay Regional Water Quality Control Board's Thermal Plan that prohibits thermal waste discharges with a maximum temperature greater than 4 °F above ambient temperature of the receiving water. Other wastewater generated from the washing of material products

would be minimized, utilizing recycling systems on-site and storing collected wastewater in tanks for treatment prior to disposal.

Wastewater discharges would be monitored according to the relevant limit values for specific parameters outlined in compliance documents received during the permitting process. The parameters are anticipated to include temperature, hardness, total chlorides, conductivity and metals. Monitoring of the wastewater would be done at least one (1) time during the planned 6-9 month operational duration, likely just after commissioning of the Facility and, if deemed necessary, after approximately 500 hours of the Facility being in operation.

Monitoring would consist of internationally accepted standardized sampling, analysis, and quality assurance methods (e.g., ISO standards). Analyses would use the State Water Board's Thermal Plan (for thermal wastewater discharge) and the City's urban wastewater treatment (for discharge to sewer) for exceedance thresholds.

Solid Waste

The trash enclosure is sized to accommodate a dumpster with at least ten (10) cubic yards of capacity. The municipal waste service provided by Mt. Diablo Resource Recovery would empty this dumpster as needed during construction. All products from the Facility are anticipated to be used as construction materials in building products; any other solid waste from operations would be contained in the dumpster in the trash enclosure and would be emptied as scheduled with Mt Diablo Resource Recovery.

Gas Emmissions

The use of aqueous ammonia solution in the process results in the potential for emissions from two sources. The first is from unreacted ammonia in CO_2 depleted flue gas in the CO_2 Capture Module and the second is from fugitive ammonia vapors from the Process. The project would use a combination of the following techniques to manage odorous ammonia emissions:

1. Installation of gas seals on equipment associated with ammonium ions or free aqueous ammonia.
2. Carbonate Coating Module would operate at slight negative pressure.
3. Any process modules that use ammonia would have its equipment contained in an enclosure with extraction/emission to a single point to manage odor.
4. Scrubbing equipment upstream of the stack to recover any fugitive ammonia vapor before release of treated flue gas through the stack.
5. Gas tight piping would be used to interconnect the equipment that requires gas flow through.

Materials Storage and Transport

The project would receive inbound RCA as a raw material input and would produce carbonate coated rocks and upcycled RCA as the primary products outbound to the concrete market clients. Supplementary cementitious material (SCM) also heads outbound to market.

Input and product materials would be stored outdoors in managed piles, two for each. Each pile would be surrounded by berms to prevent precipitation runoff from discharging off site. Front-loaders would move material to and from the component modules or the truck loading and unloading areas. The storage and loading operations would use water-to manage dust. The site would allow space for up to one week's worth input material and product material. However, in stable operation, the input material and product material would arrive and leave on a 1:1 rotation and require minimal storage. Potential locations for material storage onsite run along the north perimeter of the property and include both its northeast and its northwest corners.

The projected daily volume of inbound and outbound material movement at the project site is provided in Table 2. The Applicant is planning for inbound trucks to travel east along East 3rd Street and enter the project site at the east gate, while outbound trucks leave the site at the west gate and travel west along East 3rd Street. The Applicant anticipates inbound and outbound trucks to access East 3rd Street from Harbor Street via standard trucking routes through the City of Pittsburg. To minimize the cost and the impact to the City of Pittsburg from transportation of material, the hauling plan is for trucks to complete round trips to and from the project site with "full" loads; assuming 20 US ton (10 yd^3) per truck. As little as 15% of the total truck trips are estimated to be empty, total throughput of material is 2.6 yd^3/hr. During an 8-hour day of operation that equates to roughly three (3) round trip trucks per day for a total of 6 vehicle round trips per day in combination with worker's travel to and from the project site.

Table 2 Projected Daily Volume of Material Movement.

Material Type[3]	Throughput Capacity	Truck[4] (No./day)
CO_2	221 lb/hr	n/a
Inbound RCA	2.5 yd^3/hr	2.3
Coated Product	1.3 yd^3/hr	1.2
Upcycled RCA	1.1 yd^3/hr	1.0
SCM	0.1 yd^3/hr	0.1
TOTAL Throughput	**2.6 yd^3/hr**	**3.0**

[3] Coated Product, Upcycled RCA and SCM are outbound products produced from Inbound RCA input material.

[4] Assumes 8 hours per day of operation, 20 US ton (10 yd^3) per truck and 15% of truck trips are empty; no./day rounded up to nearest 0.1; TOTAL assumes Coated Product, Upcycled RCA and SCM.

Figure 6 is an aerial view of project site with proposed truck route inside the fence of the project site denoted in green.

Figure 6 Onsite Truck Route

Noise

The materials handling process equipment would generate some noise, it is not anticipated that the noise level would exceed 85 dBA (adjusted decibels) during an eight (8) hour exposure time.

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.

☐	Aesthetics	☐	Agriculture and Forestry	☒	Air Quality
☒	Biological Resources	☐	Cultural Resources	☐	Energy
☐	Geology/Soils	☐	Greenhouse Gas Emissions	☒	Hazards and Hazardous Materials
☐	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☐	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	☒	Transportation	☐	Tribal Cultural Resources
☐	Utilities/Service Systems	☐	Wildfire	☐	Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	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.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	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.
☐	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

Signature:	Date: July 8, 2019
Printed Name: Hector Rojas	For: City of Pittsburg

1.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

Would the proposed project:

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

No Impact. Scenic or visual resources are generally defined as both the natural and built features of the landscape that contribute to the experience and appreciation of the environment by the general public. 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. The existing visual character of the surrounding locale is primarily industrial, and the project site is not located within or along a designated scenic corridor. Views in the vicinity of the Project site are largely constrained by adjacent structures, to the west by Koch Carbon Inc., by a PG&E substation and by land owned by USS-POSCO Industries (UPI) to the east; to the south by an easement that runs along East 3rd Street. The relatively flat topography of the subject site and distance between the water and East 3rd Street do not provide valuable public views of the water. The existing project site is an empty lot used for truck parking. The property does not abut a public right of way; pedestrian access from the nearest public roadway does not exist. Access to the site is via a private road and locked gate at the end of the public portion of 3rd Street.

The proposed materials handling process equipment and material stockpiles would be visible to the public from the designated scenic waterway, Suisun Bay. However, the Project site does not contain any scenic vistas nor would construction of the proposed facilities adversely affect views from Suisun Bay, due to the existing industrial character of the Project Site. In addition, compliance with the City of Pittsburg Zoning Ordinance requires the City Planning Commission to review the design of the proposed structures to protect the aesthetic and visual character of the area. There would not be any impacts related to scenic views from Suisun Bay.

b) Substantially damage scenic resources, including, but not limited to, tress, 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 on East 3rd Street would not be altered by the proposed project during construction or operations because the facilities would blend into the existing environment. The Pittsburg General Plan indicates the proposed project area 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. The proposed project would not substantially degrade the existing character or quality of the site and its surroundings. The project 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. Additional access lighting required for personnel and for security would consist of permanently mounted fixtures secured to structures, equipment, walls, and poles as required, and would be designed to provide nighttime lighting levels consistent with applicable standards. There is no light- or glare-sensitive land uses within proximity of the project site. The closest public roadway is East 3rd Street, and is occupied by industrial uses. Although additional lighting would be introduced to the project site, the proposed project would comply with Title 18 of the Pittsburg Municipal Code (PMC). Section 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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

Would the proposed 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 in developed industrial land that 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?

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?

b. – 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:	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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

An Air Quality Conformity Assessment (Assessment) was completed for the proposed project in May 2019. The Assessment in Appendix A provides applicable regulations, project setting, assumptions, references used, and detailed methods that were applied to determine significance of the air quality criteria. The following is a summary of the setting and applicable federal, state and local standards that apply to air quality. The impact discussions include a summary of the Assessment modeling results and calculations used to determine emissions from the proposed project's construction and operations.

The project site is located in the eastern area of the San Francisco Bay Area Air Basin (SFBAAB). The Basin is in attainment for federal standards of CO, SO_2, and NO_2, and in nonattainment or unclassified status for O_3, PM_{10}, and $PM_{2.5}$.

The climate within the region is characterized by warm, dry summers and mild, wet winters; it is dominated by a semipermanent high-pressure cell located over the Pacific Ocean which generates seasonal cloud-cover variation over the course of the year. This high-pressure cell drives the dominant onshore circulation, as can be seen in Figure 1, and helps to create two types of temperature inversions, subsidence and radiation, that contribute to local air quality degradation.

Figure 1: Project Air Basin Aerial

In the area of the proposed project site, the maximum and minimum average temperatures are 90º F and 39º F, respectively. Precipitation in the area averages approximately 16 inches annually, 90 percent of which falls between November and April. Fog can occasionally develop during the winter. The prevailing wind direction at the project site is from the west-southwest, with an annual mean speed of 3 to 5 miles per hour. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of onshore sea breezes. The overall result is a noticeable degradation in local air quality.

The project is expected to have a lifetime of approximately 15 months (three to four months construction time and 12 months operational time) commencing in the latter half of 2019. The analysis presented is a worst-case analysis for construction and material handling operations constitutes the worst-case onsite pollutant-generating scenarios for the pilot program.

The State (i.e., BAAQMD) standards are equal to, or more stringent than, the Federal Clean Air standards. Development of the proposed project would therefore fall under the stricter BAAQMD guidelines.

As part of its air quality permitting process, BAAQMD has established thresholds for the preparation of Air Quality Impact Assessments (AQIA's) and/or Air Quality Conformity Assessments (AQCA's). The applicable standards are shown in Table 1.

Table 1: Thresholds of Significance for Air Quality Impacts

Pollutant	Thresholds of Significance (Pounds per Day)	Clean Air Act Significance Levels (Tons per Year)
Carbon Monoxide (CO)	*See Note 1*	100
Oxides of Nitrogen (NO_x)	54	50
Particulate Matter (PM_{10})	82	100
Particulate Matter ($PM_{2.5}$)	54	100
Reactive Organic Gasses (ROG's)	54	50
Oxides of Sulfur (SO_x)	*See Note 2*	100
Volatile Organic Compounds (VOC's)	*See Note 2*	50

Notes:

1. Operational CO levels based on measured or predicted concentrations equal to 9.0 ppm (8-hour average), 20.0 ppm (1-hour average). There is no construction-related threshold.
2. The District has no standard for this pollutant.

Source: BAAQMD CEQA Air Quality Guidelines, 5/17.

The City of Pittsburg accepts the use of these numerical "screening criteria" as "Thresholds of Significance" for the purposes of CEQA analysis. In the event that project emissions may approach or exceed these screening level criteria, modeling would be required to demonstrate that the project's ground-level concentrations, including appropriate background levels, are below State Ambient Air Quality Standards. If emissions exceed the allowable thresholds, additional analysis is required by the State to determine whether the emissions would exceed an ambient air quality standard.

Would the proposed project:

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

No Impacts. The Bay Area Air Quality Management District (BAAQMD) adopted the Bay Area 2017 Clean Air Plan in April 2017 (2017 Plan). The 2017 Plan provides a comprehensive strategy to improve air quality, protect public health, and protect the climate, using the tools and resources available to the BAAQMD. The Plan offers a long-range vision describing how the Bay Area could look and function in a year 2050 post-carbon economy, and describes a comprehensive control strategy that the Air District will implement over the next three to five years, from the time of the Plan's adoption, to protect public health and the climate, while setting the region on a pathway to achieve the 2050 vision. (BAAQMD 2017a)

The proposed project is a proof of concept for the sequestration of carbon into building materials using renewable energy and recycled water when feasible. A successful project would result in reduction of mining of raw materials for construction as well as support the BAAQMD 2017 Plan for a post-carbon future. Therefore, the project would not impact applicable air quality plans.

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. The proposed project site has a maximum working footprint of roughly 2.5 acres or 108,029 square-feet (10,036 m^2) based upon data obtained from the project site plans. The aggregate project emission rates for the various criteria pollutants are shown in Table 2 and constitute the

input parameters under the SCREEN3 air dispersion model. Given this input data, the expected combustion-fired construction emission concentrations of the proposed project are shown in Table 3.

TABLE 2: Predicted Onsite Diesel-Fired Emission Rates

Criteria Pollutant	Max Daily Aggregate Emissions (pounds)	Daily Site Emission Rates (grams/second)	Average Area Emission Rates (grams/m^2/second)
CO	12.7	0.0666	6.6334E-06
NO_x	31.5	0.1652	1.6458E-05
SO_x	3.6	0.0190	1.8918E-06
PM_{10}	**0.9**	**0.0045**	**4.4946E-07**
$PM_{2.5}$	0.8	0.0042	4.1536E-07
ROG	4.0	0.0212	2.1105E-06

Total averaging time is 24 hours (86,400 seconds) per CAAQS standards. The area emission rates are shown in scientific notation. Values include contributions of all construction, powered haulage, and material handling activities.

TABLE 3: SCREEN3 Predicted Diesel-Fired Emission Concentrations

Criteria Pollutant	Pollutant Concentration (µg/m^3)	Pollutant Concentration (ppm)[1]	Pollutant Risk Probability (percent risk per person for 70-year exposure)	Significant?
CO	36.40	0.0317	n/a	No
NO_x	90.30	0.0480	n/a	No
SO_x	10.38	0.0040	n/a	No
PM_{10}	**2.47**	**- -**	**0.074%**	**No**
$PM_{2.5}$	2.27	- -	n/a	No
ROG	11.58	- -	n/a	No

Diesel risk calculation based upon ARB 1999 Staff Report from the Scientific Review Panel (SRP) on Diesel Toxics inhaled in a 70-year lifetime. $PM_{2.5}$ levels based upon the California Emission Inventory Development and Reporting System (CEIDARS) database fractional emission factor for diesel construction equipment of 0.920 $PM_{2.5}$ / PM_{10}.

1 Conversion Factors (approximate): CO: 1 ppm = 1,150 µg/m3 @ 25 deg-C STP, NOx: 1 ppm = 1,880 µg/m3 @ 25 deg-C STP, SOx: 1 ppm = 2,620 µg/m3 @ 25 deg-C STP, PM10 and PM2.5: 1 ppm = 1 g/m3 (solid).

The estimated equipment diesel exhaust emission tabulations from construction and material handling are provided in Table 4a. Table 4b provides an estimate of powered haulage emissions associated with material import for the pilot plant process and haulage export of finished product, assumed to comprise a total of four (4) round trips at 110 miles each (i.e., 440 VMT) for a heavy duty diesel truck classification (CARB classified MH DSL category). Based upon the findings from the SCREEN3 air dispersion model, no significant diesel construction vehicle or powered haulage air quality impacts are expected.

TABLE 4a: Predicted Onsite Diesel Engine Emissions

Equipment Type Model	Quantity Used (#)	Aggregate BAAQMD Criteria Pollutants (Pounds/Day)					
		CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
CAT 2PD5000 Forklift	1	1.7	3.1	0.4	0.1	0.1	0.4
JD 644E Loader	1	5.2	9.7	1.3	0.3	0.3	1.4
CAT CT610 Dump Truck	1	2.3	6.1	0.8	0.1	0.1	0.9
Peterbuilt 348 Transport Truck	1	3.2	8.5	1.1	0.2	0.2	1.2
Sum:	**4**	**12.4**	**27.4**	**3.6**	**0.8**	**0.7**	**4.0**
BAAQMD Significance Threshold:		**- -**	**54**	**- -**	**82**	**54**	**54**

TABLE 4b: Powered Haulage Emissions due to Material Import for Processing

		Criteria Pollutants Under Examination (in pounds per day)					
Powered Haulage	**VMT**	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Heavy Duty Truck Haulage Totals (MH DSL):	440	0.29	4.02	0.01	0.10	0.09	0.06
BAAQMD Significance Threshold:	--	--	54	--	82	54	54

Construction and material handling activities during operations are a source of fugitive dust emissions that may have a substantial, but temporary, impact on local air quality. Substantial dust emissions also occur when vehicles travel on paved and unpaved surfaces, and haul trucks lose material. For the project, overall minimal surface grading operations associated with either process equipment placement during the initial construction phase (previously estimated to be approximately 90 days, or 3 months of the 3 to 4 month construction period), and material handling during the operational pilot phase (estimated at 360 days, or 12 months), are anticipated as being no greater than a worst-case 6,000 cubic-yards of material moved, or an approximate 20 cubic yards per average work day that the facility would be permitted to construct and operate.

For fine aggregate material similar to what would be processed at the project site, the expected material movement would equate to approximately 7,800 standard tons over the totality of the project. Assuming a 60-percent estimate as a percentage of the working material capable of generating respirable PM_{10} yields a daily material working weight of 10.4 tons per day over the assumed 450 total operational days of the facility. The volume of working material would produce a predicted dry material level of 0.7 pounds per

day of PM_{10}, or 0.3 pounds of PM_{10} per day was determined based on an assumed surface wetting three times a day. This level is far below the 82 pounds per day threshold established by the BAAQMD. Therefore, no significant impacts are expected from movement of materials on ground surface.

The majority of the equipment onsite would be used for both construction and operations of the project. Travel on dust overlaid surfaces, due to construction and operational activities onsite would include workers' vehicles moving onsite traversing a total of five (5) miles per day (VMT) during the earthwork and site preparation phases. A level of 4.6 pounds of PM_{10} was predicted to be generated per day. The commensurate $PM_{2.5}$ level would be 0.1 pounds per day, which is also below the proposed threshold of significance of 54 pounds per day for this pollutant.

Examination of diesel toxics previously shown in Table 3 found that all criteria pollutants were below the recommended health risk level with a PM_{10} risk probability of 0.074% (0.00074 in one million) per 70-year exposure duration, assuming the implementation of Toxics Best Available Control Technology (T-BACT). The analysis identified a worst-case PM_{10} level of 2.47 $\mu g/m^3$ occurring at a distance of 138 meters (453 feet) from the project site. This pollutant concentration is below the California Ambient Air Quality Standard (CAAQS) of 50 $\mu g/m^3$ established by the State for any given 24-hour exposure period. Given these findings, no significant carcinogenic impact potential from PM_{10} would be expected due to proposed operations.

Anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 2.27 $\mu g/m^3$, which is also below the Federal NAAQS 24-hour threshold of 35 $\mu g/m^3$ (there are no State concentration threshold for this pollutant). No cumulative contribution of $PM_{2.5}$ from the site would be physically possible due to the reasons cited above. The project was additionally found to be in compliance with both the BAAQMD 8-hour and 1-hour CO thresholds with a maximum value of 0.03 ppm.

Operational fixed emission sources under the context of this pilot project would consist of the following two scenarios:

- Scenario 1 assumes that the project would utilize the excess flue gas from the Calpine LMEC site as the source of CO_2 generation in the operations of the pilot process, and,
- Scenario 2 assumes that the project would operate a registered 6.3 MBtu/hr natural gas boiler onsite as discussed in the Project Description until the flue gas in Scenario 1 is accessible.

Only one scenario would ultimately be selected as the CO_2 source for the carbon capture and mineralization process of the pilot plant. Each of these scenarios is shown below in Table 5 along with the worst-case estimate for each criterion pollutant examined.

TABLE 5: Applicant Predicted Operational Emissions

Scenario	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG/VOC
Scenario 1: Flue Gas Extraction	2.80	1.92	0.00	0.86		0.37
Scenario 2: Onsite Boiler Utilization	5.76	2.72	0.00	1.13		0.82
Material Handling Dust Emissions				0.45	0.05	
Maximum Emissions Pounds/Day	**5.76**	**2.72**	**0.00**	**1.58**	**0.05**	**0.82**

Source: Atmospheric Dynamics, Inc. 4/19.

Operational emissions of the pilot plant would generate approximately 5.76 pounds of CO per day, 2.72 pounds of NOx per day, 1.58 pounds of PM_{10} on a daily basis, and trace amounts of $PM_{2.5}$ and ROG/VOC's. These sources, would not be classified as significant emission sources, and are not expected to generate an air quality impact. Therefore impacts associated with cumulatively considerable net increase of any criteria pollutant for which the region is non- attainment under an applicable federal or state ambient air quality standard would be less than significant with implementation of Mitigation Measure Air-1 Minimize Dust Generation to PM_{10} and $PM_{2.5}$ levels from concentrations that could be cumulatively considerable in the local area.

MITIGATION MEASURE:

Air-1 Minimize Dust Generation

Wet dust suppression techniques, such as watering and/or applying chemical stabilizers, will be used during construction and operational material handling phases to suppress the fine dust particulates from leaving the ground surface and material stockpiles and becoming airborne through the action of mechanical disturbance or wind motion. During construction and full operations of the proposed project, surface wetting of the project site shall occur every 2-3 hours for a total of three times a day.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. As discussed in "b" above, the project would not increase criteria pollutants to a significant level. The aggregate emission levels produced by the proposed project site are shown in Tables 6a and 6b. Based upon the findings, no construction or operational air quality impacts are anticipated from project.

Figure 2 displays the distance to the nearest receptors that are approximately 2,500 feet from the project site. Therefore, the project would have a less than significant impact related to exposure of sensitive receptors to substantial pollutant concentrations because of the distance to sensitive receptors and the lower than threshold concentrations that would be produced by the project.

TABLE 6a: Aggregate Emissions –Project Construction

	Aggregate Emissions for Criteria Pollutants					
SCENARIO EXAMINED	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Construction Vehicle Emissions (Table 4a)	12.4	27.4	3.6	0.8	0.7	4.0
Surface Grading Dust Generation	- -	- -	- -	0.3	0.1	- -
Powered Haulage Emission Generation for Construction Setup (Table 4b)	0.3	4.0	0.0	4.7	1.1	0.1
Total	**12.7**	**31.4**	**3.6**	**5.8**	**1.9**	**4.1**
BAAQMD Significance Threshold:	**n/a**	**54**	**- -**	**82**	**54**	**54**

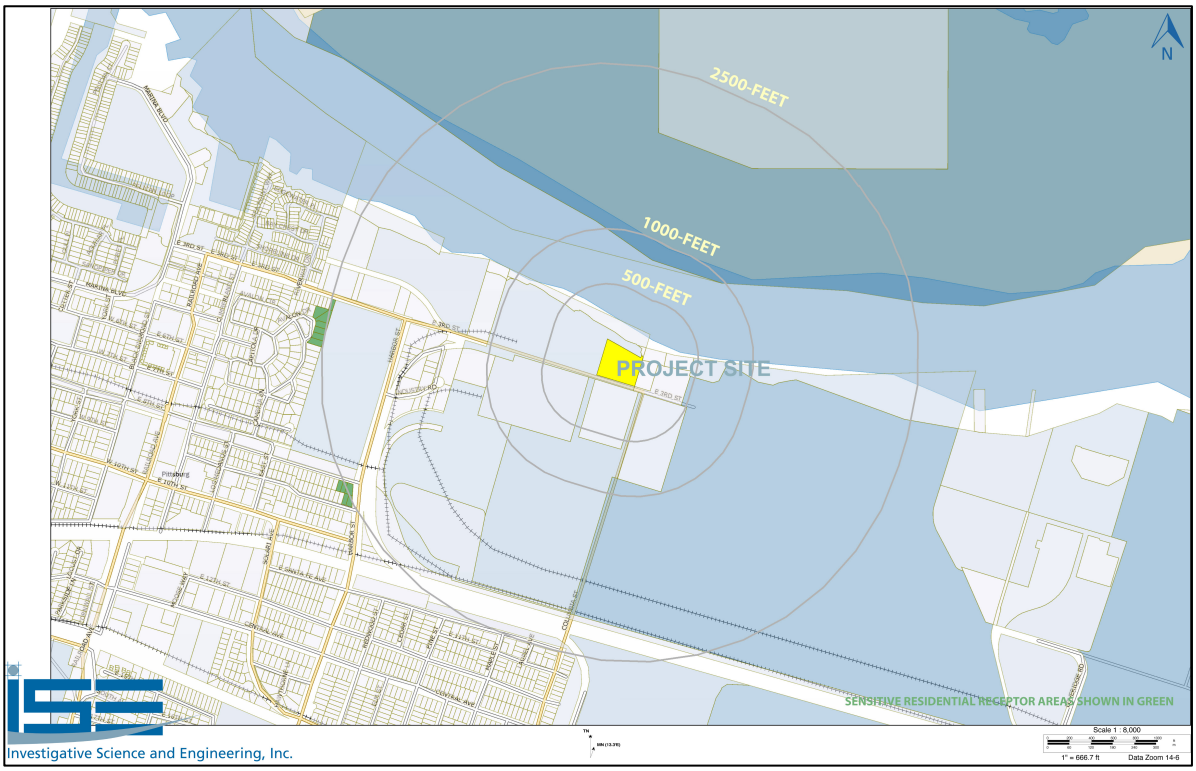
Values rounded to nearest tenth of a pound.

TABLE 6b: Aggregate Emissions –Project Operations

	Aggregate Emissions for Criteria Pollutants					
SCENARIO EXAMINED	**CO[2]**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Vehicular Traffic Generation (Table 8b in Appendix A)	2.5	0.6	0.0	0.0	0.0	0.1
Diesel Vehicle Emissions (Table 4a)	12.4	27.4	3.6	0.8	0.7	4.0
Powered Haulage Emission Generation for Material Handling (Table 4b)	0.3	4.0	0.0	4.7	1.1	0.1
Worst-Case Operational Emissions (Table 5)	5.8	2.7	0.0	1.6	0.1	0.8
Total (Σ)	**21.0**	**34.7**	**3.6**	**7.1**	**1.9**	**5.0**
BAAQMD Significance Threshold:	**- -**	**54**	**- -**	**82**	**54**	**54**

[2] It was previously shown in Table 6 that the project was found to be in compliance with both the BAAQMD 8-hour and 1-hour CO thresholds with a maximum value of 0.03 ppm. Thus, no impacts are expected.

Figure 2: Closest Receptors to the Project Site*



**Green color denotes nearest receptors.*

d) Result in other emissions (such as those leading odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The inhalation of VOC's causes smell sensations in humans. These odors can affect human health in four primary ways:

- The VOC's can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOC's stimulate sensory nerves that can cause potentially harmful health effects; and,
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

The proposed project operations could generate trace amounts (less than 1 $\mu g/m^3$) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, diesel, dust, organic dust, and endotoxins (i.e., bacteria are present in the dust). Odor during construction would be the same as with operations less the chemicals used during operations. Odor generation impacts due to the project would not be significant, since any odor generation would be intermittent, short term and low concentrations from the closed process. As shown on Figure 2, the distance to the nearest receptors that are approximately 2,500 feet from the project site which reduces the probability that nearby residences would complain about odors in the vicinity due to distance and low concentrations. The proposed project would not result in a substantial increase in odors outside of the facility that would affect a substantial number of people. Therefore, potential impacts related to objectionable odors would be less than significant.

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

Discussion

A Biological Resource Assessment was completed for the proposed project in May 2019. The Assessment included a reconnaissance-level survey that was performed by biologist Chris Rogers on April 25, 2019. The Assessment, located in Appendix B, provides species descriptions, background and site-specific information pertaining to special-status plants, wildlife species and habitats, which may represent constraints to the proposed project. The following is a summary of listed species with potential habitat in the vicinity of the project area. A detailed list of all sensitive species that have been included in database queries of the nine 7.5-minute USGS quadrangles surrounding the study area are included in Appendix B along with their potential to occur in the project area. The impact evaluation also includes a summary of the Assessment results used to determine the potential for biological resource impacts.

The presence or potential for occurrence of special-status biological resources within the biological study area (BSA) is based on direct observation or an evaluation of the suitability of existing habitats occurring within the BSA. Suitability is based on familiarity with the specific habitat requirements (i.e., elevation, geology, soil chemistry and type, vegetation communities, microhabitats), geographic distribution, local occurrence records, and the degree of habitat disturbance or alteration.

The BSA is located at 895 E. Third Street. The property is bordered by existing industrial facilities and open fallow fields. A small portion of the site is situated on the shoreline of New York Slough just upstream (east) of the confluence with the Sacramento River, opposite of Browns Island, and 1.0 km (0.6 mi) east of the Pittsburg Marina.

The proposed project site is a paved and gravel lot with several existing buildings. Vegetation is dominated by non-native ruderal (i.e. weedy) plants and landscaping trees. A small easement extends to the shoreline of New York Slough, which supports sparse emergent wetland vegetation in intermittent patches, and armored sections with little or no vegetation. No submerged aquatic vegetation is present along the shoreline. The plant communities and wildlife habitats present in the study area are described below.

No native soils or land surfaces remain on the site. Underlying geology of the paved project vicinity consists of clay soils derived from alluvial deposits, which supported agriculture in the past. These soils are older and more stable than the peat and muck that more recently accreted to form the delta islands to the north of the New York Slough, and throughout the delta. Soils onsite are mapped as belonging to the Clear Lake series (USDA, 2018). The Clear Lake series consists of poorly drained soils that, in an undisturbed condition, support annual grasses and forbs and scattered live oaks. These soils are generally deep, with groundwater at about 2 m (80 in). Clear Lake soils are classified as Xeric Endoaquerts.

The New York Slough reach of the San Joaquin River constitutes a prominent hydrologic feature of the project area. At the project site, the river is tidally influenced, with tidal fluctuations of an average of 1.6 m (5.2 ft).

The majority of the BSA is developed, including concrete pavement and industrial buildings, and a concrete-covered stormwater outfall and discharge pipe that extends into the waters of New York Slough (Figure 3). The above-ground structures are maintained and in use, diminishing their suitability for nesting or roosting wildlife. Nonetheless, certain birds and bats could reside within or on these structures at various times of year. Ornamental landscaping trees also are included within this cover type.

Plant communities and habitats occurring within the BSA include anthropogenic, aquatic, littoral zone, river bank, and ruderal uplands. Although developed and highly altered by agriculture which predated the current industrial use, the shoreline and aquatic habitat within the BSA is considered to have relatively high wildlife habitat values.

Figure 3: Vegetation and Habitat Types

Would the proposed 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?

Less Than Significant with Mitigation. The following is a summary of species with potential to be impacted by the project due to the presence of designated or suitable habitat followed by the evaluation of project activities on the species.

Special-Status Wildlife Species

Chinook Salmon (Central Valley Spring-Run and Winter-Run ESUs)

The Chinook salmon (*Oncorhynchus tshawytscha*) Central Valley Spring-Run Evolutionarily Significant Unit (ESU) was listed as Threatened under FESA in 2005[3]; a five-year review of this ESU was completed in 2016 (NMFS, 2016). The Sacramento River Winter-Run Evolutionarily Significant Unit (ESU) of Chinook salmon (*Oncorhynchus tshawytscha*) was listed as Threatened under FESA in 1994[4] and its status was confirmed in 2014[5]; a five-year review of this ESU was completed in 2011 (NMFS, 2011).

Critical habitat has been designated for the Central Valley Spring-Run ESU of Chinook by the NMFS. The project site is located in the North Diablo Range Hydrologic Unit 5543 of designated critical habitat.

Critical habitat has been designated for the Sacramento River winter-run Chinook ESU by the NMFS. The project site is not located in designated critical habitat for this ESU.

The 6-inch thermal cooling water outfall to be utilized by the project is located within suitable habitat for the Central Valley Spring-Run ESU of Chinook and the Sacramento River winter-run of Chinook. No occurrences for the Central Valley Spring-Run ESU or Sacramento River winter-run of Chinook have been recorded from within an 8 km (5 mi) radius of the project site (CNDDB, 2019). Nonetheless, due to the presence of suitable aquatic habitat within the BSA and given that the project site is located within designated critical habitat, the presence of Chinook must be assumed.

Delta Smelt

The Delta smelt (*Hypomesus transpacificus*) is federally Threatened (San Francisco Bay/Delta DPS[6]); and State Endangered. The proposed project is located on the shores of New York Slough, which is included in the Critical Habitat designation.

The 6-inch thermal cooling water outfall is located within suitable migratory habitat for Delta smelt, and the species is presumed to be present. However, the shoreline at the project location does not provide suitable breeding or rearing habitat for the species.

[3] 70 FR 37160

[4] 59 FR 440

[5] 79 FR 20802

[6] Distinct Population Segment

Longfin Smelt

Longfin smelt (*Spirinchus thaleichthys)* is federally listed as a Candidate species (San Francisco Bay/Delta DPS[7]) and is State listed as Threatened. Critical Habitat has not been designated for the longfin smelt. No suitable spawning habitat for longfin smelt is present within the study area. However, migrating and foraging longfin smelt may occur in the project vicinity.

North American Green Sturgeon

The Southern Distinct Population Segment (DPS[8]) of the North American green sturgeon (*Acipenser medirostris*) was federally listed as Threatened in 2006.[9] Critical habitat for the species was designated by the NMFS in 2009.[10] It is also listed as a California Species of Special Concern. The project site is located within designated critical habitat. Nonetheless, due to the presence of suitable aquatic habitat and given that the 6-inch thermal cooling water outfall is located within designated critical habitat, the presence of sturgeon must be assumed.

Sacramento Splittail

Sacramento splittail (*Pogonichthys macrolepidotus*) is Species of Special Concern in California. Although it was determined that the species did not warrant federal listing by the USFWS in 2010, it remains a candidate for listing under Federal Endangered Species Act (FESA).[11] Critical Habitat has not been designated for the Sacramento splittail. The species is considered to potentially occur on site. Sacramento splittail has not been recorded from within an 8 km (5 mi) radius of the project site (CNDDB 2019). The 6-inch thermal cooling water outfall is located within suitable habitat, therefore, the presence of longfin smelt must be assumed. No suitable spawning habitat for longfin smelt is present within the study area. However, migrating and foraging longfin smelt may occur in the project vicinity.

Steelhead

The Central Valley Distinct Population Segment (DPS[12]) of steelhead (*Oncorhyncus mykiss*) was listed as threatened under FESA in 2006[13]; a five-year review of this DPS was completed in 2016 (NMFS, 2016). It is a considered a Special Animal in California. The project site is not located within designated Critical Habitat for the species. The Central Valley steelhead DPS is not a covered species under the HCP/NCCP (Jones & Stokes, 2006). The project site is located within suitable habitat for the Central Valley DPS of steelhead. One occurrence for the Central Valley DPS of steelhead is recorded from within an 8 km (5 mi)

[7] Distinct Population Segment

[8] NMFS has relied on the Evolutionarily Significant Unit (ESU) concept and considers DPSs to represent ESUs if the population is reproductively isolated and represents an important component in the evolutionary legacy of the species.

[9] 71 FR 17757

[10] 74 FR 52300

[11] 77 FR 19756

[12] NMFS has relied on the Evolutionarily Significant Unit (ESU) concept and considers DPSs to represent ESUs if the population is reproductively isolated and represents an important component in the evolutionary legacy of the species.

[13] 71 FR 834

radius of the project site (CNDDB 2019). This record (Occ. #27) is a 2012 sighting from the Bouldin Island quadrangle.

Pacific Pond Turtle

The Pacific pond turtle (*Emys marmorata*, hereafter referred to as PPT[14]), is the only fresh-water turtle native to greater California. The PPT is a Species of Special Concern in California. Critical Habitat has not been designated for the PPT.

The waters of New York Slough and its banks provide both suitable breeding habitat and a movement corridor for PPT. While the section in which the project is located provides perennial water, it lacks vegetative cover and warm, sandy banks for breeding. However, the project site is not mapped as providing either core or movement habitat for PPT (Jones & Stokes, 2006). No PPTs were observed during the present survey.

There are four records of the species occurring within 4.8 km (3 mi) of the project site. This nearest record (Occ. #144) consists of two adults observed in 1998 in a pond on the Dow Chemical facility on the south shoreline of New York Slough approximately 1.5 km (0.9 mi) east of the project site.

Special-Status Plant Species

Mason's Lilaeopsis

Mason's lilaeopsis *(Lilaeopsis masonii)* is state listed as rare. Critical habitat has not been designated for Mason's lilaeopsis. A small patch of Mason's lilaeopsis occurs within the study area, on fine sediments accumulated in riprap at the mouth of the stormwater outfall (see Figure 5, and photographs 4 and 5 in Attachment A of Appendix B). The total area is approximately 3 ft^2. Marginally suitable habitat for Mason's lilaeopsis is present within the littoral zone of the study area but was not otherwise present. There are 12 records of Mason's lilaeopsis within an 8 km (5 mi) radius of the project site (CNDDB, 2019); it has been recorded from the Browns Island due north of the project site, in relatively undisturbed habitat on the unarmored shoreline.

Impacts

The project site is located within designated EFH for the Pacific Groundfish Fishery. Operation of the thermal cooling water discharge would be within permitted parameters for temperature provided by the San Francisco RWQCB within their authorization to use the outfall. The project's cooling water discharge would not result in adverse effects on EFH because the maximum temperature of 86° F allowed in the previous permit for the outfall would not be exceeded.

Project implementation would not impede the movement of any fish species. Construction and operation of the proposed project would not result in take of the species, or significant adverse effects. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal cooling water through the existing 6-inch outfall will be consistent with previously permitted use and would not result in changes to aquatic habitat. However, the project site is located within designated critical habitat for Delta smelt and spring-run Chinook; therefore, impact avoidance and minimization measures are warranted. Suitable or marginally suitable habitat is present on site for a total of eight special-status animal species. These include six fish species (Chinook salmon, Delta smelt, longfin smelt, green sturgeon, Sacramento splittail, and steelhead). Also potentially occurring within the BSA are Pacific pond turtle, bank swallow.

[14] Formerly classified as *Clemmy marmorata* and *Actinemys marmorata*; also known as western pond turtle.

No activities associated with construction or operation of the proposed project are expected to have any adverse effect on these species.

However, because of the sensitivity of the aquatic species and their habitat are in close proximity to the project activities, the importance of contact avoidance and prevention of upsets necessitates protections that are included in Mitigation Measure Bio-1 Protection of Special-Status Fish Species.

Although no individuals of Pacific pond turtle were observed during the recent survey, the species is known to inhabit stream mouths and the shoreline of the San Joaquin River in Contra Costa County. The river bank at the project could attract pond turtles since marginally suitable locations for sunning are present on site. Warm, sandy banks required for egg-laying are not present on site. Nonetheless, Pacific pond turtles could move through the work area along the shoreline between occupied habitats. If present, individuals could be harmed during construction activities. With the incorporation of the Mitigation Measure Bio-2, potential impacts to Pacific pond turtle would be reduced to a less-than-significant.

One special-status species, Mason's Lilaeopsis, was detected within the BSA. Although not detected, suitable or marginally suitable habitat is present on the shoreline for several other special status species, such as Suisun marsh aster. Accidental impacts could result during movement or placement of equipment or people near stormwater outfall. If construction activities are required near the shoreline of the project area, implementation of Mitigation Measure Bio-3 would reduce potential impacts to special status plant species to less than significant.

MITIGATION MEASURES:

Bio-1 Protection of Special-Status Fish Species

1. The identification and protection of special-status species populations and habitats shall be a part of a worker environmental awareness program (WEAP) for all workers onsite. Documentation of participation shall be kept onsite for review by City and/or resource agencies.
2. No work shall occur within the waters of New York Slough.
3. All discharges through the stormwater outfall shall be the same as with current and past use of the site, i.e. conveyance and discharge of runoff from the project site only, through existing catchments and culverts.
4. No alteration or reconfiguration of the shoreline at the stormwater outfall shall occur. The existing rock slope protection and soil on the shoreline shall be left in place.
5. No change to the location or operation of the 6-inch thermal wastewater outfall shall occur. The discharge shall be operated according to previously permitted operation parameters with regard to volume and of the discharge and allowable temperature changes within the aquatic environment, to be outlined in an NPDES permit specific to the proposed project.
6. To ensure toxic substances are not released into the aquatic environment, the following measures shall be followed:

   a. all engine-powered equipment shall be well-maintained and free of leaks of fuel, oil, hydraulic fluid or any other potential contaminant;

   b. all engine-powered equipment used and operated from the decks of barges, boats or the wharf shall be positioned over drip-pans;

   c. a spill prevention and response plan shall be prepared in advance of the commencement of work; a spill kit with appropriate clean-up supplies shall be kept on hand during the construction and operations phases of the project;

d. refueling and maintenance of mobile equipment shall not be performed directly over the waters of the river. Only approved and certified fuel cans with "no-spill" spring-loaded nozzles shall be used.

7. Any wildlife encountered during work shall be allowed to leave the construction area unharmed and shall not be flushed, hazed, or herded away from the project site.
8. Any special-status species detected shall be reported to the CDFW and a survey form shall be submitted to the CNDDB.

Bio-2 Protection of Pacific Pond Turtle

1. Boats, barges and project-related floating or submerged equipment shall be prevented from contacting the shoreline to avoid crushing individuals that may move through the work area.
2. If pond turtles are observed, they shall be permitted to move out of the work area on their own. If pond turtles are stationary and remain in areas where they would be disturbed by activities, they may be relocated. Only a qualified biologist with a valid scientific collecting permit and prior authorization from the CDFW may relocate Pacific pond turtles.
3. The project biologist shall report sightings, relocations or mortalities of Pacific pond turtle to the CDFW.

Bio-3 Protection of Special Status Plants

1. The location of special-status plants and suitable habitat shall be designated as environmentally sensitive areas and clearly marked in the field with high visibility construction fencing or staking prior to construction and operations.
2. The identification and protection of special-status plant populations and habitats shall be a part of a worker environmental awareness program (WEAP). Documentation of participation shall be kept onsite for review by City and/or resource agencies.
3. Alteration of the riprap at the stormwater outfall shall be avoided. Boats, barges and any floating or submerged equipment shall be prevented from contacting the shoreline to avoid crushing native vegetation.
4. An Project Biologist with 3 years of professional biological experience in the San Francisco Bay Delta region (resume onsite for City and/or resource agency review) shall inspect the shoreline for proper maintenance of the construction fencing or staking and identify activities that may pose a risk of impacting special-status plant populations and habitats annually.
5. The project biologist shall report rare plant observations to the CNDDB. Accidental impacts to rare plant populations shall be reported to the CDFW. Discovery of any additional special status plants species will be reported to the CDFW, and a suitable response agreed upon before restating work in that area.
6. If changes to the condition of the shoreline are determined to be necessary, then the project proponent will prepare a Mitigation and Monitoring Plan (MMP) subject to approval by regulatory agencies including launching boats from shoreline or working on the storm drain or cooling water discharge pipe.

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?

Less Than Significant Impact. Special-status natural communities recorded from the project region include Alkali Meadow, Alkali Seep, Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Northern Claypan Vernal Pool, Serpentine Bunchgrass Grassland, Stabilized Interior Dunes, and Valley Needlegrass Grassland (CNDDB, 2019). None of these special-status natural communities are present within the project footprint and none would be impacted by the proposed project.

Based on a review of CNDDB (2019), the project site is located within designated critical habitat for Delta smelt and spring-run Chinook (see discussion in "a" above). However, because the proposed project does not include work within the aquatic environment, and discharges through the outfall would be within permitted parameters (See Section 1.10 for details), there would be a less than significant impact on critical habitat.

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

Less Than Significant Impact. Small, fringing patches of freshwater emergent marsh are present along the shoreline near the study area. This vegetation occurs in a narrow band, averaging 0.6 – 1.8 m (2 – 6 ft) in width. It does not conform to the described special-status natural communities but does constitute jurisdictional wetlands.

Project implementation would not result in potentially significant impacts to features falling under the jurisdiction of the USACE, CDFW and RWQCB. No discharge of fill material into waters of the U.S. or of the state would occur, nor would there be alteration of the bed or bank of New York Slough, and no loss or impact to jurisdictional wetlands or riparian habitat, or loss of beneficial uses associated with them. Therefore, no action would occur that would be subject to federal, state and local laws and policies that regulate wetlands and other waters[15] because the areas of potential jurisdictional wetlands is between the stormwater outfall and the water and all project activities avoid this area. Therefore, the project would have a less than significant impact on federally protected wetlands.

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?

Less Than Significant with Mitigation. The BSA supports suitable nesting habitat for a variety of special-status and migratory passerines (perching birds), mainly consisting of the row of eucalyptus trees on the eastern portion of the site. A few other small trees and ornamental shrubs provide some nesting opportunities, as well. No bird nests were observed on site during the April 25, 2019 survey discussed in Appendix B.

Although the removal or pruning of trees or other vegetation on the river banks is not proposed, project implementation would temporarily increase noise and human activity levels nearby. If occurring between February 1 and August 31, these activities could result in indirect impacts on birds by disrupting breeding

[15] Except with regard to NPDES; see Section 1.10 Hydrology.

or causing abandonment of occupied nests. If present at the time of construction, such indirect impacts on special-status and migratory birds would be considered Take.

As discussed in "a" above, Project implementation would not impede the movement of fish species. However, the aquatic habitat of New York Slough and the shoreline of the subject property may be part of wildlife movement corridors. Although over-land movement is restricted by fencing, barren ground, and moderately intense human disturbance in the form of vehicles, pedestrians, lighting and noise, the shoreline is somewhat protected from these limitations. Vegetation on the river bank provides cover for dispersing wildlife, forming a corridor between more extensive areas of undeveloped, natural habitats. Open water also facilitates the movement of numerous aquatic species such as mountain beaver, common muskrat and northern river otter. The San Joaquin River serves as an important corridor for resident and anadromous fish.

Nonetheless, project implementation would not interfere substantially with the local or regional movement of 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 because the deepwater discharge of thermal cooling water would be the only project component within wildlife areas. The volume and temperature of the water being discharged would be within the criteria for the discharge of elevated temperature water in the State Water Resources Control Board's *Water Quality Control Plan for Control of Temperature in The Coastal and Interstate Waters and Enclosed Bays And Estuaries Of California.* A detailed discussion of cooling water discharge is located in Section 1.10 Hydrology and Water Quality. As discussed in "a" because of the sensitivity of the aquatic species and their habitat, considerations by staff onsite of contact avoidance and prevention of upsets measures are is presented in Mitigation Measure Bio-1 Protection of Special-Status Fish Species and Bio-2 Protection of Pacific Pond Turtle. Implementation of Mitigation Measures Bio-1 and 2 would reduce potential impacts to aquatic wildlife movement to less than significant.

If present at the time of construction, direct or indirect impacts on breeding migratory birds could result. To ensure compliance to the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC) related to protections for migratory birds and raptors, the actions outlined in Mitigation Measure Bio-4 should be performed prior to the commencement of construction activities. With the incorporation of the measures outlined below, potential impacts would be reduced to a less-than-significant level.

MITIGATION MEASURE:

Bio-4 Protection of Special Status and Migratory Birds

1. If construction activities are scheduled to occur outside of the breeding season (i.e., September 1 through January 31), no preconstruction surveys or other mitigation measures are necessary.
2. If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey shall be conducted of the identified work area and a buffer zone (see #3, below). The survey shall be performed by a qualified biologist no more than two weeks prior to the initiation of work. If no nesting or breeding activity is observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 76 m (250 ft) for raptors and 33 m (100 ft) for passerines should be mapped.
3. For active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for passerines), the project biologist shall make a determination as to whether or not construction activities are likely to disrupt reproductive behavior. If it is determined that construction is unlikely to disrupt breeding behavior, construction may proceed. If it is

determined that construction may disrupt breeding, the no-construction buffer zone should be expanded. The ultimate size of the no-construction buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of sight between the work area and the nest, physical barriers, and the ambient level of human activity. For raptors, the project biologist should contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments.

4. If it is determined that construction activities are likely to disrupt raptor breeding, construction activities within the no-construction buffer zone may not proceed until the project biologist determines that the nest is long longer occupied.
5. If maintenance of a no-construction buffer zone is not practicable, active nests should be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If it is determined that construction activities might cause nest abandonment, work should cease until the project biologist determines that the nest is no longer occupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management should be contacted by the project biologist for guidance.

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

No Impacts. There would not be removal of trees or habitat on site as part of project construction or implementation. All elements of the proposed project construction and operation would be in conformance with all existing and applicable 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 (ECCHCP), the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. No impact would occur resulting from conflict related to violation of local biological regulations or policies.

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. 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 allows 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) o control endangered species permitting for activities and projects in the region that they perform or approve. (ECCCHC 2006) Impacts related to species and habitats in the area are measured in terms of compliance with the ECCCHCP/NCCP.

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 that allows construction, maintenance and use industrial facilities. Further development of the project 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?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion

Would the proposed project:

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

No Impacts. As discussed in the project description, the project site was previously host to a 20-megawatt cogeneration power plant, owned and operated by GWF Power Systems Company, Inc. (GWF) which commenced operations in August 1990[16] and was decommissioned in 2012. As shown on Figure 2, two buildings remain in place that are not significant historical resources. 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?

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

b. – c. ***No Impacts*** Site remedial actions, prior to the construction of the GWF plant, resulted in contaminated soil excavation, consolidation and capping under building floors, and asphalt pavements. The proposed project would consist of skid mounted equipment with no below grade construction of facilities or pipelines. Therefore, there would be no impacts associated inadvertant discoveries of archaeological resources or human remains during construction or operations of the proposed project.

[16] Heritage Global Partners https://www.hgpauction.com/auctions/6857/online-auction-gwf-power-systems-l-p-3/

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

Discussion

The proposed project would be powered with 100% renewable electricity available from the grid through the City of Pittsburg's participation in Contra Costa County's CCE program provided by MCE Contra Costa.

Senate Bill 100 (De León) was filed with the Secretary of State on September 10, 2018. The goal of the legislation is to achieve 50% renewable resources target of total retail sales of electricity by December 31, 2026, and to achieve a 60% target by December 31, 2030. The policy of the state as described in the bill is that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045.

The Bay Area Air Quality Management District (BAAQMD) adopted the Bay Area 2017 Clean Air Plan in April 2017 (2017 Plan). The 2017 Plan provides a pathway for the long-term strategies to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. This reduction includes significantly eliminating the use of fossil fuels used in transportation and buildings. The Plan offers a long-range vision of how the Bay Area could operate in a year 2050 post-carbon economy.

Would the proposed project:

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

Less Than Significant Impact. The goal of the project is to take waste products (flue gas and recycled/crushed concrete aggregate (RCA)) to produce carbon sequestered building materials. The developed products would reduce the need to mine raw materials to produce concrete products overall reducing energy consumption in construction. As a proof of concept, the proposed project would be monitoring and replacing equipment to maximize energy efficiency. During operations, the Applicant has planned to minimize empty truck trips to 15% resulting in efficient use of vehicle miles traveled. Although some energy is used to produce the products, it would be renewable energy and would not create a significant impact due to wasteful inefficient or unnecessary consumption of energy resources to construction or operations.

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

No Impacts. The proposed project energy plan is to use of 100 percent carbon free energy, available from the grid through the City of Pittsburg's participation in Contra Costa County's CCE program provided by

MCE Contra Costa, to power the proposed Project. Therefore, there would be no impact associated with conflicts to state and local plans for renewable energy plans.

1.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No 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?	☐	☐	☒	☐
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Discussion

Table 7 provides a summary of existing faults within the area of the proposed project.

Table 7: Faults in the Vicinity of Pittsburg

Fault	Location and Direction from Project Area	Recency of Movement	Fault Classification	Historical Seismicity	Maximum Credible Earthquake[17]
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) 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) 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.

Would the proposed 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?

[17] 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.

Less than Significant Impact. The nearest, designated, Alquist-Priolo earthquake fault zone is located approximately 10 miles to the west of the City. As shown in Table 7 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. As described in (a)(i) above, the nearest designated, Alquist-Priolo earthquake fault zone is located approximately 10 miles to the west of the City. The closest fault not designated by Alquist-Priolo, Clayton-Greenville, is approximately 3 miles south from the proposed project site. The possibility exists for ground shaking from an earthquake on any of these faults in Table 7. However, the proposed project does not involve development of any permanent structures. The impact from strong shaking would be less than significant.

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

Less than Significant Impact. Based on geotechnical studies completed nearby at the K2 Pure Facility, the fill used to raise site grades on the lower areas has the potential for liquefaction. The proposed project site is likely underlain by alluvial deposits, which contain a thin layer of liquefiable sand at relatively shallow depths (Hultgren-Tillis 2016). Liquefaction within the alluvial areas could result in the surface settlements of less than one inch. However, as stated above in response (a)(ii), the Project does not involve development of any permanent structures, so this impact would be less than significant.

iv.) Landslides?

No Impacts. The proposed project site is on relatively flat land without significant slope and the City of Pittsburg 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?

No Impacts. The proposed project includes minor ground disturbance on land that has been capped with cement and asphalt; therefore, no impacts would occur to topsoil or result in soil erosion because there is no topsoil present in the area of construction and operations.

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?

Less Than Significant Impact. As discussed above in "ii" nearby geotechnical investigations indicate the site could contain fill used to raise site grades on the lower areas. This fill has the potential for liquefaction. In addition, the proposed project site is likely underlain by alluvial deposits, which contain a thin layer of liquefiable sand at relatively shallow depths (Hultgren-Tillis 2016). Liquefaction within the alluvial areas could result in the surface settlements of less than one inch. However, no permanent structures are being constructed that could result in potential in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, the impact 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?

No Impacts. The Project does not include construction of any permanent buildings, so there would be no impact from expansive soil.

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. Restrooms would be portable facilities that would have waste pumped and removed from the site. Wastewater from washing and rinsing of product material would be less than 30 gpm and would be collected and sent to the City sewer system in accordance with the City of Pittsburg's Clean Water Program. Thermal wastewater would be discharged through the 6-inch outfall pipe into New York Slough. Therefore, there would be no impacts related to soils incapable of supporting septic tanks or wastewater disposal.

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

No Impacts. There would be no ground disturbance associated with the proposed project therefore no direct or indirect impact to paleontological resource or unique geologic features would occur.

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

Discussion

A Greenhouse Gas Emissions Assessment was completed for the proposed project in May 2019. The Assessment, located in Appendix C, provides applicable regulations, project setting, assumptions, references used, and detailed methods that were applied to determine project related significance on the greenhouse gas criteria. The following is a summary of state regulations, regional standards and the project proposed operations. The impact assessment also includes a summary of the Assessment modeling results and calculations used to determine emissions.

The Intergovernmental Panel on Climate Change (IPCC) defines greenhouse gases as those naturally occurring and anthropogenic chemical compounds within the atmosphere that absorb and reflect infrared radiation emitted by the Earth's surface. A numerical metric known as the 'Global Warming Potential' (or GWP) is a measure of how much a given mass of greenhouse gas is estimated to contribute to global warming relative to an 'equivalent' amount of carbon dioxide (CO_2). Equivalent CO_2 is denoted as CO_{2e}.

The Bay Area Air Quality Management District (BAAQMD) has established a set of guidelines for establishing thresholds of significance for greenhouse gasses (GHG's) consistent with CEQA and AB 32 (BAAQMD 2017b). For projects other than stationary sources, a threshold of 1,100 metric tons (MT) of CO_{2e}/yr has been shown to produce a de minimis impact on basin-wide GHG emissions, and thus is in compliance with AB 32.

For the proposed project, which constitutes a stationary source per the applicant's Authority to Construct Application, the BAAQMD establishes a higher aggregate threshold of 10,000 MT of CO_{2e}/yr. This threshold was used to analyze the proposed carbon capture and mineralization process of the pilot plant.

Fixed emission sources would consist predominantly of those emissions identified by the project applicant as being generated as part of the pilot plant operation. The project is expected to utilize one of two different sources of CO_2 for its carbon capture and mineralization process, defined as either Scenario 1 or Scenario 2.

Scenario 1 assumes that the proposed facility would utilize the excess flue gas from a single turbine and heat recovery steam generator (HRSG) at the Calpine LMEC site as the source of CO_2 generation in the pilot process, while Scenario 2 assumes that the project site would utilize a registered 6.3 MBtu/hr natural gas boiler onsite to provide the necessary CO_2 generation. Under these two conditions, Scenario 1 consumes outside CO_2 as part of the process, while Scenario 2 generates the necessary CO_2 onsite. This distinction is only important from the standpoint of determining aggregate greenhouse gas emissions from the site.

Finally, secondary operational greenhouse gas sources would consist entirely of electrical consumption at the project site, solid waste trash generation from the site, and overall site water consumption.

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 proposed project site would be constructed and operated over the course of approximately 450 days without any deleterious air quality conformity impacts requiring mitigation, per BAAQMD guidelines. The results are tabulated in Table 8.

N_2O has a GWP of 296 with respect to CO_2, the result can be expressed as an equivalent CO_2 level (CO_{2e}) of 1,257,200.8 pounds, or 570.3 MT. Thus, the final equivalent CO_2 GHG load due to the project would be the summation of this value, and the direct CO_2 production (including any water usage for dust control), also shown in Table 8, or 1,411,577.3 pounds (640.3 MT) CO_{2e}, during all activities.

TABLE 8: Diesel-Powered Construction / Material Handling Vehicle GHG Emissions

			Direct Stoichiometric Gas Emissions	
Equipment Type Model	**Aggregate CO in Pounds (MT)**	**Aggregate NO_X in Pounds (MT)**	**CO_2= 27×CO in Pounds (MT)**	**N_2O = 0.3×NO_X in Pounds (MT)**
CAT 2PD5000 Forklift	748.8 (0.3)	1,396.5 (0.6)	20,218.2 (9.2)	418.9 (0.2)
JD 644E Loader	2,349.2 (1.1)	4,381.1 (2.0)	63,429.6 (28.8)	1,314.3 (0.6)
CAT CT610 Dump Truck	1,031.8 (0.5)	2,738.2 (1.2)	27,857.5 (12.6)	821.4 (0.4)
Peterbuilt 348 Transport Truck	1,444.5 (0.7)	3,833.4 (1.7)	39,000.5 (17.7)	1,150.0 (0.5)
Powered Haulage Emissions (MH DSL)	132.2 (0.1)	1,808.9 (0.8)	3,569.8 (1.6)	542.7 (0.2)
Total (Σ):	**5,706.5 (2.6)**	**14,158.0 (6.4)**	**154,075.6 (69.9)**	**4,247.3 (1.9)**
			CO_{2e} from CO:	**154,075.6 (69.9)**
			CO_{2e} from N_2O:	**1,257,200.8 (570.3)**
			Direct CO_2 from Wet Suppression Water Usage: [18]	**300.9 (0.1)**
			CO_{2e} Total Over Construction Period:	**1,411,577.3 (640.3)**

Rounding margin of error ± 0.1 MT (220.5 pounds)

The proposed project site is expected to have a cumulative worst-case trip generation level of 25 ADT as previously analyzed within the project's Air Quality Impact Assessment (AQIA) (Appendix A). The average vehicle trip length would be 50 miles, with a median running speed of 45 MPH. Given this, the aggregate project trip GHG emission levels are shown in Table 9 below.

TABLE 9: Project Daily Operational Vehicle GHG Levels

[18] Water usage based upon an assumed wet suppression level of 36,000 gallons over the course of construction.

Vehicle Classification	Trip ADT	Total Emissions in Pounds per Day (MT per Day) Direct CO_2	Direct N_2O	CO_{2e}
Light Duty Auto (LDA)	17	475.1 (0.2)	0.0 (0.0)	483.3 (0.2)
Light Duty Truck (LDT1)	5	156.0 (0.1)	0.0 (0.0)	161.6 (0.1)
Medium Duty Truck (LHD1)	2	128.6 (0.1)	0.0 (0.0)	132.7 (0.1)
Heavy Duty Truck Gasoline (MH GAS)	0	50.9 (0.0)	0.0 (0.0)	52.3 (0.0)
Heavy Duty Truck Diesel (MH DSL)	1	93.1 (0.0)	0.1 (0.0)	129.6 (0.1)
Motorcycle (MCY)	0	2.1 (0.0)	0.0 (0.0)	3.2 (0.0)
Total (Σ):	25	905.8 (0.4)	0.2 (0.0)	962.7 (0.4)
			CO_{2e} from CO:	**905.8 (0.4)**
			CO_{2e} from N_2O:	**57.0 (0.0)**
			CO_{2e} Operational Total Per Day:	**962.7 (0.4)**

Rounding margin of error ± 0.1 MT (220.5 pounds)
Values rounded to closest whole integer vehicle

As provided in the Discussion above, fixed CO_2 emission sources under the context of this pilot project would consist of Scenario 1 or Scenario 2.

Only one scenario will be ultimately selected as the CO_2 generation for the carbon capture and mineralization process of the pilot plant, and both scenarios anticipate an approximate 70% recovery rate of CO_2 through the mineralization process that would otherwise be released into the atmosphere. The complete operational emissions summary, as estimated by the project applicant, is shown in Table 10.

TABLE 10: Applicant Predicted Operational Emissions

Scenario Examined	Operational Phase	Generated CO_{2e} (MT)
Scenario 1: Flue Gas Extraction	Offsite Import of CO_2 to Site	-973.1
	Recovered CO_2 Level @ 70% Efficiency	**-681.2**
Scenario 2: Onsite Boiler Utilization	Onsite Generation of CO_2	+793.4
	Recovered CO_2 Level @ 70% Efficiency	+555.4
	Net CO_2 Level Remaining	**+238.0**

Source: Atmospheric Dynamics, Inc. 4/19.

Thus, under Scenario 1, the project would remove 681.2 MT of CO_{2e} as a result of the carbon capture and mineralization process, while Scenario 2 would produce a small overall increase in CO_{2e} of 238.0 MT due to less than perfect system efficiency. These sources, in and of themselves, would not be classified as significant emission sources, and are not expected to generate a GHG impact.

The project site would require an estimated average yearly energy consumption of 775,000 KWh/year. Utilizing an intensity factor consistent for a 20% Renewable Portfolio Standard (RPS), gives an annual equivalent CO_{2e} GHG load for the project site due to electrical usage of 225.6 MT/year.

The project site would have an onsite solid trash waste storage capacity of 10 cubic yards (cu-yd), with an average weight of 200 pounds per cubic-yard. Assuming two trash pickups per week, in accordance with proposed site requirements, the aggregate total solid waste removed from the site would be 208,000 lbs/year (or 104 short tons per year). According to the IPCC, landfill CO_{2e} generation due to trash is approximately 0.3196 pounds per pound of trash per year (IPCC 2001). Thus, the direct landfill CO_{2e} contribution level would be 30.2 MT/yr.

The projected greenhouse gas emission budget for the proposed project would be the summation of the individual sources previously identified and compared against the two aforementioned pilot process scenarios, as shown in Tables 11a and -b.

TABLE 11a: Summary of Significant Project-Related GHG Emissions – Scenario 1

Project Phase / Operation	Total CO_{2e} Emissions in MT/year
Construction / Material Handling / Haulage	+640.3
Operational Vehicular Emissions	+159.4
Electrical Consumption	+225.6
Solid Waste Generation	+30.2
Water Consumption / Wastewater Processing	+0.4
GHG Emissions Due to Project Development	**+1055.9**
Recovered CO_2 Level @ 70% Efficiency (Table 4)	-681.2
Final Project GHG Emissions Under Scenario 1	**+374.7**

Rounding margin of error ± 0.1 MT (220.5 pounds)

TABLE 11b: Summary of Significant Project-Related GHG Emissions – Scenario 2

Project Phase / Operation	Total CO_{2e} Emissions in MT/year
Construction / Material Handling / Haulage	+640.3
Operational Vehicular Emissions	+159.4
Electrical Consumption	+225.6
Solid Waste Generation	+30.2
Water Consumption / Wastewater Processing	+0.4
GHG Emissions Due to Project Development	**+1055.9**
Recovered CO_2 Level @ 70% Efficiency (Table 4)	+238.0
Final Project GHG Emissions Under Scenario 2	**+1293.9**

Rounding margin of error ± 0.1 MT (220.5 pounds)

Both scenarios produce combined construction and operational levels far below the BAAQMD allowable threshold of 10,000 MT CO_{2e} per year. Thus, no construction or operational impacts are expected, so the project's generation of greenhouse gas emissions would cause a less than significant impact on the environment.

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

No Impacts. As discussed in Section 1.3 Air Resources "a" above, the Bay Area Air Quality Management District (BAAQMD) adopted the Bay Area 2017 Clean Air Plan in April 2017 (2017 Plan). In addition to reducing emissions of air pollutants and greenhouse gases in the Bay Area over the near term, the 2017 Plan provides a pathway for the long-term strategies to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The Plan offers a long-range vision describing how the Bay Area could look and function in a year 2050 post-carbon economy, and describes a comprehensive control strategy that the BAAQMD will implement over the next three to five years to protect public health and the climate, while setting the region on a pathway to achieve the 2050 vision. (BAAQMD 2017a)

The project is a proof of concept for the sequestration of carbon, ultimately from flue gas, into building materials using renewable energy and recycled water when feasible. A successful project would result in reduction of mining of raw materials for construction as well as support the BAAQMD 2017 Plan for a post-carbon future. The discussion in "a" above also supports the analysis that the project is in compliance BAAQMD CEQA Thresholds. Therefore, the project does not impact applicable plans, policies or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

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?	☐	☐	☒	☐
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?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Discussion

The Contra Costa Health Services - Hazardous Materials Programs (CCHSHMP) is responsible for monitoring industries located within Contra Costa County that use or store hazardous materials and responding to hazardous materials incidents that occur within the County. The CCHSHMP established the Hazardous Materials Business Plan (HMBP) program in 1986 to prevent or minimize damage to public health, safety, and the environment from a release or threatened release of hazardous materials. This is accomplished by enforcing the provisions of County's HSC Division 20, Chapter 6.95, requiring businesses that handle hazardous materials in reportable quantities to submit an annual HMBP, as well as prepare a site map, develop an emergency response plan, and implement a training program for employees.

As discussed in Air Resources, Section 1.3, Scenario 1 would remove CO_2 from flue gas and combine it with RCA (demolished and returned concrete. As provided in the project description, Table 12 provides the chemicals used in the process in the operations of the proposed project.

Table 12: Chemicals and Quantities Stored Onsite

Chemical	Common Name, Physical State	Approximate Storage Volume	Location of Chemical Addition
NH_4Cl	Ammonium chloride, solid	One (1) pallet or roughly 2,200 lb; 40 x 50 lb bags	Reformer Module
NH_3	Ammonia, 0.5 to 19 wt% aqueous solution	One (1) tank of less than 260 gal; less than 2,100 lb	CO_2 Capture Module
HCl	Hydrochloric acid, 30% aqueous solution	One (1) tank of less than 260 gal; less than 2,500 lb	CO_2 Capture Module, Carbonate Coating Module
$CaCl_2$	Calcium chloride, solid	One (1) pallet or roughly 2,200 lb; 40 x 50 lb bags	Carbonate Coating Module
n/a	Waste concrete aggregate, solid	Two (2) piles or roughly 25 cubic yards; 17 ft. w x 17 ft. l x 5 ft. h piles	Reformer Module

As provided on the Material Safety Data Sheet (MSDS) ammonia is not very reactive, but the vapor is toxic and a severe irritant of the respiratory system. Hydrochloric acid (30% aqueous solution) is a severe irritant to the respiratory system if spray is inhaled. The solution is very hazardous when in contact with skin, eye or ingested. Skin contact may produce burns. Calcium chloride is stable under normal storage conditions and is not considered a hazardous substance on the MSDS sheet. However safe handling recommendations include avoiding contact with skin and eyes and avoid dust formation.

The "Health and Safety Element" of the *City of Pittsburg General Plan*, provides specific goals and policies related to the transportation, storage, and usage of hazardous materials and chemicals. The General Plan establishes hazardous materials goals that include minimizing the risk to life and property from the generation, storage, and transportation of hazardous materials and waste by complying with applicable state regulations as well as encouraging redevelopment of areas with potential hazardous materials issues. City policies include measures for preventing the spread of hazardous leaks and spills from industrial facilities to residential neighborhoods and community focal points, and identifying appropriate regional and local routes for the transport of hazardous materials and waste (City of Pittsburg, 2001). The following is a list of the City's relevant goals and policies:

- Goal 10-G-9: Minimize the risk to life and property from the generation, storage, and transportation of hazardous materials and waste by complying with all applicable State regulations.
- Goal 10-G-11: Ensure emergency response equipment and personnel training are adequate to follow the procedures contained within the Emergency Response Plan for a major earthquake, wildland fire, or hazardous substance event.

- Policy 10-P-33: Prevent the spread of hazardous leaks and spills from industrial facilities to residential neighborhoods and community focal points, such as Downtown.
- Policy 10-P-34: Identify appropriate regional and local routes for transport of hazardous materials and wastes. Ensure that fire, police, and other emergency personnel are easily accessible for response to spill incidences on such routes.

Section 10.3 of the General Plan designates certain roadways as acceptable for transport of hazardous materials (City of Pittsburg, 2001), including the following:

- Loveridge Road
- Pittsburg-Antioch Highway
- Tenth Street/Willow Pass Road
- North Parkside Drive

Would the proposed 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. Access to and from SR 4 follows established truck routes (Tenth Street/Willow Pass to Harbor Street to E. 3rd Street, or Pittsburg-Antioch Highway to Harbor to E. 3rd Street), would be used by employees and contractors to access the facility. There would be one truck trip per week of supplies needed for the process; therefore approximately 36 roundtrip truck trips of hazardous materials would be transported for the life of the pilot project. Most of the travel is using roadways that have been approved by the City for use for transport of hazardous materials to an industrialized area for approximately nine months. Access to the site is via a private road at the end of the public portion of 3rd Street.

As discussed above, the chemicals used in the process are not very reactive under normal conditions therefore proper handling by trained workers would not create a risk to the public or the environment. No hazardous materials would be produced as a byproduct of the process of making carbonate coated aggregate products. Thermal wastewater would be discharged through the 6-inch outfall pipe and would not be in direct contact with other chemicals or materials during the process. Wastewater generated from the washing of material products would be minimized using recycling of water on-site. Impacts associated with routine transport, use or disposal of hazardous materials would be 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 With Mitigation. As described in the project description, the potential for facility upset conditions and accidents would be minimized with design of secondary containments sized to confine the entire contents of stored chemicals, proper training of operators, and having an emergency response plan in place that outlines procedures to quickly react in the event of an accident or spill. Site-Specific Safety Plan to address safety issues specific to the facility would be developed and be consistent with the existing Safety Program and Policies in the SFBA Safety Plan.

According to the California Accidental Release Prevention (CalARP) Program Administering Agency Guidance, 500 lbs (60 gallons) of ammonia concentration of 1% or greater is covered by the CalARP Program. No other chemical provided in Table 12 is included in the CalARP Program. The project description indicates that 0.5-19 wt% ammonia in a quantity of less than 260 gallons (less than 2,100 lbs would be onsite). Ammonia vapor is toxic and a severe irritant of the respiratory system. An ammonia vapor release could create a hazard to the public resulting in a significant impact. Impacts associated with

reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be reduced to less than significant with implementation of Mitigation Measure Hazards-1.

MITIGATION MEASURE:

Hazards-1 Development of Risk Management Plan

A Risk Management Plan (RMP) shall be developed for the use of ammonia concentration of 1% or greater exceeding 500 lbs (60 gallons) 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. The RMP shall be incorporated into the Site Specific Safety Plan. 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.

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. There a proposed K-12 charter school at the corner of Harbor and E. 3rd Street (Making Waves Academy). However, the proposed school is outside of the quarter mile but still relatively close to the proposed project. There would be no impact associated with hazardous materials within one-quarter mile of existing or proposed 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 project site is located on a 2.5 acre parcel categorized as Voluntary Cleanup site. As provided on the EnviroStor website[19]:

> *Site remedial investigations, prior to the construction of the co-generation power plant, were completed. The investigations determined that soil concentrations of chemicals of concern were higher than the site screening levels USEPA Preliminary Remedial Goals (PRGs). Based on the proposed future land use, the contaminated soil was excavated, consolidated, and capped under the building floors, asphalt pavements, and landscaped areas.*

A Phase 1 environmental site assessment completed in August 2018 by Groundwater & Environmental Services, Inc. verified that the capping infrastructure remains in place sealing any contaminated soil from exposure to the environment and workers. Therefore, the project would have a less than significant impact associated with creating a significant hazard to the public or the environment.

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?

[19] Source: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07490047

No Impacts. The project site is not within the vicinity of an approach/departure flight path of a public airport. The nearest airport is the county-owned Buchanan Field Airport located approximately 13 miles to the west of the project area. 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 would include a Hazardous Material Business Plan (HMBP), that describes in detail the type and volume of chemicals to be used at the facility, to the Contra Costa Health Services - Hazardous Materials Programs (CCHSHMP). California Health and Safety Code – HSC DIVISION 20 - MISCELLANEOUS HEALTH AND SAFETY PROVISIONS CHAPTER 6.95 - Hazardous Materials Release Response Plans and Inventory ARTICLE 1 - Business and Area Plans Section 25505 requires the HMBP. No potential conflicts have been identified between the operation of the carbon mineralization and sequestration 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 project site is developed and industrial in nature and does not contain, nor is it adjacent to, any wildlands. The nearby undeveloped areas are adjacent to New York Slough making the area damp and low risk for fire ignition. 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?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
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:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site;	☐	☐	☐	☒
(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	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) in flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) conflict with or obstruct implementation of water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

The proposed project site is situated along the southern shore of Suisun Bay fronting New York Slough. The bottom of Suisun Bay is predominantly fine silt and clay, crossed by channels scoured by tidal and riverine flows (Schoellhamer, 2001).

The topography of the existing site is essentially flat, but drainage is maintained to Suisun Bay through storm drains. Storm water runoff currently collects and drains via a storm drain system prior to discharging to Suisun Bay.

State Water Resources Control Board's *Water Quality Control Plan For Control Of Temperature In The Coastal And Interstate Waters And Enclosed Bays And Estuaries Of California* is the State Document that

provides the criteria for the discharge of elevated temperature wastes. The criteria that applies to this project is the discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

The RWQCB's Municipal Stormwater Permitting Program regulates stormwater discharges from municipal separate storm sewer systems (MS4). Under the program, the RWQCBs have adopted NPDES storm water permits for municipalities; most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area.

The City of Pittsburg is a permittee under the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Order No. R2-2009-0074), which was adopted by the RWQCB in 2009. The City has joined together with multiple other municipalities to form the Contra Costa Clean Water Program, which operates as the Contra Costa Permittees entity under the MS4 permit. The MS4 permit outlines stormwater effluent prohibitions and Best Management Practices (BMPs) to be implemented during specific public works operations (e.g., road repair). A regional water quality monitoring program is also part of the permit.

Provision C. 3 of the permit applies specifically to projects undergoing development. Certain projects creating and/or replacing at least 10,000 square feet of impervious surface are required to implement storm water management facilities that are designed and sized to provide treatment to remove pollutants from stormwater runoff. Projects creating and/or replacing at least 1 acre of impervious surface must design stormwater management facilities to provide both stormwater treatment and flow-control functions. This demonstration project would not change the impervious surface area of the existing site.

Would the proposed project:

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

Less Than Significant Impact. As described in the Project Description, the proposed project site was previously host to a 20-megawatt cogeneration power plant, owned and operated by GWF Power Systems Company, Inc. (GWF). The facility was decommissioned in 2012 and the site has since been an empty lot used for truck parking. The proposed project site has a perimeter chain link fence. As shown on Figure 2 of the Project Description, two buildings remain in place. Site remedial actions, prior to the construction of the GWF plant, resulted in contaminated soil excavation, consolidation and capping under building floors, asphalt pavements and landscaped areas that remain intact. A Phase 1 environmental site assessment carried out in August 2018 by Groundwater & Environmental Services, Inc. verified that the capping infrastructure remains in place sealing any contaminated soil from exposure to the environment and workers.

The construction of the proposed project would not require any disturbance of soil beneath the existing site caps. The majority of the equipment would be skid mounted for mobilization to and from the proposed project site. No new foundation, or new buildings would be constructed on the site. There would be minimal surface grading and no below grade construction of facilities or pipelines.

THERMAL WASTEWATER DISCHARGE

The project would discharge thermal wastewater from the site into the New York Slough. An existing 6-inch diameter outfall pipe previously used for this purpose during the GWF power plant operation, was verified in December 2018 to be in good working condition by inspection. The use of the existing pipe and outfall is contingent upon acceptance by the appropriate regulatory agencies.

The proposed discharge is located at the northeast corner of the project site at 895 East 3rd Street, and extends out into New York Slough through an existing deep-water outfall, the discharge operated under

NPDES Permit No. CA0029106 (now rescinded). The pipe extends approximately 290 ft into the New York Slough.

The project's thermal wastewater discharge to the outfall would be less than 86° F (max daily average), but would likely have a daily average temperature in the range of 75° F. Regional Monitoring Program data from 1993-2008 indicate that the average temperature of Sacramento River / San Joaquin River monitoring stations was 63° F +/-9° F and the range was 49-75° F. Because the flow is very small and the deep-water outfall is equipped with a diffuser, the discharge is unlikely to cause surface water temperatures to rise more than 4° F above receiving water temperatures due to the small volume of discharge entering a large body of water with a temperature 23% higher than ambient temperature at worst case (86 ° F).

The outfall is proposed to discharge for a duration of 12 months from the time of first operation. Expected maximum rate of proposed discharge is 72,000 gallons per day (GPD); expected average rate of proposed discharge is 24,000 GPD. The 6-inch diameter pipe has adequate capacity for this rate of flow.

The project would comply with the requirements for the discharge of thermal wastewater as presented in the State Water Resources Control Board's *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California*.

For this project: *the discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.*

The source of water that would be discharged is from the Contra Costa Canal aqueduct, before reaching the project site the canal water passes thru a filtering plant owned and operated by UPI. The proposed discharge would not come into contact with any industrial processes and would not result in the addition of chemicals to the discharge.

The previous NPDES permit (CA0029106) that authorized the original use of the cooling water discharge system included the following statement:

The discharge flow is very small compared to the size of the receiving water, the average temperature of the discharge is only slightly elevated over the receiving water temperature, and the deep-water outfall is equipped with a diffuser. For these reasons, the discharge is unlikely to exceed the natural receiving water temperature by more than 20ºF, create an elevated temperature zone larger than 25 percent of the area of New York Slough, or cause surface water temperatures to rise more that 4ºF above receiving water temperatures. No additional limitations appear necessary to protect beneficial uses. (SFRWQCB 2010)

By complying with the thermal limitations for the discharge, the impact during operations on water quality standards would be less than significant due to the low quantity of thermal water mixing with the ambient water in New York Slough.

STORMWATER QUALITY DURING CONSTRUCTION

Runoff of sediment and contaminants during construction activities would be minimized through compliance with the State General Permit for Discharges of Stormwater Associated with Construction Activity (Water Quality Order 2009-0009-DWQ) and a project-specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would comply with current SFRWQCB guidelines and would incorporate acceptable BMPs for control of on-site materials, dust, and sediment and stabilization and proper handling of materials in the project area. BMP provisions may include:

- Implementation of hazardous or contaminated materials-handling procedures such as placing materials into lined bins with covering.

- Designation of appropriate parking and fueling areas;
- Deploying applicable dust and runoff-control measures;
- Delineating a site perimeter to prevent disturbing areas outside the project limits;
- Implementing handling and storage procedures for water generated during construction dewatering;
- Implementing hazardous materials storage, containment, and control measures such as secondary containment berms; and
- Diverting upstream run-on safely around or through the construction project.

Stockpiles of spoils would be placed in designated staging areas. The staging area and storm water runoff from the staging area would be managed according to the provisions of storm water Best Management Practices (BMPs). Typical BMPs include installation of gravel bags at drain inlets, and storage containers for preventing rain from coming into contact with chemicals. These are sometimes referred as structural BMPs. Non-structural BMPs are good habits, practices, or strategies. Some examples are doing routine vehicle maintenance off-site rather than on a construction site, educating employees on storm water issues upon hire and as jobsite issues arise. The project is subject to the Regional Water Quality Control Board's industrial discharge permit.

During project construction, lubricants, fuels, and other chemicals used for construction machinery could be spilled during normal usage or during refueling. Spilled material in unpaved areas could infiltrate the soil column, impacting groundwater quality and groundwater supplies. Measures to avoid and control releases such as requirements for secondary containment, spill kits, and regular equipment inspections would be outlined in the Hazardous Materials Business Plan and the Spill Prevention, Control, and Countermeasures Plan, which would be prepared specifically for site construction conditions, as applicable per regulations of the Contra Costa County Hazardous Materials Programs.

To prevent violations of storm water quality standards, best management practices employed during project construction would ensure that impacts to water quality would be minimized and no violations of water quality standards or waste discharge requirements would occur.

STORMWATER QUALITY DURING OPERATIONS

The proposed project would be required to comply with storm water quality requirements, (provision C.3) of the countywide, National Pollutant Discharge Elimination System (NPDES) permit, so as to minimize runoff of storm water from the project site that could violate water quality standards or waste discharge requirements. A Stormwater Control Plan (SWCP) would be prepared for this project which would identify any necessary C.3 measures.

Since the existing site is capped and there would be minimal surface grading as discussed above, with adherence to the SWPPP and its best management practices the impact during construction would be less than significant. With adherence to the SWCP during the operations, the impact during operations would also be less than significant with respect to water quality standards, waste discharge standards, and groundwater quality.

The following plans and reports would be required to be submitted to the City of Pittsburg Building Division and Engineering Division for review and approval prior to the issuance of any building or engineering permits to prevent violation of water quality standards pre- and post-construction:

- Architectural Site Plans
- Stormwater Control Plan and Report;

- Stormwater BMP Operation and Maintenance Plan; and
- Erosion and Sedimentation Control Plan (SWPPP).

In summary, impacts associated with violating water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction or operations would be less than significant as a result of compliance with federal, state and local regulations.

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

No Impacts. The proposed project would be served by non-potable canal water from UPI, recycled water and the municipal water supply. The project would not require the installation of any new groundwater wells, nor would the proposed project impede the recharge of groundwater. The Project would not increase impervious areas and would not decrease direct rainfall infiltration on the project site. However, as described in "a" above, the proposed project must comply with NPDES permit requirements that specify that post-project runoff must not exceed pre-project rates (Stormwater C.3 Guidebook). Any existing groundwater infiltration is not expected to change.

The project does not include below grade construction of facilities and pipelines. The project would not impact groundwater quality or supply. Therefore, no potential impacts to groundwater or groundwater management from project construction and operations would occur.

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. The project would not alter existing drainage patterns or result in erosion or siltation because the components of the facility would be built on the existing ground surface with no excavation and minimal surface grading. The project would adhere to necessary C.3 provisions to prevent siltation in the storm drains. Due to the lack of ground disturbance from existing conditions, the project would have less than significant impact on existing drainage patterns or changes to impervious surface areas.

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

No Impacts. The pilot project would not change the site's impervious area or provide opportunity for increased flooding on or off-site. The site is currently almost entirely impervious and would remain so after the installation of the of the project components. The duration of the Pilot Project would be approximately one year. During this time the project would not construct any new foundations or create any permanent structures. During construction and operation there would be no impacts associated with increasing the rate or amount of surface runoff that would result in flooding on-or off-site.

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. During construction and operations, the project would not generate any new or increased sources of runoff from the site. The site would not create additional polluted runoff as discussed previously in "a". The impact of contributing runoff water that exceeds the capacity of the existing stormwater drainage system or provide substantial additional sources of polluted runoff would be less than significant.

iv.) impede or redirect flood flows?

No Impacts. The project site currently has an existing storm drain system on-site that would be used to collect and convey stormwater and drain the site. The site currently drains via on-site storm drainage inlets to underground storm drainage pipes that carry the drainage via gravity flow over to the Northeast corner of the project site to an outfall structure that discharges into the New York Slough. A concrete headwall and wingwalls and a flap gate at the end of the 15-inch storm drain pipe exist at the outfall structure. During construction of the project, the storm drain system would be restored to full functionality. The project site would continue to collect and convey stormwater in the same manner as currently done. Therefore, during the construction and operations of the project site, flood flows would not be impeded or redirected resulting in no impact.

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

Less Than Significant Impact. The project site is located outside of the 100-year flood plain as determined by FEMA's flood maps. The site is identified as being in Zone X, Area of Minimal Flood Hazard.

The project area is located near but outside a tsunami hazard area as identified on the My Hazard's interactive web site: Myhazards.caloes.ca.gov, maintained by the State of California's Office of Emergency Services.

No other hazards were identified on the project site. The project would not be susceptible to a seiche (a wave in an inland water body).

Based on the findings presented above, no hazards were determined from the FEMA 100-year flood, a tsunami or seiche. The potential impact of pollutants being released on the site as a result of inundation from these hazards during construction and operation would be less than significant.

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

No Impacts. The City of Pittsburg developed the Groundwater Management Plan: Pittsburg Plain Groundwater Basin in 2012 with the objective to provide a long-term strategy to maintain the quality, reliability, and sustainability of groundwater resources within the Pittsburg Plain Groundwater Basin.

During construction and operation, the project would have no conflict with or obstructions of the implementation of the water quality control plan or the sustainable groundwater management plan. The project would prepare and implement the water quality control plan in compliance with C.3 as previously discussed in "a". Due to the capped nature of the project site as previously discussed in "a" the project site would not impact the groundwater or interfere with the implementation of the Groundwater Management Plan: Pittsburg Plain Groundwater Basin.

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

Would the proposed 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 and west, and vacant land uses to the south, and vacant land and the New York Slough of the Suisun Bay to the north. The proposed project is located in the northwestern portion of the Northeast River Planning Subarea. This Subarea is primarily characterized by established, large-scale heavy industrial operations. Therefore, 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 as discussed in section 1.4 Biological Resources. 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 assemble 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

Would the proposed 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?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Discussion

Section 9.44.010 (Prohibitions) of the City of Pittsburg'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. Construction and operations would occur in one eight hour shift per day between 8:00 am to 5:00 pm.

The materials handling process equipment would generate some noise, it is not anticipated that the noise level would exceed 85 dBA (adjusted decibels) during an eight (8) hour exposure time.

Facility construction includes the following equipment to assemble the components of the carbon capture and mineralization facility:

Forklift (1) Loader (1)

Dump truck (1) Transporter truck (1)

Construction of the proposed project would result in a temporary increase in ambient noise levels within the project vicinity. The nearest noise-sensitive receptors are located approximately 2,500 feet away from the project area. The duration of construction of the proposed project is anticipated to be approximately 3 to 4 months.

Would the proposed project result in:

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 in an area of existing industrial land use, and no noise sensitive land uses adjoin the proposed site. The nearest resident is at a distance of approximately 2,500 feet on E. Santa Fe Avenue. The loader would likely produce the most noise during construction at 85 DBA at 50 feet from source (FTA 2006). At 2,500 feet away it should be significantly lower, and the loader would not be in operation 8 hours a day for four months. Including 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 pm. The operational equipment would also be at the 65 db level to the nearest receptor. Operations would not be running outside of the hours of 8:00 am to 5:00 pm. 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. High levels of groundborne vibration can cause architectural or structural damage to nearby buildings. The threshold at which there is a risk of architectural damage to normal dwelling structures (i.e., cracks in plastered walls and ceilings) is a peak particle velocity of 0.2 inches per seconds (Caltrans 2002). Table 13 provides vibration levels for typical construction equipment, based on the application of the Caltrans-recommended standard.

Table 13: Construction Equipment Vibration Amplitudes[20]

Equipment	Reference peak particle velocity (PPV) at 25 ft. (in/sec)
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003

The vibration levels presented in Table 13, ground vibration generated by heavy-duty equipment would not be anticipated to exceed 0.089 inches per second peak particle velocity at 25 feet. Vibration generated during operations also would not exceed the vibration criteria as the equipment would be located on the other side of the existing building at the south end of the site near the entrance resulting in more than 2,500 feet from the nearest receptor. Impacts related to excessive ground borne vibration or ground borne noise levels would 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?

[20] Source: Caltrans 2004

No Impacts. The nearest airport is the county-owned Buchanan Field Airport located approximately 13 miles to the west of the Project area. Thus, 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Would the proposed 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 three employees would be required to operate the facility. The maximum of six 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 upscaled concrete production 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?	☐	☐	☒	☐
(ii) Police protection?	☐	☐	☒	☐
(iii) Schools?	☐	☐	☐	☒
(iv) Parks?	☐	☐	☐	☒
(v) Other public facilities?	☐	☐	☐	☒

Discussion

Would the proposed project:

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?

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 site, are fully equipped and staffed in accordance with current CCCFPD policies. Station 85, located at 2331 Loveridge Road, is 3.3 miles from the proposed project area. Fire Station 84 at 1903 Railroad Ave. in Pittsburg, is located 2.1 miles from the proposed project.

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 1.9 miles west of the proposed project and would initially respond. In the event all PPD personnel were dispatched on calls, the County Sheriff would be dispatched (CCC Sheriff 2019, personal communication).

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 project would not include new housing or directly increase the project area residential population. The additional six construction workers for 3 to 4 months of construction and the three staff operating the facility for 12 months 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 Impacts. 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 include three operations personnel at the facility. The six construction workers would only be present for up to four months 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 Impacts. No impact to other public facilities would occur as a result of implementation of the proposed Project.

1.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

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. The additional six construction workers for 3 to 4 months of construction and the three staff operating the facility would not increase the local population. As a result, the proposed project would not result in an increase in population or housing in the City of Pittsburg. 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 TRANSPORATION

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?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☐	☐	☒

Discussion

Pittsburg-Antioch Highway is the closest route of regional significance to the proposed project. Pittsburg-Antioch Highway is 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 to the west and at Somersville Road to the east, in Antioch. Harbor Street is the closest major cross street to the proposed project on East 3rd Street.

According to the Pittsburg General Plan State Route 4 has been heavily congested in the westbound direction during the weekday morning peak period (7:00 to 9:00 AM) and in the eastbound direction during the evening peak period (4:00 to 6:00 PM). Based on Caltrans' mainline counts, volumes on State Route 4 range from nearly 80,000 to over 90,000 vehicles per day in the vicinity of Pittsburg. Weekday volumes generally peak between 5:00 to 6:00 PM, with peak hour traffic volumes at nearly 8,000 vehicles per hour. (Pittsburg 2001)

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 proposed 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 would take up to twelve weeks. During the twelve-week period, there would be approximately six trips daily generated by the construction crew. There would be less than a dozen material delivery total trips during construction. During an 8-hour day of operation

roughly three (3) round trip trucks per day for a total of six vehicle round trips per day in combination with worker's travel to and from the project site.

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. 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 As summarized from "a" above, construction would generate less than ten added trips per day. Operations would generate an additional six trips per day. 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)?

Less Than Significant Impact with Mitigation. During operations there would be three full truck roundtrips per day. Trucks filled with upscaled rock product or RCA could spill materials on roadways. This could increase traffic hazards or require the City to provide additional street cleanup on transport routes resulting in a significant impact. Implementation of Mitigation Measure Traffic-1 would reduce hazards created by potential material spillage to less than significant.

MITIGATION MEASURE:

Trans-1: Control Spillage of Hard Substrate Materials from Hauling Trucks.

All Trucks carrying RCA, carbonate coated aggregate, or remediated RCA aggregate shall be covered and have at least six inches of freeboard in the truck bed during transport to eliminate spillage of materials onto the roadway.

d) Result in inadequate emergency access?

No Impacts. The property does not abut a public right of way; pedestrian access from the nearest public roadway does not exist. Access to the site is via a private road at the end of the public portion of 3rd Street. There is a wide gated entrance to the facility for large equipment. Construction would not include any roadway blockage. The proposed project would have no impacts associated with inadequate emergency access.

1.18 Tribal 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 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	☐	☐	☒	☐
(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.	☐	☐	☒	☐

Discussion

On July 1, 2019, the City completed the California Native American tribal consultation process by providing notification of the nearby project to the following tribal representatives.

- Andrew Galvan, Chairperson Ohlone Indian Tribe of the SF Bay Area
- Ann Marie Sayers, Chairperson Indian Canyon Mutsun Band of Castanoan
- Charlene Nijmeh, Chairperson Muwekma Ohlone Indian Tribe of the SF Bay Area
- Katherine Erolinda Perez, Chairperson North Valley Yokuts Tribe
- Irenne Zwierlein, Chairperson Amah Mutsun Tribal Band of Mission San Juan Bautista
- Raymond Hitchcock, Chairperson, Miwok, Wilton Rancheria
- Antonio Ruiz, Cultural Resources Officer, Miwok, Wilton Rancheria

To date, no response has been 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

The project area has been previously disturbed and permanently capped. Construction of the project would not include any ground disturbing activities. The Project's impact to listed or eligible for listing in the California Register of Historical Resources or a local register is less than significant.

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

See "i" 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?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

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. Treated and disinfected secondary effluent is discharged to New York Slough. A portion of the effluent is diverted to the Recycled Water Facility (RWF) in Antioch prior to chlorination at a varying rate depending on recycled water demands (DDSD, 2006).

Water used for cooling in the Process would be discharged through the outfall pipe that exits at the northeast corner of the project site into New York Slough for 12 months from the time of the initial operations of the pilot project. The average discharge would be 24,000 gallons per day and the maximum discharge would be 72,000 gallons per day. The discharge to the Slough would not come into direct contact with the facility

processes. Any thermal wastewater discharge to the New York Slough would adhere to San Francisco Bay Regional Water Quality Control Board's Thermal Plan that prohibits thermal waste discharges with a maximum temperature greater than 4 °F above ambient temperature of the receiving water. Other wastewater generated from the washing of material products would be minimized, utilizing recycling systems on-site and storing collected wastewater in tanks for treatment prior to disposal.

Wastewater discharges would be monitored according to the relevant limit values for specific parameters outlined in compliance documents received during the permitting process. The parameters are anticipated to include temperature, hardness, total chlorides, conductivity and metals. Monitoring of the wastewater would be done at least one (1) time during the planned 12-month operational duration, likely just after commissioning of the Facility and, if deemed necessary, after approximately 500 hours of the Facility being in operation.

Monitoring would consist of internationally accepted standardized sampling, analysis, and quality assurance methods (e.g., ISO standards). Analyses would use the State Water Board's Thermal Plan (for thermal wastewater discharge) and the City's urban wastewater treatment (for discharge to sewer) for exceedance thresholds.

Stormwater. The stormwater infrastructure on the project site exists from the previous land owners. Stormwater runoff is collected by several catch basins and storm drainpipes that convey water to a flap gate exit for the 18-inch diameter storm drain on New York Slough. The stormwater collection and conveyance system was originally designed to accommodate stormwater runoff associated with industrial land uses.

Non-potable Water Supply. The Process would use non-potable water for non-contact process cooling, washing of material products, and to replace evaporative losses of process water. The source of non-potable canal water would be from the eastern neighbor USS-POSCO Industries (UPI), via their water rights to the Contra Costa Canal aqueduct. The canal is managed by the Contra Costa Water District (CCWD) and is delivered to UPI through a two-mile pipeline system owned and maintained by UPI. UPI also owns and operates a filter plant at its facility in Pittsburg, located to the south and to the east of the project site, through which it treats all canal water received from the CCWD. UPI controls an existing 6-inch pipe (previously constructed by GWF) running from its facility to the project site. It is estimated that a 1-inch meter would be needed to measure the quantities of water delivered to the project.

The Facility would use a closed process water loop for cooling; this process water does not come in direct contact with any other water in the Facility. It is anticipated that during operations, the Facility would use less than 30 gallons per minute (gpm) of water to wash the products, with less than 10% of this volume being used as mist for dust control. In addition, the estimated quantity of make-up water during operations is less than 50 gpm and is anticipated to come from the UPI non-potable water and from City water.

Potable Water Supply. The City obtains approximately 90 percent of its untreated water supply from the CCWD through the Central Valley Project (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. The trash enclosure at the facility is sized to accommodate a dumpster with at least ten (10) cubic yards of capacity. The municipal waste service provided by Mt. Diablo Resource Recovery would empty this dumpster as needed during construction. All products from the Facility are anticipated to be used

as construction materials in building products; any other solid waste from operations would be contained in the dumpster in the trash enclosure and would be emptied as scheduled with Mt Diablo Resource Recovery.

Electricity and Gas Service. Pacific Gas & Electric (PG&E) has gas and electric hookups at the site. The last "new construction" was in 2013 (for electric) and the site was last inspected by PG&E in 2014. The main electric connection is 400A/480V/3-phase with meter (currently in service), and the site does have additional single phase meters. It is anticipated that the Process would be powered with 100% renewable electricity available from the grid through the City of Pittsburg's participation in Contra Costa County's CCE program provided by MCE Contra Costa.

Would the proposed 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 proposed project would not produce any change in the anticipated volume of storm water drainage to be discharged because it is being constructed on existing impervious ground. The project would use existing power connections from the previous property owners. The gas-fired steam boiler would be used temporarily until the flue gas connection with LMEC can be developed. The majority of the wastewater would be discharged into New York slough. A portable restroom facility would be used onsite during construction and by the three employees and any visitors during operations. Telecommunication would require one connection. Recycled water would be used for washing of materials and reused onsite as much as possible. Potable water would only be used by the three employees onsite. The minimalist approach to use of facilities and natural resources during this pilot project would result in less than significant impacts to water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities and would not require new or expanded facilities.

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. The primary water used in the project is for cooling during the Process. The source of water would be USS-POSCO Industries via their water rights to the Contra Costa Canal aqueduct that runs through central Contra Costa County. The washing and rinsing of product materials would use recycled water. Since the water being used for cooling is through existing water rights it has already been accounted in allocations and would not require an additional water supply. Therefore, there is sufficient water supply regardless of the type of water year resulting in a less than significant impact.

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 estimated maximum thermal wastewater generated during operations is 50 gpm that would be discharged through the existing outfall at the site. Wastewater from washing and rinsing of product material, anticipated to be less than 30 gpm (0.036 mgd), would be collected and sent to the City sewer system in accordance with the City of Pittsburg's Clean Water Program. Delta Diablo's WWTP has a rated average dry weather flow (ADWF) capacity of 16.5 mgd and peak wet weather flow (PWWF) treatment capacity of 26.0 mgd. The volume of wastewater discharged to the sewer system would be 0.2 percent of the dry weather capacity of Delta Diablo's WWTP resulting in a less than significant impact to wastewater treatment capacity for Delta Diablo Sanitation District.

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 debris would be removed during the construction process and would include separation of materials that can be recycled. Solid waste would primarily consist of packaging from shipment of the prefabricated equipment being put together to create the modules of the Process. The developed byproducts of the process would be reused as part of the process and not generate a new stream of solid waste. The trash enclosure at the facility would accommodate a dumpster with at least ten (10) cubic yards of capacity. As a worst case scenario, if the dumpster was completely filled every week during construction and operation, the total volume of solid waste would be approximately 600 cubic yards (162 tons) of waste for the entire construction and operation duration. The Mt. Diablo Resource Recovery Conditional Use Permit granted from the City has a permitted tonnage of municipal solid waste transferred and processed at the Pittsburg facility of 2,700 tons per day (TPD) (Pittsburg 2018). The tons of waste added by the total project construction and operation would be 6% of one day's authorized waste acceptance to the Mt. Diablo Resource Recovery Park in Pittsburg therefore the impact of the project's generated solid waste on local infrastructure or solid waste reduction goals would be less than significant.

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

Less Than Significant Impact. As discussed in "d" above the minimal waste would be generated during construction. The Process output does not generate any solid waste so waste during operations would result in minimal amounts from packaging removed from supplies or replacement equipment. Therefore, impacts to reduction statutes and regulations related to solid waste would be less than significant.

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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Discussion

Would the proposed 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 Pittsburg has an Emergency Operations Plan (EOP) that contains emergency and recovery plans applicable to natural and human induced hazardous situations. No potential conflicts have been identified between the operation of the carbon capture and mineralization 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?

Less Than Significant Impact. The project site has previously been developed and is industrial in nature. The area does not contain, nor is it adjacent to, any wildlands. The area is generally on level ground bounded to the north by New York Slough; to the east by land owned by USS-POSCO Industries (UPI) and by a PG&E substation; to the south by an easement that runs along East 3rd Street; and to the west by Koch Carbon Inc. 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 2.1 and 3.3 miles from the facility. The area is not susceptible to the spread of

uncontrolled wildfire; therefore the project would have a less than significant impact 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 carbon capture mineralization facility would have process structures on top of an existing asphalt and cement cap. The facility would be constructed on top of the impervious surface with equipment that is easily connected and unconnected. The facility would include storage of chemicals used in production. As provided in the Project Description, the project would include the development of an industrial fire safety plan consistent with applicable standards and fire codes. Fire systems that would be in place include fire extinguishers, fire sprinkler and smoke and fire alarm systems as required, as well as exit signs and emergency lighting. There would be no associated infrastructure of the 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 that is not susceptible to wildfires or contains 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 Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No 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?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

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?

The project would have no impact on cultural resources that could be present in the area because the project site was previously disturbed and capped with cement and asphalt and no subsurface excavation would occur as part of the project. Biological resources along the shoreline of New York slough would not be impacted because construction and operation of the project would avoid habitat in that area. Implementing Mitigation Measures Bio-1, Bio-2 and Bio-3 that include: precautions to avoid release of toxic substances into aquatic environments, educate workers, provide fencing or staking of sensitive areas, and avoiding disturbance of those areas during project operations except for the discharge of stormwater through existing system and cooling water through the existing deep water outfall. Raptors and migratory birds that could be using trees onsite would be protected during construction from disturbance during nesting season (February 1 through August 31) with the implementation of Bio-4 that would require a survey performed by a qualified biologist no more than two weeks prior to the initiation of work. If birds are present, buffers, monitoring and contacting CDFW and/or the USFWS, depending on the species, would occur to avoid disturbance. Therefore impacts associated with substantially reducing the habitat of a fish or wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant

or animal community, substantially reducing the number or restricting the range of a rare or endangered plant or animal would be less than significant with implementation of Mitigation Measures Bio1-4.

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)?

The goal of the project and of the technology being developed by the Applicant is to sequester CO_2 into construction materials. If the pilot project is successful and the Applicant moves forward with full scale operations, the project may provide regional, statewide or larger positive effects that could reduce GHG emissions on a much larger scale in the future.

This pilot project is a small, first of a kind facility that may result in a carbon negative yield. Part of the applicant's operations would be experimenting with different elements of the process to optimize and refine process models with actual field data. At the highest output of the process, the quantity of CO_2 captured would the same quantity that is sequestered in the aggregate rock products (and eventually to concrete). The use of gas-fired steam boiler process equipment is a project option because the flue gas from the power plant may not be accessible when the project is ready for operation, in the interim the Applicant needs to supply its own source of flue gas. However, the use of the steam boiler flue gas results in greenhouse gas emissions that are below BAAQMD allowable thresholds of 10,000 MT CO_{2e} per year. This pilot project would provide operational testing results that would be applied to a permanent project that would be analyzed under CEQA. The project is intended to result in a carbon negative input to the environment. Implementation of Mitigation Measure Air-1 Minimize Dust Generation would reduce PM_{10} and $PM_{2.5}$ levels from concentrations that could be cumulatively considerable in the local area.

Therefore, the project's contribution to cumulatively considerable impacts would be less than significant because it is well below threshold limits for greenhouse gases, and the project is targeting results that would generate a carbon negative outcome in the future. Also, PM_{10} and $PM_{2.5}$ levels would be reduced as much as possible with surface wetting of the site three times a day.

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

The goal of the project is to take waste products (flue gas and recycled/crushed concrete aggregate (RCA)) to produce carbon sequestered building materials. The final product would exceed ASTM C33 Standard Specification for Concrete Aggregates that defines the quality of aggregate for use in concrete. The developed products would reduce the need to mine raw materials to produce concrete products overall reducing energy consumption in construction. The ultimate process would reduce the release of flue gas into the atmosphere. The amount waste generated by the project is minimal due to the recycling of intermediate byproducts in the process. Impacts to the community from a potential release of ammonia in concentrations of 1% or greater would be reduced to less than significant with implementation of Mitigation Measure Hazards-1. Potential for an increase in debris on roadways would be reduced to less than significant by implementation of Trans-1. Therefore, the project would have a less than significant impact on human beings directly and indirectly.

1.22 References:

BAAQMD. 2017a. Bay Area 2017 Clean Air Plan. http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

BAAQMD. 2017b. California Environmental Quality Act Air Quality Guidelines. May 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

California Natural Diversity Data Base (CNDDB), 2019. Data Base Print out for the Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles. RareFind 5.0. California Department of Fish and Wildlife, Biogeographic Data Branch. Sacramento, California. Information dated April 20.

California Regional Water Quality Control Board San Francisco Region (SFRWQCB). 2010. ORDER NO. R2-2010-0095 and NPDES NO. CA0029106. Digitally signed by Bruce Wolfe July 15, 2010.

Caltrans (California Department of Transportation). 2002. Transportation Related Earthborne Vibrations.

City of Pittsburg. 2001. *City of Pittsburg General Plan.*

City of Pittsburg. 2018. *Mt. Diablo Resource Recovery Park Enhancements Project* Initial Study and EIR Addendum. Prepared By JML Planning for the City. November 2018. http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=10604

DDSD. 2006. *Antioch/DDSD Recycled Water Project* Draft Initial Study/ Mitigated Negative Declaration. March 2006. http://www.deltadiablo.org/home/showdocument?id=111

ECCCHC. 2006 *The Final East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan: An Introduction* http://www.co.contra-costa.ca.us/depart/cd/water/HCP/documents/HCP_NCCP/ECCC_HCP-NCCP_Informational_Booklet.pdfaccessed on May 20, 2019

Federal Transit Authority (FTA). 2006. Transit Noise And Vibration Impact Assessment. FTA-VA-90-1003-06. May 2006.

Hultgren-Tillis Engineers. 2016. *Geotechnical Report Update*. K2 Plus Project. K2 Pure Solutions Facility. Pittsburg, CA

Intergovernmental Panel on Climate Change (IPCC). 2001. Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change. http://www.acrim.com///Reference%20Files/CLIMATECHANGE%202001%20-%20The%20Scientific%20Basis.pdf

Jones & Stokes. 2006. *East Contra Costa County Habitat Conservation Plan / Natural Community Conservation Plan*. (J&S 01478.01.) San Jose, CA. October. Prepared for the East Contra Costa County Habitat Conservation Plan Association. Available online at http://www.co.contra-costa.ca.us/depart/cd/water/HCP/

National Marine Fisheries Service (NMFS). 2011b. Central Valley Recovery Domain 5-Year Review: Summary and Evaluation of Sacramento River Winter-Run Chinook Salmon ESU. NMFS, Southwest Region. Available on line at http://www.westcoast.fisheries.noaa.gov/publications/status_reviews/salmon_steelhead/chinook/2011_status_review_sacramento_river_winter_run_chinook.pdf

_____. 2016. *Central Valley Recovery Domain 5-Year Review: Summary and Evaluation of Central Valley Spring-Run Chinook Salmon ESU. NMFS, Southwest Region.* April. Available on line at https://repository.library.noaa.gov/view/noaa/17018

Personal Communications with Sheriff Dispatch Badge #85006. (2019, 01 24)

Schoellhamer, D.H., 2001. Influence Of Salinity, Bottom Topography, And Tides On Locations Of Estuarine Turbidity Maxima In Northern San Francisco Bay. In: Coastal and Estuarine Fine Sediment Transport Processes, W.H. McAnally and A.J. Mehta eds., Elsevier Science B.V., pp. 343–357.

USDA (U.S. Department of Agriculture). 2018. *Custom Soil Resource Report for Contra Costa County, California, Koch Carbon LLC, Pittsburg.* Natural Resource Conservation Service; Web Soil Survey, available online at http://websoilsurvey.nrcs.usda.gov/app/. Report printed April 20.

Appendix A

AIR QUALITY CONFORMITY ASSESSMENT
SAN FRANCISCO BAY AGGREGATES (SFBA)
PITTSBURG, CA

Submitted to:

Ms. Christie Robinson
Brezack & Associates Planning
3000 Citrus Circle, Suite 210
Walnut Creek, CA 94598

Investigative Science and Engineering, Inc.
Scientific, Environmental, and Forensic Consultants

P.O. Box 488
Ramona, CA 92065
(760) 787-0016
www.ise.us

Investigative Science and Engineering, Inc.

ISE Project #19-004

May 13, 2019

REPORT CONTENTS

INTRODUCTION AND DEFINITIONS	**1**
Existing Site Characterization	1
Project Description	1
Air Quality Definitions	1
ENVIRONMENTAL SIGNIFICANCE THRESHOLDS	**9**
California Environmental Quality Act (CEQA) Thresholds	9
CEQA Air Quality Screening Standards	9
BAAQMD Criteria Pollutant Standards	11
Combustion Toxics Risk Factors	12
APPROACH AND METHODOLOGY	**13**
Ambient Air Quality Data Collection	14
Construction and Material Handling Air Quality Modeling	14
Aggregate Vehicle Emission Air Quality Modeling	19
Fixed Source Emissions Modeling	20
CONFORMITY FINDINGS	**21**
Existing Climate Conditions	21
Existing Air Quality Levels	21
Construction and Material Handling Emission Findings	26
Odor Impact Potential from Proposed Site	34
Project Vehicular Emission Levels	34
Predicted Operational Emission Levels	36
CONCLUSIONS AND RECOMMENDATIONS	**37**
CERTIFICATION OF ACCURACY AND QUALIFICATIONS	**38**
APPENDICES AND SUPPLEMENTAL INFORMATION	**39**
SCREEN3 Model Output for Criteria Pollutants: CO, NO_x, SO_x, PM_{10}, and ROG	39
EMFAC 2017 EMISSION FACTOR TABULATIONS – SCENARIO YEAR 2020	49
AVAILABLE ONLINE CONTENT	**50**
INDEX OF TERMS USED IN REPORT	**51**

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

LIST OF TABLES

TABLE 1: EXAMPLES OF EPA MONITORED POLLUTANTS 6
TABLE 2: THRESHOLDS OF SIGNIFICANCE FOR AIR QUALITY IMPACTS 11
TABLE 3A: CARB AEROMETRIC DATA ANALYSIS (PANEL 1) 23
TABLE 3B: CARB AEROMETRIC DATA ANALYSIS (PANEL 2) 24
TABLE 3C: CARB AEROMETRIC DATA ANALYSIS (PANEL 3) 25
TABLE 4A: PREDICTED ONSITE DIESEL ENGINE EMISSIONS 27
TABLE 4B: POWERED HAULAGE EMISSIONS DUE TO MATERIAL IMPORT 27
TABLE 5: PREDICTED ONSITE DIESEL-FIRED EMISSION RATES 31
TABLE 6: SCREEN3 PREDICTED DIESEL-FIRED EMISSION CONCENTRATIONS 31
TABLE 7: OEHHA POINT ASSESSMENT CANCER RISK POTENTIALS BY AGE GROUP 33
TABLE 8A: CARB EMFAC 2017 YEAR 2020 EMISSION RATES 35
TABLE 8B: PROJECT TRIP GENERATED EMISSIONS 35
TABLE 9: SFBA APPLICANT PREDICTED OPERATIONAL EMISSIONS 36
TABLE 10A: AGGREGATE EMISSIONS – SFBA PROJECT CONSTRUCTION 37
TABLE 10B: AGGREGATE EMISSIONS – SFBA PROJECT OPERATIONS 37

LIST OF FIGURES AND MAPS

FIGURE 1: PROJECT STUDY AREA VICINITY MAP 2
FIGURE 2: PROJECT STUDY AREA PARCEL MAP SHOWING SENSITIVE RECEPTORS 3
FIGURE 3: AERIAL IMAGE SHOWING DEVELOPMENT AREA 4
FIGURE 4: PROPOSED SAN FRANCISCO BAY AGGREGATES DEVELOPMENT PLAN 5
FIGURE 5: AMBIENT AIR QUALITY STANDARDS MATRIX 10
FIGURE 6: AMBIENT AIR QUALITY MONITORING STATION LOCATION MAP 15
FIGURE 7: PROJECT AIR BASIN AERIAL MAP 22

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

INTRODUCTION AND DEFINITIONS

Existing Site Characterization

The San Francisco Bay Aggregates (SFBA) project site (APN 073-020-019-3) consists of approximately 2.5 gross acres, located at 895 East 3rd Street, Pittsburg, CA (Contra Costa County), as shown in Figure 1 on the following page. Regional access to the site is obtained from East 3rd Street via Harbor Street. The site is located within 2,500 feet, or greater, of nearby sensitive residential receptors as shown in Figure 2 on Page 3 of this report.

Surrounding land uses consist of the New York Slough, Suisun Bay, and part of the Sacramento-San Joaquin River Delta to the immediate north, and heavy industrial uses to the immediate east, west, and south (inclusive of East 3rd Street). These features can be seen in Figure 3 on Page 4 of this report.

Finally, the proposed project area resides as a fully disturbed land use, which was formerly the location of a 20-megawatt cogeneration power plant decommissioned in 2012. Two buildings remain in place as part of this previous use, with the remainder of the site remaining relatively open as a single building pad. Elevations across the property average approximately 13 feet above mean sea level (MSL).

Project Description

The SFBA project would temporarily construct a pilot process plant to perform carbon capture and mineralization producing new "CO_2 sequestered" and "upcycled" rock products as shown in Figure 4 on Page 5 of this report. These upcycled rock products would be sold to Bay Area businesses, governments and consumers for use in a wide range of low carbon and high performance concrete applications.

Air Quality Definitions

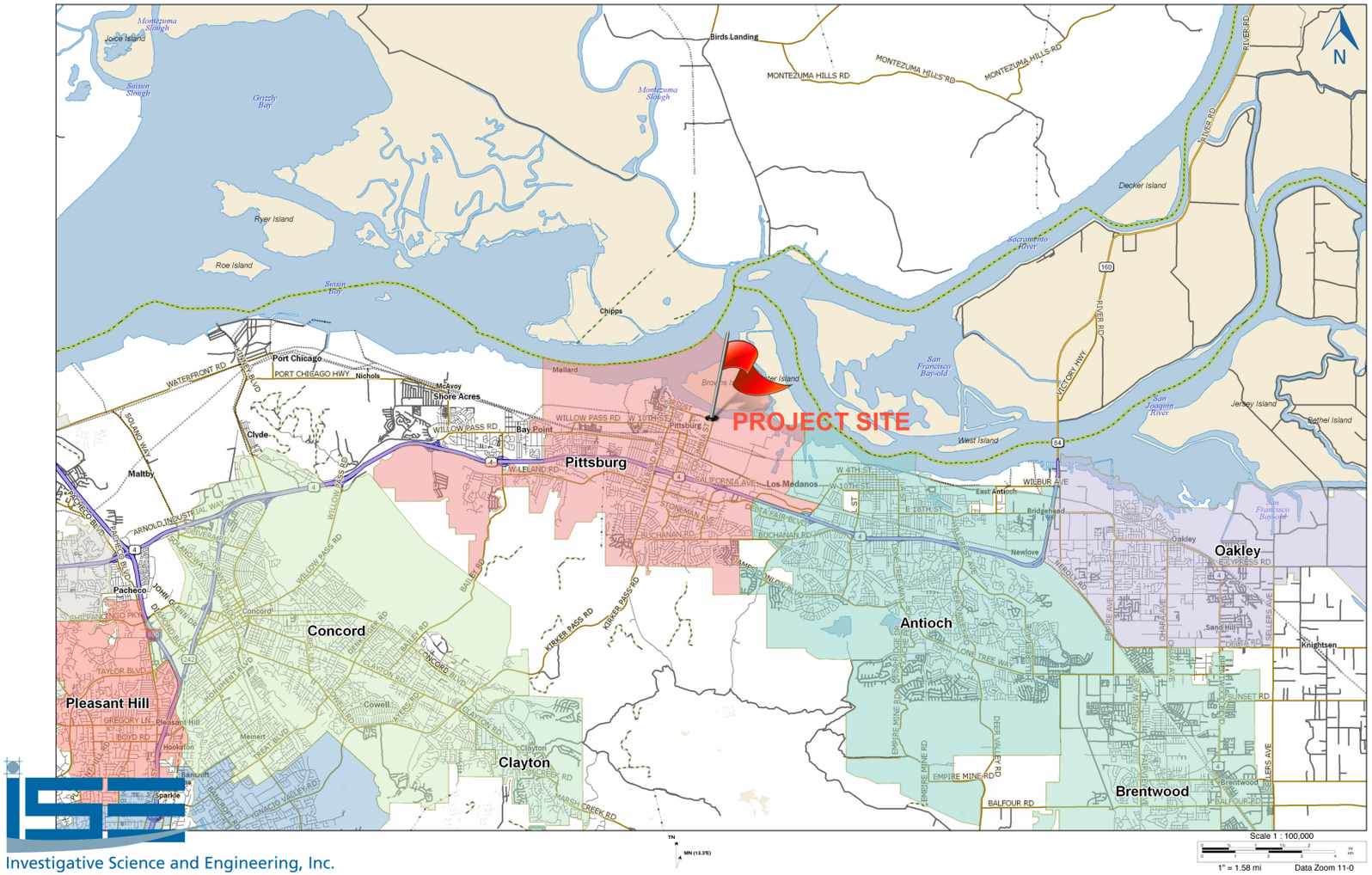
Air quality is defined by ambient air concentrations of specific pollutants determined by the Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the public.[1] The subject pollutants, which are monitored by the EPA, are carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, respirable 10- and 2.5-micron particulate matter, volatile organic compounds, reactive organic gasses, hydrogen sulfide, sulfates, lead, and visibility reducing particles. Examples of these EPA monitored pollutant sources and their effects on localized air quality are shown in Table 1 starting on Page 6. The EPA has established ambient air quality standards for several of these pollutants with recent case law examining the health impacts of each of the regulated pollutants.[2]

---

[1] Per the Federal Clean Air Act of 1970 (United States Code, Title 42, Chapter 85) and subsequent amendments.

[2] The recent CEQA case law is *Sierra Club v. County of Fresno* (5th Dist. 2014) 226 Cal.App.4th 704.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…



Investigative Science and Engineering, Inc.

FIGURE 1: Project Study Area Vicinity Map (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

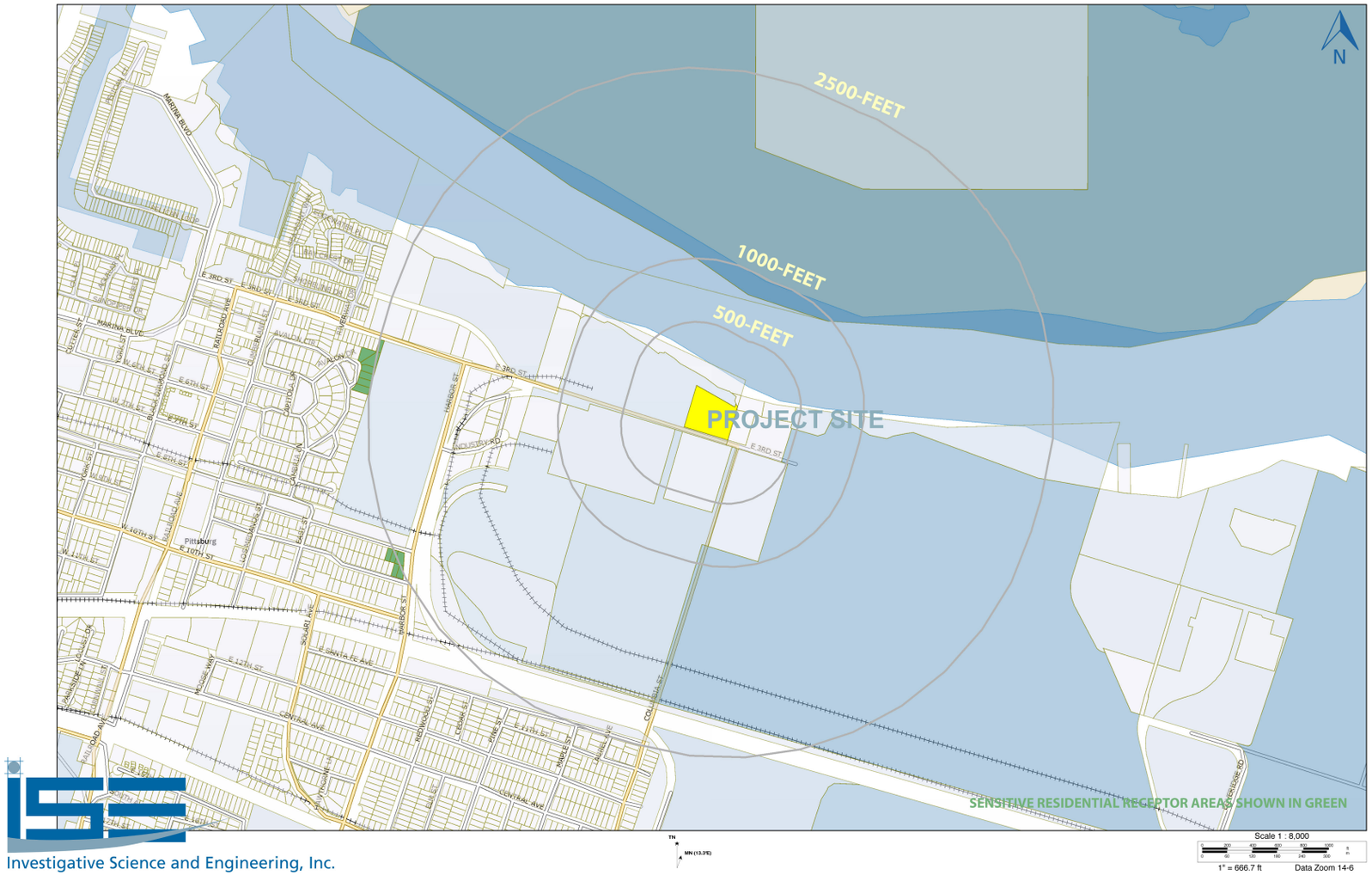


FIGURE 2: Project Study Area Parcel Map Showing Nearby Sensitive Receptors (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

FIGURE 3: Aerial Image Showing Development Area and Surrounding Uses (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

FIGURE 4: Proposed San Francisco Bay Aggregates Development Plan (AEPC Group LLC, 2/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 1: Examples of EPA Monitored Pollutants

Pollutant Name	Chemical Abbreviation	Physical Properties	Health Effects
Carbon Monoxide	CO	Carbon monoxide is a colorless, odorless, tasteless and toxic gas resulting from the incomplete combustion of fossil fuels. CO is a criteria air pollutant.	CO interferes with the blood's ability to carry oxygen to the body's tissues and results in numerous adverse health effects including permanent heart or brain damage.
Oxides of Sulfur	SO_x	Typically strong smelling, colorless gases that are formed by the combustion of fossil fuels. SO_2 and other sulfur oxides contribute to the problem of acid deposition. SO_2 is a criteria pollutant.	Exposure to high levels of oxides of sulfur can result acute health effects such as irritation of upper respiratory tract, increased asthma symptoms, and aggravation of heart disease, and chronic health effects including bronchitis and emphysema.
Nitrogen Oxides	NO_x	Nitrogen oxides consist of nitric oxide (NO), nitrogen dioxide (NO_2), and nitrous oxide (N_2O); these are formed when nitrogen (N_2) combines with oxygen (O_2). Life spans for these gasses range from one to seven days for nitric oxide and nitrogen dioxide, and 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. These compounds absorb blue light, resulting in a brownish-red cast to the atmosphere reducing visibility. NO_2 is a criteria air pollutant.	Exposure to oxides of nitrogen can result in acute health effects such as coughing, difficulty breathing, vomiting, headache, or chemical pneumonitis or pulmonary edema, and chronic health effects such as bronchitis, emphysema, and decreased lung function.
Ozone	O_3	A strong smelling, pale blue, reactive toxic chemical gas consisting of three oxygen atoms. It is a product of the photochemical process involving the sun's energy. Ozone exists in the upper atmosphere ozone layer, as well as at the earth's surface. Ozone is a criteria air pollutant and is a major component of smog.	Exposure to ozone can result in acute health effects including increased respiration and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation, and chronic health effects such as permeability of respiratory epithelia, and possible permanent lung impairment.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 1 (cont.): Examples of EPA Monitored Pollutants

Pollutant Name	Chemical Abbreviation	Physical Properties	Health Effects
Particulate Matter less than 10 microns	PM_{10}	A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. PM_{10} causes visibility reduction and is a criteria air pollutant.	The size of the particles allows them to easily enter the lungs, where they may be deposited, resulting in adverse health effects. Exposure to respirable particulate matter can result in acute health effects such as aggravation of existing respiratory and cardiovascular needs, and chronic health effects such as alterations to the immune system or carcinogenesis.
Particulate Matter less than 2.5 microns	$PM_{2.5}$	A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities, and nitrates that are formed from NO_x release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions.	Exposure to fine particulate matter can result in acute health effects such as aggravation of existing respiratory and cardiovascular needs, and chronic health effects such as alterations to the immune system or carcinogenesis.
Volatile Organic Compounds	VOC's	Volatile organic compounds are hydrocarbon compounds that exist in the ambient air. VOC's contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. VOC's often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.	Health effects may include eye, nose and throat irritation, headaches, loss of coordination and nausea, damage to liver, kidney and central nervous system. Some organics can cause cancer in animals, and some are suspected or known to cause cancer in humans.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 1 (cont.): Examples of EPA Monitored Pollutants

Pollutant Name	Chemical Abbreviation	Physical Properties	Health Effects
Reactive Organic Gasses	ROG's	Reactive Organic Gasses are also precursors in forming ozone, and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons that are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight.	Health effects similar to that of VOC's
Hydrogen Sulfide	H_2S	A colorless, flammable, poisonous compound having a characteristic rotten-egg odor. It often results when bacteria break down organic matter in the absence of oxygen.	High concentrations of 500-800 ppm can be fatal and lower levels cause eye irritation and other respiratory effects.
Sulfates	SLS or SLES	An inorganic ion that is generally naturally occurring and is one of several classifications of minerals containing positive sulfur ions bonded to negative oxygen ions. Sulfate is a salt that forms when sulfuric acid reacts with another chemical.	Sulfates can irritate eyes, skin, and lungs, especially with long-term use; however, sulfates are also used extensively in the medical industry.
Lead	Pb	A malleable, metallic element of bluish-white appearance that readily oxidizes to a grayish color. Lead is a toxic substance that can cause damage to the nervous system or blood cells. The use of lead in gasoline, paints, and plumbing compounds has been strictly regulated or eliminated, such that today it poses a very small risk.	Exposure to lead can result in acute health effects such as reproductive/developmental effects (fetus and children) and numerous chronic health effects such as neurological, endocrine, and cardiovascular effects. Exposure to high levels of lead may cause anemia, weakness, and kidney and brain damage. Very high lead exposure can cause death.
Visibility Reducing Particles	VRP's	Visibility Reducing Particles are just what the name implies, namely, small particles that occlude visibility and/or increase glare or haziness. Since sulfate emissions (notably SO_2) have been found to be a significant contributor to visibility-reducing particles, Congress mandated reductions in annual emissions of SO_2 from fossil fuels starting in 1995.	Not applicable.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Collectively, these standards are called the National Ambient Air Quality Standards (NAAQS).[3] The California Air Resources Board (CARB) subsequently established a typically more stringent set of standards called the California Ambient Air Quality Standards (CAAQS).[4] Both sets of standards are shown in Figure 5 on the following page. Areas in California where ambient air concentrations of pollutants are higher than the state standard are considered to be in *"non-attainment"* status for that pollutant.

ENVIRONMENTAL SIGNIFICANCE THRESHOLDS

California Environmental Quality Act (CEQA) Thresholds

Section 15382 of the California Environmental Quality Act (CEQA) guidelines defines a significant impact as, *"… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."* The minimum change in ambient air quality conditions within Contra Costa County, and the City of Pittsburg, as identified by the Bay Area Air Quality Management District (BAAQMD), are outlined starting on Page 11 of this report.

CEQA Air Quality Screening Standards

The City of Pittsburg uses Appendix G.III of the State CEQA guidelines as thresholds of significance, and recognizes the BAAQMD's established screening thresholds for air quality emissions as screening standards. These screening standards will be applied throughout this air quality conformity assessment for the basis of determination of both regional, as well as localized, air quality impacts due to the proposed project. The standards used by the City focus on the following potential impact areas; namely, would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- Expose sensitive receptors to substantial pollutant concentrations?
- Create objectionable odors affecting a substantial number of people?

---

[3] Under the Federal Clean Air Act of 1970, U.S.C. Title 42, Chapter 85, as amended in 1977 and 1990.

[4] The new CARB eight-hour ozone standard became effective in 2006. The new federal $PM_{2.5}$ standard became effective in 2007.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 μg/m^3)		0.070 ppm (137 μg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	—	—	35 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 μg/m^3	Gravimetric or Beta Attenuation	12.0 μg/m^3	15 μg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 μg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 μg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)		0.053 ppm (100 μg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 μg/m^3)	Ultraviolet Fluorescence	75 ppb (196 μg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 μg/m^3)	
	24 Hour	0.04 ppm (105 μg/m^3)		0.14 ppm (for certain areas)	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)	—	
Lead	30 Day Average	1.5 μg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 μg/m^3 (for certain areas)	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 μg/m^3		
Visibility Reducing Particles	8 Hour	—	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 μg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride	24 Hour	0.01 ppm (26 μg/m^3)	Gas Chromatography			

FIGURE 5: Ambient Air Quality Standards Matrix (CARB/EPA, 5/4/16)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

BAAQMD Criteria Pollutant Standards

Pursuant to the California Health & Safety Code, jurisdiction for regulation of air emissions from non-mobile sources within Contra Costa County has been delegated to the Bay Area Air Quality Management District (BAAQMD).[5] As part of its air quality permitting process, BAAQMD has established thresholds for the preparation of *Air Quality Impact Assessments* (AQIA's) and/or *Air Quality Conformity Assessments* (AQCA's). For projects whose stationary-source emissions are below these criteria, no AQIA is typically required, and project level emissions are presumed to be less than significant. The applicable standards are shown in Table 2 below.

TABLE 2: Thresholds of Significance for Air Quality Impacts

Pollutant	Thresholds of Significance (Pounds per Day)	Clean Air Act Significance Levels (Tons per Year)
Carbon Monoxide (CO)	*See Note 1*	100
Oxides of Nitrogen (NO_x)	54	50
Particulate Matter (PM_{10})	82	100
Particulate Matter ($PM_{2.5}$)	54	100
Reactive Organic Gasses (ROG's)	54	50
Oxides of Sulfur (SO_x)	*See Note 2*	100
Volatile Organic Compounds (VOC's)	*See Note 2*	50

Notes:

1. Operational CO levels based on measured or predicted concentrations equal to 9.0 ppm (8-hour average), 20.0 ppm (1-hour average). There is no construction-related threshold.
2. The District has no standard for this pollutant.

Source: BAAQMD CEQA Air Quality Guidelines, 5/17.

The City of Pittsburg accepts the use of these numerical "screening criteria" as *"Thresholds of Significance"* by projects for the purposes of CEQA analysis. In the event that project emissions may approach or exceed these screening level criteria, modeling would be required to demonstrate that the project's ground-level concentrations, including appropriate background levels, are below the Federal and State Ambient Air Quality Standards. If emissions exceed the allowable thresholds, additional analysis is conducted to determine whether the emissions would exceed an ambient air quality standard (i.e., the CAAQS values previously shown in Figure 5).

[5] Source: California Health & Safety Code, Division 26, Part 3, Chapter 1, Section §40002.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Determination of significance considers both localized impacts (such as CO hotspots) and cumulative impacts. In the event that any criteria pollutant exceeds the threshold levels, the proposed action's impact on air quality is considered significant and mitigation measures would be required. For CEQA purposes, these screening criteria are used as numeric methods to demonstrate that a project's total emissions (e.g. stationary and fugitive emissions, as well as emissions from mobile sources) would not result in a significant impact to air quality. No differentiation is made between construction and operational emission thresholds with the exception of the aforementioned concentration threshold for CO.

Finally, under the General Conformity Rule, the EPA has developed a set of *de minimis* thresholds for all proposed federal actions in a non-attainment area for evaluating the significance of air quality impacts. It should be noted that the State (i.e., BAAQMD) standards are equal to, or more stringent than, the Federal Clean Air standards. Development of the proposed project would therefore fall under the stricter BAAQMD guidelines.

Combustion Toxics Risk Factors

When fuel burns in an engine, the resulting exhaust is made up of gases representing hundreds of different chemical substances. The predominant constituents are nitrous oxide, nitrogen dioxide, formaldehyde, benzene, sulfur dioxide, hydrogen sulfide, carbon dioxide, and carbon monoxide. Over ninety-percent (90%) of the exhaust emissions from an engine consist of particles whose size is equal to, or less than, 10-microns in diameter. Particles of this size can easily be inhaled and deposited in the lungs. Diesel exhaust contains roughly 20 to 100 times more emissive particles than gasoline exhaust. Of principal concern are particles of cancer causing substances known as *polynuclear aromatic hydrocarbons* (PAH's).[6]

There are inherent uncertainties in risk assessment with regard to the identification of compounds as causing cancer or other adverse health effects in humans, the cancer potencies and Reference Exposure Levels (REL's) of compounds, and the exposure that individuals receive.[7] It is common practice to use conservative (health protective) assumptions with respect to uncertain parameters. The uncertainties and conservative assumptions must be considered when evaluating the results of risk assessments.

---

[6] Polynuclear aromatic hydrocarbons (PAH's) are hydrocarbon compounds with multiple benzene rings. PAH's are a group of approximately 10,000 compounds which result predominately from the incomplete burning of carbon-containing materials like oil, wood, garbage or coal.

[7] The exposure level at which there are no biologically significant increases in the frequency or severity of adverse effects between the exposed population and the control group. Some effects may be produced at this level, but they are not considered adverse or precursors to adverse effects.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Estimates of potencies and REL's are derived from experimental studies, or from epidemiological studies of exposed workers or other populations.[8] Uncertainty arises from the application of potency, or REL values derived from this data, to the general population. Thus using the CARB threshold, a risk concentration level of one in one million (1:1,000,000) of continuous 70-year exposure is considered less than significant. A risk exposure level of ten in one million (10:1,000,000) is acceptable if *Toxic Best Available Control Technologies* (T-BACT's) are used.[9] This approach has the advantage of not needing to quantify the population of the statistical group adjacent to the construction (which could yield false values), as well as allowing the per-person risk to be expressed as a final percentage (with a percentage level of 100% being equal to the impact threshold). Of course, for a large enough population sample (i.e., a million people or more) the results are identical to CARB's prediction methodology.

For purposes of analysis under this report, and to be consistent with the approaches used for other toxic pollutants, a functional comparison of the aforementioned risk probability per individual person exposed to construction contaminant particles (i.e., PM_{10}) will be examined. Additionally, a Tier 1 assessment of construction generated Volatile Organic Compounds (VOC's) and/or Reactive Organic Gasses (ROG's), in accordance with the guidelines established by the Office of Environmental Health Hazard Assessment (OEHHA), was performed for the aggregate of onsite and offsite activities.

APPROACH AND METHODOLOGY

The analysis criteria for air quality impacts in this report are based upon the analytical methods developed by the California Air Resources Board (CARB) as compiled in the SCAQMD CEQA Handbook, as well as impact screening guidance from the Bay Area Air Quality Management CEQA Guidelines.[10] These methods are a codification of the analysis protocols developed by CARB for use throughout the State of California. This analysis establishes aggregate emission calculations for determining the potential significance of a proposed action. In the event that the emissions exceed the established thresholds, air dispersion modeling may be conducted to assess whether the proposed action results in an exceedance of an air quality standard. The City of Pittsburg has accepted this methodology.

---

[8] Source: *CalEPA, USEPA, SCAQMD, 2001 et. seq.*

[9] For many compounds it is uncertain whether the health effects observed at higher exposure levels in the laboratory or in occupational settings will occur at lower environmental exposure levels. In order to ensure that potential health impacts are not underestimated, it is commonly assumed that effects seen in animals, or at high exposure levels, could potentially occur in humans following low-level environmental exposure.

[10] The *South Coast Air Quality Management District (SCAQMD) CEQA Handbook* is a compilation reference containing an extensive list of semi-empirical equations and modeling scenarios developed by CARB describing various emissive sources having important context under CEQA. The equations are not perfect (in that they would not constitute an *'exact solution'* in a scientific sense), but are nonetheless a reasonable approximation of the physical problem. In the same light, programs which utilize the SCAQMD semi-empirical methodology (such as *CalEEMod model and its predecessor URBEMIS*) provide no greater problem understanding than using the equations directly. Such programs are still subject to all of the same limitations as the methods and equations on which they rely.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Ambient Air Quality Data Collection

CARB Air Monitoring Station Data within Project Vicinity

The California Air Resources Board (CARB) monitors ambient air quality at approximately 250 air-monitoring stations across the state. Air quality monitoring stations typically measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. BAAQMD operates a network of over 30 ambient air-monitoring stations within the district.

The ambient air-quality-monitoring station (denoted by the symbol in Figure 6 on Page 15 of this report), which is in relative close proximity to the project site, and would be representative of ambient air toxics under both onshore and offshore atmospheric wind conditions, is located within the City of Concord approximately 10.5 miles from the project site.[11] Other stations within the project vicinity present either incomplete or redundant data, or were determined to be offline during the writing of this AQIA.[12] Finally, due to the type of equipment deployed at each station, not every station is capable of recording the entire set of criteria pollutants previously identified in Table 2. Periodic audits are conducted of each station to ensure calibration conformance.[13]

Construction and Material Handling Air Quality Modeling

Vehicle Emission Modeling (CO, NO_x, SO_x, PM_{10}, $PM_{2.5}$, ROG)

Due to the unique nature of this project as a pilot process plant, construction vehicle pollutant emission generators would be present during both the minimal construction phase of the project, as well as during the operational test phase, where said equipment would be repurposed for onsite material haulage and movement, and reincorporated back into the operational emissions analysis as well. The analysis methodology for this equipment is based upon the EPA AP-42 tiered emissions report for the various classes of diesel construction equipment.[14,15]

---

[11] Concord Treat Blvd. Station (2956-A Treat Blvd., Concord CA 94518) – ARB Station ID 07448. This station currently measures: O_3, CO, NO_2, SO_2, PM_{10}, $BAMPM_{2.5}$, Toxics, Outdoor Temperature, Relative Humidity, Wind Direction, Wind Direction Wind Speed, and Wind Speed.

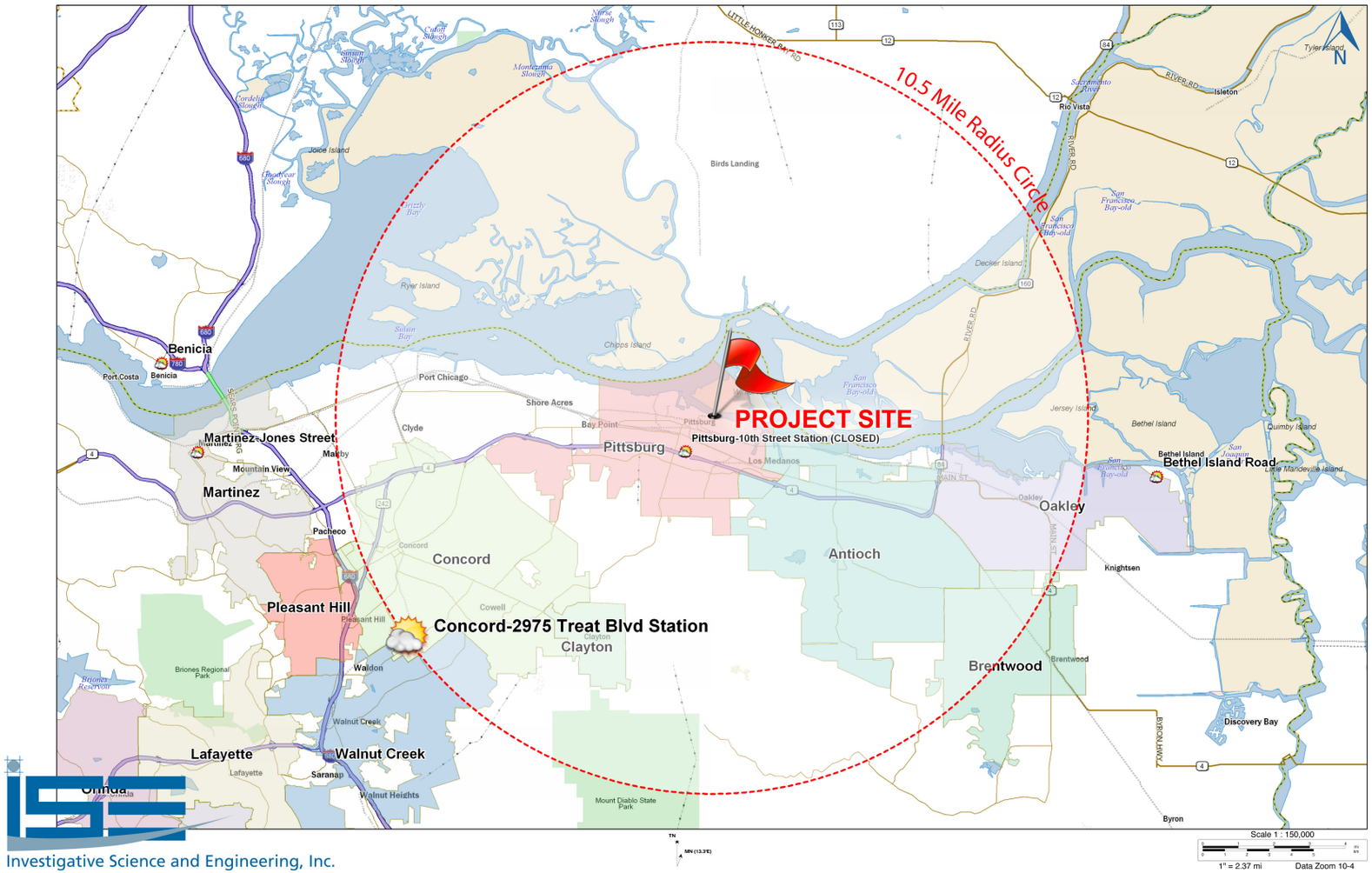
[12] The closest physical station to the project site is actually located in the City of Pittsburg (10th Street Station) approximately a mile from the site. Unfortunately, data from this station is not available as it is currently closed and non-operational.

[13] Calibration of CARB equipment is performed in accordance with the *U.S. Environmental Protection Agency's 40 CFR, Part 58, Appendix A* protocol with all equipment traceable to National Institute of Standards and Technology (NIST) standards. The typical accuracy of the equipment is ±15% for gasses (such as CO, NO_x, etc.) and ±10% for PM_{10}.

[14] The EPA allowable maximum CO emissions from Tier 2 equipment is 0.0082 pounds per horsepower-hour (lb/HP-hr) for equipment with power ratings between 50 and 175 HP, and 0.0057 lb/HP-hr for equipment with power ratings over 175 HP. Tier 3 ratings only apply between 50 and 750 HP and are identical to Tier 2 requirements. Tier 4 requirements (which were phased-in between 2008 and 2015) set a sliding scale on CO limits ranging from 0.0132 lb/HP-hr for small engines, to 0.0057 lb/HP-hr for engines up to 750 HP.

[15] The EPA allowable maximum NO_x and PM_{10} emissions from Tier 2 equipment are 0.0152 and 0.0003 lb/HP-hr regardless of the engine size. Tier 3 emissions must meet the Tier 2 requirement. Tier 4 standards further reduce this level to 0.0006 lb/HP-hr for NO_x, and 0.00003 lb/HP-hr for PM_{10} for engines over 75 HP.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…



Investigative Science and Engineering, Inc.

FIGURE 6: Ambient Air Quality Monitoring Station Location Map (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

The maximum generation rates of typical equipment would constitute the baseline (unmitigated) emission rates as mandated by the EPA. Estimates of daily load factors (i.e., the amount of time during a day that any piece of equipment is under load and/or operational) were based upon past ISE engineering experience with similar operations, and consultation with the project applicant.[16,17]

In cases where the required construction equipment aggregate does not comply with the applicable standards for a pollutant under examination, mitigation is imposed by requiring cleaner (i.e., higher tiered) equipment, as required under the Federal Clean Air Act.[18,19] The proposed project was assumed to utilize Tier 3 engines as a baseline project feature.

Finally, fine particulate dust generation ($PM_{2.5}$) from construction equipment was analyzed using the methodology identified by the SCAQMD.[20] This approach, which utilizes the *California Emission Inventory Development and Reporting System* (CEIDARS) database, estimates $PM_{2.5}$ emissions as a fractional percentage of the aggregate PM_{10} emissions. For diesel construction equipment, the fractional emission factor is 0.920 $PM_{2.5}$ / PM_{10}.

Fugitive Dust Emission Modeling (PM_{10}, $PM_{2.5}$)

Fugitive dust generation from the proposed minimal site construction and outdoor material movement during the operational phase was analyzed using the methodology recommended by CARB for calculating 10-micron Particulate Matter (PM_{10}) due to earthwork movement and stockpiling. The analysis assumed low-wind speeds and active wet suppression control. Aggregate levels of PM_{10}, based upon the best available surface grading estimates, were calculated in pounds per day and compared to the applicable significance criteria previously shown in Table 2.

For surface grading operations, the fractional emission factor is 0.208 $PM_{2.5}$ / PM_{10} based upon the SCAQMD approach. For unpaved road travel, the fractional emission factor is 0.212 $PM_{2.5}$ / PM_{10}.

---

[16] This is consistent with expected plan-to-ground conditions during construction for a reasonably foreseeable level of impact per Title 14, Section 15126 et. seq.

[17] Duty cycles are based upon client estimates of equipment utilization based on previous projects of this type. Powered haulage does not operate onsite in a continuous manner at full throttle. Additionally, CARB prohibits diesel equipment from idling more than five (5) minutes per 13 CCR § 2485. Therefore, equipment operators are required to turn off their engines if they are expected to be inactive for more than five minutes.

[18] Source: US Code of Federal Regulations, Title 40, Part 89 [40 CFR Part 89].

[19] In most cases the federal regulations for diesel construction equipment also apply in California, whose authority to set emission standards for new diesel engines is limited. The federal Clean Air Act Amendments of 1990 (CAA) preempt California's authority to control emissions from both new farm and construction equipment under 175 hp [CAA Section 209(e)(1)(A)] and require California to receive authorization from the federal EPA for controls over other off-road sources [CAA Section 209 (e)(2)(A)].

[20] The $PM_{2.5}$ emission factors are based upon the SCAQMD document, "Final – Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds", 10/06. The correction factor for diesel equipment of this type is 0.920.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Health-Risk Emission Modeling (PM_{10}, $PM_{2.5}$)

For the purposes of this analysis, worst-case construction vehicle (i.e., diesel haulage and movement equipment) pollutant emission generators would consist entirely of minimal construction activities associated with initial site preparation as well as operational utilization during the pilot test phase consisting of material haulage, placement, and storage. The analysis methodology utilized in this report is based upon EPA and CARB guidelines for general construction operations.

Construction emissions were based upon worst-case Tier 3 generation rates for the various classes of diesel construction equipment per consultation with the project applicant. A screening risk assessment of diesel-fired toxics from construction equipment was performed using the *SCREEN3* dispersion model developed by the *EPA's Office of Air Quality Planning and Standards*.[21] The SCREEN3 model uses a Gaussian plume dispersion algorithm that incorporates source-related and meteorological factors to estimate pollutant concentration from continuous sources.[22]

Using the concentrations obtained from the screening model, the diesel toxic risk can be defined as shown below:

$$Risk = \frac{F_{wind} \cdot EMFAC \cdot URF_{70}}{Dilution}$$

Where the following variables are defined:

Risk = The excess cancer risk (probability in one-million),

F_{wind} = The frequency of the wind blowing from the exhaust source to the receptor (the default value is 1.0),

EMFAC = The exhaust particulate emission factor (the level from the screening model),

URF_{70} = The Air Resource Board unit risk probability factor (300 x 10^{-6}, or 300 in a million cancer risk per $\mu g/m^3$ of diesel combustion generated PM_{10} inhaled in a 70-year lifetime,[23] and,

Dilution = The atmospheric dilution ratio during source-to-receptor transport (the default value of 1.0 assumes no dilution).

[21] The methodology is based upon the *Industrial Source Complex (ISC3)* source dispersion approach as outlined in the *EPA-454/B-95-003b* technical document. The SCREEN3 model is used within the State of California and is typically more restrictive than the ISC3 model.

[22] Modeling under SCREEN3 assumes that the pollutant in question does not undergo any chemical reactions, and that no other removal processes, such as wet or dry deposition, act on the plume during its transport from the source.

[23] Based upon the ARB 1999 Scientific Review Panel staff report on diesel toxic emissions.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Given the above assumptions for wind frequency and atmospheric dilution ratio, and substituting the CARB recommended value for the unit risk probability factor, gives the following expression:

$$Risk = \frac{\cancel{1.0} \cdot EMFAC \cdot 300x10^{-6}}{\cancel{1.0}} = 300x10^{-6} \cdot EMFAC \text{ per person}$$

Thus, the percentage of risk of cancer to any given person, being exposed to a concentration of pollution equal to EMFAC (in μg/m^3) over a continuous period of 70-years[24], would be:

$$Risk_{\%} = \left(300x10^{-6} \cdot EMFAC\right) \cdot 100 = 300x10^{-4} \cdot EMFAC \text{ per person}$$

For the construction-related diesel-fired toxics analysis, an area-source consistent in dimensions with the proposed grading area will be assumed. A simplified elevated terrain model (which is consistent with the area surrounding the project site) with no building downwash corrections and a worst-case wind direction was utilized.

VOC Emissions and Associated Health Risks

Additionally, an air toxics hotspot assessment of construction generated Volatile Organic Compounds (VOC's) and/or Reactive Organic Gasses (ROG's) in accordance with the guidelines established by the Office of Environmental Health Hazard Assessment (OEHHA) was performed for the aggregate of onsite and offsite activities.[25,26]

OEHHA defines the excess cancer risk due to inhaled organic compounds as a function of duration and age sensitivity as,

$$Risk_{inh-res} = DOSE_{air} \cdot CPF \cdot ASF \cdot \frac{ED}{AT} \cdot FAH$$

[24] Where it can be directly stated that a risk percentage of, say, 25% would indicate a 25% probability of inhaled cancer risk for the given level of exposure if consumed continuously for a period of 70-years. A 50% probability would correspond to a 50:50 chance of inhaled cancer risk if consumed continuously for a period of 70-years, and so on.

[25] Source: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, Office of Environmental Health Hazard Assessment (OEHHA), 2/15.

[26] Most of the toxicants assessed under the Hot Spots program are volatile organic compounds that remain as gases when emitted into the air. These chemicals are not subject to appreciable deposition to soil, surface waters, or plants. Therefore, human exposure via ingestion or dermal exposure, at least at concentrations typically encountered in the ambient air, is not considered for volatile organic compounds in the Hot Spots risk assessments.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Where the following variables are defined:

$Risk_{inh\text{-}res}$ = The residential inhalation cancer risk,

$DOSE_{air}$ = The daily inhalation dose (mg/kg/day),

CPF = The Inhalation Cancer Potency Factor (mg/kg-day^{-1})

ASF = The Age Sensitivity Factor for a specified age group (unitless),

ED = The Exposure Duration (in years) for a specified age group,

AT = The Averaging Time for lifetime cancer risk (years), and,

FAH = The fraction of time spent at home (unitless).

For the types of activities under examination for this project, OEHHA recommends a Point Assessment Approach, which documents average (mean) and high-end values for key exposure pathways (e.g., breathing rate for the inhalation exposure pathway). The mean represents the average values for point estimates, and the 95th percentiles represent the high-end point estimates from the source. Thus, within the limitations of the data, average and high-end point estimates are supported by the distribution, and would be considered a worst-case analysis under CEQA.

Aggregate Vehicle Emission Air Quality Modeling

Motor vehicle emissions associated with proposed SFBA project site were calculated by multiplying the appropriate emission factor (in grams per mile) times the estimated average trip length, and the total number of vehicles. CARB estimates on-road motor vehicle emissions by using a series of models called the *Motor Vehicle Emission Inventory* (MVEI) Models.

Four computer models, which form the MVEI, are *CALIMFAC, WEIGHT, EMFAC*, and *BURDEN*.[27] They function as follows:

- ***CALIMFAC*** produces base emission rates for each model year when a vehicle is new and as it accumulates mileage and the emission controls deteriorate.
- ***WEIGHT*** calculates the relative weighting each model year should be given in the total inventory, and each model year's accumulated mileage.
- ***EMFAC*** uses these pieces of information, along with the correction factors and other data, to produce fleet composite emission factors, and,
- ***BURDEN*** combines the emission factors with county-specific activity data to produce to emission inventories.

[27] The module named *EMFAC* should not be confused with the entire EMFAC program itself (which calls the subroutines *CALIMFAC, WEIGHT, EMFAC, and BURDEN* to determine the final emission inventory for a particular area).

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

For the current analysis, the *EMFAC 2017* of the MVEI was run using input conditions specific to the Contra Costa air basin to predict operational vehicle emissions from the project based upon a project completion/operational year 2020 scenario.[28,29] The aggregate emission factors from the EMFAC model are provided as an attachment at the end of this report. A mix ratio consistent with the *Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol* was used.[30]

Finally, fine particulate dust generation ($PM_{2.5}$) from motor vehicle operation was again analyzed using the aforementioned CEIDARS database. For operational vehicular traffic, the fractional emission factor is 0.998 $PM_{2.5}$ / PM_{10} based upon both the SCAQMD and EMFAC approaches.

Fixed Source Emissions Modeling

Fixed emission sources under the analysis context within this report would consist predominantly of those emissions identified by the project applicant as being generated as part of the pilot plant operation, and as identified and quantified under the applicant's Authority to Construct Application per BAAQMD Regulation 2, Rule 1 guidelines.[31]

Under the application document, the SFBA project is expected to produce low levels of CARB criteria pollutants, of differing levels, based upon one of two generation scenarios. Scenario 1 assumed that the SFBA plant would utilize the excess flue gas from a single turbine and heat recovery steam generator (HRSG) at the Calpine LMEC site as the source of CO_2 generation in the pilot process. Scenario 2 assumed that the SFBA site would utilize a registered 6.3 MBtu/hr natural gas boiler onsite to provide the necessary CO_2 generation.

Both scenarios are addressed in this AQIA, and for the purposes of a worst-case analysis, the maximum emissions from each case will be utilized for the purposes of impact assessment under the BAAQMD thresholds of significance.

---

[28] This is the most current CARB emissions model approved for use within the State of California.

[29] This is a worst-case assumption, since implementation of cleaner vehicle controls ultimately reduces emissions under future year conditions. By applying near-term emission factors to the complete project, an upper bound on project-related emissions is obtained.

[30] This consisted of the following air standard Otto-Cycle engine vehicle distribution percentages: Light Duty Auto (LDA) = 69.0%, Light Duty Truck (LDT1) = 19.4%, Medium Duty Truck (LHD1) = 6.4%, Heavy Duty Truck Gasoline (MH GAS) = 1.2%, Heavy Duty Truck Diesel (MH DSL) = 3.6%, Motorcycle (MCY) = 0.4%.

[31] Source: *BAAQMD Authority to Construct Application, Regulation 2, Rule 1 Application Submittal Document, San Francisco Bay Aggregates,* Pittsburg CA, Prepared by Atmospheric Dynamics, Inc. 4/19.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

CONFORMITY FINDINGS

Existing Climate Conditions

The climate within the region surrounding the proposed SFBA project site is characterized by warm, dry summers and mild, wet winters; it is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean which generates seasonal cloud-cover variation over the course of the year. This high-pressure cell drives the dominant onshore circulation, as can be seen in Figure 9 on the following page, and helps to create two types of temperature inversions, subsidence and radiation, that contribute to local air quality degradation.[32]

In the area of the proposed project site, the maximum and minimum average temperatures are 90º F and 39º F, respectively.[33] Precipitation in the area averages approximately 16 inches annually, 90 percent of which falls between November and April. Fog can occasionally develop during the winter. The prevailing wind direction at the project site is from the west-southwest, with an annual mean speed of 3 to 5 miles per hour. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of onshore sea breezes. The overall result is a noticeable degradation in local air quality.

Existing Air Quality Levels

<u>CARB Aerometric Station Data within Project Vicinity</u>

The project site is located in the eastern area of the San Francisco Bay Area Air Basin (SFBAAB). The Basin is in attainment for federal standards of CO, SO_2, and NO_2, and in nonattainment or unclassified status for O_3, PM_{10}, and $PM_{2.5}$.

Tables 3a through -c, starting on Page 23, provide a summary of the highest pollutant levels recorded at the previously identified monitoring station for the last year available (2017), based upon the latest data from the CARB Aerometric Data Analysis and Management (ADAM) System database.[34] Upon examination it can be seen that closest monitoring station reported slight air quality exceedances for the subject criteria pollutants O_3 and $PM_{2.5}$.[35]

---

[32] Subsidence inversions occur during the warmer months, as descending air associated with the Pacific high-pressure cell meets cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversion typically develops on winter nights, when air near the ground cools by radiation, and the air aloft remains warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

[33] Source: *National Weather Service (NWS) / National Oceanographic and Atmospheric Administration (NOAA), 2019.*

[34] Averages for O_3 and CO are expressed in parts-per-million, NO_X is expressed in parts-per-billion, and particulate matter is shown in $\mu g/m^3$. CAAQS exceedances are denoted in yellow, while NAAQS exceedances are shown in orange.

[35] Monitoring for lead was discontinued entirely in 1998.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

FIGURE 7: Project Air Basin Aerial Map (Google Earth 2019, ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 3a: CARB Aerometric Data Analysis – Concord Treat Blvd Station (Panel 1)

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Concord-2975 Treat Blvd

	2015		2016		2017	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Sep 21	0.073	Sep 26	0.074	Sep 2	0.070
Second High:	Aug 16	0.072	Oct 9	0.071	Jun 22	0.069
Third High:	Sep 9	0.070	Apr 18	0.069	Sep 3	0.065
Fourth High:	Sep 20	0.070	Jun 3	0.065	Aug 26	0.064
National 2008 Std (0.075 ppm):						
First High:	Sep 21	0.073	Sep 26	0.074	Sep 2	0.070
Second High:	Aug 16	0.072	Oct 9	0.071	Jun 22	0.069
Third High:	Sep 9	0.070	Apr 18	0.069	Sep 3	0.065
Fourth High:	Sep 20	0.070	Jun 3	0.065	Aug 26	0.064
National 2015 Std (0.070 ppm):						
# Days Above the Standard:	2		2		0	
Nat'l Standard Design Value:	0.064		0.067		0.066	
National Year Coverage:	99		99		97	
National 2008 Std (0.075 ppm):						
# Days Above the Standard:	0		0		0	
Nat'l Standard Design Value:	0.064		0.067		0.066	
National Year Coverage:	99		98		96	

Highest Daily Maximum 8-Hour Ozone Averages

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Concord-2975 Treat Blvd

	2015		2016		2017	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Sep 21	0.088	Sep 26	0.095	Jun 22	0.082
Second High:	Sep 9	0.082	Oct 9	0.085	Sep 3	0.082
Third High:	Aug 16	0.081	Apr 18	0.083	Sep 2	0.081
Fourth High:	Jun 30	0.078	Sep 27	0.079	Oct 10	0.080
California:						
# Days Above the Standard:	0		1		0	
California Designation Value:	0.09		0.09		0.09	
Expected Peak Day Concentration:	0.086		0.089		0.087	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.087*		*0.088*		*0.083*	
Year Coverage:	99		99		98	

Highest Daily Maximum Hourly Ozone Measurements

Source: CARB ADAM Ambient Air Quality Inventory – 5/19

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 3b: CARB Aerometric Data Analysis – Concord Treat Blvd Station (Panel 2)

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Concord-2975 Treat Blvd iADAM

	2015		2016		2017	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 8	31.0	Dec 29	20.7	Oct 11	89.4
Second High:	Aug 16	30.4	Dec 13	19.4	Oct 12	62.6
Third High:	Jan 15	29.6	Jan 4	18.8	Oct 13	60.0
Fourth High:	Aug 15	29.1	Jan 12	18.7	Dec 15	39.5
California:						
First High:	Jan 8	31.0	Dec 29	20.7	Oct 11	89.4
Second High:	Aug 16	30.4	Dec 13	19.4	Oct 12	62.6
Third High:	Jan 15	29.6	Jan 4	18.8	Oct 13	60.0
Fourth High:	Aug 15	29.1	Jan 12	18.7	Dec 15	39.5
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		6.0
Measured # Days > 24-Hour Std:		0		0		6
24-Hour Standard Design Value:		23		22		26
24-Hour Standard 98th Percentile:		28.0		16.2		32.8
2006 Annual Std Design Value:		7.7		7.1		8.9
2013 Annual Std Design Value:		7.7		7.1		8.9
Annual Average:		8.8		5.9		12.0
California:						
Annual Std Designation Value:		8		7		12
Annual Average:		*		*		12.0
Year Coverage:		92		97		100

Highest Daily 24-Hour $PM_{2.5}$ Averages

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Concord-2975 Treat Blvd iADAM

	2015		2016		2017	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 6	22.5	Jun 29	18.7	Sep 4	41.2
Second High:	Nov 14	21.9	Apr 6	18.6	Jan 31	29.9
Third High:	May 6	21.4	Sep 9	16.8	Aug 23	23.7
Fourth High:	Jun 23	19.8	Apr 30	15.8	Sep 16	21.7
California:						
First High:	Jan 6	24.0	Apr 6	19.0	Sep 4	41.0
Second High:	Nov 14	23.0	Jun 29	19.0	Jan 31	32.0
Third High:	May 6	22.0	Sep 9	17.0	Aug 23	24.0
Fourth High:	Jun 23	20.0	Apr 30	16.0	Sep 16	22.0
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		*
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		0.0		0.0		*
Annual Average:		*6.7*		*6.2*		*6.5*
3-Year Average:		*7*		*7*		*6*
California:						
Estimated # Days > 24-Hour Std:		0.0		0.0		*
Measured # Days > 24-Hour Std:		0		0		0
Annual Average:		13.1		11.5		*
3-Year Maximum Annual Average:		14		14		13
Year Coverage:		8		9		8

Highest Daily 24-Hour PM_{10} Averages

Source: CARB ADAM Ambient Air Quality Inventory – 5/19

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 3c: CARB Aerometric Data Analysis – Concord Treat Blvd Station (Panel 3)

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Concord-2975 Treat Blvd iADAM

	2015		2016		2017	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Jan 5	33.0	Dec 19	33.6	Dec 8	40.6
Second High:	Nov 28	32.0	Dec 20	33.2	Dec 14	39.6
Third High:	Nov 13	31.7	Dec 18	32.6	Dec 6	38.9
Fourth High:	Nov 16	31.7	Dec 21	31.7	Dec 15	38.2
California:						
First High:	Jan 5	33	Dec 19	33	Dec 8	40
Second High:	Nov 28	32	Dec 20	33	Dec 14	39
Third High:	Jan 7	31	Dec 18	32	Dec 6	38
Fourth High:	Jan 26	31	Dec 2	31	Dec 15	38
National:						
1-Hour Standard Design Value:		36		33		31
1-Hour Standard 98th Percentile:		31.0		28.9		31.7
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		7		6		7
California:						
1-Hour Std Designation Value:		40		40		40
Expected Peak Day Concentration:		44		42		37
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		9		7		7
Annual Average:		7		6		6
Year Coverage:		93		99		97

Highest Daily Maximum Hourly Nitrogen Dioxide Averages

Source: CARB ADAM Ambient Air Quality Inventory – 5/19

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Construction and Material Handling Emission Findings

The SFBA project is expected to have an operational lifetime of approximately 15 months commencing in the latter half of 2019. Construction and material handling operations, by and large, constitute the worst-case onsite pollutant-generating scenarios for the pilot program. Thus, the analysis presented is a worst-case analysis under CEQA. Given this, the following construction findings, as shown beginning on the next page, were indicated.

Vehicle Emissions (CO, NO_x, SO_x, PM_{10}, $PM_{2.5}$, ROG)

The estimated construction equipment diesel exhaust emission tabulations due to construction and material handling are provided in Table 4a on the following page. Additionally Table 4b provides an estimate of powered haulage emissions associated with material import for the pilot plant process as well as any haulage export of finished product, assumed to comprise a total of four (4) round trips at 110 miles each (i.e., 440 VMT) for a heavy duty diesel truck classification (MH DSL).

Based upon the findings, no significant diesel construction vehicle or powered haulage air quality impacts are expected.

Fugitive Dust Emission Levels (PM_{10}, $PM_{2.5}$)

Construction and material handling activities are also a source of fugitive dust emissions that may have a substantial, but temporary, impact on local air quality. Substantial dust emissions also occur when vehicles travel on paved and unpaved surfaces, and haul trucks lose material. Dust emissions and impacts due to the proposed grading vary substantially from day to day, depending on the level of activity, the specific operation being conducted, and the prevailing meteorological conditions.

Wet dust suppression techniques, such as watering and/or applying chemical stabilization, would be used during construction and operational material handling phases to suppress the fine dust particulates from leaving the ground surface and material stockpiles and becoming airborne through the action of mechanical disturbance or wind motion.

For the SFBA project, overall grading operations associated with either process equipment placement during the initial construction phase (estimated to be approximately 90 days, or 3 months), and material handling during the operational pilot phase (estimated at 360 days, or 12 months), are anticipated as being no greater than a worst-case 6,000 cubic-yards of material moved, or an approximate 20 cubic yards per average work day that the facility would be permitted to construct and operate.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 4a: Predicted Onsite Diesel Engine Emissions

Equipment Type Model	Selected EPA Tier Level	Quantity Used (#)	Engine Power Rating (HP)	Average Load Factor (%)	Duty Cycle (hrs/day)	Aggregate BAAQMD Criteria Pollutants (Pounds/Day)					
						CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
CAT 2PD5000 Forklift	3	1	51	50	8	1.7	3.1	0.4	0.1	0.1	0.4
JD 644E Loader	3	1	160	50	8	5.2	9.7	1.3	0.3	0.3	1.4
CAT CT610 Dump Truck	3	1	200	50	4	2.3	6.1	0.8	0.1	0.1	0.9
Peterbuilt 348 Transport Truck	3	1	280	50	4	3.2	8.5	1.1	0.2	0.2	1.2
Sum:		**4**				**12.4**	**27.4**	**3.6**	**0.8**	**0.7**	**4.0**
					BAAQMD Significance Threshold:	**- -**	**54**	**- -**	**82**	**54**	**54**

TABLE 4b: Powered Haulage Emissions due to Material Import for Processing

Powered Haulage	VMT	Criteria Pollutants Under Examination (in pounds per day)					
		CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Heavy Duty Truck Haulage Totals (MH DSL):	**440**	**0.29**	**4.02**	**0.01**	**0.10**	**0.09**	**0.06**
BAAQMD Significance Threshold:		**- -**	**54**	**- -**	**82**	**54**	**54**

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

For fine aggregate material similar to what is proposed to be processed at the project site, the expected material movement would have the following total working weight.[36]

$$\text{Working Weight} = 6{,}000 \text{ cubic yards} \times \frac{1.3 \text{ tons}}{\text{cubic yard}} = 7{,}800 \text{ tons}$$

Out of the total quantity identified above, it is estimated that roughly 60-percent of the working weight would be capable of generating PM_{10}.[37] Given this, the working weight of earthwork material capable of generating some appreciable amount of PM_{10} would be 4,680 tons. Thus, the average material movement over the total 450 working days the pilot plant would be in operation would equate to 10.4 tons per day.

Following the analysis procedure identified in the *SCAQMD CEQA Handbook* for PM_{10} emissions from fugitive dust gives the following semi-empirical relationship for aggregate respirable dust generation in pounds.

$$PM_{10} = 0.00112 \cdot \left[\frac{\left(\frac{WS}{5}\right)^{1.3}}{\left(\frac{SMC}{2}\right)^{1.4}} \right] \cdot ET$$

Where the following variables are defined:

PM_{10} = Fugitive dust emissions in pounds,

WS = Ambient wind speed,

SMC = Surface Moisture Content, generally defined as the weight of the water (W_w) divided by the weight of the soil (W_s) as measured at the surface in grams per gram, and,

ET = Earthwork Tonnage moved per day.

Substituting a minimum SMC value of 0.25 (which is extremely conservative for an ambient material condition), and a maximum credible wind speed scenario of 12 MPH (WS = 12), gives the result seen at the top of the following page.

---

[36] Standard Handbook for Civil Engineers, 4th Ed., McGraw-Hill, 1996.

[37] A working percentage of 60% is consistent with common engineering knowledge and field observations of worst-case PM_10 generation. Any scoop of unconsolidated, non-screened aggregate material will contain a certain percentage of rocks, cobbles, alluvium, etc., which cannot be broken down in the field to generate PM_{10}. Although 60% is probably high, it is consistent with a worst-case upper bound estimate for PM_{10} generation potential.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

$$\mathrm{PM}_{10} = 0.00112 \times \left[\frac{\left(\frac{12}{5}\right)^{1.3}}{\left(\frac{0.25}{2}\right)^{1.4}} \right] \times 10.4 = 0.7 \text{ Pounds}$$

or, a predicted level of 0.7 pounds of PM_{10} generated per day.[38] It should be noted that surface wetting will be utilized during all phases of earthwork operations at a minimum level of three times per day; thus a control efficiency of 34% to 68% reduction in fugitive dust can be applied per the CARB/SCAQMD methodology. Assuming a median 60% control efficiency, due to the aforementioned watering yields,

$$\mathrm{PM}_{10} = (1 - 0.6) \cdot 0.7 = 0.3 \text{ Pounds}$$

or a total fugitive dust generated load of roughly 0.3 pounds per day. This level is far below the 82 pounds per day threshold established by the BAAQMD. Therefore, no impacts are expected from this phase of construction. The commensurate $PM_{2.5}$ level would be 0.1 pounds per day, which is also below the proposed threshold of significance of 54 pounds per day for this pollutant.

Additionally, following the analysis methods identified by CARB for PM_{10} emissions due to unpaved haul roads/surfaces gives the following semi-empirical relationship for aggregate respirable dust generation in pounds.

$$PM_{10} = VMT \times \left[2.1 \left(\frac{SLP}{12}\right) \left(\frac{MVS}{30}\right) \left(\frac{MVW}{3}\right)^{0.7} \left(\frac{NW}{4}\right)^{0.5} \left(\frac{365 - RD}{365}\right) \right]$$

Where the following variables are defined:

PM_{10} = Fugitive dust emissions in pounds due to haulage on unpaved roads,

VMT = Vehicle Miles Traveled per day,

SLP = Soil Silt Loading in Percent,

MVS = Mean Vehicle Speed in miles per hour,

MVW = Mean Vehicle Weight in tons,

[38] A wind speed (WS) of 12 MPH was chosen as the maximum speed before grading should stop prior to wind-generated disturbance. The soil moisture content (SMC) selected is a conservative value per CARB designed to produce a reasonably accurate PM_{10} estimate. Representative SMC values can be found in any textbook on geotechnical engineering, soil dynamics, CRC Handbook on Chemistry and Physics, or SCAQMD CEQA Handbook Table 9.9.G.1.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

NW = Number of Wheels on the vehicle, and,

RD = Mean number of Rain Days with at least 0.01 inches of precipitation.

Unpaved road travel, or travel on unpaved surfaces, due to construction and operational activities is also unknown at this time. For the purposes of analysis, it will be assumed that contractors' vehicles moving onsite would traverse a total of five (5) miles per day (VMT) during the earthwork and site preparation phases.

Substituting the applicable project values of VMT = 5, SLP = 6.0 (sand/gravel road/surface with watering), MVS = 5 miles per hour, MVW = 20 tons (gross vehicular weight), NW = 10 wheels (average number of wheels), and RD[39] = 45.0 (rain days), gives the following result,

$$PM_{10} = 5.0 \times \left[2.1\left(\frac{6}{12}\right)\left(\frac{5}{30}\right)\left(\frac{20}{3}\right)^{0.7}\left(\frac{10}{4}\right)^{0.5}\left(\frac{365-45}{365}\right)\right] = 4.6 \text{ Pounds}$$

or, a level of 4.6 pounds of PM_{10} generated per day. This activity would not generate a significant impact. The commensurate $PM_{2.5}$ level would be 1.0 pounds per day, which is also below the proposed threshold of significance identified above.

Combustion-Fired Health-Risk Emission Levels (CO, PM_{10}, $PM_{2.5}$)

Onsite diesel-fired equipment operation was assumed to occur over any given 24-hour period, thus providing an upper bound on expected emission concentrations, allowing direct comparison with the CAAQS standards. Although all stable criteria pollutants are provided, it should be noted that for cancer-risk potential, only combustion-fired PM_{10} particulates are considered, with $PM_{2.5}$ concentrations being determined through the aforementioned fractional emission estimates. Levels for CO concentrations are calculated for the purposes of determining compliance with BAAQMD CEQA thresholds of significance.

The proposed SFBA project site has a maximum working footprint of roughly 108,029 square-feet (10,036 m^2) based upon data obtained from the project site plans. The aggregate project emission rates for the various criteria pollutants, in grams per second, and grams per square-meter (m^2) per second, are shown in Table 5 on the following page.[40,41]

---

[39] The selected vehicle miles traveled (VMT) are based on the anticipated motion of vehicle onsite. The mean vehicle speed (MVS) is selected as a maximum travel speed designed so as to not produce excessive dust plumes from the wheels. The mean vehicle weight (MVW) is the typical weight of a piece of powered haulage. The number of wheels (NW) corresponds to a three-axle vehicle with tandem wheels, and the number of rain days (RD) is from the National Weather Service.

[40] As a required input parameter for the SCREEN3 model.

[41] The averaging time for the input sources is shown at the bottom of Table 5 as 24 hours. The one-hour SCREEN3 concentration due to construction is the worst-case maximum concentration level from the site. Thus, the current analysis is consistent with a worst-case estimate under CEQA.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 5: Predicted Onsite Diesel-Fired Emission Rates

Criteria Pollutant	Max Daily Aggregate Emissions (pounds)	Daily Site Emission Rates (grams/second)	Average Area Emission Rates (grams/m^2/second)
CO	12.7	0.0666	6.6334E-06
NO_x	31.5	0.1652	1.6458E-05
SO_x	3.6	0.0190	1.8918E-06
PM_{10}	**0.9**	**0.0045**	**4.4946E-07**
$PM_{2.5}$	0.8	0.0042	4.1536E-07
ROG	4.0	0.0212	2.1105E-06

Total averaging time is 24 hours (86,400 seconds) per CAAQS standards. The area emission rates are shown in scientific notation. Values include contributions of all construction, powered haulage, and material handling activities.

The expected combustion-fired construction emission concentrations from the *SCREEN3* modeling are shown in Table 6 below. The output model results are provided as an attachment to this report.

TABLE 6: SCREEN3 Predicted Diesel-Fired Emission Concentrations

Criteria Pollutant	Pollutant Concentration (µg/m^3)	Pollutant Concentration (ppm)[42]	Pollutant Risk Probability (percent risk per person for 70-year exposure)	Significant?
CO	36.40	0.0317	n/a	No
NO_x	90.30	0.0480	n/a	No
SO_x	10.38	0.0040	n/a	No
PM_{10}	**2.47**	**- -**	**0.074%**	**No**
$PM_{2.5}$	2.27	- -	n/a	No
ROG	11.58	- -	n/a	No

Diesel risk calculation based upon ARB 1999 Staff Report from the Scientific Review Panel (SRP) on Diesel Toxics inhaled in a 70-year lifetime. $PM_{2.5}$ levels based upon the CEIDARS database fractional emission factor for diesel construction equipment of 0.920 $PM_{2.5}$ / PM_{10}.

[42] Conversion Factors (approximate): CO: 1 ppm = 1,150 µg/m3 @ 25 deg-C STP, NOx: 1 ppm = 1,880 µg/m3 @ 25 deg-C STP, SOx: 1 ppm = 2,620 µg/m3 @ 25 deg-C STP, PM10 and PM2.5: 1 ppm = 1 g/m3 (solid).

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Based upon the model results, all criteria pollutants were below the recommended health risk level with a PM_{10} risk probability of 0.074% (0.00074 in one million) per 70-year exposure duration, assuming the implementation of T-BACT.[43] The project was found to be in compliance with both the BAAQMD 8-hour and 1-hour CO thresholds with a maximum value of 0.03 ppm.

Given the PM_{10} findings, no significant carcinogenic impact potential is expected due to proposed operations. Additionally, the analysis identified a worst-case PM_{10} level of 2.47 $\mu g/m^3$ occurring at a distance of 138 meters (453 feet) from the project site. This pollutant concentration is below the California Ambient Air Quality Standard (CAAQS) of 50 $\mu g/m^3$ established by the State for any given 24-hour exposure period.[44]

Finally, anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 2.27 $\mu g/m^3$, which is also below the Federal NAAQS 24-hour threshold of 35 $\mu g/m^3$ (there are no State concentration threshold for this pollutant). No cumulative contribution of $PM_{2.5}$ from the site would be physically possible due to the reasons cited above.

Construction VOC/ROG Emission Potential and Risk Level

The OEHHA Point Assessment Approach results are provided in Table 7 on the following page. As was previously seen in Table 6 above, the project was found to produce an aggregate ROG level of 11.58 $\mu g/m^3$ due to all proposed activities. This equates to a calculated mean body mass dose ranging between 0.002 to 0.007 mg/kg/day depending on age group. Peak (95th percentile) levels were found to have an age group distribution ranging between 0.003 to 0.012 mg/kg/day.

The health risk probability associated with the aforementioned inhaled body mass doses were found to be far below unity ranging from 4.20×10^{-6} to 1.83×10^{-4} assuming a full worst-case 70-year exposure duration, which is certainly not the case for the proposed SFBA pilot project. In terms of a population sample size of 100,000 individuals, this would equate to an excess cancer risk of between 0.4 to 18.4 per 100,000 individuals over a continuous 70-year exposure horizon. Since the proposed SFBA activities would occur over a period of approximately 450 days (15 months), the results would be de minimis when compared to other environmental risks.

Based on the findings, no inhaled health risk impacts are expected due to construction-related VOC/ROG generation from the proposed project.

---

[43] As part of T-BACT, contractors are required to utilize construction equipment, which are individually permitted through local air districts, or are registered under the Statewide Portable Equipment Registration Program (PERP).

[44] Additionally, Section 15355 of the CEQA Guidelines states: "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 7: OEHHA Point Assessment Cancer Risk Potentials by Age Group

	Age Group Under Examination				
	0 to 2	**2 to 9**	**2 to 16**	**16 to 30**	**16 to 70**
Calculated Airborne Dose by Group (OEHHA Eq. 5.4.1.1)					
Mean Dose (mg/kg/day)	0.007	0.006	0.005	0.002	0.002
95th Percentile (mg/kg/day)	0.012	0.010	0.008	0.004	0.003
Calculated Inhaled Cancer Risk by Group (OEHHA Eq. 8.2.4)					
95th Percentile Inhaled Dose (mg/kg/day)	0.012	0.010	0.008	0.004	0.003
Benzene IPF Threshold (mg/kg/day)	0.100	0.100	0.100	0.100	0.100
Age Sensitivity Factor for a Specified Age Group (unitless)	10	3	3	1	1
Construction Duration (years)	1.25	1.25	1.25	1.25	1.25
Averaging Time for Lifetime Cancer Risk (years)	70	70	70	70	70
Fraction of Time Spent at Home (unitless)	0.85	0.72	0.72	0.73	0.73
Inhaled Cancer Risk Due to ROG (unitless)	1.8392E-04	3.6919E-05	3.1945E-05	4.8547E-06	4.2025E-06
Cancer Risk Due over 70 Years (Chances per 100,000 Individuals)	**18.4**	**3.7**	**3.2**	**0.5**	**0.4**

Source: Office of Environmental Health Hazard Assessment (OEHHA), 2015.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Odor Impact Potential from Proposed Site

The inhalation of VOC's causes smell sensations in humans. These odors can affect human health in four primary ways:

- The VOC's can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOC's stimulate sensory nerves that can cause potentially harmful health effects; and,
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

Development of the proposed project site could generate trace amounts (less than 1 $\mu g/m^3$) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, dust, organic dust, and endotoxins (i.e., bacteria are present in the dust).[45]

It should be noted that odor generation impacts due to the project are not expected to be significant, since any odor generation would be intermittent and would terminate upon completion of the project. As a result, no significant air quality impacts are expected to surrounding residential receptors. No mitigation for odors is identified.

Project Vehicular Emission Levels

The SFBA pilot project is expected to have a worst-case trip generation level of 25 ADT based upon projected estimates by the project applicant.[46] The average one-way trip length would be 50 miles given the proposed local service radius of the facility.

The CARB EMFAC 2017 running emission factors are shown in Table 8a on the following page for a median combined highway and surface street travel speed of 45 MPH.[47] The calculated operational daily emissions due to travel to, and from the project site, are tabulated in Table 8b on the same page. Based upon the findings, no significant impacts for any criteria pollutants were identified.

---

[45] Additionally, proposed onsite uses could generate substances such as volatile organic acids, alcohols, aldehydes, amines, fixed gases, carbonyls, esters, sulfides, disulfides, mercaptans, and nitrogen heterocycles.

[46] Motor vehicles are the primary source of emissions associated with the proposed project area. Typically, uses such as the proposed project do not directly emit significant amounts of air pollutants from onsite activities. Rather, vehicular trips to and from these land uses are the significant contributor.

[47] Most roadways in California are classified as Community Collectors with a design speed of 45 MPH in order to facilitate stoplights, stop signs, cross-streets, and pedestrian crossing areas. The finding is also consistent with Section 275 of the California Vehicle Code pursuant to the definition of a Community Collector roadway. An average speed of 45 MPH is both reasonable and foreseeable given the current nature of the roadway network around the project site and the fact that the averaging mechanism mathematically minimizes errors due to variability of the driver's actions.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 8a: CARB EMFAC 2017 Year 2020 Emission Rates

	Criteria Pollutants Under Examination (in grams per mile)					
EMFAC 2017 Year 2020 Emission Rates	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Light Duty Auto (LDA)	0.729	0.049	0.002	0.001	0.001	0.010
Light Duty Truck (LDT1)	1.332	0.118	0.003	0.002	0.002	0.025
Medium Duty Truck (LHD1)	0.849	0.266	0.007	0.001	0.001	0.030
Heavy Duty Truck Gasoline (MH GAS)	1.731	0.470	0.015	0.001	0.001	0.053
Heavy Duty Truck Diesel (MH DSL)	0.303	4.144	0.009	0.099	0.095	0.059
Motorcycle (MCY)	17.838	1.130	0.002	0.001	0.001	1.878

TABLE 8b: Project Trip Generated Emissions – SFBA Pilot Project Site

		Criteria Pollutants Under Examination (in pounds per day)					
Proposed Project Action Emissions	**ADT**	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Light Duty Auto (LDA)	17	1.39	0.09	0.00	0.00	0.0	0.02
Light Duty Truck (LDT1)	5	0.71	0.06	0.00	0.00	0.0	0.01
Medium Duty Truck (LHD1)	2	0.15	0.05	0.00	0.00	0.0	0.01
Heavy Duty Truck Gasoline (MH GAS)	0	0.06	0.02	0.00	0.00	0.0	0.00
Heavy Duty Truck Diesel (MH DSL)	1	0.03	0.41	0.00	0.01	0.0	0.01
Motorcycle (MCY)	0	0.20	0.01	0.00	0.00	0.0	0.02
Total:	**25**	**2.5**	**0.6**	**0.0**	**0.0**	**0.0**	**0.1**
BAAQMD Significance Threshold:		**- -**	**54**	**- -**	**82**	**54**	**54**

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Predicted Operational Emission Levels

As previously discussed, fixed emission sources under the context of this pilot project would consist of two different scenarios, namely:

- Scenario 1 assumes that the SFBA plant would utilize the excess flue gas from the Calpine LMEC site as the source of CO_2 generation in the pilot process, and,
- Scenario 2 assumes that the SFBA site would operate a registered 6.3 MBtu/hr natural gas boiler onsite.

Only one scenario will be ultimately selected as the CO_2 generation for the carbon capture and mineralization process of the pilot plant. Each of these scenarios is shown below in Table 9 along with the worst-case estimate for each criterion pollutant examined.

TABLE 9: SFBA Applicant Predicted Operational Emissions

Scenario	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG/VOC
Scenario 1: Flue Gas Extraction	2.80	1.92	0.00	0.86		0.37
Scenario 2: Onsite Boiler Utilization	5.76	2.72	0.00	1.13		0.82
Material Handling Dust Emissions				0.45	0.05	
Maximum Emissions Pounds/Day	**5.76**	**2.72**	**0.00**	**1.58**	**0.05**	**0.82**

Source: Atmospheric Dynamics, Inc. 4/19.

Thus, it is expected that operational emissions of the pilot plant would generate approximately 5.76 pounds of CO per day, 2.72 pounds of NO_x per day, 1.58 pounds of PM_{10} on a daily basis, and trace amounts of $PM_{2.5}$ and ROG/VOC's. These sources, in and of themselves, would not be classified as significant emission sources, and are not expected to generate an air quality impact.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

CONCLUSIONS AND RECOMMENDATIONS

The aggregate emission levels produced by the proposed SFBA pilot project site are shown in Tables 10a and -b below. Based upon the findings, no construction or operational air quality impacts are anticipated due to the project.

TABLE 10a: Aggregate Emissions – SFBA Project Construction

	Aggregate Emissions for Criteria Pollutants					
SCENARIO EXAMINED	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Construction Vehicle Emissions (Table 4a)	12.4	27.4	3.6	0.8	0.7	4.0
Surface Grading Dust Generation	- -	- -	- -	0.3	0.1	- -
Powered Haulage Emission Generation for Construction Setup (Table 4b)	0.3	4.0	0.0	4.7	1.1	0.1
Total (Σ)	**12.7**	**31.4**	**3.6**	**5.8**	**1.9**	**4.1**
BAAQMD Significance Threshold:	**n/a**	**54**	**- -**	**82**	**54**	**54**

Values rounded to nearest tenth of a pound.

TABLE 10b: Aggregate Emissions – SFBA Project Operations

	Aggregate Emissions for Criteria Pollutants					
SCENARIO EXAMINED	**CO[48]**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**ROG**
Vehicular Traffic Generation (Table 8b)	2.5	0.6	0.0	0.0	0.0	0.1
Diesel Vehicle Emissions (Table 4a)	12.4	27.4	3.6	0.8	0.7	4.0
Powered Haulage Emission Generation for Material Handling (Table 4b)	0.3	4.0	0.0	4.7	1.1	0.1
Worst-Case Operational Emissions (Table 9)	5.8	2.7	0.0	1.6	0.1	0.8
Total (Σ)	**21.0**	**34.7**	**3.6**	**7.1**	**1.9**	**5.0**
BAAQMD Significance Threshold:	**- -**	**54**	**- -**	**82**	**54**	**54**

Values rounded to nearest tenth of a pound.

[48] It was previously shown in Table 6 that the project was found to be in compliance with both the BAAQMD 8-hour and 1-hour CO thresholds with a maximum value of 0.03 ppm. Thus, no impacts are expected.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

CERTIFICATION OF ACCURACY AND QUALIFICATIONS

This report was prepared by Investigative Science and Engineering, Inc. (ISE). The members of its professional staff contributing to the report are listed below:

Rick Tavares *(rtavares@ise.us)*	Ph.D. Civil Engineering M.S. Structural Engineering M.S. Mechanical Engineering B.S. Aerospace Engineering / Engineering Mechanics
Karen Tavares *(ktavares@ise.us)*	B.S. Electrical Engineering

ISE affirms to the best of its knowledge and belief that the statements and information contained herein are in all respects true and correct as of the date of this report. Content and information contained within this report is intended only for the subject project and is protected under 17 U.S.C. §§ 101 through 810.

Should the reader have any questions regarding the findings and conclusions presented in this report, please do not hesitate to contact ISE at (760) 787-0016.

Approved as to Form and Content:

Rick Tavares, Ph.D.

Project Principal
Investigative Science and Engineering, Inc. (ISE)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

APPENDICES AND SUPPLEMENTAL INFORMATION

SCREEN3 Model Output for Criteria Pollutants: CO, NO_x, SO_x, PM_{10}, and ROG

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

SFBA MATERIAL HANDLING OPERARTIONS - CO

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =        AREA
   EMISSION RATE (G/(S-M**2)) =      .663340E-05
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)  =     100.2000
   LENGTH OF SMALLER SIDE (M) =     100.2000
   RECEPTOR HEIGHT (M)        =      10.0000
   URBAN/RURAL OPTION         =       URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	17.34	3	1.0	1.0	320.0	3.00	45.
100.	33.11	4	1.0	1.0	320.0	3.00	45.
200.	31.61	5	1.0	1.0	10000.0	3.00	45.
300.	21.76	5	1.0	1.0	10000.0	3.00	45.
400.	15.39	5	1.0	1.0	10000.0	3.00	45.
500.	11.42	5	1.0	1.0	10000.0	3.00	44.
600.	8.837	5	1.0	1.0	10000.0	3.00	43.
700.	7.081	5	1.0	1.0	10000.0	3.00	45.
800.	5.833	5	1.0	1.0	10000.0	3.00	44.
900.	4.913	5	1.0	1.0	10000.0	3.00	45.
1000.	4.215	5	1.0	1.0	10000.0	3.00	45.
1100.	3.671	5	1.0	1.0	10000.0	3.00	36.
1200.	3.237	5	1.0	1.0	10000.0	3.00	45.
1300.	2.886	5	1.0	1.0	10000.0	3.00	32.
1400.	2.597	5	1.0	1.0	10000.0	3.00	1.
1500.	2.355	5	1.0	1.0	10000.0	3.00	1.
1600.	2.150	5	1.0	1.0	10000.0	3.00	26.
1700.	1.975	5	1.0	1.0	10000.0	3.00	42.
1800.	1.824	5	1.0	1.0	10000.0	3.00	41.
1900.	1.693	5	1.0	1.0	10000.0	3.00	39.
2000.	1.578	5	1.0	1.0	10000.0	3.00	1.
2100.	1.476	5	1.0	1.0	10000.0	3.00	1.
2200.	1.385	5	1.0	1.0	10000.0	3.00	32.
2300.	1.305	5	1.0	1.0	10000.0	3.00	31.
2400.	1.232	5	1.0	1.0	10000.0	3.00	16.
2500.	1.167	5	1.0	1.0	10000.0	3.00	15.
2600.	1.108	5	1.0	1.0	10000.0	3.00	14.
2700.	1.054	5	1.0	1.0	10000.0	3.00	38.
2800.	1.005	5	1.0	1.0	10000.0	3.00	40.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
  2900.   .9596        5     1.0    1.0 10000.0    3.00     10.
  3000.   .9182        5     1.0    1.0 10000.0    3.00      8.
  3500.   .7536        5     1.0    1.0 10000.0    3.00      1.
  4000.   .6363        5     1.0    1.0 10000.0    3.00      5.
  4500.   .5495        5     1.0    1.0 10000.0    3.00     18.
  5000.   .4829        5     1.0    1.0 10000.0    3.00     22.
  5500.   .4302        5     1.0    1.0 10000.0    3.00     27.
  6000.   .3877        5     1.0    1.0 10000.0    3.00     31.
  6500.   .3525        5     1.0    1.0 10000.0    3.00     31.
  7000.   .3231        5     1.0    1.0 10000.0    3.00     22.
  7500.   .2982        5     1.0    1.0 10000.0    3.00     13.
  8000.   .2767        5     1.0    1.0 10000.0    3.00     11.
  8500.   .2581        5     1.0    1.0 10000.0    3.00      8.
  9000.   .2418        5     1.0    1.0 10000.0    3.00      6.
  9500.   .2274        5     1.0    1.0 10000.0    3.00      3.
 10000.   .2146        5     1.0    1.0 10000.0    3.00      1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    20. M:
   138.   36.40        5     1.0    1.0 10000.0    3.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       36.40          138.        0.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

SFBA MATERIAL HANDLING OPERARTIONS - NOX

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =      .164580E-04
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)  =     100.2000
   LENGTH OF SMALLER SIDE (M) =     100.2000
   RECEPTOR HEIGHT (M)        =      10.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    20.   43.01        3     1.0    1.0   320.0    3.00     45.
   100.   82.15        4     1.0    1.0   320.0    3.00     45.
   200.   78.42        5     1.0    1.0 10000.0    3.00     45.
   300.   54.00        5     1.0    1.0 10000.0    3.00     45.
   400.   38.17        5     1.0    1.0 10000.0    3.00     45.
   500.   28.32        5     1.0    1.0 10000.0    3.00     44.
   600.   21.92        5     1.0    1.0 10000.0    3.00     43.
   700.   17.57        5     1.0    1.0 10000.0    3.00     45.
   800.   14.47        5     1.0    1.0 10000.0    3.00     44.
   900.   12.19        5     1.0    1.0 10000.0    3.00     45.
  1000.   10.46        5     1.0    1.0 10000.0    3.00     45.
  1100.   9.109        5     1.0    1.0 10000.0    3.00     36.
  1200.   8.032        5     1.0    1.0 10000.0    3.00     45.
  1300.   7.160        5     1.0    1.0 10000.0    3.00     32.
  1400.   6.444        5     1.0    1.0 10000.0    3.00      1.
  1500.   5.843        5     1.0    1.0 10000.0    3.00      1.
  1600.   5.334        5     1.0    1.0 10000.0    3.00     26.
  1700.   4.900        5     1.0    1.0 10000.0    3.00     42.
  1800.   4.526        5     1.0    1.0 10000.0    3.00     41.
  1900.   4.200        5     1.0    1.0 10000.0    3.00     39.
  2000.   3.915        5     1.0    1.0 10000.0    3.00      1.
  2100.   3.662        5     1.0    1.0 10000.0    3.00      1.
  2200.   3.437        5     1.0    1.0 10000.0    3.00     32.
  2300.   3.237        5     1.0    1.0 10000.0    3.00     31.
  2400.   3.058        5     1.0    1.0 10000.0    3.00     16.
  2500.   2.896        5     1.0    1.0 10000.0    3.00     15.
  2600.   2.749        5     1.0    1.0 10000.0    3.00     14.
  2700.   2.615        5     1.0    1.0 10000.0    3.00     38.
  2800.   2.493        5     1.0    1.0 10000.0    3.00     40.
  2900.   2.381        5     1.0    1.0 10000.0    3.00     10.
  3000.   2.278        5     1.0    1.0 10000.0    3.00      8.
  3500.   1.870        5     1.0    1.0 10000.0    3.00      1.
  4000.   1.579        5     1.0    1.0 10000.0    3.00      5.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
  4500.   1.363        5     1.0    1.0 10000.0    3.00     18.
  5000.   1.198        5     1.0    1.0 10000.0    3.00     22.
  5500.   1.067        5     1.0    1.0 10000.0    3.00     27.
  6000.   .9618        5     1.0    1.0 10000.0    3.00     31.
  6500.   .8747        5     1.0    1.0 10000.0    3.00     31.
  7000.   .8017        5     1.0    1.0 10000.0    3.00     22.
  7500.   .7398        5     1.0    1.0 10000.0    3.00     13.
  8000.   .6866        5     1.0    1.0 10000.0    3.00     11.
  8500.   .6404        5     1.0    1.0 10000.0    3.00      8.
  9000.   .6000        5     1.0    1.0 10000.0    3.00      6.
  9500.   .5643        5     1.0    1.0 10000.0    3.00      3.
 10000.   .5325        5     1.0    1.0 10000.0    3.00      1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    20. M:
   138.   90.30        5     1.0    1.0 10000.0    3.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       90.30          138.        0.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

SFBA MATERIAL HANDLING OPERARTIONS - SOX

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =      .189180E-05
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)  =     100.2000
   LENGTH OF SMALLER SIDE (M) =     100.2000
   RECEPTOR HEIGHT (M)        =      10.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    20.   4.944        3     1.0    1.0   320.0    3.00     45.
   100.   9.442        4     1.0    1.0   320.0    3.00     45.
   200.   9.014        5     1.0    1.0 10000.0    3.00     45.
   300.   6.207        5     1.0    1.0 10000.0    3.00     45.
   400.   4.388        5     1.0    1.0 10000.0    3.00     45.
   500.   3.256        5     1.0    1.0 10000.0    3.00     44.
   600.   2.520        5     1.0    1.0 10000.0    3.00     43.
   700.   2.019        5     1.0    1.0 10000.0    3.00     45.
   800.   1.664        5     1.0    1.0 10000.0    3.00     44.
   900.   1.401        5     1.0    1.0 10000.0    3.00     45.
  1000.   1.202        5     1.0    1.0 10000.0    3.00     45.
  1100.   1.047        5     1.0    1.0 10000.0    3.00     36.
  1200.   .9233        5     1.0    1.0 10000.0    3.00     45.
  1300.   .8231        5     1.0    1.0 10000.0    3.00     32.
  1400.   .7408        5     1.0    1.0 10000.0    3.00      1.
  1500.   .6716        5     1.0    1.0 10000.0    3.00      1.
  1600.   .6131        5     1.0    1.0 10000.0    3.00     26.
  1700.   .5632        5     1.0    1.0 10000.0    3.00     42.
  1800.   .5203        5     1.0    1.0 10000.0    3.00     41.
  1900.   .4828        5     1.0    1.0 10000.0    3.00     39.
  2000.   .4500        5     1.0    1.0 10000.0    3.00      1.
  2100.   .4210        5     1.0    1.0 10000.0    3.00      1.
  2200.   .3951        5     1.0    1.0 10000.0    3.00     32.
  2300.   .3721        5     1.0    1.0 10000.0    3.00     31.
  2400.   .3515        5     1.0    1.0 10000.0    3.00     16.
  2500.   .3328        5     1.0    1.0 10000.0    3.00     15.
  2600.   .3159        5     1.0    1.0 10000.0    3.00     14.
  2700.   .3006        5     1.0    1.0 10000.0    3.00     38.
  2800.   .2865        5     1.0    1.0 10000.0    3.00     40.
  2900.   .2737        5     1.0    1.0 10000.0    3.00     10.
  3000.   .2619        5     1.0    1.0 10000.0    3.00      8.
  3500.   .2149        5     1.0    1.0 10000.0    3.00      1.
  4000.   .1815        5     1.0    1.0 10000.0    3.00      5.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
  4500.   .1567        5     1.0    1.0 10000.0    3.00     18.
  5000.   .1377        5     1.0    1.0 10000.0    3.00     22.
  5500.   .1227        5     1.0    1.0 10000.0    3.00     27.
  6000.   .1106        5     1.0    1.0 10000.0    3.00     31.
  6500.   .1005        5     1.0    1.0 10000.0    3.00     31.
  7000.   .9215E-01    5     1.0    1.0 10000.0    3.00     22.
  7500.   .8504E-01    5     1.0    1.0 10000.0    3.00     13.
  8000.   .7892E-01    5     1.0    1.0 10000.0    3.00     11.
  8500.   .7361E-01    5     1.0    1.0 10000.0    3.00      8.
  9000.   .6897E-01    5     1.0    1.0 10000.0    3.00      6.
  9500.   .6486E-01    5     1.0    1.0 10000.0    3.00      3.
 10000.   .6121E-01    5     1.0    1.0 10000.0    3.00      1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    20. M:
   138.   10.38        5     1.0    1.0 10000.0    3.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       10.38          138.        0.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

SFBA MATERIAL HANDLING OPERARTIONS - PM10

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =      .449460E-06
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)  =     100.2000
   LENGTH OF SMALLER SIDE (M) =     100.2000
   RECEPTOR HEIGHT (M)        =      10.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	1.175	3	1.0	1.0	320.0	3.00	45.
100.	2.243	4	1.0	1.0	320.0	3.00	45.
200.	2.142	5	1.0	1.0	10000.0	3.00	45.
300.	1.475	5	1.0	1.0	10000.0	3.00	45.
400.	1.043	5	1.0	1.0	10000.0	3.00	45.
500.	.7735	5	1.0	1.0	10000.0	3.00	44.
600.	.5987	5	1.0	1.0	10000.0	3.00	43.
700.	.4798	5	1.0	1.0	10000.0	3.00	45.
800.	.3952	5	1.0	1.0	10000.0	3.00	44.
900.	.3329	5	1.0	1.0	10000.0	3.00	45.
1000.	.2856	5	1.0	1.0	10000.0	3.00	45.
1100.	.2487	5	1.0	1.0	10000.0	3.00	36.
1200.	.2194	5	1.0	1.0	10000.0	3.00	45.
1300.	.1955	5	1.0	1.0	10000.0	3.00	32.
1400.	.1760	5	1.0	1.0	10000.0	3.00	1.
1500.	.1596	5	1.0	1.0	10000.0	3.00	1.
1600.	.1457	5	1.0	1.0	10000.0	3.00	26.
1700.	.1338	5	1.0	1.0	10000.0	3.00	42.
1800.	.1236	5	1.0	1.0	10000.0	3.00	41.
1900.	.1147	5	1.0	1.0	10000.0	3.00	39.
2000.	.1069	5	1.0	1.0	10000.0	3.00	1.
2100.	.1000	5	1.0	1.0	10000.0	3.00	1.
2200.	.9387E-01	5	1.0	1.0	10000.0	3.00	32.
2300.	.8841E-01	5	1.0	1.0	10000.0	3.00	31.
2400.	.8350E-01	5	1.0	1.0	10000.0	3.00	16.
2500.	.7908E-01	5	1.0	1.0	10000.0	3.00	15.
2600.	.7506E-01	5	1.0	1.0	10000.0	3.00	14.
2700.	.7141E-01	5	1.0	1.0	10000.0	3.00	38.
2800.	.6807E-01	5	1.0	1.0	10000.0	3.00	40.
2900.	.6502E-01	5	1.0	1.0	10000.0	3.00	10.
3000.	.6221E-01	5	1.0	1.0	10000.0	3.00	8.
3500.	.5106E-01	5	1.0	1.0	10000.0	3.00	1.
4000.	.4311E-01	5	1.0	1.0	10000.0	3.00	5.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
  4500.   .3723E-01    5     1.0    1.0 10000.0    3.00     18.
  5000.   .3272E-01    5     1.0    1.0 10000.0    3.00     22.
  5500.   .2915E-01    5     1.0    1.0 10000.0    3.00     27.
  6000.   .2627E-01    5     1.0    1.0 10000.0    3.00     31.
  6500.   .2389E-01    5     1.0    1.0 10000.0    3.00     31.
  7000.   .2189E-01    5     1.0    1.0 10000.0    3.00     22.
  7500.   .2020E-01    5     1.0    1.0 10000.0    3.00     13.
  8000.   .1875E-01    5     1.0    1.0 10000.0    3.00     11.
  8500.   .1749E-01    5     1.0    1.0 10000.0    3.00      8.
  9000.   .1639E-01    5     1.0    1.0 10000.0    3.00      6.
  9500.   .1541E-01    5     1.0    1.0 10000.0    3.00      3.
 10000.   .1454E-01    5     1.0    1.0 10000.0    3.00      1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    20. M:
   138.   2.466        5     1.0    1.0 10000.0    3.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       2.466          138.        0.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

SFBA MATERIAL HANDLING OPERARTIONS - ROG

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =      .211050E-05
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)  =     100.2000
   LENGTH OF SMALLER SIDE (M) =     100.2000
   RECEPTOR HEIGHT (M)        =      10.0000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
20.	5.516	3	1.0	1.0	320.0	3.00	45.
100.	10.53	4	1.0	1.0	320.0	3.00	45.
200.	10.06	5	1.0	1.0	10000.0	3.00	45.
300.	6.924	5	1.0	1.0	10000.0	3.00	45.
400.	4.895	5	1.0	1.0	10000.0	3.00	45.
500.	3.632	5	1.0	1.0	10000.0	3.00	44.
600.	2.811	5	1.0	1.0	10000.0	3.00	43.
700.	2.253	5	1.0	1.0	10000.0	3.00	45.
800.	1.856	5	1.0	1.0	10000.0	3.00	44.
900.	1.563	5	1.0	1.0	10000.0	3.00	45.
1000.	1.341	5	1.0	1.0	10000.0	3.00	45.
1100.	1.168	5	1.0	1.0	10000.0	3.00	36.
1200.	1.030	5	1.0	1.0	10000.0	3.00	45.
1300.	.9182	5	1.0	1.0	10000.0	3.00	32.
1400.	.8264	5	1.0	1.0	10000.0	3.00	1.
1500.	.7492	5	1.0	1.0	10000.0	3.00	1.
1600.	.6840	5	1.0	1.0	10000.0	3.00	26.
1700.	.6283	5	1.0	1.0	10000.0	3.00	42.
1800.	.5804	5	1.0	1.0	10000.0	3.00	41.
1900.	.5386	5	1.0	1.0	10000.0	3.00	39.
2000.	.5020	5	1.0	1.0	10000.0	3.00	1.
2100.	.4697	5	1.0	1.0	10000.0	3.00	1.
2200.	.4408	5	1.0	1.0	10000.0	3.00	32.
2300.	.4151	5	1.0	1.0	10000.0	3.00	31.
2400.	.3921	5	1.0	1.0	10000.0	3.00	16.
2500.	.3713	5	1.0	1.0	10000.0	3.00	15.
2600.	.3525	5	1.0	1.0	10000.0	3.00	14.
2700.	.3353	5	1.0	1.0	10000.0	3.00	38.
2800.	.3196	5	1.0	1.0	10000.0	3.00	40.
2900.	.3053	5	1.0	1.0	10000.0	3.00	10.
3000.	.2921	5	1.0	1.0	10000.0	3.00	8.
3500.	.2398	5	1.0	1.0	10000.0	3.00	1.
4000.	.2024	5	1.0	1.0	10000.0	3.00	5.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

```
  4500.   .1748        5     1.0    1.0 10000.0    3.00     18.
  5000.   .1536        5     1.0    1.0 10000.0    3.00     22.
  5500.   .1369        5     1.0    1.0 10000.0    3.00     27.
  6000.   .1233        5     1.0    1.0 10000.0    3.00     31.
  6500.   .1122        5     1.0    1.0 10000.0    3.00     31.
  7000.   .1028        5     1.0    1.0 10000.0    3.00     22.
  7500.   .9487E-01    5     1.0    1.0 10000.0    3.00     13.
  8000.   .8804E-01    5     1.0    1.0 10000.0    3.00     11.
  8500.   .8212E-01    5     1.0    1.0 10000.0    3.00      8.
  9000.   .7694E-01    5     1.0    1.0 10000.0    3.00      6.
  9500.   .7236E-01    5     1.0    1.0 10000.0    3.00      3.
 10000.   .6829E-01    5     1.0    1.0 10000.0    3.00      1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    20. M:
   138.   11.58        5     1.0    1.0 10000.0    3.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       11.58          138.        0.
```

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

EMFAC 2017 EMISSION FACTOR TABULATIONS – SCENARIO YEAR 2020

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: CONTRA COSTA
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	CO_RUNEX	NOx_RUNEX	SOx_RUNEX	PM10_RUNEX	PM2_5_RUNEX	ROG_RUNEX	CO2_RUNEX
CONTRA COSTA	**2020**	**LDA**	**Aggregated**	**45**	**GAS**	**387166.7409**	**0.729271714**	**0.048728631**	**0.002472466**	**0.001193598**	**0.001097492**	**0.009936701**	**249.8497649**
CONTRA COSTA	2020	LDA	Aggregated	45	DSL	4005.649273	0.176941811	0.113463235	0.001727677	0.008258802	0.00790153	0.013849134	182.7534492
CONTRA COSTA	**2020**	**LDT1**	**Aggregated**	**45**	**GAS**	**40081.42574**	**1.332219029**	**0.118128814**	**0.002886907**	**0.001696728**	**0.001560188**	**0.024571193**	**291.7301683**
CONTRA COSTA	2020	LDT1	Aggregated	45	DSL	13.90970071	1.074770296	1.307576425	0.003476592	0.126804796	0.121319277	0.17009827	367.7533936
CONTRA COSTA	2020	LDT2	Aggregated	45	GAS	134480.6268	0.938920497	0.089040629	0.003169294	0.001160226	0.001066818	0.014068092	320.2662294
CONTRA COSTA	2020	LDT2	Aggregated	45	DSL	888.072667	0.090059156	0.03911596	0.002365519	0.004494442	0.004300015	0.010570133	250.2241971
CONTRA COSTA	**2020**	**LHD1**	**Aggregated**	**45**	**GAS**	**5622.887648**	**0.849483672**	**0.265727655**	**0.00721481**	**0.000969462**	**0.0008918**	**0.029541048**	**729.0772315**
CONTRA COSTA	2020	LHD1	Aggregated	45	DSL	10736.87332	0.457730243	2.998245791	0.004227584	0.019225528	0.01839384	0.08304297	447.1931611
CONTRA COSTA	2020	LHD2	Aggregated	45	GAS	672.2672875	0.657697081	0.245348066	0.008222078	0.000864567	0.000794937	0.021717497	830.864516
CONTRA COSTA	2020	LHD2	Aggregated	45	DSL	3585.063232	0.3723974	2.241936658	0.004669972	0.017280011	0.016532485	0.067629136	493.9889781
CONTRA COSTA	**2020**	**MCY**	**Aggregated**	**45**	**GAS**	**3966.782721**	**17.8383195**	**1.129705635**	**0.001874301**	**0.00148569**	**0.001393997**	**1.877961948**	**189.4034375**
CONTRA COSTA	2020	MDV	Aggregated	45	GAS	92065.46955	1.237172965	0.134683768	0.00388131	0.00127936	0.001177419	0.024543884	392.2175087
CONTRA COSTA	2020	MDV	Aggregated	45	DSL	2096.076883	0.151897664	0.060349339	0.003118081	0.005182304	0.00495812	0.009637681	329.8300964
CONTRA COSTA	**2020**	**MH**	**Aggregated**	**45**	**GAS**	**2039.709002**	**1.73062632**	**0.469685052**	**0.015243032**	**0.001115392**	**0.001026102**	**0.052546548**	**1540.352045**
CONTRA COSTA	**2020**	**MH**	**Aggregated**	**45**	**DSL**	**617.1566844**	**0.302883551**	**4.143920222**	**0.008870647**	**0.099414111**	**0.095113501**	**0.059295712**	**938.335768**
CONTRA COSTA	2020	Motor Coach	Aggregated	45	DSL	74.99117547	0.682509598	4.066897321	0.012858516	0.08095037	0.077448492	0.160853615	1361.048958
CONTRA COSTA	2020	OBUS	Aggregated	45	GAS	1699.201298	2.373881116	0.718238713	0.015294526	0.000591102	0.000543978	0.071313382	1545.55568
CONTRA COSTA	2020	SBUS	Aggregated	45	GAS	117.8156669	0.923218413	0.300476334	0.006945744	0.000711367	0.000654076	0.028044569	701.8873411
CONTRA COSTA	2020	SBUS	Aggregated	45	DSL	991.6605538	0.113795893	3.37678951	0.008567343	0.017370183	0.016618757	0.030186134	906.8366537
CONTRA COSTA	2020	T6 Ag	Aggregated	45	DSL	2.322875592	1.930687785	8.288701752	0.009850121	0.375279577	0.359045149	0.538031118	1042.616225
CONTRA COSTA	2020	T6 CAIRP heavy	Aggregated	45	DSL	79.08670437	0.127960762	1.081700365	0.007458995	0.021128822	0.020214798	0.028849286	789.5201954
CONTRA COSTA	2020	T6 CAIRP small	Aggregated	45	DSL	10.66773977	0.217898126	1.400846128	0.007933221	0.038608924	0.036938719	0.053281524	839.7160129
CONTRA COSTA	2020	T6 instate construction heavy	Aggregated	45	DSL	454.1095746	0.505590672	3.675700494	0.008777777	0.087038328	0.083273088	0.132015292	929.1107262
CONTRA COSTA	2020	T6 instate construction small	Aggregated	45	DSL	831.0002582	0.512527508	2.733137955	0.008513488	0.091696828	0.087730064	0.131421767	901.1361527
CONTRA COSTA	2020	T6 instate heavy	Aggregated	45	DSL	3333.934338	0.394055786	2.870833832	0.008191185	0.063892347	0.061128392	0.101219731	867.0210231
CONTRA COSTA	2020	T6 instate small	Aggregated	45	DSL	5373.48919	0.598573278	3.1516974	0.008689747	0.106731221	0.102114076	0.154690115	919.7928528
CONTRA COSTA	2020	T6 OOS heavy	Aggregated	45	DSL	43.57936995	0.129150303	1.053776417	0.007471557	0.021913567	0.020965596	0.029156923	790.8498308
CONTRA COSTA	2020	T6 OOS small	Aggregated	45	DSL	6.223591735	0.224343216	1.422657313	0.007938861	0.039808237	0.03808615	0.054933553	840.3130452
CONTRA COSTA	2020	T6 Public	Aggregated	45	DSL	1048.200081	0.113980524	4.396979005	0.008979156	0.022690136	0.021708571	0.032764451	950.426209
CONTRA COSTA	2020	T6 utility	Aggregated	45	DSL	129.0543018	0.055749257	1.25888523	0.008196963	0.007289303	0.006973971	0.012963269	867.6326362
CONTRA COSTA	2020	T6TS	Aggregated	45	GAS	4487.17646	2.523253295	0.688843381	0.014951967	0.000931377	0.000856367	0.076357885	1510.939056
CONTRA COSTA	2020	T7 Ag	Aggregated	45	DSL	1.476011826	5.017299605	17.94447106	0.015652487	0.709312622	0.678628072	1.112014835	1656.785404
CONTRA COSTA	2020	T7 CAIRP	Aggregated	45	DSL	1906.573659	0.249430247	2.291048646	0.011211498	0.030862515	0.029527416	0.051197907	1186.715359
CONTRA COSTA	2020	T7 CAIRP construction	Aggregated	45	DSL	338.3044876	0.243883759	2.240122618	0.011595928	0.030181115	0.028875493	0.04995149	1227.406487
CONTRA COSTA	2020	T7 NNOOS	Aggregated	45	DSL	2324.475754	0.268287829	1.963646563	0.010742864	0.03623146	0.034664103	0.054619615	1137.111306
CONTRA COSTA	2020	T7 NOOS	Aggregated	45	DSL	749.0489815	0.239250157	2.246956484	0.011211349	0.030270452	0.028960965	0.049326955	1186.699516
CONTRA COSTA	2020	T7 other port	Aggregated	45	DSL	1114.209252	0.300945066	3.947674733	0.013439629	0.030762789	0.029432005	0.09220972	1422.558657
CONTRA COSTA	2020	T7 POAK	Aggregated	45	DSL	5996.90892	0.342281618	4.515072074	0.013890499	0.034469744	0.032978598	0.109546689	1470.282388
CONTRA COSTA	2020	T7 Public	Aggregated	45	DSL	1133.668107	0.300979376	9.491142177	0.014423836	0.049569272	0.047424928	0.066348447	1526.735071
CONTRA COSTA	2020	T7 Single	Aggregated	45	DSL	1815.765135	0.689242273	4.866231512	0.013080359	0.099860996	0.095541053	0.16510481	1384.530592
CONTRA COSTA	2020	T7 single construction	Aggregated	45	DSL	839.2712094	0.605719535	4.880842764	0.012972797	0.08542345	0.08172807	0.143535151	1373.145413
CONTRA COSTA	2020	T7 SWCV	Aggregated	45	DSL	787.9561754	0.039375495	8.258597478	0.033953343	0.01109988	0.010619704	0.015423515	3593.895501
CONTRA COSTA	2020	T7 SWCV	Aggregated	45	NG	862.9402644	3.916552264	0.928451696	0	0.00388317	0.003715186	0.050082131	2780.007105
CONTRA COSTA	2020	T7 tractor	Aggregated	45	DSL	5553.959599	0.551369098	3.96031569	0.01211516	0.06750976	0.064589318	0.132112966	1282.366179
CONTRA COSTA	2020	T7 tractor construction	Aggregated	45	DSL	692.3248576	0.626908422	4.60262276	0.012937462	0.078729668	0.075323857	0.15431848	1369.405321
CONTRA COSTA	2020	T7 utility	Aggregated	45	DSL	86.76604441	0.15180775	3.764480376	0.013544557	0.015766178	0.01508414	0.037632863	1433.665117
CONTRA COSTA	2020	T7IS	Aggregated	45	GAS	38.00499836	37.67528889	3.730512146	0.018869598	0.001533054	0.001426884	0.564032961	1906.82693
CONTRA COSTA	2020	UBUS	Aggregated	45	GAS	50.44262803	0.108702918	0.084941911	0.008463109	0.000199253	0.000183205	0.004270481	855.2213599
CONTRA COSTA	2020	UBUS	Aggregated	45	DSL	311.7075753	0.076135541	1.454010379	0.011034364	0.00839524	0.008032066	0.000739994	1167.213421
CONTRA COSTA	2020	UBUS	Aggregated	45	NG	43.84507082	37.00020635	0.313112372	0	0.001019021	0.000974938	0.058473597	1462.977517
CONTRA COSTA	2020	All Other Buses	Aggregated	45	DSL	767.9265241	0.624895918	3.842823011	0.008522789	0.094790066	0.09068949	0.162041431	902.120651

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

AVAILABLE ONLINE CONTENT

The following high-resolution graphical content from this report is available online at the website links shown below. Use of this material is subject to ISE's electronic file distribution policy available at: *http://www.ise.us/index.php/filepolicy*.

CONTENT	DOWNLOAD LINK
Project Study Area Vicinity Map	*http://www.ise.us/projects/19004/1.jpg*
Project Study Area Parcel Map Showing Nearby Sensitive Receptors	*http://www.ise.us/projects/19004/2.jpg*
Aerial Image Showing Development Area and Surrounding Uses	*http://www.ise.us/projects/19004/3.jpg*
Proposed San Francisco Bay Aggregates Development Plan	*http://www.ise.us/projects/19004/4.jpg*
Ambient Air Quality Standards Matrix	*http://www.ise.us/projects/19004/5.jpg*
Ambient Air Quality Monitoring Station Location Map	*http://www.ise.us/projects/19004/6.jpg*
Project Air Basin Aerial Map	*http://www.ise.us/projects/19004/7.jpg*

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

INDEX OF TERMS USED IN REPORT

CAAQS, 9, 11, 30, 31, 32
California Air Resources Board, 14
California Environmental Quality Act, 9
cancer, 12, 17, 18, 30
CARB, 9, 10, 13, 14, 18, 19, 20, 21, 23, 24, 25
Carbon Monoxide, 1, 6, 11
CEIDARS, 16, 31
CEQA, 9, 11, 12, 13, 28
Clean Air Act, 9, 11
CO, 11, 12, 14, 21, 26, 27, 31, 35, 36, 37, 39
control efficiency, 29

de minimis, 12

Environmental Protection Agency, 1
EPA, 1, 10, 12, 14, 17

hydrocarbons, 8
Hydrogen Sulfide, 1, 8

ISE, 1, 2, 15, 16, 22, 38

Motor Vehicle Emission Inventory, 19
MVEI, 19, 20

NAAQS, 9, 32
National Ambient Air Quality Standards, 9
National Institute of Standards and Technology, 14
Nitrogen Dioxide, 1
NO_2, 6
NO_x, 14
odor, 7, 8, 34
Ozone, 1, 6

PAH, 12
particulate matter, 1
PM_{10}, 7, 11, 14, 16, 17, 21, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 39
$PM_{2.5}$, 16
polynuclear aromatic hydrocarbons, 12

Reactive Organic Gasses, 1, 8
Reference Exposure Levels, 12
REL, 13
risk, 8, 12, 13, 17, 18, 30, 31, 32
ROG, 14, 26, 27, 35, 37

SCREEN3, 17, 30, 31, 39
SO_2, 6, 7, 8
Sulfur Dioxide, 1

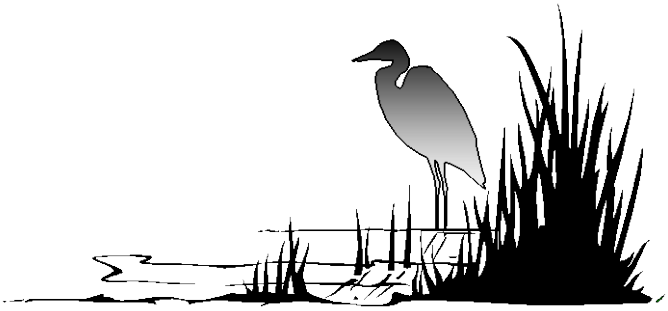
T-BACT, 13, 32
Toxic Best Available Control Technologies, 13

VOC, 18, 37
Volatile Organic Compounds, 1, 7

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Appendix B

BIOLOGICAL RESOURCE ASSESSMENT
FOR
CARBON CAPTURE AND MINERALIZATION PROJECT
895 EAST THIRD STREET
CITY OF PITTSBURG
CONTRA COSTA COUNTY, CALIFORNIA



May 2019

Prepared for:

Brezack & Associates Planning
3000 Citrus Circle, Suite 210
Walnut Creek, CA 94598

Prepared by:

Wood Biological Consulting
PO Box 1569
El Granada, CA 94108
(415) 254-4835
chris@wood-biological.com

The information provided in this document is intended solely for the use and benefit of Brezack & Associates and the City of Pittsburg.

No other person or entity shall be entitled to rely on the services, opinions, recommendations, plans or specifications provided herein, without the express written consent of Wood Biological Consulting

Table of Contents

SUMMARY ..... **v**

1.0 INTRODUCTION **1**

1.1 Project Background *1*

1.2 Project Description *3*

2.0 METHODS AND LIMITATIONS **5**

2.1 Definitions *5*

2.2 Data Sources *5*

2.3 Special-Status Biological Resources *6*

3.0 EXISTING CONDITIONS **8**

3.1 Setting *8*

3.2 Plant Communities and Wildlife Habitats *8*

3.3 Wildlife Movement Corridors *15*

4.0 SPECIAL-STATUS BIOLOGICAL RESOURCES **17**

4.1 Special-Status Natural Communities, Habitats and Landscape Features *17*

4.2 Special-Status Plant Species *22*

4.3 Special-Status Animal Species *32*

5.0 CONCLUSIONS AND RECOMMENDATIONS **47**

5.1 Special-status Natural Communities and Landscape Features *47*

5.2 Special-Status Plant Species *48*

5.3 Special-Status Animal Species *49*

6.0 LITERATURE CITED **53**

TABLES

Table 1. Plants Species Observed 11
Table 2. Animal Speceis or Sign Observed 12

FIGURES

Figure 1. Project Location 2
Figure 2. Aerial View of Project Location 3
Figure 3. Vegetation and Habitat Types 10
Figure 4. Special-Status Plant Records from the Project Vicinity 24
Figure 5. Location of Mason's lilaeopsis and Suisun marsh aster 25
Figure 6. Special-Status Animal Records from the Project Vicinity 34

ATTACHMENTS

A. Site Photographs
B. Special-status Plant Species Evaluated for the Project
C. Special-status Animal Species Evaluated for the Project
D. Explanation of Rarity Status Codes
E. Database Printouts for Special-Status Species

SUMMARY

This report presents the results of an assessment of existing and potentially occurring biological resources on an industrial parcel in the City of Pittsburg, Contra Costa County, California. The report provides background and site-specific information pertaining to special-status plants, wildlife species and habitats, which may represent constraints to the proposed activities.

The biological study area (BSA) is located at 895 E. Third Street. The property is bordered by existing industrial facilities and open fallow fields. A small portion of the site is situated on the shoreline of New York Slough just upstream (east) of the confluence with the Sacramento River, opposite of Browns Island, and 1.0 km (0.6 mi) east of the Pittsburg Marina.

The site is largely paved. The existing vegetation on the site is mostly non-native ruderal (i.e. weedy) plants with landscaping trees and shrubs. A small portion of the site is on the shoreline of New York Slough, which is armored (i.e. riprapped), and supports very sparse freshwater marsh plants. Although jurisdictional wetlands and other waters are present, no special status natural communities are located in the study area.

A total of 81 special-status plant species have been recorded from the nine 7.5-minute USGS quadrangles including and surrounding the BSA. A total of 8 special-status plant species have been recorded from within a within 1.6 km (1 mi) of the BSA. One special status species, Mason's lilaeopsis, is present in the BSA at the discharge point of a stormwater outfall. No Federal listed, Proposed, or Candidate plant species are considered to have potential to occur in the study area. Marginal habitat exists for one other non-listed special-status species, Suisun marsh aster.

A total of 86 special-status animal species have been recorded in the nine 7.5-minute USGS quadrangles including and surrounding the BSA. A total of 17 special-status animal species have been recorded from within a 4.8 km (3 mi) radius of the BSA (Figure 6). Based on the existing habitats on site and its geographic location, the occurrence of 72 of these species can be ruled out entirely based on absence of suitable habitat, the site's location outside of the species known range, or absence of regional species occurrences. Although marginally suitable habitat is present within the BSA, the occurrence of another eight of these species are not expected to occur on site due to the site's level of disturbance, habitat alteration, or geographic location relative to known occurrences.

Although not detected during the present survey, eight of the species could occur within the study area. Six of these are fish species and include Chinook salmon, Delta smelt, longfin smelt (San Francisco bay delta DPS), green sturgeon, Sacramento splittail, and

steelhead (Central Valley DPS and Central California Coast DPS). Also potentially occurring within the study area are Pacific pond turtle, bank swallow, and a wide variety of migratory bird species. Two marine mammals, harbor seal and California sea lion, are known to move through the project vicinity.

The proposed project would not result in significant direct or indirect impacts on special-status plants, wildlife, and habitats. Impact avoidance measures are recommended to include as part of the proposed project. These measures are outlined in the report to reduce potential impacts to a less-than-significant level. With the incorporation of the avoidance measures outlined in this report, project implementation would not result in any potentially significant adverse biological effects.

1.0 INTRODUCTION

This report presents the results of a biological assessment of a portion of two industrial parcel (APN 073-020-019 and 073-020-015) at 895 E. Third Street in the City of Pittsburg, Contra Costa County, California (Figures 1 and 2). The property is leased by San Francisco Bay Aggregates (Applicant), which proposes to build a carbon mineralization and recapture facility on the site.

The purpose of this Biological Resource Assessment (BRA) is to identify biological resources that are present or that might be present the project site, and that could constrain proposed maintenance actions. Biological constraints consist of federally and state-listed endangered and rare species[1] and their habitats, other special-status species regulated under state or local laws or ordinances, wetlands and other aquatic habitats, and other special-status natural communities. The report provides background and site-specific information pertaining to special-status plant and wildlife species and other regulated biological resources (e.g., wetlands, other waters, natural communities, and protected trees) which represent potential constraints to the proposed activity. The BRA also identifies appropriate impact avoidance measures for potential impacts that may result from project implementation.

This BRA has been prepared to facilitate an environmental review by the lead agency (the City of Pittsburg) in conformance with the guidelines of the California Environmental Quality Act (CEQA). It is also intended to support review by federal and State regulatory agencies with jurisdiction over the project.

1.1 Project Setting

The Applicant is proposing to construct the first phase of a carbon mineralization and recapture facility on a former industrial site near New York Slough. The parcel occupies approximately 2.5 ac. An existing stormwater outfall and 6-inch thermal wastewater discharge outfall occupy approximately 25 lf of shoreline. The site is approximately 95% paved, and includes several buildings, and pads and other appurtenances remaining from past use.

[1] For purposes of this analysis, the term species includes all taxa at the species, subspecies or variety taxonomic levels.

Figure 1. Project Location

Figure 2. Aerial View of Project Location

Source: Google Earth, 2019

1.2 Project Description

The proposed project would reuse a former industrial site within an industrial-zoned area of Pittsburg. The primary function of the proposed project is to take flue gas from local ready-mix concrete producers and recyclers to produce CO_2-sequestered and upcycled rocks for fresh concrete production. On a temporary basis, the CO_2 outlet stream of gas from the gas-fired steam boiler process equipment would be used until the flue gas transfer operations are online.

The proposed project would link together four component modules into a cycle for the overall Process. A module is a set of equipment from which an interim product is produced. Each module is made separately, and the completed modules are joined together to form the process of producing ingredients for fresh concrete production. The four modules are presented on Figure 4 are:

1. CO_2 Capture Module – removal of CO_2 from flue gas,
2. Carbonate Coating Module – calcium carbonate ($CaCO_3$) coating on the surface of the substrate rock,
3. Reformation Module – creation of upcycled rock for coating or placement in fresh concrete, and
4. Stripper Module– separation of aqueous ammonia and calcium chloride solutions for use in the CO_2 Capture and Carbonate Coating modules.

The construction of the proposed project would not require any disturbance of soil beneath the existing site caps. The majority of the equipment would be skid mounted for mobilization to and from the proposed project site. No new foundation construction or new buildings would be constructed.

The duration of construction of the proposed project is estimated to be 3 to 4 months. It is estimated that a maximum of six construction workers are required. Construction activity entails off-loading transported equipment and connecting the separate Modules together.

2.0 METHODS AND LIMITATIONS

2.1 Definitions

The following terms are used to evaluate habitat suitability and on-site biological resources.

Biological Study Area The biological study area (BSA) encompasses the project footprint and adjacent lands within a radius of approximately 31 m (100 ft; see Figure 2).

Project Footprint The project footprint is based on the proposed limits of work shown on the site plans (see Attachment 5 of this JARPA submittal). Construction-related activities within the project footprint include vegetation clearing, grading, soil stabilization, and construction of permanent and temporary facilities.

2.2 Data Sources

Lists of potentially occurring special-status plant and animal species were compiled based on a review of databases maintained by the California Natural Diversity Database (CNDDB, 2019), the U.S. Fish and Wildlife Service (USFWS, 2019), and the California Native Plant Society (CNPS, 2019). Botanical nomenclature conforms to the Jepson Online Interchange (Jepson Herbarium, no date) and Baldwin, et al (2012). Common names of plant species[2] are derived from Calflora (2019). Plant habitat affinities and local distribution information was obtained from Lake (2010), Ertter and Bowerman (2002), and Ertter and Naumovich (2013). Nomenclature for special-status plant species conforms to the California Department of Fish and Wildlife (CDFW[3]; CDFW 2018c,d).

Nomenclature for common wildlife species conforms to CDFW (2016), with taxonomic nomenclature updates conforming to the American Ornithologist's Union and supplements (AOU, 2018) for birds, Jennings (2004) for amphibians and reptiles, and the American Society of Mammologists (ASM, 2018) for mammals. Nomenclature for freshwater, anadromous, and euryhaline fishes conforms to Moyle and Davis (2000). Local information on breeding bird species is based on Glover (2009). Nomenclature for special-status animal species conforms to the CDFW (2018e,f).

[2] For purposes of this discussion, the term "species" implies all recognized taxa at the species or subspecific level.

[3] On January 1, 2013, the CA Department of Fish and Game (CDFG) changed its name to the CDFW; all publications released prior to that date are referenced by the former name CDFG.

The classification of vegetation types described herein conforms to Sawyer et al. (2009) and, where applicable, Cowardin et al. (1979) and Holland (1986). Special-status plant community designations conform to the CDFW (CNDDB, 2019 and CDFW, 2018b). Information regarding soils was obtained from the web-based database Web Soil Survey[4], operated by the Natural Resources Conservation Service (NRCS; USDA, 2018).

2.3 Special-Status Biological Resources

A literature review was conducted to investigate the potential presence of special-status biological resources within the BSA. Occurrence summaries were obtained from the following sources:

1. Database queries for the Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles (CNDDB, 2019; CNPS, 2019; USFWS, 2019).
2. An assessment of habitat types and surrounding land uses completed by reviewing recent aerial photographs.
3. Reconnaissance-level surveys by a qualified biologist.

The presence or potential for occurrence of special-status biological resources within the BSA is based on direct observation or an evaluation of the suitability of existing habitats occurring within the BSA. Suitability is based on familiarity with the specific habitat requirements (i.e., elevation, geology, soil chemistry and type, vegetation communities, microhabitats), geographic distribution, local occurrence records, and the degree of habitat disturbance or alteration. The criteria for assessing the potential for occurrence of special-status species are summarized below.

Species Occurrence Assessment Criteria

None	Applied to plant or animal species for which suitable habitat is lacking, which are not known to occur locally, or which are thought to be locally extirpated.
Absent	Applied to plant or animal species for which suitable habitat is present but which would have been detectable at the time surveys were conducted.
Not Expected	Applied to plant and animal species for which suitable habitat or key habitat elements may be present but which are considered to be of poor quality or are spatially isolated from either known occurrences or areas of suitable habitat. When the existing

[4] Available at http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

habitats within the BSA do not coincide with a species' life history or ecological requirements, its occurrence is not expected.

Possible Applied to plant and animal species for which suitable habitat or key habitat elements are present within the BSA. The occurrence of these species is either considered likely, or, at the least, its presence cannot be ruled out.

Present Applied to plant and animal species that were either observed directly or, in the case of animal species, whose presence can be presumed based on detection of diagnostic sign (i.e. tracks, scat, burrows, carcasses, castings, prey remains, *etc*.).

The conclusions presented in this document are based on a reconnaissance-level survey was performed by biologist Chris Rogers on April 25, 2019. All plant and wildlife observations were recorded, and habitats characterized and mapped.

A delineation of potentially jurisdictional waters of the U.S./waters of the State was not performed, although the limits of the federal and state jurisdictional waters were estimated based on physical indicators of the High Tide Line.

3.0 EXISTING CONDITIONS

3.1 Location and Setting

SFBA intends to construct and operate the proposed Project on a 2.5 acre parcel of land located at 895 East 3rd Street, Pittsburg, California 94565 in Contra Costa County. The Assessor's Parcel Number for the proposed project site is 073-020-019-3. As shown on Figure 1, the parcel is bounded to the north by New York Slough, Suisun Bay, part of the Sacramento-San Joaquin River Delta; to the east by land owned by USS-POSCO Industries (UPI) and by a PG&E substation; to the south by an easement that runs along East 3rd Street; and to the west by Koch Carbon Inc.

The proposed project site was previously host to a 20 megawatt cogeneration power plant, owned and operated by GWF Power Systems Company, Inc. (GWF). The facility was decommissioned in 2012 and the site has since been an empty lot used for truck parking. The proposed project site has a perimeter chain link fence. As shown on Figure 2, two buildings remain in place.

The proposed project site is a paved and gravel lot with several existing buildings. Vegetation is dominated by non-native ruderal (i.e. weedy) plants and landscaping trees. A small easement extends to the shoreline of New York Slough, which supports sparse emergent wetland vegetation in intermittent patches, and armored sections with little or no vegetation. No submerged aquatic vegetation is present along the shoreline. The plant communities and wildlife habitats present in the BSA are described below.

No native soils or land surfaces remain on the site. Underlying geology of the paved project vicinity is assumed to consist of clay soils derived from alluvial deposits, which supported agriculture in the past. These soils are older and more stable than the peat and muck that more recently accreted to form the delta islands to the north of the New York Slough, and throughout the delta. Soils on site are mapped as belonging to the Clear Lake series (USDA, 2018). The Clear Lake series consists of poorly drained soils that, in an undisturbed condition, support annual grasses and forbs and scattered live oaks. These soils are generally deep, with groundwater at about 2 m (80 in). Clear Lake soils are classified as Xeric Endoaquerts.

The New York Slough reach of the San Joaquin River constitutes a prominent hydrologic feature of the project area. At the project site, the river is tidally influenced, with tidal fluctuations of an average of 1.6 m (5.2 ft).

3.2 Plant Communities and Wildlife Habitats

Prior to shoreline development, the project area was upland grassland subsequently used for agriculture or grazing. The shoreline is not a relic of filling of wetlands or mudflats, as has occurred in other areas in the Delta, although river bank maintenance and reinforcements have likely altered the shoreline by restricting the natural recruitment of

native plants wetland and emergent plants. The remaining narrow patches of freshwater emergent marsh vegetation along much of the Pittsburg shoreline are poorly developed and relatively impermanent as the substrate erodes away or is armored.

The existing vegetation on the shoreline, river bank and upland portions of the BSA is characterized by mostly non-native herbs, forbs, shrubs, and trees that are capable of occupying recently or frequently disturbed areas, or have been planted on the project site. Beyond the top of the river bank, the landscape is ruderal or barren as a result of routine maintenance. Vegetation and wildlife habitats in the BSA are summarized below and shown on Figure 3. Tables 1 and 2 list plant and wildlife species observed on the site.

Developed

Developed lands are those from which all natural and non-natural plant assemblages have been removed and replaced by paved or graveled surfaces, structures, equipment storage yards, etc. Few native and non-native animal species are well adapted to developed areas, while others have benefited greatly from urbanization and anthropogenic effects. These species are attracted by certain resources readily available in developed settings such as food, water and shelter while being tolerant of human disturbances such as noise, lighting, and the movement of people and machinery. Many mammals are attracted to human development providing a source of food (e.g., rubbish, garden plants, pet food, and pets).

The majority of the BSA is developed, including concrete pavement and industrial buildings, and a concrete-covered stormwater outfall and discharge pipe that extends into the waters of New York Slough (Figure 3). The above-ground structures are maintained and in use, diminishing their suitability for nesting or roosting wildlife. Nonetheless, certain birds and bats could reside within or on these structures at various times of year. Ornamental landscaping trees also are included within this cover type.

Animal species or their sign[5] detected in developed areas during the present wildlife reconnaissance survey include American crow, California scrub-jay, house finch, mourning dove, and northern mockingbird, turkey vulture, California ground squirrel, and Sierran chorus frog.

Developed areas are not a vegetation type, and are not classified by Sawyer, et al. (2009); they would be classified as upland following Cowardin, et al. (1979). Unless found to support special-status plant or animal species, impacts to developed areas would not typically be regarded as significant pursuant to the statutes and guidelines of CEQA (see discussion in Section 4.1).

[5] Wildlife sign include tracks, vocalization, scat, white-wash, feathers, fur, shed skin, nests, burrows, prey remains, and dead individuals.

Figure 3. Vegetation and Habitat Types

Table 1. Plant Species Observed

Common Name	***Scientific Name***
arroyo willow	*Salix lasiolepis*
* black mustard	*Brassica nigra*
* bull mallow	*Malva nicaeensis*
* bull thistle	*Cirsium vulgare*
coyote brush	*Baccharis pilularis*
* fennel	*Foeniculum vulgare*
floating water primrose	*Ludwigia peploides* ssp. *peploides*
* hare barley	*Hordeum murinum* ssp. *leporinum*
* Himalayan blackberry	*Rubus armeniacus*
* iris	*Iris* sp. (cultivar)
* Italian ryegrass	*Festuca perennis*
* Italian thistle	*Carduus pycnocephala*
* Jersey cudweed	*Pseudognaphalium luteooalbum*
Mason's lilaeopsis	***Lilaeopsis masonii***
* milk thistle	*Silybum marianum*
*perennial pepperweed	*Lepidium latifolium*
* prickly ox-tongue	*Helminthotheca echioides*
* rattail fescue	*Festuca myuros*
redwood	*Sequoia sempervirens* (cultivar)
* red brome	*Bromus rubens*
* red-stem filaree	*Erodium cicutarium*
* river redgum	*Eucalyptus camaldulensis*
saltgrass	*Distichlis spicata*
* slender oat	*Avena barbata*
* smilo grass	*Stipa miliacea*
* stinkwort	*Dittrichia graveolens*
* storksbill	*Geranium dissectum*
* strawberry tree	*Arbutus unedo* (cultivar)
+ Suisun marsh aster	***Symphyotrichum lentum***
* sweet clover	*Melilotus indica*
tule	*Schoenoplectus acutus*
willow herb	*Epilobium ciliatum*
* yellow star thistle	*Centaurea solstitialis*

Notes: Species in **bold** are special status species; see Sections 2.3 and 4.2.
* non-native species; + observed on adjacent property only

Table 2. Wildlife Species or Sign Observed

Common Name	***Scientific Name***
American crow	*Corvus brachyrhynchos*
California scrub-jay	*Aphelocoma californica*
California ground squirrel	*Otospermophilus beecheyi*
house finch	*Haemorhous mexicanus*
mourning dove	*Zenaida macroura*
northern mockingbird	*Mimus polyglottos*
red-tail hawk	*Buteo jamaicensis* (dec.)
Sierran chorus frog	*Pseudacris sierra*
turkey vulture	*Cathartes aura*

Aquatic Habitat

Although tidally influenced, the aquatic habitat of the lower San Joaquin River is predominantly a freshwater environment, especially during the winter months when Delta outflows are around 900 m^3/second (32,000 ft^3/second) (USFWS, 2002). Salt water intrusion occurs during the summer months, making the system somewhat brackish. However, the shoreline vegetation at the stormwater outfall location is indicative of freshwater conditions.

The lower San Joaquin River supports a wide range of wildlife species. A total of 32 fish species have been collected during sampling conducted at the Antioch Dunes National Wildlife Refuge (ADNWR), including the special-status species Delta smelt, longfin smelt, Sacramento splittail, Chinook salmon, steelhead, hardhead (USFWS, 2002). Also known from the project vicinity is Sacramento perch (CNDDB, 2019).

Wildlife known to inhabit the aquatic environment in the project vicinity include such mammals as American beaver, California sea lion common muskrat, harbor seal, and northern river otter, and the reptile species Pacific pond turtle. A wide variety of resident and migratory water fowl are also commonly encountered in the open water habitat of the lower San Joaquin River.

No aquatic animal species or their sign were detected in this habitat during the reconnaissance survey.

Aquatic habitat is not classified by Sawyer, et al. (2009). However, impacts to open waters are regulated under federal, State or local laws and policies and be considered significant pursuant to the statutes and guidelines of CEQA (see discussion in Section 4.1).

Littoral Zone

The littoral zone is the near-shore environment of seas, lakes or rivers. In areas subject to tidal action, it extends from the high water mark, which is only briefly inundated, to the shoreline, which is permanently submerged. It includes the intertidal zone. In freshwater ecosystems, the littoral zone occurs on the edge of large lakes and rivers, often with extensive areas of wetland. The littoral zone may form a narrow or broad fringing wetland, with extensive areas of aquatic plants sorted by their tolerance to different water depths. Typically, four zones are recognized, from higher to lower on the shore: wooded wetland, wet meadow, marsh and aquatic vegetation. The littoral zone of freshwater ecosystems is among the most ecologically significant on earth. Due to their high physical complexity and connectivity, the littoral zone supports especially high biodiversity.

The littoral zone is an important interface between terrestrial and aquatic ecosystems. It is the warmest of the aquatic systems since it is shallow and can absorb more of the sun's heat. It sustains a fairly diverse community, which can include several species of algae (like diatoms), rooted and floating aquatic plants, grazing snails, clams, insects, crustaceans, fishes, and amphibians. The vegetation and animals living in the littoral zone are food for other creatures such as turtles, snakes, and ducks. Many vertebrates and invertebrates use both the littoral zone as well as the terrestrial ecosystem for food and habitat.

There are three categories of plants that may occur in the littoral zone of freshwater ecosystems. Emergent plants are those that are rooted in the subsurface substrate but have leaves and stems that float at the surface or grow above the surface, such as cattails and tules. Floating plants are broad, flat-leaved plants that are not rooted in the subsurface substrate, such as duckweed and water hyacinth. Submersed plants are those that grow completely beneath the surface such as pondweed and water milfoil.

In the BSA, the littoral zone is very narrow to absent due to the steepness and armoring of the river bank around the outfall. Additionally, the BSA encompasses only 25 linear feet of shoreline frontage on New York Slough. Within the BSA, the littoral zone is mostly unvegetated, but supports very small patches of tule and the special-status species Mason's lilaeopsis (see discussion in Section 4.2, below). The floating-leaved plant, floating water primrose, also was present on the littoral shore.

Wildlife known to inhabit the littoral zone of the Sacramento - San Joaquin Delta include such mammals as American beaver, common muskrat, and northern river otter, and the reptile species Pacific pond turtle. A wide variety of resident and migratory water fowl are also commonly encountered in the open water habitat of the lower San Joaquin River.

No animal species or their sign were detected in this habitat during the reconnaissance survey.

Vegetation in the littoral zone on site does not conform to any particular natural association described in Sawyer et al. (2009), but are composed of plant species that respond to changes in shoreline conditions, annual floods, and daily tidal cycles. This vegetation is classified as "palustrine emergent persistent seasonally flooded/saturated freshwater wetlands" (P-EM1-E0) following Cowardin, et al. (1979). Impacts to this plant community qualifying as wetlands may be regulated under federal, State or local laws and policies and would be considered significant pursuant to the statutes and guidelines of CEQA (see discussion in Section 4.1).

Ruderal Uplands

Ruderal habitat is that from which the native vegetation has been completely removed by grading, cultivation, or other surface disturbances. Left undeveloped, such areas may become recolonized by invasive non-native as well as native plant species. Ruderal sites are typically dominated by herbaceous species, although scattered woody shrubs and trees may also begin to appear over time. Ruderal sites are characteristic of road sides, fallow agricultural fields, industrial or vacant lots, and landslides.

From a wildlife perspective, ruderal habitat includes those habitats in which the native vegetation has been completely removed by grading, cultivation, or other surface disturbances. Vegetative cover is typically sparse, consisting of herbaceous "weeds", scattered shrubs, and occasional trees. Due to the relative openness of the landscape and the high level of human activity, ruderal sites typically provide little habitat for wildlife species.

Wildlife species commonly encountered in ruderal habitats include reptiles such as southern alligator lizard, northern alligator lizard, and western fence lizard. Passerines (perching birds) that may forage on disturbed ground or among the scattered trees and shrubs include Brewer's blackbird, European starling, house finch, mourning dove, northern mockingbird, and western scrub-jay, among others. Fossorial (i.e., burrowing) mammals such as Botta's pocket gopher and California ground squirrel are also expected, along with other rodents such as brush rabbit, California vole, and deer mouse. California ground squirrel burrows were observed in the ruderal portions of the site. Other mammals that are naturally tolerant of human habitation and activities include mule deer, raccoon, striped skunk, and Virginia opossum.

Historically, the vicinity of the BSA supported grasslands (Stanford et al., 2011). However, these lands have long been subjected to intensive agricultural and industrial uses significantly altering the natural vegetation of the area. The site is currently paved over 95% of the total area. Several patches of unpaved ground support sparse to relatively dense patches of weedy annual grasses and forbs. Additionally, weeds are growing from cracks and joints in the paved areas. The most prevalent plant species in the ruderal areas include black mustard, bull mallow, fennel, foxtail barley, rattail fescue, slender oats, willow herb, and yellow sweetclover.

Ruderal habitat is not specifically described by Sawyer, et al. (2009); it would be classified as upland following Cowardin, et al. (1979). As a non-native plant association, ruderal habitat has no global or State rarity ranking. Unless found to support special-status plant or animal species, or as otherwise regulated features such as drainages or water bodies, impacts to ruderal habitat would not be regarded as significant pursuant to statutes and guidelines of CEQA (see discussion in Section 4.1).

3.3 Wildlife Movement Corridors

Under CEQA, project impacts are considered significant if they would interfere substantially with the movement of 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. Wildlife corridors (i.e., linear habitats that naturally connect and provide passage between two or more large habitats or habitat fragments) are important for persistence of wildlife over time. Wildlife must have access to adequate resources, and corridors are used to find suitable forage, nesting and resting sites, mates and new home ranges. In addition, corridors for dispersal within breeding populations will decrease the likelihood that subpopulations will go extinct or become locally extirpated. Even where patches of pristine habitat are fragmented, as commonly occurs with riparian vegetation, wildlife movement between populations is facilitated through habitat linkages, migration corridors and movement corridors.

Wildlife movement includes migration (i.e., usually one direction per season), inter-population movement (i.e., long-term genetic exchange) and small travel pathways (i.e., daily movement within an animal's home range). Daily movement patterns define an animal's home range where activities such as foraging, resting and conspecific (i.e., individuals of the same species) interactions occur. Generally, longer movements usually by dispersing individuals connect breeding populations, permitting gene flow between these subpopulations. Functional corridors must generally provide adequate habitat cover to permit animal dispersal between areas large enough to serve as home ranges. Corridor requirements vary between organisms; a suitable corridor for a butterfly or bird may be a series of "stepping stones" of suitable habitat, while a terrestrial vertebrate may need a continuous band of suitable habitat for successful movement. Habitat loss, fragmentation, and degradation resulting from a change in land use or habitat conversion can alter the use and viability of corridors.

The aquatic habitat of New York Slough and the shoreline of the subject property may be considered wildlife movement corridors. Although over-land movement is restricted by fencing, barren ground, and moderately intense human disturbance in the form of vehicles, pedestrians, lighting and noise, the shoreline is somewhat protected from these limitations. Vegetation on the river bank provides cover for dispersing wildlife, forming a corridor between more extensive areas of undeveloped, natural habitats. Open water also facilitates the movement of numerous aquatic species such as mountain beaver, common

muskrat and northern river otter. The San Joaquin River serves as an important corridor for resident and anadromous fish.

Nonetheless, project implementation is not expected to interfere substantially with the local or regional 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; impacts would not be considered significant pursuant to CEQA guidelines.

4.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

Certain natural plant communities, wildlife habitats and landscape features are considered to have special-status due to their restricted occurrence in the State, their tendency to support special-status plant or animal species, or because impacts are restricted or otherwise regulated under federal, State, or local laws or ordinances. These are discussed below.

4.1 Special-Status Natural Communities, Habitats and Landscape Features

Special-Status Natural Communities

Special-status natural communities are those that are considered rare in the region, support special-status plant or animal species, or receive regulatory protection under the Clean Water Act (CWA), Lake and Streambed Alteration Program (LSAP), and/or the Porter-Cologne Water Quality Control Act (PCWQCA). A number of communities have been designated as rare and these communities are given the highest inventory priority (CNDDB, 2019; CDFW, 2018b). Vegetation alliances given a rarity ranking of G1/S1, G2/S2 or G3/S3 are considered to be of high inventory priority by the CNDDB; impacts may therefore be considered significant pursuant to statutes and guidelines of CEQA. Alliances ranked as G4/S4 or G5/S5 are generally considered common and impacts would not normally be considered as significant (for a definition of rarity rankings, see Attachment D).

Wetland and riparian habitats are considered by federal and State regulatory agencies to represent a sensitive and declining resource. Wetland and riparian habitats can serve significant biological functions by providing nesting, breeding, foraging, and spawning habitat for a wide variety of resident and migratory animal species.

Special-status natural communities recorded from the project region include Alkali Meadow, Alkali Seep, Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Northern Claypan Vernal Pool, Serpentine Bunchgrass Grassland, Stabilized Interior Dunes, and Valley Needlegrass Grassland (CNDDB, 2019). None of these special-status natural communities are present within the project footprint and none would be impacted by the proposed project.

Small, fringing patches of freshwater emergent marsh are present along the shoreline near the BSA. This vegetation occurs in a narrow band, averaging 0.6 – 1.8 m (2 – 6 ft) in width. It does not conform to the any described special-status natural community, but does constitute jurisdictional wetlands. Impacts resulting from project implementation would be deemed significant pursuant to the statutes and guidelines of CEQA. Impact avoidance

measures are recommended to be included as part of the proposed project, as outlined in Section 5.1, below.

Eelgrass Habitat

In the subtidal zone, impacts to eelgrass habitat are regulated under the CWA, Magnuson-Stevens Fishery Conservation and Management Act (MSA), the California Coastal Act (CCA), and the California Code of Regulations (CCR)[6]. According to these laws and regulations, any activities which may potentially impact eelgrass habitat must mitigate for those impacts. This requires mitigation for harmful impacts to existing eelgrass beds as well as potential eelgrass habitat.

The presence of eelgrass beds is not expected at the project location; it has been determined that eelgrass has been fully replaced by the native species widgeon grass east of the Carquinez Bridge (Merkel & Associates Inc., 2004). Furthermore, the proposed project would not result in any changes to the aquatic environment of New York Slough that would affect eelgrass.

Essential Fish Habitat

The maintenance of healthy fisheries is dependent on the protection of those habitats essential for the growth and reproduction of fish species. The NMFS and regional fishery management councils are charged with ensuring that fishing activities have a minimal impact on fish habitat. Essential fish habitat (EFH) includes those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.[7] While private landowners and state agencies are not required to consult with NMFS, pursuant to the MSA, a consultation is required[8] if each of the following factors is satisfied:

1. The federal government has authorized, funded, or undertaken part or all of a proposed activity. For example, if a project proposed by a federal or state agency or an individual requires a federal permit, then the federal agency authorizing the project through the issuance of a permit must consult with NMFS.

2. The action will "adversely" affect EFH. An adverse effect is defined as any impact that reduces quality and/or quantity of EFH. This includes direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to species and their habitat, and other ecosystem components, or reduction of the quality and/or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of EFH.

[6] CCR Title 14
[7] 16 USC 1802(10)
[8] MSA § 305(b)(2)

The project area is located within EFH for Pacific Groundfish.

Groundfish are fish that live in, on, or near the bottom of the water body they inhabit. They occur in the ocean and bays, including the upriver extent of saltwater intrusion in estuaries. Over 80 groundfish species are covered under the Pacific Groundfish Fishery Management Plan (FMP), including 64 species of rockfish, 12 species of flatfish, six species of roundfish, six species of sharks and skates, and others. At least 31 groundfish species inhabit estuaries and nearshore kelp forests during part or all of their life cycle (NMFS, 2005a). Several groundfish species covered under the Pacific Coast Groundfish FMP have distributions in Suisun Bay, and have the potential to occur in the project area as juveniles and/or adults. Starry flounder is the only species that may be abundant in Suisun Bay. All life stages may occur in the project vicinity.[9] As designated by NOAA, Essential Fish Habitat (EFH) means those waters and substrate that are essential to fish for spawning, breeding, feeding, and growing to maturity.

Because the proposed project does not include any work within the aquatic environment, and discharges through the outfall would be within permitted parameters, there is no potential for adverse effects on EFH.

Critical Habitat

Critical habitat is a term defined under FESA[10] as (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of Section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal "nexus"—that is, no federal funding or authorization. Federal agencies are required to avoid "destruction" or "adverse modification" of designated critical habitat. Most activities that require consultation by federal agencies proceed without modification. In areas where the species is not present, some project modifications that would not have occurred without the critical habitat designation may be required.

Based on a review of CNDDB (2019), the project site is located within designated critical habitat for Delta smelt and spring-run Chinook (see discussion under Section 4.3, below).

[9] NOAA EFH Mapper, available online at https://www.habitat.noaa.gov/protection/efh/efhmapper/
[10] FESA § 2(5)

However, because the proposed project does not include any work within the aquatic environment, and discharges through the outfall would be within permitted parameters, there is no potential for adverse effects on critical habitat.

Waters of the U.S. / Waters of the State

Certain habitat and site features fall under federal and state jurisdiction (see discussion of Special-Status Natural Communities in Section 4.1, below). These typically include stream and drainage courses, water bodies, tidal lands, wetlands, and riparian habitats. The extent of jurisdiction of a given agency varies and is defined by specific guidelines issued by each agency.

Wetlands belong to the broad category of Waters of the U.S. and are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions".[11] Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands are areas of land which are permanently or seasonally wet and support vegetation specifically adapted to growing in saturated soils under conditions of low oxygen. Wetlands are considered valuable to humans because they provide flood protection, recharge ground water supplies, improve water quality by filtering out pollutants and sediments, protect shorelines and stream banks from erosion, serve as important spawning and nursery areas for invertebrates, fish, shellfish and birds, provide recreation, open space, and aesthetic values, provide water and sanctuaries for wildlife, and frequently support endangered, threatened, or rare species of wildlife and plants. The value of a particular wetland is assessed based on its size, proximity to open areas supporting a variety of other habitat types, its level of disturbance, the presence of invasive plant species, exposure to human activities that might disrupt wildlife movements or breeding, exposure to pollutants, or other conditions affecting the wetlands functions listed above.

To meet the legal definition of a wetland, a site must exhibit specific indicators of hydrologic, soil, and vegetation parameters. Indicators of all three wetlands parameters must be present for a site to be classified as a wetland (Environmental Laboratory, 1987). Although emergent wetlands occur in the BSA, no wetlands are present directly opposite of the existing wharf; no significant direct or indirect impacts on wetlands would result from project implementation.

As summarized by the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA), both agencies assert jurisdiction over “non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)” and “wetlands that abut such tributaries” (USEPA/USACE,

[11] 40 CFR 230.3[t]

2008). The extent of USACE jurisdiction in tidal waters normally corresponds to the Mean High Water[12], which was observed in the field to correspond with the upper limit of wetland vegetation.

The project site would not involve the placement of fill below the HTL of the San Joaquin River, a traditional navigable Waters of the U.S.[13] and a Waters of the State[14], nor would it cause any changes that affected navigability, Therefore, the proposed project would not be regulated pursuant to the CWA[15] under the jurisdiction of the USACE and RWQCB and the Rivers and Harbors Act of 1899 (RHA)[16] (USACE). Impacts below the top of bank are regulated as waters of the state by the CFGC[17] and RWQCB. Similarly, the project does not require authorization from these agencies with regard to waters of the state.

Impact avoidance measures recommended to be included as part of the proposed project are outlined in Section 5.1.

---

[12] High Tide Line is defined at 33 CFR 328.3 as "the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm."

[13] As defined in 40 CFR § 230.3(s), Waters of the U.S. include:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of tide;
- All interstate waters, including interstate wetlands;
- All other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- Tributaries of the above;
- Territorial seas; and
- Wetlands adjacent to waters defined above.
- Although isolated wetlands no longer fall under USACE jurisdiction, impacts to isolated wetlands continue to be regulated under State law (see below).

[14] As defined under California Water Code § 13050(e), Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state". These include nearly every surface or ground water in California, or tributaries thereto, and include drainage features outside USACE jurisdiction (e.g., dry and ephemeral/seasonal stream beds and channels, etc.), isolated wetlands (e.g., vernal pools, seeps, springs and other groundwater-supplied wetlands, etc.), and storm drains and flood control channels.

[15] CWA § 401

[16] RHA § 10

[17] CFGC § 1602

4.2 Special-Status Plant Species

Special-status plant species include all plant species that meet one or more of the following criteria:[18]

- Listed or proposed for listing as Threatened or Endangered under the federal Endangered Species Act (FESA) or candidates for possible future listing as Threatened or Endangered under the FESA.[19]
- Listed[20] or candidates for listing by the State of California as Threatened or Endangered under the California Endangered Species Act (CESA).[21] A species, subspecies, or variety of plant is **endangered** when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors.[22] A plant is **threatened** when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures.[23]
- Listed as Rare under the California Native Plant Protection Act (CNPPA).[24] A plant is **Rare** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.[25]
- Meet the definition of Rare or Endangered under CEQA.[26] Species that may meet the definition of Rare or Endangered include the following:
    - Species considered to be "rare, threatened or endangered in California" (CRPR 1A, 1B and 2);
    - Species that may warrant consideration on the basis of local significance or recent biological information;
    - Some species included on the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List*.
- **Locally significant species,** that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as

[18] This definition is provided in CDFG (2009).
[19] 50 CFR §17.12
[20] Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.
[21] CFGC § 2050 et seq.
[22] CFGC § 2062
[23] CFGC § 2067
[24] CFGC § 1900, et seq.
[25] CFGC § 1901
[26] CEQA § 15380[b] and [d]

> within a county or region[27] or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines[28]). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

In addition, plant species have been assigned global and State rarity rankings (for a definition of these rankings, see Attachment D). Species ranked as S1, S2, or S3 are considered to be critically imperiled, imperiled or vulnerable to extinction within the boundaries of the State (CDFW, 2018c). As such, these species may be considered to meet the criteria for listing as endangered, threatened or rare under CESA.[29] Species ranked as S4 or S5 are generally considered common enough to be secure and not at risk of extinction. Impacts on special-status plants species, as thusly defined, would be regarded as significant pursuant to CEQA[30] and should be addressed in environmental review documents.[31]

A total of 81 special-status plant species have been recorded from the nine 7.5-minute USGS quadrangles including and surrounding the BSA (CNPS, 2019; CNDDB, 2019; USFWS, 2019). A total of 8 special-status plant species have been recorded from within a 4.8 km (3 mi) radius of the BSA; all eight of these have been recorded from within 1.6 km (1 mi) of the BSA (Figure 4).

One State-listed rare plant species, Mason's lilaeopsis, is present in the BSA at the mouth of the stormwater outfall (Figure 5). This species is described in detail below. No Federal listed, Proposed, or Candidate plant species are considered to have potential to occur in the BSA. Marginal habitat exists for one non-listed rare plant, Suisun marsh aster, which has been observed within 30 ft of the stormwater outfall on the adjacent property to the west (C. Rogers, pers. obs.), but does not occur on the subject property.

[27] CEQA § 15125 (c)
[28] CEQA Appendix G
[29] CEQA § 15380(d)
[30] CEQA § 15065
[31] CEQA § 15125

Figure 4. Special-Status Plant Records from the Project Vicinity

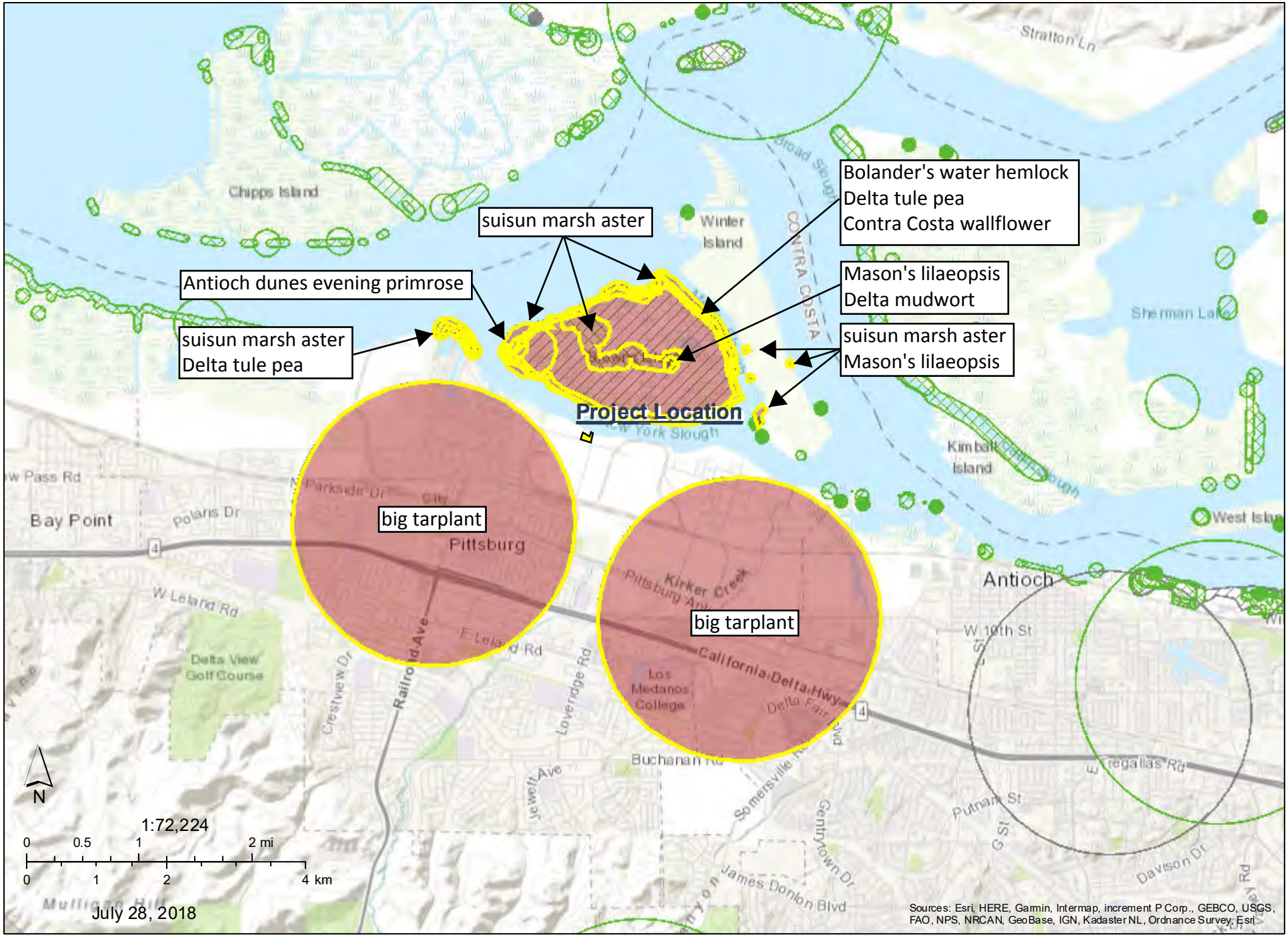


Figure 5. Location of Mason's lilaeopsis and Suisun marsh aster

A total of 70 special-status species in the database queries are considered to have no potential for occurrence at the project site due to a lack of suitable habitat, lack of suitable soils, and distance of the BSA from known occurrences. Another five of the target species are considered absent from the project site because they would have been detectable during the present survey. Another five of the target species are not expected to occur on site because the habitat is of very poor quality and highly altered, or due because the project site is spatially isolated from either known occurrences or areas of suitable habitat. No impact avoidance, minimization or mitigation measures are warranted and no further surveys or analysis related to this group of special-status plant species are necessary.

Attachment B is a list of all special-status plant species evaluated as part of this analysis. An explanation of all rarity status codes is provided in Attachment D. The following discussions provide details on species with at least marginally suitable habitat in the BSA.

<u>Suisun Marsh Aster</u>

Regulatory Status: Federal: none; State: none; CRPR: 1B.2. It has been assigned a global and state ranking of G2/S2; species assigned a ranking of S2 are considered imperiled in the state due to their very restricted range, very few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018c). As such, this species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to the CEQA. Impacts to species with such a ranking may be regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Suisun Marsh aster (*Symphyotrichum lentum*) is a perennial, rhizomatous herb belonging to the sunflower family (Asteraceae). It produces stems up to 16 m (5 ft) tall, with sessile basal and cauline leaves up to 15 cm (6 in) long. Flowers are violet and occur in heads at the tips of branches. Flowering occurs May through November. Suisun marsh aster is a native species endemic to California and found only in Contra Costa, Napa, Sacramento, San Joaquin and Solano counties. It is associated with in freshwater and brackish marshes around Suisun Bay, growing from sea level to 3 m (0-10 ft) in elevation.

Critical Habitat: Suisun marsh aster is not listed under FESA; as such, no critical habitat has been designated for the species.

Habitat Suitability and Potential to Occur: Suitable habitat for Suisun marsh aster is present within the littoral zone of the BSA. There are 21 records of Suisun marsh aster within an 8 km (5 mi) radius of the project site (CNDDB, 2019)which includes records from the shoreline to the north and east of the project site. Suisun marsh aster was documented during a 2018 survey of the adjacent property to the west; the nearest plants to the BSA were approximately 30 ft to the west. It appears to persist in unarmored sections of shoreline with natural substrates.

Potential Project-Related Effects: Suisun marsh aster is not present in the BSA, and nearby populations would not be affected directly or indirectly by the proposed project. Marginally suitable habitat exists along the shoreline, but the shoreline is already armored around the outfall, which appears to limit the occurrence of this species. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to shoreline habitat. However, because of the proximity of this species to the project site, impact avoidance measures are recommended to be included as part of the proposed project, as described in Section 5.2, below.

Bolander's Water Hemlock

Regulatory Status: Federal: none; State: none; CRPR: 2B.1. It has been assigned a global and state ranking of G5T4/S2; species assigned a ranking of S2 are considered imperiled in the state due to their very restricted range, very few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018c). As such, this species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to the CEQA. Impacts to species with such a ranking may be regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Description: Bolander's water hemlock (*Cicuta maculata* var. *bolanderi*) is a perennial member of the carrot family (Apiaceae). It produces erect hollow stems with pinnately compound leaves and serrate leaflets. Inflorescences are umbellate, with clusters of small white flowers. Flowering occurs July through September. Bolander's water hemlock occurs in coastal salt and freshwater marshes. It has been recorded from coastal regions of Contra Costa, Los Angeles, Marin, Sacramento, Santa Barbara, San Luis Obispo, and Solano counties.

Critical Habitat: Bolander's water hemlock is not listed under FESA; as such, Critical Habitat has not been designated for the species.

Habitat Suitability and Potential to Occur: The BSA supports marginally suitable shoreline habitat for the species, though lacks the well-developed tidal marsh with which it is usually associated. However, the species is not expected on site as this large perennial species would have been detectable during the present survey.

Two occurrences of Bolander's water hemlock have been recorded within 5 km (3 mi) of the project site. The nearest record (Occ. # 2) is a 1978 observation on Browns Island across New York Slough from the BSA, and is presumed extant. The tidal marsh on Browns Island is well-developed and intact, with unarmored shorelines, as contrasted to the southern shoreline of New York Slough and the BSA.

Potential Project-Related Effects: Although there is marginally suitable habitat for the species within the BSA, it was not observed and is considered absent. It is a large plant with distinctive leaves, recognizable when not yet in flower. No project-related activities would affect this species; therefore project implementation would have no potential for impacting this species. Impact avoidance, minimization or mitigation measures are not warranted.

Delta Tule Pea

Regulatory Status: Federal: none; State: none; CRPR: List 1B.2. It has been assigned a global and state ranking of G5T2/S2; species assigned a ranking of S2 are considered imperiled in the state due to their very restricted range, very few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018c). As such, this species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to the CEQA. Impacts to species with such a ranking may be regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*) is a robust perennial vine belonging to the pea family. It has winged stems reaching 2.4 m (8 ft) in length and climbs by tendrils located at the tips of the leaves. The leaves are 2.5-5 cm (1-2 in) long and have 10-16 leaflets. Flowers are bright pink to purple, to 2.5 cm (1 in) long, and are produced May through June. Delta tule pea is a native species endemic to California and found only in Contra Costa, Napa, Sacramento, San Joaquin Solano, Sonoma and Yolo counties. It is associated with in freshwater and brackish marshes around Suisun Bay, growing from sea level to 4 m (0-13 ft) in elevation.

Critical Habitat: Delta tule pea is not listed under FESA; as such, no critical habitat has been designated for the species.

Habitat Suitability and Potential to Occur: Marginally suitable habitat for Delta tule pea is present within the littoral zone of the BSA. There are 12 records of Delta tule pea within an 8 km (5 mi) radius of the project site (CNDDB, 2019); it has been recorded from Browns Island across New York Slough from the project site. Habitat conditions on Browns Island are typical for this species, and differ from the project site, with relatively intact stands of dense brackish tidal wetlands on the margins and interior of the island. No individuals were detected within the BSA.

Potential Project-Related Effects: Marginally suitable habitat for the Delta tule pea is present in the BSA. This species typically occurs in well-developed marsh habitat where there is a prevalence of other tall vegetation that it uses for support. Marsh vegetation along the shoreline of the BSA is very sparse and inconsistent with conditions where the species is observed nearby. Project implementation is would not

have any direct or indirect effects on the species. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to shoreline habitat. Impact avoidance measures or mitigation measures are not warranted for this species.

Mason's Lilaeopsis

Regulatory Status: Federal: None; State: Rare; CRPR: List 1B.1. It has been assigned a global and state ranking of G2/S2; species assigned a ranking of S2 are considered imperiled in the state due to their very restricted range, very few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018c). As such, the species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to CEQA. Impacts to species with such a ranking may be regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Mason's lilaeopsis (*Lilaeopsis masonii*) is a diminutive member of the carrot family (Apiaceae). It is a prostrate perennial producing rhizomes and linear, cylindric to flattened leaves 1.3-7.6 cm (0.5-3 in) long. Flowers are white to maroon, 1 mm (0.04 in) long at the end of basal peduncles 2-20 mm (0.08-0.8 in) long. Flowering occurs June through August. Mason's lilaeopsis is a native species endemic to California and is found only in Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano and Yolo counties. It forms dense to sparse colonies on exposed muddy streambanks and levees associated with freshwater and intertidal marshes of the Napa, Sacramento and San Joaquin rivers and the Point Reyes Peninsula, growing from sea level to 10 m (0-33 ft) in elevation.

Critical Habitat: Critical habitat has not been designated for Mason's lilaeopsis.

Habitat Suitability and Potential to Occur: A small patch of Mason's lilaeopsis occurs within the BSA, on fine sediments accumulated in riprap at the mouth of the stormwater outfall (see Figure 5, and photographs 4 and 5 in Attachment A). The total area is approximately 3 ft^2. Marginally suitable habitat for Mason's lilaeopsis is present within the littoral zone of the BSA, but was not otherwise present. There are 12 records of Mason's lilaeopsis within an 8 km (5 mi) radius of the project site (CNDDB, 2019); it has been recorded from the Browns Island due north of the project site, in relatively undisturbed habitat on the unarmored shoreline.

Potential Project-Related Effects: Although Mason's lilaeopsis is present in the BSA, it occurs at the mouth of a stormwater outfall that is currently in use (i.e. it discharges runoff from the site during storm events). This use would not change with implementation of the proposed project, therefore any changes to the small population of Mason's lilaeopsis would not be attributable to the project. However,

because of the presence of the species within the project area, impact avoidance measures are recommended as part of the proposed project, as outlined in Section 5.3, below.

Delta Mudwort

Regulatory Status: Federal/State: None; CRPR: List 2B.1. It has been assigned a global and state ranking of G4G5/S2; species assigned a ranking of S2 species assigned a ranking of S2 are considered imperiled in the state due to its very restricted range, very few populations, or other factors making it very vulnerable to extirpation (CDFW, 2014c). As such, the species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to the CEQA. Impacts to species with such a ranking may be regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Delta mudwort (*Limosella australis*) is a tufted annual belonging to the figwort family (Scrophulariaceae). It produces green, linear awl-like to cylindrical leaves cm (0.5-1.5 in) long. Flowers are white to lavender-blue, 3 mm (0.12 in) long and develop May through August. Delta mudwort has been regarded as a rare native species in California, although recent treatments indicate that it may actually have been accidentally imported in the ballast of ships from the east coast of North America. Here, it is found in the San Joaquin-Sacramento River Delta, occurring in Contra Costa, Sacramento, San Joaquin, and Solano counties. It has also been recorded from Marin County (Abbot's Lagoon). It is found on exposed muddy or sandy intertidal flats and brackish marshes, growing from sea level to 3 m (0-10 ft) in elevation.

Critical Habitat: Delta mudwort is not listed under FESA; as such, no critical habitat has been designated for the species.

Habitat Suitability and Potential to Occur: Marginally suitable habitat for Delta mudwort is present within the littoral zone of the BSA. There are ten records of Delta mudwort within an 8 km (5 mi) radius of the project site (CNDDB, 2019); it has been recorded from the interior of Browns Island, across New York slough from the BSA, and from the Dow Wetlands Preserve 3.2 km (2 mi) to the east. The species is not present within the small shoreline area within the BSA.

Potential Project-Related Effects: Marginally suitable habitat for Delta mudwort is present in the BSA, but is considered to be unlikely to occur on site. Project implementation is would not have any direct or indirect effects on the species. Impact avoidance measures are not warranted for this species.

Eel-Grass Pondweed

Regulatory Status: Federal: None; State: Rare; CRPR: List 2B.2. It has been assigned a global and state ranking of G4G5/S3; species assigned a ranking of S3 are considered vulnerable in the state due to their restricted range, relatively few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018c). As such, the species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to the CEQA. Impacts to species with such a ranking may be regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Eel-grass pondweed (*Potamogeton zosteriformis*) is an annual aquatic herb belonging to the pondweed family (Potamogetonaceae). It produces submerged linear leaves 5-20 cm (2-8 in) long, 2-5 mm (0.08-0.2 in) wide on flat to winged stems. Flowers are greenish and clustered at the ends of peduncles 2-6 cm (0.8-204 in) long. Flowering occurs June through July. Eel-grass pondweed is a native species but is not endemic to California. It is found only in Contra Costa, Lake, Lassen, Modoc and Shasta counties as well as through the western and mid-western states. It grows in muddy soil of ponds, lakes and streams, growing from sea level to 1300 m (0-4264 ft) in elevation.

Critical Habitat: Eel-grass pondweed is not listed under FESA; as such, no critical habitat has been designated for the species.

Habitat Suitability and Potential to Occur: Marginally suitable habitat for eel-grass pondweed is present in the subtidal zone of the BSA. A focused survey for this diminutive, difficult to find species was beyond the scope of this effort. Eel-grass pondweed has not been recorded from within an 8 km (5 mi) radius of the project site (CNDDB, 2019). As described in Section 4.1, eelgrass has been fully replaced by the native species widgeon grass east of the Carquinez Bridge (Merkel & Associates Inc., 2004). Therefore, it is not expected to occur on site.

Potential Project-Related Effects: Although marginally suitable habitat for eel-grass pondweed is present in the BSA, it is not expected to occur on site because it is outside of the known range of the species, and because the rapidly deepening bathymetry of New York Slough is not conducive to its establishment or persistence. Project implementation would not have any direct or indirect effects on the species. Impact avoidance, minimization or mitigation measures are not warranted.

Slender-Leaved Pondweed

Regulatory Status: FESA: none; CESA: none; CRPR: 2B.2; Global/State rarity ranking: G5T2/S3

Description: Slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina;* formerly *Potamogeton filiformis*) is a rhizomatous aquatic herb belonging to the pondweed family (Potamogetonaceae). This completely aquatic herb produces long, sessile leaves from a tuber buried in the submersed substrate. It produces inconspicuous flowers on submerged spikes. Flowering occurs May through July. Slender-leaved pondweed occurs in shallow freshwater marshes and swamps below 2135 m (7000 ft) in elevation.

Critical Habitat: Critical Habitat has not been designated for slender-leaved tarplant.

Habitat Suitability and Potential to Occur: Slender-leaved pondweed has been recorded within 1.25 km (0.8 mi) of the BSA, off the northwest shore of Browns Island[32]. Habitat conditions within New York Slough, with its rapidly deepening bathymetry and relatively swift tidal currents, differ substantially from the typical occurrence of this species.

Suitable habitat for slender-leaved pondweed is present on the subject parcel. Because this annual species would not have been detectable during the present survey, its presence cannot be ruled out.

Potential Project-Related Effects: Although marginally suitable habitat for eel-grass pondweed is present in the BSA, it is not expected to occur because habitat conditions are not consistent with where it is observed. Project implementation would not have any direct or indirect effects on the species. Impact avoidance, minimization or mitigation measures are not warranted.

4.3 Special-Status Animal Species

Special-status animal species include listed as Endangered, Threatened, Rare, or as Candidates for listing under the FESA (USFWS, 2018) or CESA (CDFW, 2018f). Other species regarded as having special-status include special animals, as listed by the CDFW (2018e). Additional bird species receive protection under the Bald and Golden Eagle Protection Act (BGEPA)[33], the Migratory Bird Treaty Act (MBTA)[34] and the Migratory Bird Treaty Reform Act (MBTRA)[35]. The USFWS maintains a list of bird species of conservation concern (BCC) which includes species of migratory nongame birds that could become candidates for listing under FESA (USFWS, 2008). The California Fish and Game Code (CFGC) provides specific language protecting birds and raptors[36], "fully protected birds"[37], "fully protected mammals"[38], "fully protected reptiles and

[32] http://online.sfsu.edu/katboyer/Boyer_Lab/Pondweeds!_files/BrownsWinter.pdf
[33] 16 USC 668
[34] 16 USC 703-711
[35] 70 FR 12710
[36] §§ 3503 and 3503.5
[37] CFGC § 3511

amphibians"[39] and "fully protected fish".[40] The California Code of Regulations (CCR) prohibits the take[41] of fully protected fish[42], certain fur-bearing mammals,[43] and restricts the taking of amphibians[44] and reptiles[45]. Additional definitions are given in CEQA.[46] Impacts on special-status animal species, as thusly defined, may qualify as significant pursuant to the guidelines of the CEQA.

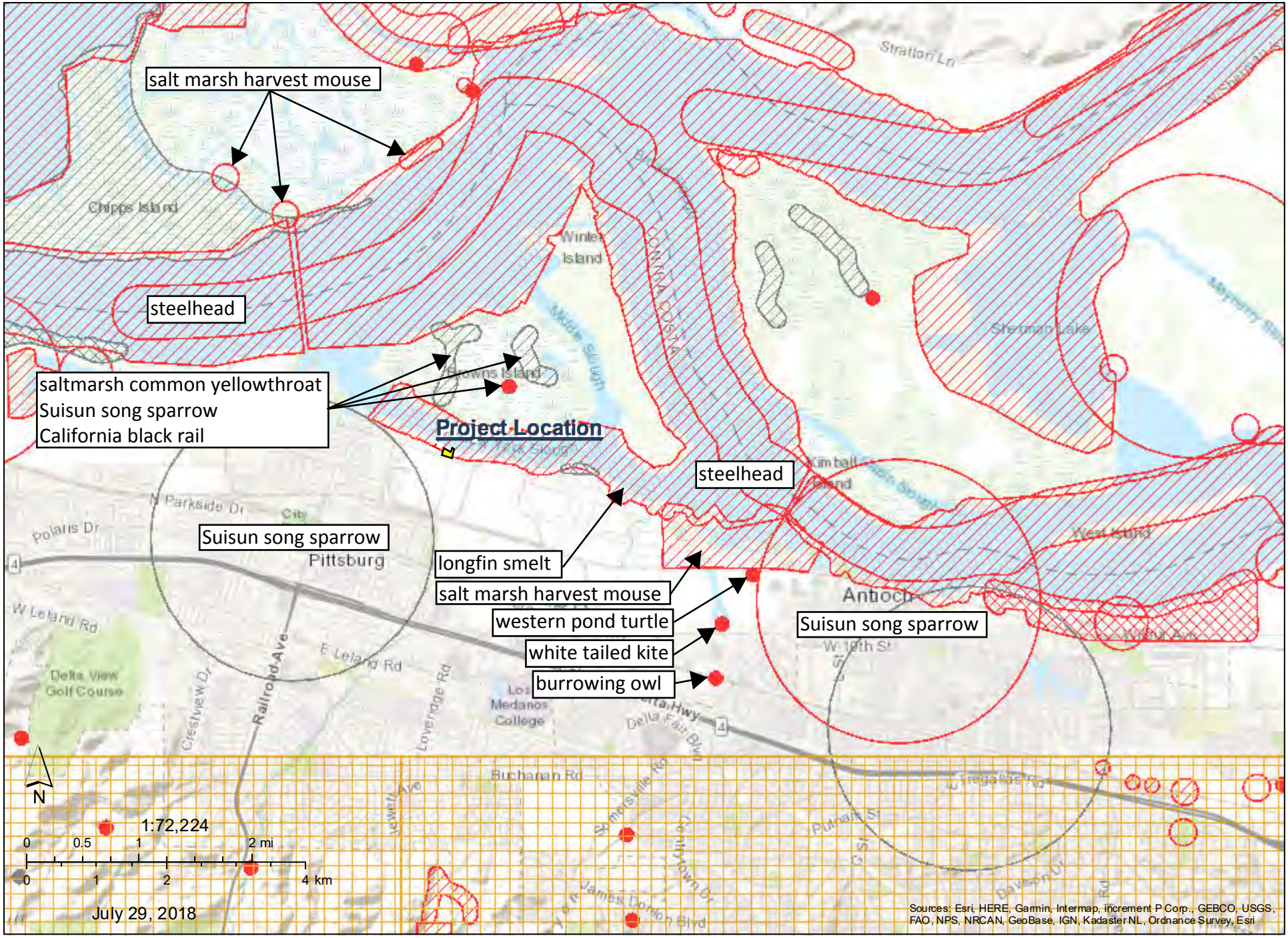
In addition, animal species have been assigned global and State rarity rankings (for a definition of these rankings, see Attachment D). Species with a ranking of G1/S1, G2/S2, or G3/S3 are considered to be critically imperiled, imperiled or vulnerable to extinction within the boundaries of the state, respectively (CDFW, 2018e). As such, these species may be considered to meet the criteria for listing as endangered, threatened or rare under CESA.[47] Species ranked as G4/S4 or G5/S5 are generally considered common enough to be secure and not at risk of extinction. Impacts on special-status animal species, as thusly defined, would be regarded as significant pursuant to CEQA[48] and should be addressed in environmental review documents.[49]

A total of 86 special-status animal species have been recorded in the nine 7.5-minute USGS quadrangles including and surrounding the BSA (CNDDB, 2019; USFWS, 2019). A total of 17 special-status animal species have been recorded from within a 4.8 km (3 mi) radius of the BSA (Figure 6). Based on the existing habitats on site and its geographic location, the occurrence of 72 of these species can be ruled out entirely based on absence of suitable habitat, the site's location outside of the species known range, or absence of regional species occurrences. Although marginally suitable habitat is present within the BSA, the occurrence of another eight of these species are not expected to occur on site due to the site's level of disturbance, habitat alteration, or geographic location relative to known occurrences (see Attachment C).

---

[38] CFGC § 4700
[39] CFGC § 5050
[40] CFGC § 5515
[41] Pursuant to CFGC § 86, "take" means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.
[42] 14 CCR § 5.93
[43] 14 CCR § 460
[44] 14 CCR § 5.05
[45] 14 CCR § 5.60
[46] § 15380(d)
[47] CEQA Guidelines § 15380(d)
[48] CEQA Guidelines § 15065(a)
[49] CEQA Guidelines § 15065(b), (c)

Figure 6. Special-Status Animal Records from the Project Vicinity



Although not detected during the present survey, eight of the species could occur within the BSA. Six of these are fish species and include Chinook salmon, Delta smelt, longfin smelt (San Francisco bay delta DPS[50]), green sturgeon, Sacramento splittail, and steelhead (Central Valley DPS and Central California Coast DPS). Also potentially occurring within the BSA are Pacific pond turtle, bank swallow, and a wide variety of migratory bird species. Two marine mammals, harbor seal and California sea lion, are known to move through the project vicinity. These species along with other high-profile species known from the region are described in detail below. Attachment C is a list of all special-status animal species evaluated as part of this analysis. An explanation of all rarity status codes is provided in Attachment D.

Federal/State-Listed, Proposed, Candidate, or Fully Protected Fish and Wildlife Species

Chinook Salmon (Central Valley Spring-Run ESU)

Regulatory Status: Federal: Threatened[51], five-year review completed ((NMFS, 2016); State: Threatened (CDFW, 2018d); CDFW: Special Animal (2018e), Species of Special Concern (Moyle, *et al* 2015); Global/State rarity ranking: G5/S1 (CDFW, 2018e); AFS: Endangered; species assigned a ranking of S1 are considered critically imperiled in the state because of their extreme rarity or due to factors making them especially vulnerable to extirpation (CDFW, 2018e). Impacts to species with such rankings are regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Chinook salmon (*Oncorhynchus tshawytscha*) are anadromous, with adults migrating from the ocean into the freshwater streams and rivers of their birth in order to mate. They are semelparous, a reproductive strategy whereby they spawn only once and then die. They are the largest of the salmon species, with adults often exceeding 18 kg (40 lbs). They feed on terrestrial and aquatic insects, amphipods, and other crustaceans while young, and primarily on other fishes when older. Juvenile Chinook may spend from three months to two years in freshwater before migrating to estuarine areas as smolts and then into the ocean to feed and mature. Chinook salmon remain at sea for one to six years (more commonly two to four years), with the exception of a small proportion of yearling males (called jack salmon) which mature in freshwater or return after only two to three months in salt water. They prefer streams that are deeper and larger than those used by other Pacific salmon species.

There are different seasonal "runs" (e.g., spring, summer, fall, or winter) in the migration of Chinook from the ocean to freshwater, even within a single river system. These runs have been identified on the basis of the season in which the adult Chinook enter freshwater to begin their spawning migration. However, distinct runs also differ

[50] Distinct Population Segment
[51] 70 FR 37160

in the degree of maturation at the time of river entry, the temperature and flow characteristics of their spawning site, and their actual time of spawning. Freshwater entry and spawning timing are believed to be related to local temperature and water flow regimes.

The Central Valley spring-run Chinook migrate as immature adults between February and early July, with the peak run occurring in April or May. They will spend the summer in deep pools of their natal rivers and spawn in early fall. Spawning females prepare redds (i.e., nest) in gravelly substrate. After laying eggs, adult Chinook guard their redds from just a few days to nearly a month before dying. Chinook salmon eggs hatch three to five months after deposition. The emerged fry may spend a few months in their natal stream then outmigrate from December through March with the peak downstream migration occurring November to December.

Critical Habitat: Critical habitat has been designated for the Central Valley Spring-Run ESU of Chinook by the NMFS[52]. The project site is located in the North Diablo Range Hydrologic Unit 5543 of designated critical habitat.

Habitat Suitability and Occurrence Data: The 6-inch thermal wastewater outfall is located within suitable habitat for the Central Valley Spring-Run ESU of Chinook. No occurrences for the Central Valley Spring-Run ESU of Chinook have been recorded from within an 8 km (5 mi) radius of the project site (CNDDB, 2019). Nonetheless, due to the presence of suitable aquatic habitat within the BSA and given that the project site is located within designated critical habitat, the presence of Chinook must be assumed.

Potential Project-Related Effects: Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

<u>Chinook Salmon Sacramento River Winter-Run ESU</u>

Regulatory Status: Federal: Endangered[53], five-year review completed ((NMFS, 2011b); State: Endangered (CDFW, 2018f); CDFW: Special Animal; Global/State rarity ranking: G5/S1 (CDFW, 2018e); AFS: Endangered; species assigned a ranking of S1 are considered critically imperiled in the state because of their extreme rarity or due to factors making them especially vulnerable to extirpation (CDFW, 2018e). Impacts to

[52] 70 FR 52488
[53] 79 FR 20802

species with such rankings are regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Description: The Sacramento River winter-run Chinook (*Oncorhynchus tshawytscha*) begin their upstream migration in the Sacramento River as immature adults between January and May, with the peak run occurring in March. Reaching the Keswick Dam, which forms Lake Shasta, they spawn from April through early August (Moyle et al., 2008). The young fish appear between July and mid-October, remaining there for five to ten months before moving downstream. Juvenile fish typically enter the Sacramento-San Joaquin Delta from January to April.

The Sacramento River winter-run Chinook ESU includes all naturally spawned populations of winter-run Chinook salmon in the Sacramento River and its tributaries in California, as well as two artificial propagation programs. This ESU is represented by a single extant naturally spawning population that has been completely displaced from its historical spawning habitat by the construction of Shasta and Keswick Dams. The remaining spawning habitat is artificially maintained by cold-water releases from the reservoir behind Shasta Dam.

Critical Habitat: Critical habitat has been designated for the Sacramento River winter-run Chinook ESU (NMFS 1993[54]). Critical habitat includes 1) the Sacramento River from Keswick Dam, Shasta County (river mile 302) to Chipps Island (river mile 0) at the westward margin of the Sacramento-San Joaquin Delta; 2) all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait; 3) all waters of San Pablo Bay westward of Carquinez Bridge, and 4) all waters of San Francisco Bay from of the San Francisco/Oakland Bay Bridge and Golden Gate Bridge to San Pablo Bay. The project site is not located in designated critical habitat for this ESU.

Habitat Suitability and Potential to Occur: The 6-inch thermal wastewater outfall is located within suitable habitat for the Sacramento River winter-run of Chinook. No occurrences for the Sacramento River winter-run of Chinook have been recorded from within an 8 km (5 mi) radius of the project site (CNDDB, 2019). Nonetheless, due to the presence of suitable habitat on site, the presence of Chinook must be assumed.

Potential Project-Related Effects: Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic

[54] 58 FR 33212

habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

Delta Smelt

Regulatory Status: Federal: Threatened (San Francisco Bay/Delta DPS); State: Endangered; CDFW: Special Animal (CDFW 2018e), Species of Special Concern (Moyle, *et al* 2015); Global/State rarity ranking: G1/S1; AFS: Endangered; species assigned a ranking of S1 are considered critically imperiled in the state because of their extreme rarity or due to factors making them especially vulnerable to extirpation (CDFW, 2018e). Impacts to species with such rankings are regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Description: The Delta smelt (*Hypomesus transpacificus*) is a small, annual species endemic to the Sacramento-San Joaquin Estuary. Adults range in size from 60-120 mm (2.3-4.7 in) long, have slender, translucent bodies and relatively large eyes (Moyle, 2002). Delta smelt are found only from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties. Historically, they occurred from Suisun Bay to Sacramento on the Sacramento River and to Mossdale on the San Joaquin River (Moyle et al., 1992).

Delta smelt spend much of their lives in brackish water, occurring in turbid, trophically rich waters at the freshwater edge of the entrapment zone over large shoals around 7 m (23 ft) deep, feeding on small crustaceans such as copepods and amphipods (Bennett, 2005). They are weakly anadromous, with adults migrating upstream after the first high-winter outflows to spawn in fresh water. Spawning occurs between December and April. Most adults die after spawning.

Critical Habitat: Critical Habitat for the Delta smelt was designated on December 19, 1999[55]. Critical habitat for the species encompasses all waters bounded by and contiguous in Suisun Bay (including the contiguous Grizzly and Honker Bays), the length of Goodyear, Suisun, Cutoff, First Mallard and Montezuma sloughs, and the existing continuous waters contained within the Delta, within Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties.

The proposed project is located on the shores of New York Slough, which is included in the Critical Habitat designation.

Habitat Suitability and Potential to Occur: The 6-inch thermal wastewater outfall is located within suitable migratory habitat for Delta smelt, and the species is presumed to be present. However, the shoreline at the project location does not provide suitable breeding or rearing habitat for the species.

[55] 59 FR 65256

Potential Project-Related Effects: Project implementation would not impede the movement of any fish species. Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

Longfin Smelt

Regulatory Status: Federal: Candidate (San Francisco Bay/Delta DPS); State: Threatened; CDFW: Special Animal (CDFW 2018e), Species of Special Concern (Moyle, *et al* 2015); Global/State rarity ranking: G5/S1; species assigned a ranking of S1 are considered critically imperiled in the state because of their extreme rarity or due to factors making them especially vulnerable to extirpation (CDFW, 2018e). Impacts to species with such rankings are regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Description: Longfin smelt (*Spirinchus thaleichthys*) are small fish growing to 9-11 cm (3.5-4.3 in) in length. They inhabit the Sacramento-San Joaquin River Delta, San Francisco Estuary and scattered bays and inlets of the Pacific Coast from Monterey to Alaska. Although consid`ered pelagic and anadromous (Moyle, 2002), certain populations are not anadromous and complete their entire life cycle in freshwater lakes and streams. Within the San Francisco Bay and Delta system, the term pelagic refers to organisms that occur in open water away from the bottom of the water column and away from the shore. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater.

In the San Francisco Bay and Delta system, longfin smelt typically spend their first year of life in Suisun Bay and Suisun Marsh. The remainder of their life is spent in the Bay or Gulf of Farallones (Moyle, 2008). In their second winter, longfin smelt return to the Bay and migrate upstream to spawn. Spawning occurs in fresh water over sandy-gravelly substrates, rocks and aquatic plants and may occur as early as November and as late as June, although spawning typically occurs from January to April (Moyle, 2002). In the Delta, the furthest downstream longfin have been known to spawn is in the upper Suisun Bay around Pittsburg and Montezuma Slough in Suisun Marsh (Robinson and Greenfield, 2011). Larvae move downstream into the Estuary January through March, where juveniles and adults feed on small copepods and mysid shrimp. Juveniles and adults aggregate in deep-water channels and over shoals greater than 7 m (23 ft) deep. The species is thought to be intolerant temperatures greater than >22°C (72°F). Longfin smelt usually live for two years, spawn and then die (Moyle, 2002).

Critical Habitat: Critical Habitat has not been designated for the longfin smelt.

Habitat Suitability and Potential to Occur: The 6-inch thermal wastewater outfall is located within suitable habitat for longfin smelt. The San Joaquin River and New York Slough may support longfin smelt of unknown numbers and life stages. In the CNDDB, this record (Occ. #45) is based on sampling conducted between 1979 and 1982.

Potential Project-Related Effects: No suitable spawning habitat for longfin smelt is present within the BSA. However, migrating and foraging longfin smelt may occur in the project vicinity. Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

North American Green Sturgeon

Regulatory Status: Federal: Threatened (Southern DPS); State: Threatened; CDFW: Special Animal (CDFW 2018e), Species of Special Concern (Moyle, *et al* 2015); Global/State rarity ranking: G3/S1S2; AFS: Vulnerable; species assigned a ranking of S1 are considered critically imperiled in the state because of their extreme rarity or due to factors making them especially vulnerable to extirpation (CDFW, 2018e). Impacts to species with such rankings are regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

The North American green sturgeon (*Acipenser medirostris*) is a long-lived, slow-growing anadromous fish species found primarily in marine and estuarine waters of the eastern Pacific. The species ranges from Mexico to at least Alaska in marine waters and is observed in bays and estuaries up and down the west coast of North America (Moyle et al., 1995). They are believed to spend the majority of their lives in nearshore oceanic waters, bays, and estuaries, spawning in the Rogue, Klamath and Sacramento rivers. Young green sturgeon reside in fresh water, with adults returning to freshwater to spawn when they are about 15 years of age and more than 1.3 m (4 ft) in length. Spawning is believed to occur every two to five years (Moyle, 2002).

The Southern DPS consists of the population segment of green sturgeon that utilizes the Sacramento River and tributaries for spawning; the Sacramento River contains the only known spawning population in the DPS. In winter, they aggregate in estuaries and migrate north along the North Pacific coastal shelf. They overwinter in waters

north of Vancouver Island and return south in spring. Mature fish enter and migrate rapidly up the Sacramento River in March and April, where they spawn and then either return to the estuary or over-summer and migrate out of the river with the first fall flow event (Heublein et al., 2009). They may be found in San Francisco Bay throughout the year, though numbers increase in summer with the return of migrants moving into the estuary for feeding, holding, and spawning (Lindley et al., 2011). In the San Francisco Estuary, green sturgeon are associated with turbid water where they prey on benthic organisms such as clams and crabs. Green sturgeon live from 40 to 60 years.

Critical Habitat: Critical habitat has been designated for the Southern DPS of North American green sturgeon by NMFS[56]. The project site is located within designated critical habitat.

Habitat Suitability and Occurrence Data: The 6-inch thermal wastewater outfall is located within suitable habitat for North American green sturgeon belonging to the Southern DPS. No nearby occurrences of this DPS are recorded by the CNDDB (2019). Nonetheless, due to the presence of suitable aquatic habitat on site and given that the project site is located within designated critical habitat, the presence of sturgeon must be assumed.

Potential Project-Related Effects: Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

<u>Sacramento Splittail</u>

Regulatory Status: Federal: Candidate[57]; State: None; CDFW: Special Animal (CDFW 2018e), Species of Special Concern (Moyle, *et al* 2015); Global/State rarity ranking: G2/S2; AFS: Vulnerable; species assigned a ranking of S2 are considered imperiled in the state due to their very restricted range, very few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018e). As such, the species may be considered to meet the criteria for listing as endangered, rare or threatened pursuant to the statutes and guidelines of CEQA.[58] Impacts to species with such a ranking may be regarded as significant pursuant to the statutes and guidelines of CEQA and should be addressed in environmental review documents.

---

[56] 74 FR 52300

[57] 77 FR 19756

[58] CEQA § 15380(d)

Description: Sacramento splittail (*Pogonichthys macrolepidotus*) is the only member of the genus and endemic to central California. The fish have elongate body that is dusky olive-gray on back with silvery sides, with a small head and enlarged upper tail lobe. Adults reach a length of 40 cm (16 in). Splittail live as long as 8-10 years, reaching maturity at around two years of age.

Splittail are currently restricted to brackish waters of the San Francisco estuary and its tributaries and are found most often in slow moving sections of rivers and sloughs including dead end sloughs and shallow edge habitats (Moyle, 2002). It is known from the Sacramento, San Joaquin, Napa, Mokelumne and Petaluma rivers (Sommer et al., 2007). Its distribution is limited to the estuary and estuarine environments of large streams, including lower Walnut Creek, where it inhabits small, shallow, turbid sloughs lined with emergent vegetation (Leidy, 2007). Splittail are frequently found in areas subject to flooding because they require flooded vegetation for spawning and rearing in waters at least 1 m (3.3 ft) deep. Spawning occurs from late February to July, with peak spawning in March and April. Young-of-year splittail move into the estuary between April and August where they inhabit broad shoals or channels of intertidal habitat at the mouths of estuarine streams (Feyrer et al., 2005). Splittail feed on benthic macroinvertebrates and detritus.

Critical Habitat: Critical Habitat has not been designated for the Sacramento splittail.

Occurrence Data and Habitat Suitability: The project site is located within suitable habitat for the Sacramento splittail. The species is considered to potentially occur on site. Sacramento splittail has not been recorded from within an 8 km (5 mi) radius of the project site (CNDDB, 2019). The 6-inch thermal wastewater outfall is located within suitable habitat, therefore, the presence of longfin smelt must be assumed.

Potential Project-Related Effects: No suitable spawning habitat for longfin smelt is present within the BSA. However, migrating and foraging longfin smelt may occur in the project vicinity Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

Steelhead

Regulatory Status: Federal: Threatened[59], five-year review completed (NMFS, 2016); State: None; CDFW: Special Animal (CDFW 2018e), Species of Special Concern (Moyle, *et al* 2015); Global/State rarity ranking: G5T2/S2; AFS: Threatened; species assigned a ranking of S2 are considered imperiled in the state due to their very restricted range, very few populations, or other factors making them very vulnerable to extirpation (CDFW, 2018e). Impacts to species with such rankings are regarded as significant pursuant to CEQA and should be addressed in environmental review documents.

Description: Central Valley steelhead (*Oncorhyncus mykiss*) mature between two and three years of age. They are mainly "winter" run, though a small summer-run population exists. The small summer-run population migrates into the Sacramento River starting in July. The majority of steelhead begin migration in the fall. Spawning migration peaks in September and October and may continue through February or March. Unlike the Chinook salmon, not all steelhead die after spawning. Some may return to the ocean and return to spawn several times. Most juvenile steelhead spend one to two years in fresh water before migrating toward the ocean in the winter and spring, with an outmigration peak in mid-March (Moyle et al., 2008). USFWS trawl data from Chipps Island, indicate that juvenile steelhead are present in Suisun Bay from at least October through July, with hatchery fish (clipped adipose fin) emigration peaking between January and March, and wild juvenile outmigration more evenly spread out over six months or more (USFWS, 2008). The difference in emigration peak is a reflection of the timing of hatchery releases of juvenile steelhead. Fish salvage data from the Delta pumps indicate that most steelhead move through the Delta from November to June, with the peak numbers occurring in February through April (USFWS, 2008).

The Central Valley steelhead DPS includes all naturally spawned populations of steelhead below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries. The Sacramento and San Joaquin rivers offer the only migration route to the drainages of the Sierra Nevada and southern Cascade mountain ranges for anadromous fish. The distance from the Pacific Ocean to spawning streams can exceed 300 km (186 mi), providing unique potential for reproductive isolation among steelhead. Critical Habitat for the Central Valley DPS encompasses 67 watersheds within its freshwater and estuarine range. Critical Habitat includes the entire watersheds of the Northern Diablo Range, Sutter Creek, Omo Ranch, Consumnes, Big Canyon Creek, Herald, Ono, Nevada City, Mildred Lake, Elmira and Paynes, along with a portion of the Lower Mokelumne watershed and the deep water shipping channel of the Sacramento Delta.

[59] 71 FR 834

Critical Habitat: Critical Habitat has been designated for the Central Valley DPS of steelhead by the NMFS (2005b). The project site is not located within designated Critical Habitat for the species.

Habitat Suitability and Potential to Occur: The project site is located within suitable habitat for the Central Valley DPS of steelhead. One occurrence for the Central Valley DPS of steelhead is recorded from within an 8 km (5 mi) radius of the project site (CNDDB 2019). This record (Occ. #27) is a 2012 sighting from the Bouldin Island quadrangle.

Potential Project-Related Effects: The 6-inch thermal wastewater outfall is located in suitable habitat for the Central Valley DPS of steelhead. Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

Other Sensitive and Locally Rare Wildlife Species

Pacific Pond Turtle

Regulatory Status: FESA: none; CESA: none; CDFW: Species of Special Concern; BLM: Sensitive (southwestern pond turtle); USFS: Sensitive; Global/State rarity ranking: G3G4/S3.

Description: The Pacific pond turtle (*Emys marmorata*, hereafter referred to as PPT[60]), is the only fresh-water turtle native to greater California. It is distributed along much of the West Coast from the Puget Sound in Washington south to the Baja Peninsula, Mexico. Overall, the PPT is a habitat generalist and has been observed in slow-moving rivers and streams (e.g. in oxbows), lakes, reservoirs, permanent and ephemeral wetlands, stock ponds, and sewage treatment plants. The species prefers aquatic habitat with refugia such as undercut banks and submerged vegetation (Holland, 1994), and requires emergent basking sites such as mud banks, rocks, logs, and root wads to thermoregulate their body temperature (Holland, 1994; Bash, 1999). The PPT is omnivorous, feeding on a variety of aquatic and terrestrial invertebrates, fish, amphibians and aquatic plants.

The PPT regularly utilizes upland terrestrial habitats, most often during the summer and winter, especially for oviposition (i.e., egg-laying), overwintering, seasonal

[60] Formerly classified as *Clemmy marmorata* and *Actinemys marmorata*; also known as western pond turtle.

terrestrial habitat use, and overland dispersal (Reese, 1996; Holland, 1994). Females have been reported to range as far as 500 m (1640 ft) from a watercourse to find suitable nesting habitat (Reese and Welsh, 1997). Nest sites are most often situated on south or west-facing slopes, are sparsely vegetated with short grasses or forbs, and are scraped in sands or hard-packed, dry, silt or clay soils (Holland, 1994; Rathbun et al., 1992; Holte, 1998; Reese and Welsh, 1997). The species exhibits high site fidelity, returning in sequential years to the same terrestrial site to nest or overwinter (Reese, 1996).

Females lay their clutches as early from as early as the end of April in the southern half of the State, although they egg laying occurs predominantly in June and July. In the early morning or late afternoon, gravid females leave the water and move upland to nest (Holland, 1994). Natural incubation times vary, ranging from 80 to 100 days in California. In northern California and Oregon, hatchlings remaining the nest after hatching and overwinter, emerging in the spring. In southern and central California, those PPTs that don't overwinter emerge from the nest in the early fall (Holland, 1994).

Critical Habitat: Critical Habitat has not been designated for the PPT. The proposed project would not result in impacts to Critical Habitat for this species.

Habitat Suitability and Potential to Occur: The waters of New York Slough and its banks provide both suitable breeding habitat and a movement corridor for PPT. While the section in which the project is located provides perennial water, it lacks vegetative cover and warm, sandy banks for breeding. However, the project site is not mapped as providing either core or movement habitat for PPT (Jones & Stokes, 2006). No PPTs were observed during the present survey.

There are four records of the species occurring within 4.8 km (3 mi) of the project site. This nearest record (Occ. #144) consists of two adults observed in 1998 in a pond on the Dow Chemical facility on the south shoreline of New York Slough approximately 1.5 km (0.9 mi) east of the project site.

Potential Project-Related Effects: Construction and operation of the proposed project would not result in take of the species, or significant adverse effects pursuant to CEQA. The existing stormwater outfall would continue to function as it currently does. Discharge of thermal wastewater through the existing 6-inch outfall will be consistent with previously permitted use, and will not result in changes to aquatic habitat. Impact avoidance measures are recommended to be included as part of the proposed project, as outlined in Section 5.3, below.

<u>Migratory Birds</u>

The BSA supports suitable nesting habitat for a variety of special-status and migratory passerines (perching birds), mainly consisting of the row of eucalyptus trees on the eastern portion of the site. A few other small trees and ornamental shrubs provide some nesting opportunities, as well. Migratory birds are protected under the MBTA and MBTRA. Under the MBTA it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. A list of bird species covered under the MBTA is maintained by the USFWS (2013). Certain other migratory birds receive protection under the BGEPA and CFGC. Impacts to birds species covered under the MBTA are regarded as significant pursuant to the statutes and guidelines of CEQA and should be addressed in environmental review documents.

No bird nests were observed on site during the present survey.

If nesting pairs are present at the time of construction, direct or indirect impacts on breeding migratory birds could result. Such impacts would be considered significant pursuant to the statutes and guidelines of CEQA. Impact avoidance measures are warranted and are outlined in Section 5.3, below.

5.0 CONCLUSIONS AND RECOMMENDATIONS

As described in Section 3.0, the BSA consists mainly of a paved property that was formerly an industrial facility. A small portion of the project (i.e. approximately 25 lf of shoreline), including a stormwater outfall and a 6-inch wastewater discharge outfall, are located along the southern shore of New York Slough just upstream (east) of the confluence with the Sacramento River, opposite of Browns Island, and 1.0 km (0.6 mi) east of the Pittsburg Marina (Figure 1). The property is bordered by existing and former industrial facilities and open fallow fields. Most of the remaining shoreline within the limits of the City of Pittsburg supports primarily industrial and some residential and recreational development. Plant communities and habitats occurring within the BSA include anthropogenic, aquatic, littoral zone, river bank, and ruderal uplands. Although developed and highly altered by agriculture which predated the current industrial use, the shoreline and aquatic habitat within the BSA is considered to have relatively high wildlife habitat values.

However, implementation of the proposed project would not result in direct or indirect impacts to jurisdictional wetlands and other waters of the U.S. and of the State, essential fish habitat, or special-status plant or wildlife species. One special status plant, Mason's lilaeopsis, occurs within the BSA, but would also not be directly or indirectly impacted by the proposed project. For those biological resources that are located within the BSA, or may be assumed to pass nearby during movement within New York, Slough, the following avoidance measures are recommended to be included as part of the proposed project.

5.1 Special-status Natural Communities and Landscape Features

As discussed in Section 4.1, the proposed action would not impact Waters of the U.S. and Waters of the State, and falls under the jurisdiction of federal and state regulatory agencies. The project site touches upon waters designated as Essential Fish Habitat. It also overlaps with designated critical habitat for two federally listed animal species; this is discussed under the headings for each species in Sections 5.2 and 5.3, below.

Implications for the Proposed Project: Jurisdictional Wetlands and Waters of the U.S./Waters of the State

As described in Section 4.1 above, project implementation would not result in potentially significant impacts to features falling under the jurisdiction of the USACE, CDFW and RWQCB. No discharge of fill material into waters of the U.S. or of the state would occur, nor would there be any alteration of the bed or bank of New York Slough, and no loss or impact to jurisdictional wetlands or riparian habitat, or loss of beneficial uses associated with them. Therefore, no action would occur that would be subject to federal, state and

local laws and policies that regulate wetlands and other waters[61], nor would there be impacts to these resources considered significant pursuant to the statutes and guidelines of CEQA. To avoid, minimize or mitigate for impacts associated with the project, the measures outlined below should be incorporated into the project design.

Implications for the Proposed Project: Eelgrass Habitat

The presence of eelgrass beds is not expected within the work area and would not be directly or indirectly impacted by project implementation. No impact avoidance, minimization or mitigation measures are warranted.

Implications for the Proposed Project: Essential Fish Habitat

The project site is located within designated EFH for the Pacific Groundfish Fishery. Operation of the thermal wastewater discharge would be within permitted parameters for temperature, and would not result in adverse effects on EFH.

Implications for the Proposed Project: Critical Habitat

The project site is located within designated critical habitat for Delta smelt and spring-run Chinook; project construction and operation would not result in take of these species. Impact avoidance and minimization measures are warranted.

5.2 Special-Status Plant Species

One state-listed plant species, Mason's lilaeopsis, is present on the shoreline of the BSA. No impact this species would result from construction or operation of the proposed project. However, because of its location within the project area, the incorporation of the measures outlined below are recommended to ensure potential impacts would be avoided..

Implications for the Proposed Project: Special-Status Plant Species

One special-status species, Mason's Lilaeopsis, was detected within the BSA. Although not detected, suitable or marginally suitable habitat is present on the shoreline for several other special status species, such as Suisun marsh aster. Accidental impacts could result during movement or placement of equipment or people near stormwater outfall. With the incorporation of the measures outlined below, potential impacts would be reduced to a less-than-significant level pursuant to CEQA.

1. The location of special-status plants and suitable habitat shall be designated as environmentally sensitive areas and clearly marked in the field with high visibility construction fencing or staking prior to construction and operations.

[61] Except with regard to NPDES; see Section X. X Hydrology.

2. The identification and protection of special-status plant populations and habitats shall be a part of a worker environmental awareness program (WEAP) for all workers onsite. A video tape of the initial training session can be used for orientation of new employees onsite. Documentation of participation shall be kept onsite for review by City and/or resource agencies.
3. Alteration of the riprap at the stormwater outfall shall be avoided. Boats, barges and any floating or submerged equipment should be prevented from contacting the shoreline to avoid crushing native vegetation.
4. An Project Biologist with 3 years of professional biological experience in the San Francisco Bay Delta region (resume onsite for City and/or resource agency review) shall inspect the shoreline for proper maintenance of the construction fencing or staking, and identify activities that may pose a risk of impacting special-status plant populations and habitats annually.
5. The project biologist shall report any rare plant observations to the CNDDB. Accidental impacts to rare plant populations shall be reported to the CDFW. Discovery of any additional special status plants species will be reported to the CDFW, and a suitable response agreed upon before restating work in that area.
6. If changes to the condition of the shoreline are determined to be necessary, then the project proponent will prepare a Mitigation and Monitoring Plan (MMP) subject to approval by regulatory agencies including launching boats from shoreline or working on the storm drain or cooling water discharge pipe.

5.3 Special-Status Animal Species

As described in Section 4.3 above, suitable or marginally suitable habitat is present on site for a total of eight special-status animal species. These include six fish species (Chinook salmon, Delta smelt, longfin smelt, green sturgeon, Sacramento splittail, and steelhead). Also potentially occurring within the BSA are Pacific pond turtle, bank swallow. No activities associated with construction or operation of the proposed project are expected to have any adverse effect on these species.

However, because of the sensitivity of the aquatic species and their habitat, a discussion of the implications and impact avoidance measures are is presented below.

Implications for the Proposed Project: Special-Status Fish Species

Project implementation could result in significant adverse effects on Delta smelt and chinook salmon (Central Valley spring-run Evolutionarily Significant Unit [ESU[62]] and Sacramento River winter-run ESU), longfin smelt, Sacramento perch, Sacramento splittail,

[62] NMFS has relied on the Evolutionarily Significant Unit (ESU) concept and considers DPSs to represent ESUs if the population is reproductively isolated and represents an important component in the evolutionary legacy of the species.

as well as designated EFH for the Pacific Groundfish Fishery. Protected marine mammals that may also occur in the project vicinity include California sea lion and harbor seal. With the incorporation of the measures outlined below, potential impacts would be reduced to a less-than-significant level pursuant to CEQA.

1. The identification and protection of special-status species populations and habitats shall be a part of a worker environmental awareness program (WEAP) for all workers onsite. A video tape of the initial training session can be used for orientation of new employees onsite. Documentation of participation in training shall be kept onsite for review by City and/or resource agencies.

2. No work will occur within the waters of New York Slough.
3. All discharges through the stormwater outfall will be the same as with current and past use of the site, i.e. conveyance and discharge of runoff from the project site only, through existing catchments and culverts.
4. No alteration or reconfiguration of the shoreline at the stormwater outfall would occur. The existing rock slope protection and soil on the shoreline shall be left in place.
5. No change to the location or operation of the 6-inch thermal wastewater outfall shall occur. The discharge will be operated according to previously permitted operation parameters with regard to volume and of the discharge and allowable temperature changes within the aquatic environment, to be outlined in an NPDES permit specific to the proposed project.
6. To ensure toxic substances are not released into the aquatic environment, the following measures shall be followed:
    a. all engine-powered equipment shall be well-maintained and free of leaks of fuel, oil, hydraulic fluid or any other potential contaminant;
    b. all engine-powered equipment used and operated from the decks of barges, boats or the wharf shall be positioned over drip-pans;
    c. a spill prevention and response plan shall be prepared in advance of the commencement of work; a spill kit with appropriate clean-up supplies shall be kept on hand during the construction and operations phases of the project;
    d. refueling and maintenance or mobile equipment shall not be performed directly over the waters of the river. Only approved and certified fuel cans with "no-spill" spring-loaded nozzles shall be used.
7. Any wildlife encountered during work shall be allowed to leave the construction area unharmed and shall not be flushed, hazed, or herded away from the project site.
8. Any special-status species detected shall be reported to the CDFW and a survey form shall be submitted to the CNDDB.

Implications for the Proposed Project: Pacific Pond Turtle

Although no individuals of Pacific pond turtle were observed during the present survey, the species is known to inhabit stream mouths and the shoreline of the San Joaquin River in Contra Costa County. The river bank at the project could attract pond turtles due; marginally suitable spots for sunning are present on site. Warm, sandy banks are not present on site for egg-laying. Nonetheless, Pacific pond turtles could move through the work area along the shoreline between occupied habitats. If present, individuals could be harmed during construction activities. With the incorporation of the measures outlined below, potential impacts would be reduced to a less-than-significant level pursuant to CEQA.

1. Boats, barges and any floating or submerged equipment should be prevented from contacting the shoreline to avoid crushing individuals that may move through the work area.
2. If pond turtles are observed, they should be permitted to move out of the work area on their own. If pond turtles are stationary and remain in harm's way, they may be relocated; only a qualified biologist with a valid scientific collecting permit and prior authorization from the CDFW may relocate Pacific pond turtles.
3. The project biologist shall report any sightings, relocations or mortalities of Pacific pond turtle to the CDFW.

Implications for Proposed the Project: Special-Status and Migratory Birds

Although the removal or pruning of trees or other vegetation on the river banks is not proposed, project implementation would temporarily increase noise and human activity levels nearby; these activities could result in indirect impacts on birds by disrupting breeding or causing abandonment of occupied nests. If present at the time of construction, such indirect impacts on special-status and migratory birds would be considered significant pursuant to CEQA. To ensure compliance to the MBTA and the CFGC related to protections for migratory birds, the measures outlined below should be performed prior to the commencement of construction activities. With the incorporation of the measures outlined below, potential impacts would be reduced to a less-than-significant level pursuant to CEQA.

1. If construction activities are scheduled to occur outside of the breeding season (i.e., September 1 through January 31), no preconstruction surveys or other mitigation measures are necessary.
2. If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey should be conducted of the wharf structures, the identified work area and a buffer zone (see #3, below). The survey should be performed by a qualified biologist no more than two weeks prior to the initiation of work. If no nesting or breeding activity is

observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 76 m (250 ft) for raptors and 33 m (100 ft) for passerines should be mapped.

3. For any active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for passerines), the project biologist should make a determination as to whether or not construction activities are likely to disrupt reproductive behavior. If it is determined that construction is unlikely to disrupt breeding behavior, construction may proceed. If it is determined that construction may disrupt breeding, the no-construction buffer zone should be expanded; avoidance is the only mitigation available. The ultimate size of the no-construction buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of site between the work area and the nest, physical barriers, and the ambient level of human activity. For raptors, the project biologist will contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments.

   If it is determined that construction activities are likely to disrupt raptor breeding, construction activities within the no-construction buffer zone may not proceed until the project biologist determines that the nest is long longer occupied.

4. If maintenance of a no-construction buffer zone is not practicable, active nests should be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If it is determined that construction activities might cause nest abandonment, work should cease until the project biologist determines that the nest is long longer occupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management should be contacted for guidance.

6.0 LITERATURE CITED

American Ornithologist's Union (AOU). 2018. *Checklist of North and Middle American Birds*. 7th edition and its supplements. Available online at http://www.americanornithology.org/content/checklist-north-and-middle-american-birds

American Society of Mammologists (ASM). 2018. *Mammals of California*. http://www.mammalsociety.org/mammals-list

Baldwin, B.G, D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California.* Second edition. Univ. Calif. Press, Berkeley. 1568 pp. Jepson eFlora available online at http://ucjeps.berkeley.edu/IJM.html

Bash, J.S. 1999. *The Role of Wood in the Life Cycle of Western Pond Turtles (*Clemmys marmorata*).* An unpublished report to ELWD Systems, a division of Forest Concepts LLC. 14pp.

Bennett, W.A. 2005. *Critical Assessment of the Delta Smelt populations in the San Francisco Estuary, California.* San Francisco Estuary and Watershed Science. Available online at https://escholarship.org/uc/item/0725n5vk

Calflora. 2019. Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/

California Department of Fish and Game (CDFG). 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. November 24. Available online at http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf

California Department of Fish and Wildlife (CDFW). 2016. *Complete List of Amphibian, Reptile, Bird and Mammal Species in California.* May. 26 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87155

_____. 2018a. *California Natural Community List*. Biogeographic Data Branch, Natural Diversity Database. January 24. 150 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline

_____. 2018b *California Sensitive Natural Communities*. Biogeographic Data Branch, Natural Diversity Database. January 24. 99 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline

_____. 2018c. *Special Vascular Plants, Bryophytes, and Lichens List*. Biogeographic Data Branch, Natural Diversity Database. Quarterly publication. April. 127 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

_____. 2018d. *State and Federally Listed Endangered, Threatened, and Rare Plants of California.* Biogeographic Data Branch, Natural Diversity Database. Quarterly publication. April. 7 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline

_____. 2018e. *Special Animals List*. Natural Diversity Database. April. 66 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

_____. 2018f. *State and Federally Listed Endangered and Threatened Animals of California.* Biogeographic Data Branch, Natural Diversity Database. May. 14 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline

California Native Plant Society (CNPS), 2019. *Inventory of Rare and Endangered Plants*. Online search of the Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles. California Native Plant Society. Sacramento, CA. Online edition, v8-02. Accessed on April 20 at http://www.cnps.org/inventory

California Natural Diversity Data Base (CNDDB), 2019. Data Base Print out for the Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles. RareFind 5.0. California Department of Fish and Wildlife, Biogeographic Data Branch. Sacramento, California. Information dated April 20.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131 pp. Available online at http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. January. 100 pp. Available online at http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/delineation_manual.pdf

Ertter, B. and M. Bowerman. 2002. *The Flowering Plants and Ferns of Mount Diablo, California*. California Native Plant Society. Sacramento, California. 424 pp.

Ertter, B. and L. Naumovich. 2013. *Annotated Checklist of the East Bay Flora; Native and Naturalized Vascular Plants of Alameda and Contra Costa Counties, California*. Second Edition. California Native Plant Society, East Bay Chapter in association with the Jepson Herbarium.

Feyrer, F., T.R.Sommer, and R.D. Baxter. 2005. Spatio-Temporal Distribution and Habitat Associations of Age-0 Splittail in the Lower San Francisco Estuary Watershed. Copeia: 159-168.

Glover, S. 2009. Breeding Bird Atlas of Contra Costa County. Mount Diablo Audubon Society, Walnut Creek. 260 pp.

Heublein, J.C., J.T. Kelly, C.E. Crocker, A.P. Klimley, and S.T. Lindley. 2009. *Migration of Green Sturgeon*, Acipenser medirostris, *in the Sacramento River*. Environmental Biology of Fish: 245-258.

Holland, D.C. 1994. *The Western Pond Turtle: Habitat and History. Final Report*. Portland, OR: U.S. Department of Energy, Bonneville Power Administration.

Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. 156 pp. Available on line at http://www.cal-ipc.org/ip/inventory/pdf/HollandReport.pdf.

Holland, V.L. and D.J. Keil. 1990. *California Vegetation*. Calif. Polytechnic State University, San Luis Obispo. 4th edition. 318 pp.

Holte, D.L. 1998. *Nest Site Characteristics of the Western Pond Turtle, Clemmys marmorata, at Fern Ridge Reservoir, in West Central Oregon*. A Master's Thesis, Oregon State University, Eugene, OR.:106pp.

Jennings, M.R. 2004. *An Annotated Check List of the Amphibians and Reptiles of California and Adjacent Waters*. Third, revised edition. California Fish and Game 90(4):161-213.

Jones & Stokes. 2006. *East Contra Costa County Habitat Conservation Plan / Natural Community Conservation Plan*. (J&S 01478.01.) San Jose, CA. October. Prepared for the East Contra Costa County Habitat Conservation Plan Association. Available online at http://www.co.contra-costa.ca.us/depart/cd/water/HCP/

Lake, D. 2010. *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties.* Eighth Edition. California Native Plant Society, East Bay Chapter. March 15. Available online at http://www.ebcnps.org/unusualplants.html

Leidy, R.A. 2007. *Ecology, Assemblage Structure, Distribution, and Status of Fishes in Streams Tributary to the San Francisco Estuary, California*. SFEI Contribution No. 530. San Francisco Estuary Institute, Oakland. April. 194 pp. Available online at http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/cmnt091412/sldmwa/leidy_sfei_2007.pdf

Lindley, S.T., D.L. Erickson, M.L. Moser, G. Williams, O.P. Langness, and B.W. McCovey Jr. 2011. Electronic Tagging of Green Sturgeon Reveals Population Structure and Movement among Estuaries. Transactions of the American Fisheries Society: 108-122.

Merkel & Associates, Inc. 2004. *Baywide Eelgrass* (Zostera marina L.) *Inventory of San Francisco Bay.* Technical study prepared in support of the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project. Available online at http://www.biomitigation.org/reports/files/SF_eelgrass_atlas_0_157c.pdf

Moyle, P.B., R.M. Quinones, J.V. Katz J. Weaver. 2015. *Fish Species of Special Concern in California.* Third Edition. Prepared for the State of Calif., The Resources Agency, Dept. of Fish and Wildlife. Sacramento. July. 842 pp.

Moyle, P.B. 2002. *Inland Fishes of California*. University of California Press, Berkeley and Los Angeles, California. 502 pp.

Moyle, P.B. and Davis. 2000. *A List of Freshwater, Anadromous, and Euryhaline Fishes of California*. California Fish and Game 86(4):244-258. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83921

Moyle, P.B., J.A. Israel, and S.F. Purdy. 2008. *Salmon, Steelhead, and Trout in California, Status of an Emblematic Fauna*. Center for Watershed Sciences, Univ. of Calif., Davis. Commissioned by California Trout. 316 pp.

Moyle, P.B., B. Herbold, D.E. Stevens, and L.W. Miller. 1992. *Life History and Status of Delta Smelt in the Sacramento-San Joaquin Estuary, California.* Transactions of the American Fisheries Society. 121:67-77.

National Marine Fisheries Service (NMFS). 2005a. *Pacific Coast Groundfish Fishery Management Plan, Essential Fish Habitat Designation and Minimization of Impacts, Final Environmental Impact Statement.* Seattle, Washington. December. Available online at http://www.westcoast.fisheries.noaa.gov/publications/nepa/groundfish/final_groundfish_efh_eis.html

National Marine Fisheries Service (NMFS). 2005b. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule Federal Register Vol. 70 No. 170 pp 52488-52627862, September 5, 2005. Available online at

_____. 2011a. Central Valley Recovery Domain 5-Year Review: Summary and Evaluation of Central Valley steelhead DPS. NMFS, Southwest Region. August 15. Available on line at http://www.nmfs.noaa.gov/pr/pdfs/species/centralvalley_steelhead_5yearreview.pdf

_____. 2011b. Central Valley Recovery Domain 5-Year Review: Summary and Evaluation of Sacramento River Winter-Run Chinook Salmon ESU. NMFS, Southwest Region. Available on line at http://www.westcoast.fisheries.noaa.gov/publications/status_reviews/salmon_steelhead/chinook/2011_status_review_sacramento_river_winter_run_chinook.pdf

_____. 2011c. *North-Central California Coast Recovery Domain 5-Year Review: Summary and Evaluation of Central California Coastal Steelhead DPS and Northern California Steelhead DPS*. NMFS, Southwest Region. November 11. Available on line at http://www.nmfs.noaa.gov/pr/pdfs/species/ccc_nc_steelhead_5yearreview.pdf

_____. 2016. *Central Valley Recovery Domain 5-Year Review: Summary and Evaluation of Central Valley Spring-Run Chinook Salmon ESU. NMFS, Southwest Region.* April. Available on line at https://repository.library.noaa.gov/view/noaa/17018

Rathbun, G.B., N. Siepel, and D.C. Holland. 1992. *Nesting Behavior and Movements of Western Pond Turtles* (Clemmys marmorata). The Southwestern Naturalist 37(3):319-324.

Reese, D. A. 1996. *Comparative Demography and Habitat Use of Western Pond Turtles in Northern California: The Effects of Damming and Related Alterations*. Ph.D. dissertation, University of California, Berkeley. 253 pp.

Reese, D.A., and H. H. Welsh Jr. 1997. *Use of Terrestrial Habitat by Western Pond Turtles, Clemmys marmorata: Implications for Management*. Pp. 352-357. In J. Van Abbema (ed.), Conservation, Restoration, and Management of Tortoises and Turtles, An International Conference WCS Turtle Recovery Program and the New York Turtle and Tortoise Society, New York.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. *A Manual of California Vegetation* (2nd edition). California Native Plant Society, Sacramento. 1300 pp. Available on line at http://www.cnps.org/cnps/vegetation/manual_2ed.php

Stanford, B., Grossinger, R.M., Askevold, R.A., Whipple, A.W., Leidy, R.A., Beller, E.E., Salomon, M.N., and Striplen, C.J. 2011. *East Contra Costa County Historical Ecological Study.* Prepared for Contra Costa County and the Contra Costa County Watershed Forum. A report of the San Francisco Estuary Institute's Historical Ecology Program, SFEI Publication #648. Oakland, CA. November. Available online at http://www.sfei.org/documents/east-contra-costa-historical-ecology-study

_____. 2018. *Custom Soil Resource Report for Alameda County, California: Koch Carbon LLC, Pittsburg*. Natural Resource Conservation Service; Web Soil Survey. Report printed April 20 from website at http://websoilsurvey.nrcs.usda.gov/app/

United States Environmental Protection Agency and U.S. Army Corps of Engineers (USEPA/USACE). 2008. *Revised Guidance on Clean Water Act Jurisdiction Following the Supreme Court Decision in Rapanos v. U.S. and Carabell v. U.S.* December 2. Available online at http://www.usace.army.mil/cw/cecwo/reg/cwa_guide/cwa_juris_2dec08.pdf

United States Fish and Wildlife Service (USFWS). 2002. *Antioch Dunes National Wildlife Refuge, Comprehensive Conservation Plan*. July. USFWS California/Nevada Refuge Planning Office, Sacramento. Available online at http://www.fws.gov/uploadedFiles/antiochchap1to8.pdf

United States Fish and Wildlife Service (USFWS). 2013. *List of Migratory Bird Species Protected by the Migratory Bird Treaty Act, as of December 2.* Available online at http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html#alpha1

_____. 2019. *IPaC Trust Resource Report for 895 E. Third Street, Pittsburg*. Information for Planning and Conservation. Report generated April 1 at https://ecos.fws.gov/ipac/

ATTACHMENT A

SITE PHOTOGRAPHS

Photographs taken April 26, 2019

Photo 1
Typical paved conditions on site, looking northwest.

Photo 2
Ruderal habitat in unpaved area.

Photo 3
Row of eucalyptus trees along western property line.

Photo 4
Typical shoreline condition at stormwater outfall. Sparse wetland vegetation in riprap, with Mason's lilaeopsis located within red circle.

Photo 5
Close-up of Mason's lilaeopsis at stormwater outfall.

ATTACHMENT B

SPECIAL-STATUS PLANT SPECIES EVALUATED FOR THE CARBON CAPTURE AND MINERALIZATION PROJECT, 895 E. THIRD STREET, PITTSBURG, CA

Potentially Occurring Special Status Plant Species

May 16, 2019

Wood Biological Consulting

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Adoxaceae - Muskroot Family				
Viburnum ellipticum oval-leaved viburnum	Federal: none State: none CNPS: 2B.3 CNDDB: G4G5/S3? Other: DFG: SP	Occurs in chaparral, cismontane woodland, lower montane coniferous forest. Recorded from Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Shasta, Sonoma, Tehama.Also recorded from Oregon, Washington.	May-Jun Shrub (deciduous)	None: no suitable habitat present.
Alismataceae - Water-plantain Family				
Sagittaria sanfordii Sanford's arrowhead	Federal: none State: none CNPS: 1B.2 CNDDB: G3/S3 Other: DFG: SP	Occurs in freshwater marsh, marshes and swamps Moisture: shallow-water. Recorded from Butte, Del Norte, Fresno, Kern, Merced, Orange, Sacramento, San Joaquin, Shasta, Tehama, Ventura.	May-Oct Perennial Herb (rhizomatous), Emergent	None: no suitable habitat present.
Apiaceae - Carrot Family				
Cicuta maculata var. *bolanderi* Bolander's water hemlock	Federal: none State: none CNPS: 2B.1 CNDDB: G5T4/S2 Other:	Occurs in marshes and swamps. Moisture: freshwater or brackish. Recorded from Contra Costa, Los Angeles, Marin, Sacramento, San Luis Obispo, Santa Barbara, Solano. Recorded from within 1 mile of project site..	Jul-Sep Perennial Herb	Absent marginally suitable habitat present. Would have been detectable during present survey.
Eryngium jepsonii Jepson's coyote thistle	Federal: none State: none CNPS: 1B.2 CNDDB: G2?/S2? Other: DFG: SP	Occurs in valley and foothill grassland, vernal pools Moisture: vernally-flooded. Recorded from Alameda, Contra Costa, Napa, San Mateo, Solano, Yolo.	Apr-Aug Perennial Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Lilaeopsis masonii Mason's lilaeopsis	Federal: none State: SR CNPS: 1B.1 CNDDB: G2/S2 Other: DFG: SP	Occurs in brackish and freshwater marshes and swamps, riparian scrub. Recorded from Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, Yolo. Recorded from within 1 mile of project site..	Apr-Nov Perennial Herb (rhizomatous)	Present: suitable habitat present. Would have been detectable during present survey.
Sanicula saxatilis rock sanicle	Federal: none State: SR CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, valley and foothill grassland Substrate: rocky. Recorded from Contra Costa, Santa Clara.	Apr-May Perennial Herb	None: no suitable habitat present.
Asteraceae - Sunflower Family				
Blepharizonia plumosa big tarplant	Federal: none State: none CNPS: 1B.1 CNDDB: G2/S2 Other: DFG: SP	Occurs in valley and foothill grassland. Recorded from Alameda, Contra Costa, San Joaquin, Stanislaus. Additional distribution: presumed extirpated in Solano County. Recorded from within 1 mile of project site..	Jul-Oct Annual Herb	None: no suitable habitat present.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	Federal: none State: none CNPS: 1B.1 CNDDB: G3T2/S2 Other: DFG: SP	Occurs in valley and foothill grassland. Substrate: alkaline. Recorded from Alameda, Contra Costa, Monterey, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano. Additional distribution: presumed extirpated in Santa Cruz and Solano counties.	May-Nov Annual Herb	Absent marginally suitable habitat present. Would have been detectable during present survey.
Centromadia parryi ssp. *parryi* pappose tarplant	Federal: none State: none CNPS: 1B.2 CNDDB: G3T2/S2 Other:	Occurs in coastal prairie, meadows, seeps, coastal salt marsh, valley and foothill grassland. Moisture: vernally mesic,Substrate: often alkaline, Recorded from Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, Sonoma.	May-Nov Annual Herb	Absent no suitable habitat present. Would have been detectable during present survey.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Cirsium hydrophilum var. *hydrophilum* Suisun thistle	Federal: FE State: none CNPS: 1B.1 CNDDB: G2T1/S1 Other: DFG: SP	Occurs in coastal salt marsh, marshes and swamps. Recorded from Solano.	Jul-Sep Perennial Herb	None: no suitable habitat present.
Eriophyllum jepsonii Jepson's woolly sunflower	Federal: none State: none CNPS: 4.3 CNDDB: G3/S3 Other: DFG: SP	Occurs in chaparral, cismontane woodland, coastal sage scrub, coastal scrub, foothill woodland, northern coastal scrub Substrate: serpentine. Recorded from Alameda, Contra Costa, Kern, San Benito, Santa Clara, Stanislaus, Ventura.	Apr-Jun Perennial Herb	None: no suitable habitat present.
Helianthella castanea Diablo helianthella	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Recorded from Alameda, Contra Costa, Marin, San Mateo, San Francisco. Additional distribution: presumed extirpated in Marin and San Francisco counties.	Mar-Jun Perennial Herb	None: no suitable habitat present.
Hesperevax caulescens hogwallow starfish	Federal: none State: none CNPS: 4.2 CNDDB: G3/S3 Other: DFG: SP	Occurs in foothill woodland, valley and foothill grassland. Moisture: mesic,Substrate: clay, Recorded from Alameda, Amador, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Merced, Napa, San Diego, San Joaquin, San Luis Obispo, Solano, Stanislaus, Sutter, Tehama, Yolo.	Mar-Jun Annual Herb	None: no suitable habitat present.
Isocoma arguta Carquinez goldenbush	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland Substrate: alkaline, Habitats Note: alkaline. Recorded from Contra Costa, Solano.	Aug-Dec Shrub	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Lasthenia conjugens Contra Costa goldfields	Federal: FE State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools Moisture: mesic. Recorded from Alameda, Contra Costa, Marin, Mendocino, Monterey, Napa, Santa Barbara, Santa Clara, Solano, Sonoma. Additional distribution: presumed extirpated in Mendocino, Santa Barbara and Santa Clara counties.	Mar-Jun Annual Herb	None: no suitable habitat present.
Madia radiata showy madia	Federal: none State: none CNPS: 1B.1 CNDDB: G2/S2 Other: DFG: SP	Occurs in cismontane woodland, valley and foothill grassland. Recorded from Contra Costa, Fresno, Kern, Kings, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Stanislaus. Additional distribution: Presumed extirpated from Contra Costa, Kings, Monterey, Santa Barbara and San Joaquin counties..	Mar-May Annual Herb	None: no suitable habitat present.
Microseris paludosa marsh microseris	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Recorded from Marin, Mendocino, Monterey, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Cruz, Sonoma; presumed extirpated in San Francisco and San Mateo counties.	Apr-Jul Perennial Herb	None: no suitable habitat present.
Monolopia gracilens woodland woollythreads	Federal: none State: none CNPS: 1B.2 CNDDB: G3/S3 Other:	Occurs in broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), valley and foothill grassland. Substrate: serpentinite. Recorded from Alameda, Contra Costa, Monterey, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz.	Feb-Jul Annual Herb	None: no suitable habitat present.
Senecio hydrophiloides sweet marsh ragwort	Federal: none State: none CNPS: 4.2 CNDDB: Other: DFG: SP	Occurs in lower montane coniferous forest, meadows, yellow pine forest Moisture: moist. Recorded from Lassen, Modoc, Plumas, Siskiyou.Also recorded from Nevada, Oregon.	May-Aug Perennial Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Symphyotrichum lentum Suisun Marsh aster	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in brackish and freshwater marshes and swamps. Recorded from Contra Costa, Napa, Sacramento, San Joaquin, Solano. Recorded from within 25ft of project site..	Apr-Nov Perennial Herb (rhizomatous)	Present: suitable habitat present. Would have been detectable during present survey.
Boraginaceae - Borage Family				
Amsinckia grandiflora large-flowered fiddleneck	Federal: FE State: SE CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in cismontane woodland, valley and foothill grassland. Recorded from Alameda, Contra Costa, San Joaquin.	Apr-May Annual Herb	None: no suitable habitat present.
Cryptantha hooveri Hoover's cryptantha	Federal: none State: none CNPS: 1A CNDDB: GH/SH Other: DFG: SP	Occurs in inland dunes, valley and foothill grassland (sandy). Substrate: sandy. Recorded from Contra Costa, Madera, Stanislaus. Presumed extinct.	Apr-May Annual Herb	None: no suitable habitat present.
Phacelia phacelioides Mt. Diablo phacelia	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in chaparral, cismontane woodland Substrate: rocky. Recorded from Contra Costa, San Benito, Santa Clara, Stanislaus.	Apr-May Annual Herb	None: no suitable habitat present.
Plagiobothrys hystriculus bearded popcorn-flower	Federal: none State: none CNPS: 1B.1 CNDDB: G2/S2 Other: DFG: SP	Occurs in valley and foothill grassland, vernal pools Moisture: moist. Recorded from Solano.	Apr-May Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Brassicaceae - Mustard Family				
Arabis blepharophylla coast rock cress	Federal: none State: none CNPS: 4.3 CNDDB: G4/S4 Other: DFG: SP	Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub, mixed evergreen forest, northern coastal scrub. Recorded from Contra Costa, Marin, Monterey, San Francisco, San Mateo, Santa Cruz, Sonoma.	Feb-May Perennial Herb	None: no suitable habitat present.
Erysimum capitatum ssp. *angustatum* Contra Costa wallflower	Federal: FE State: SE CNPS: 1B.1 CNDDB: G5T1/S1 Other: DFG: SP	Occurs in inland dunes. Recorded from Contra Costa. Recorded from within 1 mile of project site..	Mar-Jul Perennial Herb	None: no suitable habitat present.
Streptanthus albidus ssp. *peramoenus* most beautiful jewel-flower	Federal: none State: none CNPS: 1B.2 CNDDB: G2T2/S2 Other: DFG: SP	Occurs in chaparral, cismontane woodland, valley and foothill grassland. Substrate: serpentinite. Recorded from Alameda, Contra Costa, Monterey, Santa Clara, San Luis Obispo.	Mar-Oct Annual Herb	None: no suitable habitat present.
Streptanthus hispidus Mt. Diablo jewel-flower	Federal: none State: none CNPS: 1B.3 CNDDB: G2/S2 Other: DFG: SP	Occurs in chaparral, valley and foothill grassland Substrate: rocky. Recorded from Contra Costa.	Mar-Jun Annual Herb	None: no suitable habitat present.
Tropidocarpum capparideum caper-fruited tropidocarpum	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland (alkaline hills). Substrate: alkaline. Recorded from Alameda, Contra Costa, Glenn, Monterey, San Joaquin, San Luis Obispo, Santa Clara. Additional distribution: Rediscovered in 2000 on Ft. Hunter Liggett. Presumed extirpated in Alameda, Contra Costa, Glenn, Santa Clara and San Joaquin counties.	Mar-Apr Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Bryaceae				
Anomobryum julaceum slender silver-moss	Federal: none State: none CNPS: 4.2 CNDDB: G5?/S2 Other: DFG: SP	Occurs in broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest. Moisture: damp soil and rock on outcrops, Habitats Note: usually on roadcuts. Recorded from Butte, Contra Costa, Humboldt, Los Angeles, Mariposa, Santa Barbara, Santa Cruz, Shasta, Sonoma.Also recorded from Oregon.	n/a Moss	None: no suitable habitat present.
Campanulaceae - Bellflower Family				
Campanula exigua chaparral harebell	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in chaparral. Substrate: rocky, usually serpentinite. Recorded from Alameda, Contra Costa, San Benito, Santa Clara, Stanislaus.	May-Jun Annual Herb	None: no suitable habitat present.
Downingia pusilla dwarf downingia	Federal: none State: none CNPS: 2B.2 CNDDB: GU/S2 Other: DFG: SP	Occurs in foothill woodland, valley and foothill grassland, vernal pools Moisture: moist, Habitats Note: clay. Recorded from Mariposa, Merced, Napa, Placer, Sacramento, Solano, Sonoma, Stanislaus, Tehama, Yuba.Also recorded from South America.	Mar-May Annual Herb	None: no suitable habitat present.
Legenere limosa legenere	Federal: none State: none CNPS: 1B.1 CNDDB: G2/S2 Other: DFG: SP	Occurs in vernal pools Moisture: vernally-flooded. Recorded from Lake, Napa, Placer, Sacramento, San Mateo, Shasta, Solano, Sonoma, Stanislaus, Tehama, Yuba.	Apr-Jun Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Chenopodiaceae - Goosefoot Family				
Atriplex cordulata var. *cordulata* heartscale	Federal: none State: none CNPS: 1B.2 CNDDB: G3T2/S2 Other: DFG: SP	Occurs in chenopod scrub, meadows, seeps, valley and foothill grassland (sandy). Substrate: saline or alkaline. Recorded from Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Kings, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, Yolo.	Apr-Oct Annual Herb	None: no suitable habitat present.
Atriplex coronata var. *coronata* crownscale	Federal: none State: none CNPS: 4.2 CNDDB: G4T3/S3 Other: DFG: SP	Occurs in chenopod scrub, shadscale scrub, valley and foothill grassland, vernal pools vernally-flooded, alkaline, Habitats Note: alkaline. Recorded from Alameda, Contra Costa, Fresno, Glenn, Kern, Kings, Merced, Monterey, San Joaquin, San Luis Obispo, Solano, Stanislaus.	Mar-Oct Annual Herb	None: no suitable habitat present.
Atriplex depressa brittlescale	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in chenopod scrub, meadows, seeps, playas, valley and foothill grassland, vernal pools. Substrate: clay, alkaline. Recorded from Alameda, Colusa, Contra Costa, Fresno, Glenn, Kern, Merced, Solano, Stanislaus, Tulare, Yolo.	Apr-Oct Annual Herb	None: no suitable habitat present.
Extriplex joaquiniana San Joaquin spearscale	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in chenopod scrub, meadows, playas, seeps, valley and foothill grassland Substrate: alkaline. Recorded from Alameda, Colusa, Contra Costa, Fresno, Glenn, Merced, Monterey, Napa, San Benito, San Joaquin, San Luis Obispo, Santa Clara, Solano, Tulare, Yolo. Additional distribution: presumed extirpated in Santa Clara, San Joaquin, and Tulare counties; questionable in San Luis Obispo County.	Apr-Oct Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Convolvulaceae - Morning-glory Family				
Convolvulus simulans small-flowered morning-glory	Federal: none State: none CNPS: 4.2 CNDDB: G4/S4 Other: DFG: SP	Occurs in chaparral, coastal sage scrub, coastal scrub, northern coastal scrub, valley and foothill grassland Substrate: serpentine, Habitats Note: clay. Recorded from Contra Costa, Kern, Los Angeles, Orange, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus.San Clemente Island, Santa Catalina Island, Santa Cruz Island.Also recorded from Baja California.	Mar-Jul Annual Herb	None: no suitable habitat present.
Ericaceae - Heath Family				
Arctostaphylos auriculata Mt. Diablo manzanita	Federal: none State: none CNPS: 1B.3 CNDDB: G2/S2 Other: DFG: SP	Occurs in chaparral (sandstone), cismontane woodland Substrate: sedimentary sandstone. Recorded from Contra Costa.	Jan-Mar Shrub (evergreen)	None: no suitable habitat present.
Arctostaphylos manzanita ssp. *laevigata* Contra Costa manzanita	Federal: none State: none CNPS: 1B.2 CNDDB: G5T2/S2 Other: DFG: SP	Occurs in chaparral Habitats Note: rocky. Recorded from Contra Costa.	Jan-Apr Shrub (evergreen)	None: no suitable habitat present.
Fabaceae - Legume Family				
Astragalus tener var. *tener* alkali milk-vetch	Federal: none State: none CNPS: 1B.2 CNDDB: G2T2/S2 Other: DFG: SP	Occurs in playas, valley and foothill grassland (adobe clay), vernal pools Substrate: adobe clay, alkaline. Recorded from Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, San Francisco, San Joaquin, Santa Clara, Solano, Sonoma, Stanislaus, Yolo. Additional distribution: presumed extirpated in Contra Costa, Monterey, San Benito, Santa Clara, San Francisco, San Joaquin, Sonoma, and Stanislaus counties.	Mar-Jun Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Lathyrus jepsonii var. *jepsonii* Delta tule pea	Federal: none State: none CNPS: 1B.2 CNDDB: G5T2/S2 Other: DFG: SP	Occurs in marshes and swamps (freshwater and brackish). Recorded from Contra Costa, Napa, Sacramento, San Joaquin, Solano, Sonoma, Yolo. Recorded from within 1 mile of project site..	May-Sep Perennial Herb	Not Expected: marginally suitable habitat present.
Trifolium hydrophilum saline clover	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Recorded from Alameda, Colusa, Monterey, Napa, San Benito, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma. Additional distribution: questionable in Colusa County.	Apr-Jun Annual Herb	None: no suitable habitat present.
Grimmiaceae				
Grimmia torenii Toren's grimmia	Federal: none State: none CNPS: 1B.3 CNDDB: G2/S2 Other:	Occurs in chaparral, cismontane woodland, lower montane coniferous forest. Substrate: rocky, boulders, rock walls, carbonate and volcanic., Habitats Note: openings. Recorded from Contra Costa, Colusa, Lake, Mendocino, Monterey, Santa Cruz, San Mateo.	Moss	None: no suitable habitat present.
Juglandaceae - Walnut Family				
Juglans hindsii Northern California black walnut	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in riparian forest, riparian woodland. Recorded from Contra Costa, Lake, Napa, Sacramento, Solano, Yolo. Additional distribution: presumed extirpated in Sacramento, Solano and Yolo counties; questionable occurrence in Lake County.	Apr-May Tree (deciduous)	Absent no suitable habitat present. Would have been detectable during present survey.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Liliaceae - Lily Family				
Calochortus pulchellus Mt. Diablo fairy-lantern	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Recorded from Alameda, Contra Costa, Solano.	Apr-Jun Perennial Herb (bulbiferous)	None: no suitable habitat present.
Fritillaria agrestis stinkbells	Federal: none State: none CNPS: 4.2 CNDDB: G3/S3 Other: DFG: SP	Occurs in chaparral, cismontane woodland, foothill woodland, pinyon and juniper woodland, valley and foothill grassland. Substrate: clay, sometimes serpentinite. Recorded from Alameda, Contra Costa, Fresno, Kern, Mariposa, Mendocino, Monterey, Placer, Sacramento, San Benito, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz, Stanislaus, Tuolumne, Ventura.	Mar-Jun Perennial Herb (bulbiferous)	None: no suitable habitat present.
Fritillaria liliacea fragrant fritillary	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland Substrate: often serpentinite. Recorded from Alameda, Contra Costa, Marin, Monterey, San Benito, San Francisco, San Mateo, Santa Clara, Solano, Sonoma.	Feb-Apr Perennial Herb (bulbiferous)	None: no suitable habitat present.
Linaceae - Flax Family				
Hesperolinon breweri Brewer's western flax	Federal: none State: none CNPS: 1B.2 CNDDB: G2?/S2? Other: DFG: SP	Occurs in chaparral, cismontane woodland, valley and foothill grassland Substrate: usually serpentinite. Recorded from Contra Costa, Napa, Solano.	May-Jul Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Malvaceae - Mallow Family				
Hibiscus lasiocarpus var. *occidentalis* woolly rose-mallow	Federal: none State: none CNPS: 1B.2 CNDDB: G5T3/S3 Other: DFG: SP	Occurs in freshwater marsh, marshes and swamps. Habitats Note: also in riprap on levees. Recorded from Butte, Colusa, Contra Costa, Glenn, Sacramento, San Joaquin, Solano, Sutter, Yolo.	Jun-Sep Perennial Herb (rhizomatous)	Absent marginally suitable habitat present. Would have been detectable during present survey.
Malacothamnus hallii Hall's bush-mallow	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in chaparral, coastal scrub. Recorded from Contra Costa, Mendocino, Merced, San Mateo, Santa Clara, Stanislaus, Lake.	May-Oct Shrub (evergreen)	None: no suitable habitat present.
Sidalcea keckii Keck's checkerbloom	Federal: FE State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in cismontane woodland, foothill woodland, valley and foothill grassland Substrate: serpentine. Recorded from Fresno, Merced, Tulare. Additional distribution: also possibly in Colusa, Napa, Solano and Yolo counties.	Apr-May Annual Herb	None: no suitable habitat present.
Montiaceae - Montia Family				
Calandrinia breweri Brewer's calandrinia	Federal: none State: none CNPS: 4.2 CNDDB: G4/S4 Other: DFG: SP	Occurs in chaparral, coastal scrub Substrate: sandy or loamy, Habitats Note: disturbed sites and burns. Recorded from Contra Costa, Los Angeles, Marin, Mariposa, Mendocino, Monterey, Napa, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Sonoma, Ventura. Santa Cruz Island, Santa Rosa Island. Also recorded from Baja California.	Mar-Jun Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Onagraceae - Evening Primrose Family				
Oenothera deltoides ssp. *howellii* Antioch Dunes evening-primrose	Federal: FE State: SE CNPS: 1B.1 CNDDB: G5T1/S1 Other: DFG: SP	Occurs in inland dunes. Recorded from Contra Costa, Sacramento. Recorded from within 1 mile of project site..	Mar-Sep Perennial Herb	None: no suitable habitat present.
Orobanchaceae - Broomrape Family				
Chloropyron molle ssp. *hispidum* hispid bird's-beak	Federal: none State: none CNPS: 1B.1 CNDDB: G2T2/S2 Other: DFG: SP	Occurs in alkali sink, meadows, playas, valley and foothill grassland Substrate: alkaline, Habitats Note: alkaline. Recorded from Alameda, Kern, Merced, Placer, Solano.	Jun-Sep Annual Herb, Hemiparasitic	None: no suitable habitat present.
Chloropyron molle ssp. *molle* soft bird's-beak	Federal: FE State: SR CNPS: 1B.2 CNDDB: G2T1/S1 Other: DFG: SP	Occurs in coastal salt marsh. Recorded from Contra Costa, Marin, Napa, Sacramento, Solano, Sonoma. Additional distribution: presumed extiprated in Marin, Sacramento, and Sonoma counties.	Jul-Nov Annual Herb, Hemiparasitic	None: no suitable habitat present.
Cordylanthus nidularius Mt. Diablo bird's-beak	Federal: none State: SR CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in chaparral. Substrate: serpentine. Recorded from Contra Costa.	Jul-Aug Annual Herb, Hemiparasitic	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Papaveraceae - Poppy Family				
Eschscholzia rhombipetala diamond-petaled California poppy	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland. Substrate: alkaline, clay. Recorded from Alameda, Colusa, Contra Costa, San Joaquin, San Luis Obispo, Stanislaus. Additional distribution: presumed extirpated in Contra Costa and Colusa counties.	Mar-Apr Annual Herb	None: no suitable habitat present.
Poaceae - Grass Family				
Neostapfia colusana Colusa grass	Federal: FT State: SE CNPS: 1B.1 CNDDB: G2/S2 Other: DFG: SP	Occurs in vernal pools Moisture: vernally-flooded. Recorded from Colusa, Merced, Solano, Stanislaus, Yolo.	May-Aug Annual Herb	None: no suitable habitat present.
Puccinellia simplex California alkali grass	Federal: none State: none CNPS: 1B.2 CNDDB: G3/S2 Other:	Occurs in chenopod scrub, meadows, seeps, valley and foothill grassland, vernal pools. Sinks, flats, and lake margins. Moisture: vernally mesic, Habitats Note: alkaline. Recorded from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Lake, Los Angeles, Madera, Merced, Napa, San Bernardino, San Luis Obispo, Santa Clara, Santa Cruz, Solano, Stanislaus, Tulare, Yolo. Additional distribution: Presumed extirpated in Kings County.	Mar-May Annual Herb	None: no suitable habitat present.
Polemoniaceae - Phlox Family				
Collomia diversifolia serpentine collomia	Federal: none State: none CNPS: 4.3 CNDDB: G4/S4 Other: DFG: SP	Occurs in chaparral, cismontane woodland, foothill woodland Substrate: serpentine. Recorded from Colusa, Contra Costa, Glenn, Lake, Mendocino, Napa, Shasta, Stanislaus, Yolo.	May-Jun Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Eriastrum ertterae Lime Ridge eriastrum	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other:	Occurs in chaparral. Substrate: alkaline or semi-alkaline, sandy, Habitats Note: openings or edges. Recorded from Contra Costa. Additional distribution: known only from the Lime Ridge area.	Jun-Jul Annual Herb	None: no suitable habitat present.
Navarretia gowenii Lime Ridge navarretia	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other:	Occurs in chaparral. Recorded from Contra Costa, Stanislaus. Additional distribution: Known only from four occurrences; Lime Ridge, Walnut Creek (discovered 1998) and Quinto Canyon, (Stanislaus).	May-Jun Annual Herb	None: no suitable habitat present.
Navarretia heterandra Tehama navarretia	Federal: none State: none CNPS: 4.3 CNDDB: G4/S4 Other: DFG: SP	Occurs in valley and foothill grassland, vernal pools Moisture: moist. Recorded from Butte, Colusa, Lake, Shasta, Tehama, Trinity, Yuba.Also recorded from Oregon.	Apr-Jun Annual Herb	None: no suitable habitat present.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	Federal: none State: none CNPS: 1B.1 CNDDB: G4T2/S2 Other: DFG: SP	Occurs in cismontane woodland, lower montane coniferous forest, meadows, seeps, valley and foothill grassland, vernal pools Moisture: mesic, Habitats Note: clay. Recorded from Colusa, Glenn, Lake, Lassen, Marin, Mendocino, Napa, Solano, Sonoma, Sutter, Tehama, Yolo.	Apr-Jul Annual Herb	None: no suitable habitat present.
Navarretia nigelliformis ssp. *nigelliformis* adobe navarretia	Federal: none State: none CNPS: 4.2 CNDDB: G4T3/S3 Other:	Occurs in valley and foothill grassland, vernal pools. Moisture: vernally mesic,Substrate: clay, sometimes serpentinite, Recorded from Alameda, Butte, Colusa, Contra Costa, Fresno, Kern, Merced, Monterey, Placer, Sutter, Tulare.	Apr-Jun Annual Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Navarretia nigelliformis ssp. *radians* shining navarretia	Federal: none State: none CNPS: 1B.2 CNDDB: G4T2/S2 Other: DFG: SP	Occurs in cismontane woodland, foothill woodland, valley and foothill grassland, vernal pools Moisture: vernally-flooded. Recorded from Alameda, Contra Costa, Fresno, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo.	May-Jul Annual Herb	None: no suitable habitat present.
Polygonaceae - Buckwheat Family				
Eriogonum nudum var. *psychicola* Antioch Dunes buckwheat	Federal: none State: none CNPS: 1B.1 CNDDB: G5T1/S1 Other:	Occurs in inland dunes. Recorded from Contra Costa. Additional distribution: Known only from the Antioch sand dunes.	Jul-Oct Perennial Herb	None: no suitable habitat present.
Eriogonum truncatum Mt. Diablo buckwheat	Federal: none State: none CNPS: 1B.1 CNDDB: G1/S1 Other: DFG: SP	Occurs in chaparral, coastal scrub, valley and foothill grassland Substrate: sandy. Recorded from Alameda, Contra Costa, Solano. Additional distribution: rediscovered in May 2005 in Mount Diablo State Park. Presumed extirpated in Solano County.	Apr-Dec Annual Herb	None: no suitable habitat present.
Potamogetonaceae - Pondweed Family				
Potamogeton zosteriformis eel-grass pondweed	Federal: none State: none CNPS: 2B.2 CNDDB: G5/S3 Other: DFG: SP	Occurs in freshwater marsh, marshes and swamps. Substrate: soft sediment, Habitats Note: in water to 12' deep. Recorded from Contra Costa, Lake, Lassen, Modoc, Shasta.Also recorded from Idaho, Oregon, Utah, Washington.	Jun-Jul Annual Herb, Aquatic	Not Expected: marginally suitable habitat present. Site is outside of species' range.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Stuckenia filiformis ssp. *alpina* slender-leaved pondweed	Federal: none State: none CNPS: 2B.2 CNDDB: G5T5/S3 Other: DFG: SP	Occurs in marshes and swamps. Moisture: shallow, freshwater. Recorded from Alameda, Butte, Contra Costa, El Dorado, Lassen, Mariposa, Merced, Modoc, Mono, Placer, San Mateo, Santa Clara, Shasta, Sierra, Solano, Sonoma. Additional distribution: presumed extirpated from Santa Clara County.Also recorded from Arizona, Nevada, Oregon, Washington.	May-Jul Perennial Herb (rhizomatous), Aquatic	Not Expected: marginally suitable habitat present. Would have been detectable during present survey.
Pottiaceae				
Triquetrella californica coastal triquetrella	Federal: none State: none CNPS: 1B.2 CNDDB: G2/S2 Other: DFG: SP	Occurs in coastal bluff scrub, coastal scrub. Substrate: soil. Recorded from Contra Costa, Del Norte, Marin, Mendocino, San Diego, San Francisco, San Mateo, Sonoma.Also recorded from Oregon.	n/a Moss	None: no suitable habitat present.
Primulaceae - Primrose Family				
Androsace elongata ssp. *acuta* California androsace	Federal: none State: none CNPS: 4.2 CNDDB: G5?T3T4/S3S4 Other: DFG: SP	Occurs in chaparral, cismontane woodland, coastal scrub, meadows, seeps, pinyon and juniper woodland, valley and foothill grassland Moisture: dry. Recorded from Alameda, Colusa, Contra Costa, Fresno, Glenn, Kern, Los Angeles, Merced, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Siskiyou, Stanislaus, Tehama.Also recorded from Oregon, Baja California.	Mar-Jun Annual Herb	None: no suitable habitat present.
Ranunculaceae - Buttercup Family				
Delphinium californicum ssp. *interius* Hospital Canyon larkspur	Federal: none State: none CNPS: 1B.2 CNDDB: G3T3/S3 Other: DFG: SP	Occurs in chaparral (openings), cismontane woodland (mesic), coastal scrub Moisture: moist. Recorded from Alameda, Contra Costa, Merced, San Benito, San Joaquin, Santa Clara, Stanislaus.	Apr-Jun Perennial Herb	None: no suitable habitat present.

Potentially Occurring Special Status Plant Species

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Myosurus minimus ssp. *apus* little mousetail	Federal: none State: none CNPS: 3.1 CNDDB: G5T2Q/S2 Other: DFG: SP	Occurs in valley and foothill grassland, vernal pools vernally-flooded, alkaline, Habitats Note: alkaline. Recorded from Alameda, Butte, Colusa, Contra Costa, Kern, Riverside, San Bernardino, San Diego, Solano, Stanislaus, Tulare.Also recorded from Baja California, Oregon.	Mar-Jun Annual Herb	None: no suitable habitat present.
Ranunculus lobbii Lobb's aquatic buttercup	Federal: none State: none CNPS: 4.2 CNDDB: G4/S3 Other: DFG: SP	Occurs in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools Moisture: mesic. Recorded from Alameda, Contra Costa, Marin, Mendocino, Napa, Solano, Sonoma, Santa Cruz, San Mateo.Also recorded from Oregon.	Feb-May Annual Herb, Aquatic	None: no suitable habitat present.
Rubiaceae - Madder Family				
Galium andrewsii ssp. *gatense* serpentine bedstraw	Federal: none State: none CNPS: 4.2 CNDDB: G5T3/S3 Other: DFG: SP	Occurs in chaparral, cismontane woodland, foothill woodland, lower montane coniferous forest, yellow pine forest Substrate: serpentine. Recorded from Alameda, Contra Costa, Fresno, Monterey, San Benito, San Luis Obispo, Santa Clara.	Apr-Jul Perennial Herb	None: no suitable habitat present.
Scrophulariaceae - Figwort Family				
Limosella australis Delta mudwort	Federal: none State: none CNPS: 2B.1 CNDDB: G4G5/S2 Other: DFG: SP	Occurs in brackish and freshwater marshes and swamps, and riparian scrub. Moisture: wet,Substrate: usually on mud banks, Recorded from Contra Costa, Sacramento, San Joaquin, Solano.Also recorded from Oregon. Recorded from within 1 mile of project site..	May-Aug Perennial Herb (stoloniferous)	Not Expected: marginally suitable habitat present. Would have been detectable during present survey.

ATTACHMENT C

SPECIAL-STATUS ANIMAL SPECIES EVALUATED FOR THE CARBON CAPTURE AND MINERALIZATION PROJECT, 895 E. THIRD STREET, PITTSBURG, CA

Special-status Animal Species

May 19, 2019

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Agelaius tricolor tricolored blackbird	Federal none State SCE Other ABC: WL BLM: S DFW: SSC FWS: BCC; MBTA Global/State Rank: G2G3/S1S2	Highly colonial species. Requires open water, protected nesting substrate, and foraging areas with insect prey within a few km of the colony. Greatest concentrations are in the Central Valley and vicinity. Largely endemic to California. DFG listing covers nesting colonies only.	None: no suitable nesting habitat present.
Ambystoma californiense California tiger salamander - Central Calif. DPS	Federal FT State ST Other DFW: WL Global/State Rank: G2G3/S2S3	Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. Recorded from Alameda, Amador, Butte, Calaveras, Contra Costa, Fresno, Kern, Kings, Madera, Mariposa, Merced, Monterey, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Tulare, Yolo counties.	None: no suitable habitat present.
Andrena blennospermatis Blennosperma vernal pool andrenid bee	Federal none State none Other DFW: SA Global/State Rank: G2/S2	Solitary ground-nesting bee inhabiting upland areas near vernal pools. Host plant is Blennosperma. Recorded from Contra Costa, El Dorado, Lake, Placer, Sacramento, San Joaquin, Solano, Sonoma, Tehama, Yolo counties. Additional distribution: inner Coast Ranges.	None: no suitable habitat present. No host plants present.
Anniella pulchra Northern California legless lizard	Federal none State none Other DFW: SSC FS: S Global/State Rank: G3/S3	Occurs in chaparral, coastal dunes and coastal scrub. Inhabits sandy or loose loamy soils under sparse vegetation. Prefers soils with a high moisture content. Recorded from Alameda, Contra Costa, Fresno, Kern, Los Angeles, Madera, Merced, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Santa Cruz, Tulare counties.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Anthicus antiochensis Antioch Dunes anthicid beetle	Federal none State none Other DFW: SA Global/State Rank: G1/S1	Interior sand dunes and sand bars. Known to occupy small sand deposits, including dredge spoils. Recorded from Contra Costa, Glenn, Shasta, Solano, Sutter, Tehama counties. Additional distribution: extirpated from the Antioch Dunes, the species' type locality.	None: no suitable habitat present.
Anthicus sacramento Sacramento anthicid beetle	Federal none State none Other DFW: SA Global/State Rank: G1/S1	Known to occupy small sand deposits, including dredge spoils. Recorded from Sacramento, Solano counties. Additional distribution: restricted to sand dune areas of the Sacramento-San Joaquin River Delta.	None: no suitable habitat present.
Antrozous pallidus pallid bat	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G5/S3 WBWG: H	Inhabits rocky terrain in open areas in lowlands, foothills and mountainous areas near water throughout California below 2,000 meters. Roosts in caves, rock crevices, mines, hollow trees, buildings and bridges in arid regions in low numbers (<200). Active from March-November; migrates in some areas, but may hibernate locally. Recorded from Calaveras, Imperial, Inyo, Kern, Lake, Marin, Mariposa, Mono, Napa, Orange, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Siskiyou, Sonoma, Tuolumne counties. Also from Arizona, Nevada, New Mexico, Oregon, Washington.	None: no suitable roosting habitat present.
Apodemia mormo langei Lange's metalmark butterfly	Federal FE State none Other DFW: SA Global/State Rank: G5T1/S1	Inhabits stabilized dunes. Primary host plant is Eriogonum nudum var. auriculatum. Feeds on nectar of other wildflowers, as well as host plant. Recorded from Contra Costa County. Additional distribution: endemic to Antioch Dunes.	None: no suitable habitat present. No host plants present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Aquila chrysaetos golden eagle	Federal none State none Other CDF: S DFW: FP, WL FWS: BCC, BEPA, MBTA Global/State Rank: G5/S3	Nests and winters in rolling foothills and mountain areas in sage-juniper flats and deserts. Nests on cliff-walled canyons and large trees in open areas. DFW listing covers nesting and wintering birds only.	None: no suitable nesting habitat present.
Archoplites interruptus Sacramento perch	Federal none State none Other DFW: SSC Global/State Rank: G2G3/S1	Common in ponds and impoundments. Prefers warm water. Aquatic vegetation is essental for young. Tolerates wide range of physico-chemical water conditions. Freshwater. Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Recorded from Contra Costa, Lake, Sacramento counties. Additional distribution: native range is Sacramento-San Joaquin, Pajaro, and Salinas River drainages, and Clear Lake.	Not expected: marginally suitable habitat present. Water in New York Slough is likely unsuitable.
Ardea herodias great blue heron	Federal none State none Other CDF: S DFW: SA FWS: MBTA Global/State Rank: G5/S4	Nests colonially in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites are usually in close proximity to foraging areas such as marshes, lake margins, tide-flats, rivers and streams, wet meadows. DFG listing covers nesting colonies only. Recorded from Alameda, Butte, Del Norte, Humboldt, Imperial, Lake, Lassen, Marin, Merced, Monterey, Placer, Riverside, Sacramento, San Joaquin, San Mateo, Santa Clara, Shasta, Siskiyou, Solano, Sonoma, Stanislaus, Tehama, Tulare, Yolo counties.	None: no suitable nesting habitat present.
Arizona elegans occidentalis California glossy snake	Federal none State none Other DFW: SSC Global/State Rank: G5T2/S2	Habitat generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils. Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular Ranges, south to Baja California. Recorded from Alameda, Contra Costa, Fresno, Kern, Los Angeles, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Ventura counties.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Artemisiospiza belli belli Bell's sage sparrow	Federal none State none Other ABC: WL DFW: WL FWS: BCC, MBTA Global/State Rank: G5T2T4/S2?	syn: Amphispiza belli belli Inhabits dry brushy foothills, chaparral and coastal sage scrub habitats west of the Sierras from Redding south into Baja California, Mexico. Breeding begins in March; double-brooded. DFW listing covers nesting birds only.	None: no suitable nesting habitat present.
Asio flammeus short-eared owl	Federal none State none Other ABC: WL Aud: WL DFW: SSC FWS: BCC, MBTA Global/State Rank: G5/S3	Inhabits both freshwater and salt water swamp lands, lowland meadows, and irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depressions concealed in vegetation. DFW listing covers nesting birds only. Recorded from Contra Costa, Imperial, Los Angeles, Modoc, Monterey, San Mateo, Solano counties.	None: no suitable nesting habitat present.
Athene cunicularia burrowing owl	Federal none State none Other BLM: S DFW: SSC FWS: BCC; MBTA Global/State Rank: G4/S3	Inhabits open, dry annual or perenial grasslands, deserts and scrublands characterized by low-growing vegetation. Nests underground in mammal burrows, especially those of California ground squirrel. DFW listing covers burrow sites and some wintering sites only.	Possible: marginally suitable habitat present. No suitable burrows detected. See report for discussion.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Baeolophus inornatus oak titmouse	Federal none State none Other ABC: WL DFW: SA FWS: BCC, MBTA Global/State Rank: G4/S4	Common species primarily associated with oaks. Occurs in montane hardwood-conifer, montane hardwood, blue, valley, and coastal oak woodlands, and montane and valley foothill riparian habitats. Range encircles San Joaquin Valley, extending east from the coast through Kern Co. onto the western slope of the Sierra Nevada north to Shasta Co. DFW listing covers nesting individuals only.	None: no suitable habitat present.
Bombus caliginosus obscure bumble bee	Federal none State none Other DFW: SA Global/State Rank: G4?/S1S2	Coastal areas, on Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia. Distributed in coastal areas from northern Washington to southern California. Recorded from Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, San Mateo, Santa Barbara, Sonoma counties. Also from Oregon, Washington.	Not expected: marginally suitable habitat present. Few Baccharis plants present on property, but not in work area.
Bombus crotchii Crotch bumble bee	Federal none State none Other DFW: SA Global/State Rank: G3G4/S1S2	Inhabits open grassland and scrub habitats. Food plants include Antirhinum, Clarkia, Dendromecon, Eschscholzia, Eriogonum, and Phacelia. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Exclusive to coastal California east towards the Sierra-Cascade Crest and into western Nevada. Recorded from Alameda, Calaveras, Colusa, Contra Costa, Fresno, Glenn, Inyo, Kern, Los Angeles, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, San Benito, San Bernardino, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Siskiyou, Sonoma, Stanislaus, Tehama, Tulare, Tuolumne, Ventura, Yolo counties. Also from SW Nevada.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Bombus occidentalis western bumble bee	Federal none State none Other DFW: SA FS: S Global/State Rank: G2G3/S1 Xerces: I	Once very common in the western United States and western Canada, but populations from southern British Columbia to Central California have nearly disappeared. Still found in the northern and eastern portions of its historic range. It is an important pollinators of wild flowering plants and crops (e.g., Centaurea, Chrysothamnus, Cirsium, Eriogonum, Melilotus, and Trifolium). Recorded from Alameda, Alpine, Butte, Calaveras, Contra Costa, Del Norte, El Dorado, Fresno, Humboldt, Imperial, Lake, Lassen, Marin, Mariposa, Mendocino, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Bernardino, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Trinity, Tulare, Tuolumne, Yolo counties.	Not expected: marginally suitable habitat present. Few host plants present; work areas have been highly modified.
Branchinecta conservatio Conservancy fairy shrimp	Federal FE State none Other DFW: SA Global/State Rank: G2/S2	Inhabits large, turbid, astatic pools located in swales formed by old, braided alluvium, filled by winter/spring rains, and lasting until June. Recorded from Butte, Glenn, Merced, Solano, Stanislaus, Tehama, Yuba counties. Additional distribution: endemic to the grasslands of the northern two-thirds of the Central Valley.	None: no suitable habitat present.
Branchinecta lynchi vernal pool fairy shrimp	Federal FT State none Other DFW: SA Global/State Rank: G3/S3	Inhabits small, clear-water sandstone-depression astatic rain-filled pools and grassed swales, earth slumps, or basalt-flow depression pools. Recorded from Alameda, Butte, Calaveras, Contra Costa, El Dorado, Fresno, Glenn, Kings, Madera, Merced, Monterey, Napa, Placer, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Ventura, Yuba counties. Additional distribution: endemic to the grasslands of the Central Valley, Central Coast and South Coast mountains.	None: no suitable habitat present.
Branchinecta mesovallensis midvalley fairy shrimp	Federal none State none Other DFW: SA Global/State Rank: G2/S2S3	Inhabits vernal pools. Recorded from Fresno, Merced, Sacramento counties.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Buteo regalis ferruginous hawk	Federal none State none Other AUD: WL BLM: S DFW: WL FWS: BCC; MBTA Global/State Rank: G4/S3S4	Winters in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Feeds primarily on lagomorphs (rabbits and hares), ground squirrels, and mice. Population trends may follow lagomorph population cycles. Does not nest in California. DFW listing covers wintering birds. General distribution: recorded throughout coastal California, Cetral Valley, San Joaquin Valley, central and southern Sierra Nevada, eastern Sierras and inland deserts.	None: no suitable habitat present. Does not nest in California.
Buteo swainsoni Swainson's hawk	Federal none State ST Other ABC: WLBCC AUD: WL DFW: SA FS: S FWS: BCC; MBTA Global/State Rank: G5/S3	Breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. DFW listing covers nesting birds. Recorded from Butte, Colusa, Contra Costa, Fresno, Glenn, Inyo, Kern, Kings, Lassen, Los Angeles, Madera, Merced, Modoc, Mono, Placer, Sacramento, San Bernardino, San Joaquin, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo counties.	None: no suitable nesting habitat present.
Callophrys mossii bayensis San Bruno elfin butterfly	Federal FE State none Other DFW: SA Global/State Rank: G4T1/S1 Xerces: C	Inhabits coastal, mountainous areas with grassy ground cover. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is Sedum spathulifolium. Recorded from San Mateo, Marin counties. Additional distribution: primary populations are located in the vicinity of San Bruno Mountain.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Calypte costae Costa's hummingbird	Federal none State none Other AUD: WL DFW: SA FWS: BCC, MBTA Global/State Rank: G5/S4 USBC: Watch List	Primary habitats are desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis. Most common and widespread in southern California, but also breeds locally along the western edge of the San Joaquin Valley and the eastern edge of the Sierra Nevada north through Inyo Co. Occurs regularly in spring and summer in Siskiyou Co. DFW listed covers nesting individuals only.	None: no suitable habitat present. Does not breed in Contra Costa County.
Charadrius montanus mountain plover	Federal none State none Other ABC: WLBCC AUD: WL BLM: S DFW: SSC FWS: BCC; MBTA Global/State Rank: G3/S2S3	Winters on short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Prefers short vegetation, bare ground and flat topography, as well as grazed areas and areas with burrowing rodents. AUD & ABC listings cover full species; DFW listing covers wintering birds only. Recorded from Fresno, Kern, Los Angeles, Merced, San Benito, Solano, Tulare, Yolo counties.	None: no suitable nesting or wintering habitat present.
Coelus gracilis San Joaquin dune beetle	Federal none State none Other BLM: S DFW: SA Global/State Rank: G1/S1	Burrows in the sand of well-developed sand dunes. Inhabits fossil dunes on sandy substrates. Occurs along the western edge of San Joaquin Valley. Extirpated from Antioch Dunes (type locality). Recorded from Contra Costa, Fresno, Kings, San Benito counties.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Corynorhinus townsendii townsendii Townsend's big-eared bat	Federal none State SCT Other BLM: S DFW: SSC FS: S Global/State Rank: G3G4/S2 WBWG: H	Inhabits humid coastal regions of northern and central California. Roosts in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites are limiting. Extremely sensitive to disturbance. BLM, DFW and FS listings cover full species. Recorded from Alameda, Colusa, Humboldt, Lake, Marin, Mendocino, Napa, San Joaquin, Santa Cruz, Yolo counties.	
Coturnicops noveboracensis yellow rail	Federal none State none Other ABC: WLBCC AUD: WL DFW: SSC FWS: BCC; MBTA Global/State Rank: G4/S1S2	The yellow rail is a small, secretive marshbird that runs under vegetation in freshwater marshlands. Breeds in north-central California and Oregon. Summer resident in the eastern Sierra Nevada. Winters in the San Francisco Bay Area. Recorded from Mono County.	None: no suitable nesting habitat present. Does not breed in Contra Costa County.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	Federal FT State none Other DFW: SA Global/State Rank: G3T2/S2	Prefers to lay eggs in elderberrry (Sambucus mexicana) stems 2-8 inches in diameter. Some preference is shown for "stressed" elderberries. Recorded from Butte, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties. Additional distribution: occurs only in the Central Valley of California.	None: no suitable habitat present. No host plants present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Dipodomys heermanni berkeleyenis Berkeley kangaroo rat	Federal none State none Other DFW: SA Global/State Rank: G3G4T1/S1	Inhabits open grassy hilltops and open spaces in chaparral and blue oak or gray pine woodlands. Needs fine, deep, well-drained soil for burrowing. Last recorded in 1936. Recorded from Alameda, Contra Costa counties.	None: no suitable habitat present.
Dumontia oregonensis hairy water flea	Federal none State none Other DFW: SA Global/State Rank: G1G3/S1	Vernal pools. Recorded from Sacramento County. Additional distribution: In California, known only from Mather Field. Also from Oregon.	None: no suitable habitat present.
Efferia antiochi Antioch efferian robberfly	Federal none State none Other DFW: SA Global/State Rank: G1G2/S1S2	There is no published information on the life history or behavior of this species, but robber flies are predaceous on other insects, and larvae usually develop in the ground or in rotting wood where they prey upon other insect larvae. Recorded from Contra Costa, Fresno counties. Additional distribution: also recorded from Scout Island in the San Joaquin River.	None: no suitable habitat present.
Elanus leucurus white-tailed kite	Federal none State none Other DFW: FP FWS: MNB, MBTA Global/State Rank: G5/S3S4	Inhabits rolling foothills andvalley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands. Utilizes open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. DFW listing covers nesting individuals only.	None: no suitable nesting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Elaphrus viridis delta green ground beetle	Federal FT State none Other DFW: SA Global/State Rank: G1/S1	Inhabits the margins of vernal pools in grasslands. Prefers the sandy mud substrate where it slopes gently into the water, with low-growing vegetation, 25-100% cover. Recorded from Solano County. Additional distribution: occurs between Jepson Prairie and Travis Air Force Base.	None: no suitable habitat present.
Emys marmorata Pacific pond turtle	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G3G4/S3	A thoroughly aquatic turtle inhabiting ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields in upland areas for egg-laying. Recorded from Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba counties.	Possible: suitable habitat present. Individuals could move along the shoreline. See report for discussion.
Eucerceris ruficeps redheaded sphecid wasp	Federal none State none Other DFW: SA Global/State Rank: G1G3/S1S2	Nests in hard-packed sand utilizing abandoned halictine bee burrows. Occurs on interior dunes. Recorded from Fresno, Stanislaus counties. Additional distribution: central California.	None: no suitable habitat present.
Falco peregrinus anatum American peregrine falcon	Federal Delisted State Delisted Other CDF: S DFW: FP FWS: BCC, MBTA Global/State Rank: G4T4/S3S4	Nests near wetlands, lakes, rivers, or other water bodies, on cliffs, banks, dunes, mounds, and human-made structures. Nests consist of a scrape on a depression or ledge in an open site. DFW listing covers nesting individuals only.	None: no suitable nesting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Geothlypis trichas sinuosa saltmarsh common yellowthroat	Federal none State none Other DFW: SSC FWS: BCC, MBTA Global/State Rank: G5T3/S3	Inhabits freshwater and salt marshes. Requires thick, continuous cover down to water surface for foraging. Nests in tall grasses, tule patches and willows. Resident of the San Francisco Bay region. Recorded from Alameda, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma counties.	None: no suitable habitat present.
Haematopus bachmani black oystercatcher	Federal none State none Other AUD: WL FWS: BCC; MBTA Global/State Rank: n/a USBC: Watch List	A permanent resident on rocky shores of marine habitats along almost the entire California coast, and on adjacent islands. Uncommon to locally fairly common in northern and central California and on Channel Islands. Rare on mainland coast south of Pt. Conception (Santa Barbara Co.). DFW listing covers nesting birds.	None: no suitable nesting habitat present.
Haliaeetus leucocephalus bald eagle	Federal Delisted State SE Other BLM: S CDF: S DFW: FP FWS: BCC, MBTA Global/State Rank: G5/S3 USFS: S	Found on ocean shores, lake margins, and rivers. Mostly nests within 1 mile of water. Nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. Roosts communally in winter. Occasional visitor to San Francisco Bay habitats, primarily in migration and winter. Delisted in 2007 and no longer covered under FESA. DFW listing covers nesting and wintering birds only. Recorded from Alameda, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Lake, Lassen, Los Angeles, Madera, Mendocino, Modoc, Mono, Monterey, Napa, Nevada, Plumas, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Shasta, Sierra, Siskiyou, Tehama, Trinity, Tuolumne, Yuba counties.	None: no suitable nesting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Helminthoglypta nickliniana bridgesi Bridges' Coast Range shoulderband snail	Federal none State none Other DFW: SA Global/State Rank: G3T1/S1S2	Prefers to hide under downed branches or logs, or in crevices in boulders and rock outcrops, on open hillsides with tall grasses and weeds. Recorded from Alameda, Contra Costa counties.	None: no suitable habitat present.
Hygrotus curvipes curved-foot hygrotus diving beetle	Federal none State none Other DFW: SA Global/State Rank: G1/S1	Aquatic inhabitant known only from a single,shallow, muddy pool. Recorded from Alameda, Contra Costa counties. Additional distribution: known from Oakley, Byron, Mountain House.	None: no suitable habitat present.
Hypomesus transpacificus delta smelt	Federal FT State SE Other AFS: T DFW: SA Global/State Rank: G1/S1	Occurs in open brackish and freshwater of large channels. Most frequently found at salinities < 2ppt.; seldom found at salinities > 10 ppt. Occurs in the Sacramento-San Joaquin Delta. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Recorded from Solano, Sacramento, San Joaquin, Solano, Yolo counties.	Possible: suitable habitat present. No suitable breeding or rearing habitat is present at the project site. See report for discussion.
Idiostatus middlekaufi Middlekauf's shieldback katydid	Federal none State none Other DFW: SA Global/State Rank: G1G2/S1	Associated with various native dune shrubs. Recorded from Contra Costa County. Additional distribution: formerly found at the Antioch Dunes, but has not been seen for several decades.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Ixobrychus exilis least bittern	Federal none State none Other DFW: SSC FWS: BCC, MBTA Global/State Rank: G5/S2	Nests colonially in marshlands and the borders of ponds and reservoirs providing ample cover. Nests are usually placed low in tules over water. DFW listing covers nesting birds only. Recorded from Inyo County.	None: no suitable nesting habitat present.
Lanius ludovicianus loggerhead shrike	Federal none State none Other DFW: SCC FWS: BCC; MBTA Global/State Rank: G4/S4	Year-round resident in California. Inhabits shrublands and open woodlands associated with grasslands with areas bare ground and impaling sites such as thorny vegetation, multi-stemmed plants or barbed wire. Breeds from early Feb. - July; double- to triple-brooded DFW listing covers nesting individuals only.	Not expected: marginally suitable habitat present. Site is highly modified. See report for details.
Lasiurus blossevillii western red bat	Federal none State none Other DFW: SSC FS: S Global/State Rank: G5/S3 WBWG: H	Roosts primarily in trees, 2-40 feet above the ground. Prefers habitat edges and mosaics with trees that are protected from above and open below, with open areas for foraging. Found from sea level to higher elevations with mixed conifer forests.	None: no suitable roosting habitat present.
Lasiurus cinereus hoary bat	Federal none State none Other DFW: SA Global/State Rank: G5/S4 WBWG: M	Ubiquitous throughout California. A solitary foliage rooster that prefers evergreens, but will use deciduous trees in forested habitats, particularly in edge habitat (Bolster 2005). May forage in small to large groups. Feeds primarily on moths, but will eat a variety of other insects. Migrates great distances.	None: no suitable roosting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Laterallus jamaicensis coturniculus California black rail	Federal none State ST Other ABC: WL DFW: FP FWS: BCC, MBTA Global/State Rank: G3G4T1/S1	Inhabits freshwater marshes, wet meadows and shallow margins bordering large bays. Also found in freshwater and brackish marshes, near sea level. AUD, FWS & ABC listings cover full species. Recorded from Alameda, Butte, Contra Costa, Imperial, Los Angeles, Marin, Napa, Nevada, Orange, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Cruz, Solano, Sonoma, Yuba counties.	Not expected: no suitable nesting habitat present. Individuals could move along shoreline of project site. See report for details.
Lepidurus packardi vernal pool tadpole shrimp	Federal FE State none Other DFW: SA Global/State Rank: G4/S3S4	Inhabits vernal pools and grassy swales of unplowed grasslands. Tolerant of mud-bottoms and highly turbid conditions. Recorded from Alameda, Butte, Colusa, Fresno, Kings, Merced, Placer, Sacramento, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, Yuba counties.	None: no suitable habitat present.
Limnodromus griseus short-billed dowitcher	Federal none State none Other FWS: BCC, MBTA Global/State Rank: n/a	Common in saltwater habitats. Common to abundant during spring (late March to mid-May) and fall (mid-July to October) migration along the entire coast of California, where it typically occurs on intertidal mudflats of estuarine habitats.	None: no suitable nesting habitat present.
Limosa fedoa marbled godwit	Federal none State none Other FWS: BCC, MBTA Global/State Rank: n/a	Most common on estuarine mudflats, but also occurs on sandy beaches, open shores, saline emergent wetlands, and adjacent wet upland fields. A common to abundant migrant and winter visitant from mid-August to early May in estuarine habitats the length of the state. A fairly common migrant and winter visitant at the Salton Sea, but generally rare elsewhere in the interior of the state.	None: no suitable nesting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Linderiella occidentalis California linderiella	Federal none State none Other DFW: SA Global/State Rank: G2G3/S2S3	Inhabits seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Found in pools of water with very low alkalinity, conductivity, and total dissolved solids. Recorded from Alameda, Butte, Contra Costa, Fresno, Madera, Merced, Monterey, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Cruz, Shasta, Solano, Sonoma, Stanislaus, Sutter, Tehama, Yuba counties.	None: no suitable habitat present.
Lytta molesta molestan blister beetle	Federal none State none Other DFW: SA Global/State Rank: G2/S2	Associated with grassland habitats and adults are found on various wild flowers or flowers of native shrubs. Recorded from Contra Costa, Fresno, Kern, Madera, Merced, Tulare counties. Additional distribution: inhabits the Central Valley.	None: no suitable habitat present.
Masticophis lateralis euryxanthus Alameda whipsnake	Federal FT State ST Other DFW: SA Global/State Rank: G4T2/S2	Inhabits south-facing slopes and ravines where shrubs form a vegetative mosaic with oak trees and grasses. Restricted to valley-foothill hardwood habitat of the Coast Ranges between Monterey and northern San Francisco Bay. Recorded from Alameda, Contra Costa counties.	None: no suitable habitat present.
Melanerpes lewis Lewis' woodpecker	Federal none State none Other AUD: WL BLM: S DFW: SA FWS: BCC; MBTA Global/State Rank: G4/S4	Requires open habitats with scattered trees and snags with cavities. Cover provided by cavities and foliage of trees and shrubs. An uncommon, local winter resident occurring in open oak savannahs, broken deciduous, and coniferous habitats. Found along eastern slopes of the Coast Ranges south to San Luis Obispo Co. Also winters in the Central Valley, Modoc Plateau, and the Transverse and other Ranges in southern California. Breeds locally along eastern slopes of the Coast Ranges, and in the Sierra Nevada, Warner Mts., Klamath Mts., and in the Cascade Range. DFW listing covers nesting individuals only.	None: no suitable nesting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Melospiza melodia song sparrow "Modesto population"	Federal none State none Other DFW: SSC FWS: MBTA Global/State Rank: G5/S3?	Moderately dense vegetation to supply cover for nest sites, a source of standing or running water, semiopen canopies to allow light, and exposed ground or leaf litter for foraging. Associated with emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets. Also may nest in riparian forests of Valley Oak with an understory of blackberry, along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites. Recorded from Butte, Colusa, Colusa, Contra Costa, Placer, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, Yolo counties.	None: no suitable nesting habitat present.
Melospiza melodia maxillaris Suisun song sparrow	Federal none State none Other DFW: SSC FWS: BCC; MBTA Global/State Rank: G5T3/S3	Inhabits cattails, tules and other sedges, and pickleweed. Also known to frequent tangles bordering sloughs. Occurs in brackish-water marshes surrounding Suisun Bay. Recorded from Contra Costa, Solano counties.	None: no suitable nesting habitat present.
Metapogon hurdi Hurd's metapogon robberfly	Federal none State none Other DFW: SA Global/State Rank: G1G2/S1S2	Associated primarily with interior sand dunes. Recorded from Contra Costa, Fresno counties. Additional distribution: presumed extirpated from the Antioch Dunes.	None: no suitable habitat present.
Myrmosula pacifica Antioch multilid wasp	Federal none State none Other DFW: SA Global/State Rank: GH/SH	Inhabits interior dunes. This species is probably a synonym of a more widespread mutillid. Thus, this species may not be as unique as was originally believed. Recorded from Contra Costa, Inyo, Solano, Yolo counties.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	Federal none State none Other DFW: SSC Global/State Rank: G5T2T3/S2S3	One of eleven recognized subspecies. Inhabits oak and riparian woodlands with a well-developed understory in the SF Bay Area. They exhibit high site fidelity and may live in the same nest community for generations. Nest structures are key indicator of their presence and are easily identified by their conical appearance. Recorded from Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties.	
Numenius americanus long-billed curlew	Federal none State none Other DFW: WL FWS: BCC; MBTA Global/State Rank: G5/S2	Breeds in upland shortgrass prairies and wet meadows in northeastern California. Inhabits gravelly soils and gently rolling terrain are favored over others. DFW listing covers nesting birds only.	None: no suitable nesting habitat present.
Oncorhynchus mykiss irideus steelhead - Central Valley DPS	Federal FT State none Other AFS: T DFW: SA Global/State Rank: G5T2Q/S2	The Distinct Population Segment includes steelhead inhabiting the Sacramento and San Joaquin Rivers and their tributaries. Also included are river reaches and estuarine areas of the Sacramento-San Joaquin Delta, all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge.	
Perdita scituta antiochensis Antioch andrenid bee	Federal none State none Other DFW: SA Global/State Rank: G1T1/S1	Restricted to sand dunes. Active in early fall. Known to visit the flowers of various native plants, especially Eriogonum nudum, Gutierrezia californica, Heterotheca grandiflora, and Lessingia glandulifera. Recorded from Contra Costa County. Additional distribution: Antioch Dunes.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Perognathus inornatus San Joaquin pocket mouse	Federal none State none Other DFW: SA Global/State Rank: G2G3/S2S3	Occurs in dry, open grasslands or scrub areas on fine-textured soils between 350 and 600 m (1100 and 2000 ft) in the Central and Salinas valleys.	None: no suitable habitat present. Site is outside of the species' range.
Phalacrocorax auritus double-crested cormorant	Federal none State none Other DFW: WL FWS: MBTA Global/State Rank: G5/S4	Nests colonially on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins. DFG listing covers rookery sites only. Recorded from Alameda, Contra Costa, Del Norte, Humboldt, Lake, Lassen, Mariposa, Monterey, Sacramento, San Diego, San Francisco, Santa Barbara, Sonoma, Ventura counties.	None: no suitable nesting habitat present.
Philanthus nasalis Antioch specid wasp	Federal none State none Other DFW: SA Global/State Rank: G1/S1	Associated with sand dunes. Previously known only from the Antioch Dunes. Now known only from inland sandhills of Santa Cruz County. Found on flowers of Eriogonum nudum decurrens, Gnaphalium beneolens, G. "Zayateense", Ericameria. Recorded from Contra Costa, Santa Cruz counties.	None: no suitable habitat present.
Phrynosoma blainvillii coast horned lizard	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G3G4/S3S4	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate condit. Prefers friable, rocky, or shallow sandy soils. Diet consists of native ants and beetles. Active from April-Oct, with peak April-May. Recorded from Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Los Angeles, Madera, Merced, Monterey, Nevada, Orange, Placer, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Stanislaus, Tulare, Tuolumne, Ventura, Ventura counties. Also from Mexico.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Pica nuttalli yellow-billed magpie	Federal none State none Other DFW: SA FWS: BCC, MBTA Global/State Rank: G3G4/S3S4	Inhabits valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, orchard vineyard, cropland, pasture, and urban habitats. A common, yearlong resident of the Central Valley, and coastal mountain ranges south from San Francisco Bay to Santa Barbara Co. Also breeds locally on the coast in Monterey Co., and is casual in winter on the coast north to Sonoma Co. Rare visitor in Shasta Valley, Siskiyou Co. DFW listing covers nesting and communal roost sites.	None: no suitable nesting habitat present.
Picoides nuttallii Nuttall's woodpecker	Federal none State none Other ABC: WL FWS: BCC, MBTA Global/State Rank: n/a	Inhabits oak woodland and mixed riparian woodlands. Forage along bark of trees for insects; also feeds on acorns. Cavity nester. Breeding begins in March; single-brooded.	None: no suitable nesting habitat present.
Pogonichthys macrolepidotus Sacramento splittail	Federal none State none Other DFW: SSC Global/State Rank: GNR/S3	Inhabits slow-moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young. Inhabits fresh and brackish water. Recorded from Sacramento, Solano, Sonoma, Stanislaus counties. Additional distribution: endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento-San Joaquin Delta, Suisun Bay and associated marshes.	
Rallus longirostris obsoletus California Ridgway's rail	Federal FE State SE Other ABC: WL DFW: FP FWS: MBTA Global/State Rank: G5T1/S1	Inhabits salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None: no suitable habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Rana draytonii California red-legged frog	Federal FT State none Other DFW: SSC Global/State Rank: G2G3/S2S3	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat. Recorded from Alameda, Butte, Butte, Calaveras, Contra Costa, El Dorado, Fresno, Glenn, Lake, Los Angeles, Marin, Mariposa, Mendocino, Merced, Monterey, Napa, Nevada, Placer, Plumas, Riverside, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, Ventura, Yuba counties.	None: no suitable habitat present.
Reithrodontomys raviventris salt-marsh harvest mouse	Federal FE State SE Other DFW: FP Global/State Rank: G1G2/S1S2	Pickleweed (Salicornia) is the primary habitat. Builds loosely organized nests and does not burrow into the ground. Requires higher areas to escape flooding. Restricted to saline emergent wetlands. Recorded from Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma counties. Additional distribution: San Francisco Bay and its tributaries.	None: no suitable habitat present.
Riparia riparia bank swallow	Federal none State ST Other DFW: SA FWS: MBTA Global/State Rank: G5/S2	Nests colonially, primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. DFW listing covers nesting colonies only. Recorded from Alameda, Butte, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Lassen, Modoc, Mono, Monterey, Plumas, Sacramento, San Benito, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Shasta, Siskiyou, Sonoma, Sutter, Tehama, Ventura, Yolo counties.	

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Sorex ornatus sinuosus Suisun shrew	Federal none State none Other DFW: SSC Global/State Rank: G5T1T2Q/S1S2	Inhabits tidal marshes. Require dense low-lying cover and driftweed and other litter above the mean hightide line for nesting and foraging. Recorded from Napa, Solano counties. Additional distribution: northern shores of San Pablo and Suisun bays.	None: no suitable habitat present.
Sphecodogastra antiochensis Antioch Dunes halcitid bee	Federal none State none Other DFW: SA Global/State Rank: G1/S1 Xerces: CI	Ground-nesting bee found in stabilized dunes in open, xeric areas. Host plant is Oenothera deltoides howellii. Recorded from Contra Costa County. Additional distribution: restricted to Antioch Dunes.	None: no suitable habitat present.
Spinus lawrencei Lawrence's goldfinch	Federal none State none Other ABC: WL DFW: SA FWS: BCC; MBTA Global/State Rank: G3G4/S3S4	syn: Carduelis lawrencei Inhabits arid oak/pine woodlands, foothills and chaparral from northern California west of the Sierra Nevada south to Baja California, Mexico. Breeding begins in March; double-brooded . DFW listing covers nesting individuals only.	None: no suitable nesting habitat present.
Spirinchus thaleichthys longfin smelt-San Francisco bay-delta DPS	Federal FC State ST Other DFW: SSC Global/State Rank: G5/S1	Found mostly close to shore, in bays and estuaries, ascending coastal streams to spawn. Anadromous. Occurs in fresh and brackish water, and marine environments.	

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Sternula antillarum browni California least tern	Federal FE State SE Other ABC: WL DFW: FP FWS: MBTA Global/State Rank: G4T2T3Q/S2	Breeds in colonies on bare or sparsely vegetated, flat substrates consisting of sand beaches, alkali flats, land fills, or paved areas. Nests along the coast from San Francisco Bay south to northern Baja California. Listing covers nesting colonies.	None: no suitable nesting habitat present.
Taxidea taxus American badger	Federal none State none Other DFW: SSC Global/State Rank: G5/S3	Most abundant in dry, open stages of most shrub, forest, and herbaceous habitats. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Excavates its own burrows. General distribution: recorded from every California county except Del Norte.	None: no suitable habitat present.
Thamnophis gigas giant gartersnake	Federal FT State ST Other DFW: SA Global/State Rank: G2/S2	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California. Recorded from Butte, Colusa, Contra Costa, Fresno, Great Basin Floristic Province, Kern, Merced, Sacramento, San Joaquin, Solano, Sutter, Yolo counties.	Not expected: marginally suitable habitat present. See report for discussion.
Tringa flavipes lesser yellowlegs	Federal none State none Other FWS: BCC, MBTA Global/State Rank: n/a	Forages along shallow lacustrine, wet meadow, and estuarine mudflat habitats. It especially prefers flooded fields, drainage ditches, shallow wetlands, and other calm, freshwater habitats. Occurs in California primarily as an uncommon to fairly common fall migrant, and a very uncommon spring migrant. From October to March it is rare to very uncommon; most winter occurrences are from coastal central and southern California.	None: no suitable nesting habitat present.

Special-status Animal Species

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Vulpes macrotis mutica San Joaquin kit fox	Federal FE State ST Other DFW: SA Global/State Rank: G4T2/S2	Inhabits annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and a suitable prey base. Recorded from Alameda, Contra Costa, Fresno, Kern, Kings, Madera, Merced, Monterey, San Benito, Santa Clara, Tulare counties.	None: no suitable habitat present. Site is outside of the species' range.

ATTACHMENT D

EXPLANATION OF RARITY STATUS CODES

EXPLANATION OF RARITY STATUS CODES

ENDANGERED SPECIES ACT (FESA) LISTING CODES

FE = federally listed as Endangered
FT = federally listed as Threatened
FPE = proposed for listing Endangered
FPT = proposed for listing Threatened
FC = federal candidate; former Category 1 candidates
FD/FPD = delisted/proposed for delisting
BCC = Bird Species of Conservation Concern
SC = species of concern; established by NMFS, effective April 15, 2004.

CALIFORNIA ENDANGERED SPECIES ACT (CESA) LISTING CODES

SE = state-listed as Endangered
ST = state-listed as Threatened
SR = state-listed as Rare
SCE = state candidate for listing as Endangered
SCT = state candidate for listing as Threatened
SD/SCD = delisted/State candidate for delisting

GLOBAL (G) AND STATE (S) RARITY_RANKINGS

G1/S1 = Critically imperiled: at high risk of extinction, extremely rare.
G2/S2 = Imperiled: at high risk of extinction, restricted range, very few populations.
G3/S3 = Vulnerable: moderate risk of extinction, restricted range, few populations.
G4/S4 = Apparently secure: uncommon, not rare, possible long-term declines.
G5/S5 = Secure: common, widespread, abundant.
H = All records are historical
Q = Very rare, but taxonomy is questionable
T = Rank assigned to a sub-specific taxon.
X = All records are extirpated (extinct in the wild)

CALIFORNIA RARE PLANT RANKINGS (CRPR)

1A: Plants presumed extinct in CA, rare or extinct elsewhere.
1B: Plants rare, threatened, or endangered in CA and elsewhere.
2A: Plants presumed extirpated in CA but common elsewhere.
2B: Plants rare, threatened or endangered in CA but common elsewhere.
3: Plants for which more information is needed – a review list.
4: Plants of limited distribution – a watch list.
.1 - Seriously endangered in CA
.2 – Fairly endangered in CA
.3 – Not very endangered in CA

OTHER CODES

ABC: WL - American Bird Conservancy Watch List of Birds of Conservation Concern.

AFS - American Fisheries Society categories of risk for marine, estuarine and diadromous fish stocks. Codes: **E**=endangered; **T**=threatened; **V**=vulnerable

AUD: WL - Audubon: Watch List 2007. Bird species facing population decline and/or threats such as loss of breeding and wintering grounds, or species with limited geographic ranges. **R** – Red List, global conservation concern; **Y** – Yellow List, national conservation concern.

BLM: S - Bureau of Land Mgt: Sensitive. Includes species under review by USFWS or NMFS, species whose numbers are declining so rapidly that federal listing may become necessary, species with small and widely dispersed populations, or species inhabiting refugia or other unique habitats.

CDF: S – CA Dept. of Forestry and Fire Protection: Sensitive. Includes species that warrant special protection during timber operations.

DFW: FP - CDFW: Fully Protected. Species protected under §§3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code.

DFW: SA - CDFW: Special Animal. Species included on the CDFW's lists of special animals.

DFW: SP - CDFW: Special Plant. Species included on the CDFW's lists of special plants.

DFW: SSC - CDFW: California Species of Special Concern.

DFW: WL - CDFW: (Watch List): taxa that don't meet SSC criteria but about which there is concern and additional information is needed to clarify status.

FS: S - USDA Forest Service: Sensitive. Species whose population viability is a concern, as evidenced by significant current or predicted downward trends in numbers or density, or in habitat capability that would reduce a species' existing distribution.

FWS: BCC - U.S. Fish and Wildlife Service: Birds of Conservation Concern. Migratory and non-migratory bird species that represent the USFWS's highest conservation priorities.

FWS: BEPA - U.S. Fish and Wildlife Service: Bald Eagle Protection Act.

FWS: MBTA U.S. Fish and Wildlife Service: International Migratory Bird Treaty Act.

FWS: MNB - U.S. Fish and Wildlife Service: Migratory Nongame Birds of Management Concern. Species of concern in the U.S. due to documented or apparent population declines, small or restricted populations, or dependence on restricted or vulnerable habitats.

MMPA – Marin Mammal Protection Act

NMFS: SC - National Marine Fisheries Service: Species of Concern.

WBWG - Western Bat Working Group. Priority for funding, planning or conservation actions. Priority Codes: **H**=high; **MH**=medium-high; **M**=medium; **LM**=low-medium

Xerces - Xerces Society Red List.
Codes: **C**=critically imperiled; **I**=imperiled; **V**=vulnerable; **D**=data deficient

ATTACHMENT E

DATABASE PRINT-OUTS FOR SPECIAL-STATUS SPECIES

California Natural Diversity Database (2019)
USFWS Database (2019)
California Native Plant Society (2019)

Query Criteria: Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Amsinckia grandiflora large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Arctostaphylos auriculata Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Campanula exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
Cirsium hydrophilum var. hydrophilum Suisun thistle	PDAST2E1G1	Endangered	None	G2T1	S1	1B.1
Cordylanthus nidularius Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
Cryptantha hooveri Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Eriastrum ertterae Lime Ridge eriastrum	PDPLM030F0	None	None	G1	S1	1B.1
Eriogonum nudum var. psychicola Antioch Dunes buckwheat	PDPGN0849Q	None	None	G5T1	S1	1B.1
Eriogonum truncatum Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Erysimum capitatum var. angustatum Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Isocoma arguta Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
Juglans hindsii Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Limosella australis Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
Madia radiata showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Navarretia gowenii Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
Phacelia phacelioides Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Potamogeton zosteriformis eel-grass pondweed	PMPOT03160	None	None	G5	S3	2B.2
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Sanicula saxatilis rock sanicle	PDAPI1Z0H0	None	Rare	G2	S2	1B.2
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Streptanthus hispidus Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G2	S2	1B.3
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Triquetrella californica	NBMUS7S010	None	None	G2	S2	1B.2
coastal triquetrella						
Tropidocarpum capparideum	PDBRA2R010	None	None	G1	S1	1B.1
caper-fruited tropidocarpum						
Viburnum ellipticum	PDCPR07080	None	None	G4G5	S3?	2B.3
oval-leaved viburnum						

Record Count: 63

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Anniella pulchra northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Anthicus antiochensis Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Apodemia mormo langei Lange's metalmark butterfly	IILEPH7012	Endangered	None	G5T1	S1	
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S3	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Charadrius montanus mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
Coelus gracilis San Joaquin dune beetle	IICOL4A020	None	None	G1	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G3G4T1	S1	
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elaphrus viridis Delta green ground beetle	IICOL36010	Threatened	None	G1	S1	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eucerceris ruficeps redheaded sphecid wasp	IIHYM18010	None	None	G1G3	S1S2	
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
Hygrotus curvipes curved-foot hygrotus diving beetle	IICOL38030	None	None	G1	S1	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Idiostatus middlekauffi Middlekauff's shieldback katydid	IIORT31010	None	None	G1G2	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
Metapogon hurdi Hurd's metapogon robberfly	IIDIP08010	None	None	G1G2	S1S2	
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Perdita scitula antiochensis Antioch andrenid bee	IIHYM01031	None	None	G1T1	S1	
Perognathus inornatus San Joaquin Pocket Mouse	AMAFD01060	None	None	G2G3	S2S3	
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Philanthus nasalis Antioch specid wasp	IIHYM20010	None	None	G1	S1	
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sorex ornatus sinuosus Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
Sphecodogastra antiochensis Antioch Dunes halcitid bee	IIHYM78010	None	None	G1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 71

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Antioch North, Antioch South, Clayton, Rio Vista, Jersey Island, Brentwood, Birds Landing, Denverton, and Honker Bay 7.5-minute USGS quadrangles

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
Alkali Meadow						
Alkali Seep	CTT45320CA	None	None	G3	S2.1	
Alkali Seep						
Cismontane Alkali Marsh	CTT52310CA	None	None	G1	S1.1	
Cismontane Alkali Marsh						
Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coastal and Valley Freshwater Marsh						
Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coastal Brackish Marsh						
Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Claypan Vernal Pool						
Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Serpentine Bunchgrass						
Stabilized Interior Dunes	CTT23100CA	None	None	G1	S1.1	
Stabilized Interior Dunes						
Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Needlegrass Grassland						

Record Count: 9

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Contra Costa County, California

Local offices

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

San Francisco Bay-Delta Fish And Wildlife

(916) 930-5603
(916) 930-5654

650 Capitol Mall
Suite 8-300
Sacramento, CA 95814

http://kim_squires@fws.gov

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

NOT FOR CONSULTATION

Salt Marsh Harvest Mouse Reithrodontomys raviventris — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/613

San Joaquin Kit Fox Vulpes macrotis mutica — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2873

Birds

NAME	STATUS
California Clapper Rail Rallus longirostris obsoletus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern Sterna antillarum browni No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) Masticophis lateralis euryxanthus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5524	Threatened
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

NOT FOR CONSULTATION

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Delta Green Ground Beetle Elaphrus viridis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2319	Threatened
Lange's Metalmark Butterfly Apodemia mormo langei There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4382	Endangered
San Bruno Elfin Butterfly Callophrys mossii bayensis There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3394	Endangered
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NOT FOR CONSULTATION

NAME	STATUS
Antioch Dunes Evening-primrose Oenothera deltoides ssp. howellii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5970	Endangered
Colusa Grass Neostapfia colusana There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5690	Threatened
Contra Costa Goldfields Lasthenia conjugens There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7058	Endangered
Contra Costa Wallflower Erysimum capitatum var. angustatum There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7601	Endangered
Keck's Checker-mallow Sidalcea keckii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5704	Endangered
Soft Bird's-beak Cordylanthus mollis ssp. mollis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8541	Endangered

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Delta Smelt Hypomesus transpacificus https://ecos.fws.gov/ecp/species/321#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

NOT FOR CONSULTATION

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the counties which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable that the bird breeds in your project's counties at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the BGEPA should such impacts occur.

NOT FOR CONSULTATION

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER

E1UBL

ESTUARINE AND MARINE WETLAND

E2USN

A full description for each wetland code can be found at the National Wetlands Inventory website: https://ecos.fws.gov/ipac/wetlands/decoder

NOT FOR CONSULTATION

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged

aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

81 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812128, 3812127, 3812126, 3812118, 3812117, 3812116, 3712188 3712187 and 3712186;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Amsinckia grandiflora	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	1B.1	S1	G1
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	Mar-Jun	4.2	S3S4	G5? T3T4
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3	S4	G4
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.3	S2	G2
Arctostaphylos manzanita ssp. laevigata	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar(Apr)	1B.2	S2	G5T2
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S2	G2T2
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S2	G2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Campanula exigua	chaparral harebell	Campanulaceae	annual herb	May-Jun	1B.2	S2	G2
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S2	G3T2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron molle ssp. hispidum	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
	Bolander's water-	Apiaceae	perennial herb	Jul-Sep	2B.1	S2	G5T4

Cicuta maculata var. bolanderi	hemlock						
Cirsium hydrophilum var. hydrophilum	Suisun thistle	Asteraceae	perennial herb	Jun-Sep	1B.1	S1	G2T1
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4
Cordylanthus nidularius	Mt. Diablo bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Aug	1B.1	S1	G1
Cryptantha hooveri	Hoover's cryptantha	Boraginaceae	annual herb	Apr-May	1A	SH	GH
Delphinium californicum ssp. interius	Hospital Canyon larkspur	Ranunculaceae	perennial herb	Apr-Jun	1B.2	S3	G3T3
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eriastrum ertterae	Lime Ridge eriastrum	Polemoniaceae	annual herb	Jun-Jul	1B.1	S1	G1
Eriogonum nudum var. psychicola	Antioch Dunes buckwheat	Polygonaceae	perennial herb	Jul-Oct	1B.1	S1	G5T1
Eriogonum truncatum	Mt. Diablo buckwheat	Polygonaceae	annual herb	Apr-Sep(Nov-Dec)	1B.1	S1	G1
Eriophyllum jepsonii	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr-Jun	4.3	S3	G3
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Erysimum capitatum var. angustatum	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	1B.1	S1	G5T1
Eschscholzia rhombipetala	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Galium andrewsii ssp. gatense	phlox-leaf serpentine bedstraw	Rubiaceae	perennial herb	Apr-Jul	4.2	S3	G5T3
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2?	G2?
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Isocoma arguta	Carquinez goldenbush	Asteraceae	perennial shrub	Aug-Dec	1B.1	S1	G1
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-	1B.2	S2	G5T2

				Sep)			
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S3?	G3?
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	2B.1	S2	G4G5
Madia radiata	showy golden madia	Asteraceae	annual herb	Mar-May	1B.1	S2	G2
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	(Apr)May-Sep(Oct)	1B.2	S2	G2
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
Navarretia gowenii	Lime Ridge navarretia	Polemoniaceae	annual herb	May-Jun	1B.1	S1	G1
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	1B.1	S1	G5T1
Phacelia phacelioides	Mt. Diablo phacelia	Hydrophyllaceae	annual herb	Apr-May	1B.2	S2	G2
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Potamogeton zosteriformis	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	2B.2	S3	G5
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Sanicula saxatilis	rock sanicle	Apiaceae	perennial herb	Apr-May	1B.2	S2	G2
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
Senecio hydrophiloides	sweet marsh ragwort	Asteraceae	perennial herb	May-Aug	4.2	S3	G5
Sidalcea keckii	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	1B.1	S2	G2
Streptanthus albidus ssp. peramoenus	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2	G2T2
Streptanthus hispidus	Mt. Diablo	Brassicaceae	annual herb	Mar-Jun	1B.3	S2	G2

	jewelflower						
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S3	G5T5
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 20 April 2019].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

© Copyright 2010-2019 California Native Plant Society. All rights reserved.

Appendix C

GREENHOUSE GAS EMISSIONS ASSESSMENT
SAN FRANCISCO BAY AGGREGATES (SFBA)
PITTSBURG, CA

Submitted to:

Ms. Christie Robinson
Brezack & Associates Planning
3000 Citrus Circle, Suite 210
Walnut Creek, CA 94598

Investigative Science and Engineering, Inc.
Scientific, Environmental, and Forensic Consultants

P.O. Box 488
Ramona, CA 92065
(760) 787-0016
www.ise.us

Investigative Science and Engineering, Inc.

ISE Project #19-004

May 14, 2019

REPORT CONTENTS

INTRODUCTION AND DEFINITIONS 1

Existing Site Characterization 1

Project Description 1

Greenhouse Gases and Global Warming Potential 1

THRESHOLDS OF SIGNIFICANCE 8

California Environmental Quality Act (CEQA) Thresholds 8

The California Global Warming Solutions Act (AB 32) 8

BAAQMD Greenhouse Gas CEQA Thresholds 8

ANALYSIS METHODOLOGY 9

Diesel Vehicle (Compression Ignition) CO_{2e} Contribution 9

Gasoline Vehicle (Spark Ignition) CO_{2e} Contribution 9

Fixed Source Emissions CO_{2e} Contributions 9

PROJECT GREENHOUSE GAS EMISSIONS 10

Diesel Engine (Compression Ignition) CO_{2e} Emissions 10

Gasoline Engine (Spark Ignition) CO_{2e} Emissions 12

Predicted Operational CO_{2e} Emission Levels 13

GHG Emissions Summary 14

CERTIFICATION OF ACCURACY AND QUALIFICATIONS 16

APPENDICES AND SUPPLEMENTAL INFORMATION 17

EMFAC 2017 EMISSION FACTOR TABULATIONS – SCENARIO YEAR 2020 17

AVAILABLE ONLINE CONTENT 18

INDEX OF IMPORTANT TERMS 19

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

LIST OF TABLES

TABLE 1: KNOWN GREENHOUSE GASES AND GLOBAL WARMING POTENTIAL 7
TABLE 2: DIESEL-POWERED CONSTRUCTION / MATERIAL HANDLING EMISSIONS 11
TABLE 3: SFBA DAILY OPERATIONAL VEHICLE GHG LEVELS 12
TABLE 4: SFBA APPLICANT PREDICTED OPERATIONAL EMISSIONS 13
TABLE 5A: SUMMARY OF SIGNIFICANT GHG EMISSIONS – SCENARIO 1 15
TABLE 5B: SUMMARY OF SIGNIFICANT GHG EMISSIONS – SCENARIO 2 15

LIST OF FIGURES AND MAPS

FIGURE 1: PROJECT STUDY AREA VICINITY MAP 2
FIGURE 2: PROJECT STUDY AREA PARCEL MAP SHOWING SENSITIVE RECEPTORS 3
FIGURE 3: AERIAL IMAGE SHOWING DEVELOPMENT AREA AND SURROUNDING USES 4
FIGURE 4: PROPOSED SAN FRANCISCO BAY AGGREGATES DEVELOPMENT PLAN 5

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

INTRODUCTION AND DEFINITIONS

Existing Site Characterization

The San Francisco Bay Aggregates (SFBA) project site (APN 073-020-019-3) consists of approximately 2.5 gross acres, located at 895 East 3rd Street, Pittsburg, CA (Contra Costa County), as shown in Figure 1 on the following page. Regional access to the site is obtained from East 3rd Street via Harbor Street. The site is located within 2,500 feet, or greater, of nearby sensitive residential receptors as shown in Figure 2 on Page 3 of this report.

Surrounding land uses consist of the New York Slough, Suisun Bay, and part of the Sacramento-San Joaquin River Delta to the immediate north, and heavy industrial uses to the immediate east, west, and south (inclusive of East 3rd Street). These features can be seen in Figure 3 on Page 4 of this report.

Finally, the proposed project area resides as a fully disturbed land use, which was formerly the location of a 20-megawatt cogeneration power plant decommissioned in 2012. Two buildings remain in place as part of this previous use, with the remainder of the site remaining relatively open as a single building pad. Elevations across the property average approximately 13 feet above mean sea level (MSL).

Project Description

The SFBA project would temporarily construct a pilot process plant to perform carbon capture and mineralization producing new "CO_2 sequestered" and "upcycled" rock products as shown in Figure 4 on Page 5 of this report. These upcycled rock products would be sold to Bay Area businesses, governments and consumers for use in a wide range of low carbon and high performance concrete applications.

Greenhouse Gases and Global Warming Potential

The Intergovernmental Panel on Climate Change (IPCC) defines greenhouse gases as those naturally occurring and anthropogenic chemical compounds within the atmosphere that absorb and reflect infrared radiation emitted by the Earth's surface.[1] A numerical metric known as the *'Global Warming Potential'* (or GWP) is a measure of how much a given mass of greenhouse gas is estimated to contribute to global warming relative to an 'equivalent' amount of carbon dioxide (CO_2). Equivalent CO_2 is denoted as CO_{2e} within this report.

---

[1] The basic mechanism can be summarized as follows: 1) solar radiation heats the planet primarily through ultraviolet transmission, 2) Earth warms and is offset by temperature levels in the oceans, 3) Earth emits black-body radiation in the lower infrared portion of the electromagnetic spectrum, 4) most of the infrared radiation escapes the planet, 5) a small portion of the energy is captured through molecular motion changes within the atmospheric greenhouse gases, and 6) this captured energy re-radiates back toward Earth producing a secondary heating effect. However, despite its name, this is not the same mechanism by which a greenhouse operates.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

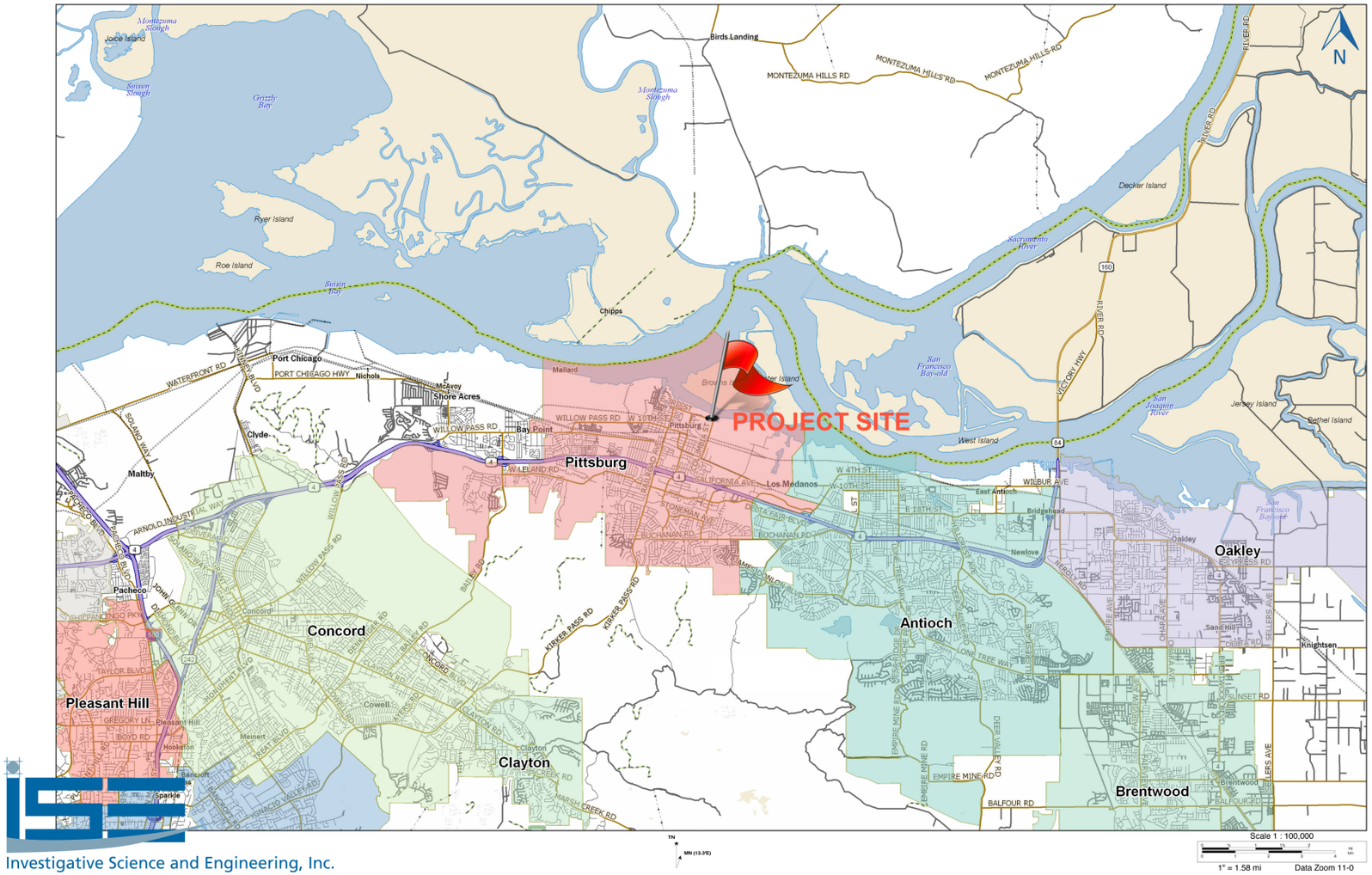


FIGURE 1: Project Study Area Vicinity Map (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

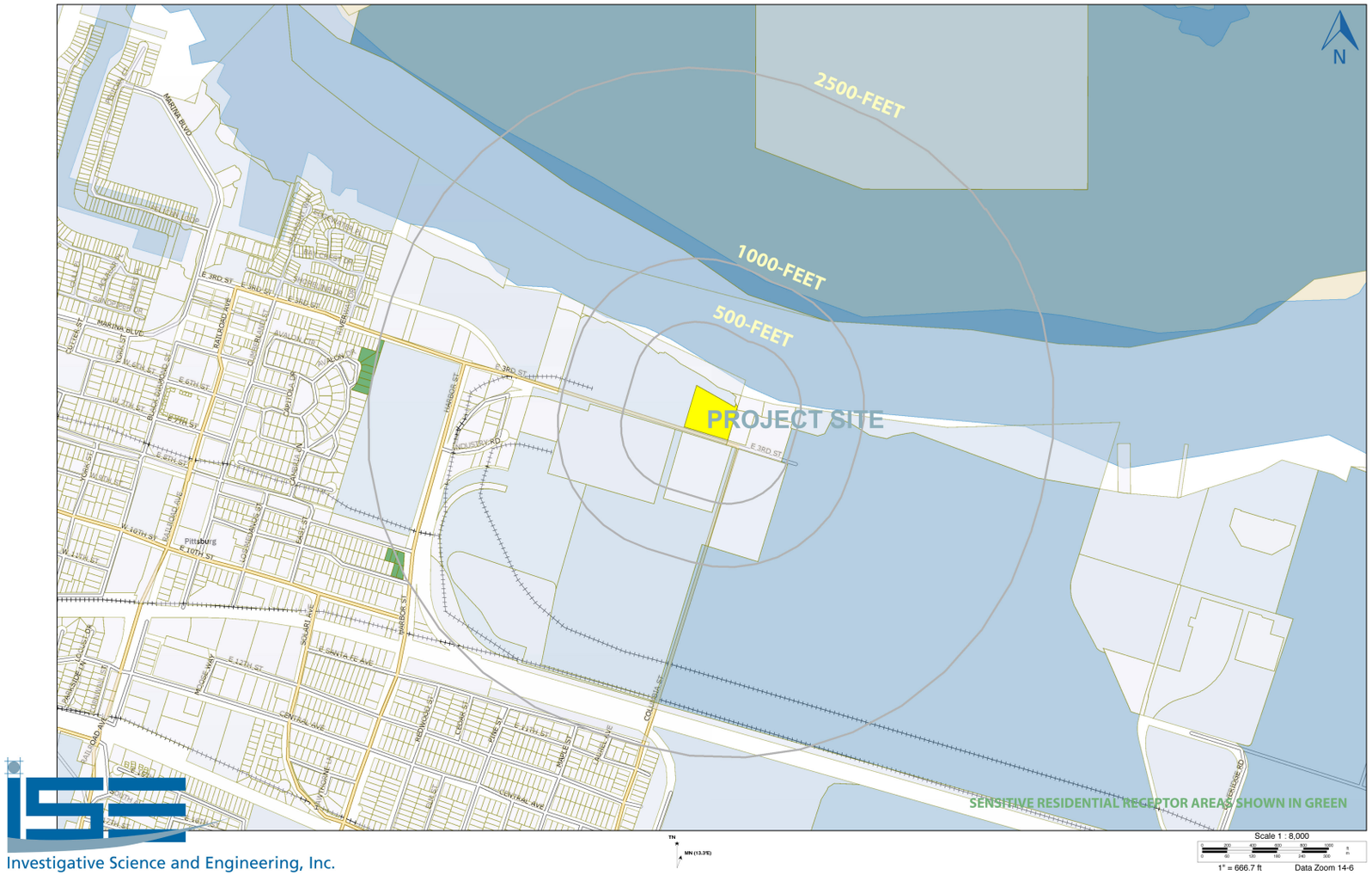


FIGURE 2: Project Study Area Parcel Map Showing Nearby Sensitive Receptors (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

FIGURE 3: Aerial Image Showing Development Area and Surrounding Uses (ISE 5/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

FIGURE 4: Proposed San Francisco Bay Aggregates Development Plan (AEPC Group LLC, 2/19)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Examples of the more prevalent greenhouse gases are:

- **Carbon dioxide (CO_2):** CO_2 is a naturally occurring gas and is part of the *carbon cycle,* whereby carbon is cycled between the atmosphere, ocean, terrestrial life, and mineral reserves. The predominant source of anthropogenic carbon dioxide emissions is from the combustion of fossil fuels and hydrocarbons. Without CO_2, all life on Earth would cease to exist. Carbon dioxide is the reference gas against which all other greenhouse gases are compared. It makes up approximately 3.6 percent of the global warming gases in the atmosphere today.
- **Water Vapor (H_2O):** Water is a chemical compound that is essential to all known forms of life. Water vapor is the gaseous form of water comprising roughly 0.001% of all water on the planet. Without H_2O, all life on Earth would cease to exist. Water vapor captures roughly 10 times as much infrared energy as CO_2.[2] Water vapor makes up approximately 95 percent of the global warming gases in the atmosphere today.
- **Methane (CH_4):** CH_4 is a greenhouse gas with both natural and anthropogenic sources and is believed to have been the primary atmospheric constituent of primordial Earth. Methane is naturally produced by the anaerobic decomposition of organic matter. Methane is also emitted during the production and distribution of natural gas and petroleum, and is released as a by-product of incomplete {low-temperature} fossil fuel combustion. Methane constitutes approximately 0.36 percent of the global warming gases in the atmosphere today.
- **Nitrous Oxide (N_2O):** Primarily, N_2O is naturally produced by bacterial action within the soil, and anthropogenically by high temperature combustion. The result is more-or-less the production of photochemical smog. Lesser sources, such as manufacturing, wastewater treatment, and biomass burning, also produce trace amounts of this substance. N_2O constitutes approximately 0.95 percent of the global warming gases in the atmosphere today.
- **Halocarbons (CFC's) / Perfluorocarbons (PFC's)** are carbon compounds that contain fluorine, chlorine, bromine or iodine. Anthropogenic sources are the primary generator of these substances. These gases constitute roughly 0.072 percent of the global warming gases in the atmosphere today.

A complete listing of known greenhouse gases (GHG's) and their associated GWP is shown in Table 1 on the following page.[3]

---

[2] The IPCC scientific panel states that about half of the projected global temperature increase from CO_2 is due to what is referred to as the *water vapor feedback effect*. Water vapor feedback is caused by the radiative efficiency of H_2O in vaporous form (i.e., its GWP). The UN IPCC report does not currently show this value.

[3] Source: *Climate Change 2001: The Scientific Basis*. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change, IPCC 2001.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 1: Known Greenhouse Gases and Global Warming Potential

Greenhouse Gas Name	Chemical Formula	GWP CO_{2e} Relative to CO_2	Greenhouse Gas Name	Chemical Formula	GWP CO_{2e} Relative to CO_2
Carbon Dioxide	CO_2	1	HFC-134 (1,1,2,2-Tetrafluoroethane)	HFC-134	1,100
Dibromomethane	CH_2Br_2	1	R-12B1 (Difluorochlorobromomethane)	Halon-1211	1,300
R-13I1 (Trifluoroiodomethane)	$FIC\text{-}13I_1$	1	R-134a (1,1,1,2-Tetrafluoroethane)	HFC-134a	1,300
R-E170 (Dimethyl ether)	CH_3OCH_3	1	R-22 (Chlorodifluoromethane)	HCFC-22	1,700
Methyl Bromide	CH_3Br	5	Carbon Tetrachloride	CCl_4	1,800
Dichloromethane	CH_2Cl_2	10	R-142b (1-Chloro-1,1-difluoroethane)	HCFC-142b	2,400
R-161 (Fluoroethane)	HFC-161	12	R-143a (1,1,1-Trifluoroethane)	HFC-143a	4,300
R-40 (Methyl Chloride)	CH_3Cl	16	R-11 (Trichlorofluoromethane)	CFC-11	4,600
Methane	CH_4	23	R-14 (Carbon Tetrafluoride)	CF_4	5,700
Chloroform	$CHCl_3$	30	R-113 (1,1,2-Trichloro-1,2,2-Trifluoroethane)	CFC-113	6,000
2,2,3,3,3-Pentafluoro-1-propanol	$CF_3CF_2CH_2OH$	40	R-E134 (1,1,1',1'-Tetrafluorodimethyl ether)	HFE-134	6,100
R-152 (1,1-Difluoroethane)	HFC-152	43	R-13B1 (Trifluorobromomethane)	$CBrF_3$	6,900
2,2,2-Trifluoro-ethanol	$(CF_3)CH_2OH$	57	R-115 (Chloropentafluoroethane)	CFC-115	7,200
R-41 (Methyl fluoride)	HFC-41	97	C_3F_8 (Perfluoropropane)	C_3F_8	8,600
R-123 (Dichlorotrifluoroethane)	HCFC-123	120	C_4F_{10} (Perfluoro-n-Butane)	C_4F_{10}	8,600
R-152a (1,1-Difluoroethane)	HFC-152a	120	C_5F_{12} (Perfluoropentane)	C_5F_{12}	8,900
1,1,1-Trichloroethane	CH_3CCl_3	140	C_6F_{14} (Perfluorohexane)	C_6F_{14}	9,000
1,1,1,3,3,3-Hexafluoro-2-Propanol	$(CF_3)_2CHOH$	190	R-114 (1,2-Dichlorotetrafluoroethane)	CFC-114	9,800
R-21 (Dichlorofluoromethane)	HCFC-21	210	R-C318 (Octafluorocyclobutane)	$C\text{-}C_4F_8$	10,000
Nitrous Oxide	N_2O	296	R-12 (Dichlorodifluoromethane)	CFC-12	10,600
HFC-143 (1,1,2-Trifluoroethane)	HFC-143	330	Nitrogen Trifluoride (Trifluoramine)	NF_3	10,800
Methyl perfluoroisopropyl ether	$(CF_3)_2CFOCH_3$	330	R-116 (Perfluoroethane; Hexafluoroethane)	C_2F_6	11,900
Bromodifluoromethane	$CHBrF_2$	470	R-23 (Trifluoromethane)	HFC-23	12,000
R-32 (Difluoromethane)	HFC-32	550	R-13 (Chlorotrifluoromethane)	CFC-13	14,000
R-124 (2-Chloro-1,1,1,2-Tetrafluoroethane)	HCFC-124	620	R-E125 (Pentafluorodimethyl ether)	HFE-125	14,900
R-141b (1,1-Dichloro-1-fluoroethane)	HCFC-141b	700	Sulfur Hexafluoride	SF_6	22,200
HFE-143a	HFE-143a	750			

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

THRESHOLDS OF SIGNIFICANCE

California Environmental Quality Act (CEQA) Thresholds

Section 15382, of the California Environmental Quality Act (CEQA) guidelines, defines a significant impact as,

> *"… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."*

Senate Bill 97 (2007) set a January 1, 2010, deadline for new CEQA guidelines related to greenhouse gas emissions analysis and mitigation. The new guidelines do not require CEQA to establish fixed thresholds of significance; rather they serve to update the procedural language of Section 15064(a) leaving individual significance criteria to local agencies.

The California Global Warming Solutions Act (AB 32)

The California State Legislature passed the *California Global Warming Solutions Act of 2006* (AB 32). AB 32 requires the California Air Resources Board (CARB) to develop regulations and market mechanisms that will ultimately reduce California's greenhouse gas emissions by 25 percent, by 2020. Mandatory caps began in 2012 for significant sources, and will incrementally become stricter to meet the 2020 goals. For the purposes of analysis within this report (and to be consistent with AB 32), it will be sought to quantify the aggregate greenhouse gas emissions due to the proposed project action, as defined under CEQA.

BAAQMD Greenhouse Gas CEQA Thresholds

The Bay Area Air Quality Management District (BAAQMD) has established a set of guidelines for establishing thresholds of significance for greenhouse gasses (GHG's) consistent with CEQA and AB 32.[4] For projects other than stationary sources, a threshold of 1,100 MT of CO_{2e}/yr has been shown to produce a *de minimis* impact on basin-wide GHG emissions, and thus is in compliance with AB 32.[5]

For the proposed SFBA project, which constitutes a stationary source per the applicant's Authority to Construct Application, the District establishes a higher aggregate threshold of 10,000 MT of CO_{2e}/yr. This threshold will be utilized to analyze the proposed carbon capture and mineralization process of the pilot plant within this report.

---

[4] Source: BAAQMD CEQA Air Quality Guidelines, Table 2-1, 5/17.

[5] Alternatively, a project of this type can also demonstrate compliance with a qualified GHG reduction strategy. This threshold would be applicable to most residential, commercial, and limited industrial uses.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

ANALYSIS METHODOLOGY

Diesel Vehicle (Compression Ignition) CO_{2e} Contribution

Greenhouse gas emissions associated with diesel engine combustion from mass grading and site preparation construction equipment will be assumed to occur for engines running at the correct fuel-to-air ratios.[6] Of principal interest are the emission factors for CO_2 and NO_X. For a four-stroke diesel-cycle engine, the combustion byproducts are approximately 1.5-percent-by-volume O_2, 0.5-percent-by-volume CO, and 13.5-percent-by-volume CO_2.[7,8] Thus, the ratio of CO_2 (13.5 ppm) to CO (0.5 ppm) production in a properly mixed diesel stroke would be 13.5 divided by 0.5, or 27:1.

Gasoline Vehicle (Spark Ignition) CO_{2e} Contribution

CARB estimates on-road motor vehicle emissions by using a series of models called the *Motor Vehicle Emission Inventory* (MVEI) Models. The four computer models, which form the MVEI, are *CALIMFAC, WEIGHT, EMFAC*, and *BURDEN*.[9] For the current analysis, the *EMFAC 2017* of the MVEI was run using input conditions specific to the Contra Costa air basin to predict operational vehicle emissions from the project based upon a project completion/operational year 2020 scenario.[10]

Of principal interest are the emission factors for CO_2 and NO_X. A mix ratio consistent with the 2010 Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol was used.[11]

Fixed Source Emissions CO_{2e} Contributions

Fixed emission sources under the analysis context within this report would consist predominantly of those emissions identified by the project applicant as being generated as part of the pilot plant operation. The SFBA project is expected to utilize one of two different sources of CO_2 for its carbon capture and mineralization process, defined as either Scenario 1 or Scenario 2.

---

[6] The ratio whereby complete internal combustion of fuel occurs.

[7] It will be assumed that the project would generate trace, if not negligible, levels of methane (CH_4), ozone (O_3), fluorine (F_2), chlorine (Cl_2), bromine (Br_2) and/or constituent compounds. NO_x emissions are stoichiometrically composed of roughly 30-percent nitrous oxide (N_2O) by volume and 70-percent nitric oxide (NO), which is the free radical form that immediately combines with ozone (O_3) to form nitrogen dioxide (NO_2) more commonly known as *smog*.

[8] Source: Holtz, J.C., Elliott, M.A., *The Significance of Diesel-Exhaust-Gas Analysis, Transactions of the ASME, Vol. 63, February 1941*.

[9] CALIMFAC produces base emission rates for each model year when a vehicle is new, and as it accumulates mileage and the emission controls deteriorate. WEIGHT calculates the relative weighting each model year should be given in the total inventory, and each model year's accumulated mileage. EMFAC uses these pieces of information, along with the correction factors and other data, to produce fleet composite emission factors. BURDEN combines the emission factors with county-specific activity data to produce the emission inventories.

[10] This is the most current CARB emissions model approved for use within the State of California.

[11] This consisted of the following air standard Otto-Cycle engine vehicle distribution percentages: Light Duty Auto (LDA) = 69.0%, Light Duty Truck (LDT1) = 19.4%, Medium Duty Truck (LHD1) = 6.4%, Heavy Duty Truck Gasoline (MH GAS) = 1.2%, Heavy Duty Truck Diesel (MH DSL) = 3.6%, Motorcycle (MCY) = 0.4%.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Scenario 1 assumes that the SFBA plant would utilize the excess flue gas from a single turbine and heat recovery steam generator (HRSG) at the Calpine LMEC site as the source of CO2 generation in the pilot process, while Scenario 2 assumes that the SFBA site would utilize a registered 6.3 MBtu/hr natural gas boiler onsite to provide the necessary CO_2 generation. Under these two conditions, Scenario 1 consumes outside CO_2 as part of the process, while Scenario 2 generates the necessary CO_2 onsite. This distinction is only important from the standpoint of determining aggregate greenhouse gas emissions from the site.

Finally, secondary operational greenhouse gas sources under the CEQA analysis context within this report would consist entirely of electrical consumption at the project site, solid waste trash generation from the site, and overall site water consumption.[12,13,14] An aggregate greenhouse gas tabulation of these sources, consistent with the CARB and current EPA protocols, will be provided.[15,16]

PROJECT GREENHOUSE GAS EMISSIONS

Diesel Engine (Compression Ignition) CO_{2e} Emissions

The proposed SFBA project site would be constructed and operated over the course of approximately 450 days without any deleterious air quality conformity impacts requiring mitigation, per BAAQMD guidelines.[17,18] The results are tabulated in Table 2 on the following page.

As previously discussed, since N_2O has a GWP of 296 with respect to CO_2, the result can be expressed as an *equivalent* CO_2 level (CO_{2e}) of 1,257,200.8 pounds, or 570.3 metric tons (MT). Thus, the final equivalent CO_2 GHG load due to the project would be the summation of this value, and the direct CO_2 production (including any water usage for dust control), also shown in Table 2, or 1,411,577.3 pounds (640.3 MT) CO_{2e}, during all activities.

---

[12] The electrical consumption required to produce one-million-gallons (MG) of potable water is approximately 13,021 KWh/MG. Using the CARB RPS standards, the baseline CO_{2e} generation rate is 641.86 pounds per Megawatt-hour (MWh). Simple unit conversion provides for a direct conversion value of 0.008357 lbs-CO_{2e}/gallon-H_2O. The conversion value for the mitigated RPS rate of 537.6 pounds per Megawatt-hour (MWh) would consequently be 0.006999 lbs-CO_{2e}/gallon-H_2O.

[13] Source: Refining Estimates of Water-Related Energy Use in California, California Energy Commission (CEC) Public Interest Energy Research Program, 12/06.

[14] Landfill CO_{2e} generation due to trash equates to approximately 0.1450 kilograms (or 0.3196 pounds) per pound of trash per year, IPCC 2001.

[15] The analysis presented herein uses the same methodology identified in the CARB *URBEMIS* model, although providing a greater level of detail. The technical details are provided in the SCAQMD CEQA Handbook Tables A9-12 et. seq. as well as the EPA's AP-42 emission generation document previously referenced.

[16] Source: CalEEMod User Guide Appendix D, Table 9.1.

[17] The analysis of GHG emissions, unlike air quality conformity, which is a 'per day' threshold, is an aggregate quantity requiring summation over the total estimated number of work days.

[18] Source: Air Quality Conformity Assessment, San Francisco Bay Aggregates (SFBA) – Pittsburg, CA, ISE Project #19-004, 5/13/19.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 2: Diesel-Powered Construction / Material Handling Vehicle GHG Emissions

							Direct Stoichiometric Gas Emissions	
Equipment Type Model	**Selected EPA Tier Level**	**Daily CO in Pounds from AQIA**	**Daily NO_X in Pounds from AQIA**	**Duration (days)**	**Aggregate CO in Pounds (MT)**	**Aggregate NO_X in Pounds (MT)**	**CO_2= 27×CO in Pounds (MT)**	**N_2O = 0.3×NO_X in Pounds (MT)**
CAT 2PD5000 Forklift	3	1.7	3.1	450	748.8 (0.3)	1,396.5 (0.6)	20,218.2 (9.2)	418.9 (0.2)
JD 644E Loader	3	5.2	9.7	450	2,349.2 (1.1)	4,381.1 (2.0)	63,429.6 (28.8)	1,314.3 (0.6)
CAT CT610 Dump Truck	3	2.3	6.1	450	1,031.8 (0.5)	2,738.2 (1.2)	27,857.5 (12.6)	821.4 (0.4)
Peterbuilt 348 Transport Truck	3	3.2	8.5	450	1,444.5 (0.7)	3,833.4 (1.7)	39,000.5 (17.7)	1,150.0 (0.5)
Powered Haulage Emissions (MH DSL)		0.3	4.0	450	132.2 (0.1)	1,808.9 (0.8)	3,569.8 (1.6)	542.7 (0.2)
	Total (Σ):	**12.7**	**31.5**		**5,706.5 (2.6)**	**14,158.0 (6.4)**	**154,075.6 (69.9)**	**4,247.3 (1.9)**
						CO_{2e} from CO:	**154,075.6 (69.9)**	
						CO_{2e} from N_2O:	**1,257,200.8 (570.3)**	
						Direct CO_2 from Wet Suppression Water Usage: [19]	**300.9 (0.1)**	
						CO_{2e} Total Over Construction Period:	**1,411,577.3 (640.3)**	

Rounding margin of error ± 0.1 MT (220.5 pounds)

[19] Water usage based upon an assumed wet suppression level of 36,000 gallons over the course of construction.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Gasoline Engine (Spark Ignition) CO_{2e} Emissions

The proposed SFBA project site is expected to have a cumulative worst-case trip generation level of 25 ADT as previously analyzed within the project's Air Quality Impact Assessment (AQIA).[20,21] The average vehicle trip length would be 50 miles, with a median running speed of 45 MPH.[22] Given this, the aggregate project trip GHG emission levels are shown in Table 3 below.

TABLE 3: SFBA Daily Operational Vehicle GHG Levels

		Total Emissions in Pounds per Day (MT per Day)		
Vehicle Classification	**Trip ADT**	**Direct CO_2**	**Direct N_2O**	**CO_{2e}**
Light Duty Auto (LDA)	17	475.1 (0.2)	0.0 (0.0)	483.3 (0.2)
Light Duty Truck (LDT1)	5	156.0 (0.1)	0.0 (0.0)	161.6 (0.1)
Medium Duty Truck (LHD1)	2	128.6 (0.1)	0.0 (0.0)	132.7 (0.1)
Heavy Duty Truck Gasoline (MH GAS)	0	50.9 (0.0)	0.0 (0.0)	52.3 (0.0)
Heavy Duty Truck Diesel (MH DSL)	1	93.1 (0.0)	0.1 (0.0)	129.6 (0.1)
Motorcycle (MCY)	0	2.1 (0.0)	0.0 (0.0)	3.2 (0.0)
Total (Σ):	25	905.8 (0.4)	0.2 (0.0)	962.7 (0.4)
			CO_{2e} from CO:	**905.8 (0.4)**
			CO_{2e} from N_2O:	**57.0 (0.0)**
			CO_{2e} Operational Total Per Day:	**962.7 (0.4)**

Rounding margin of error ± 0.1 MT (220.5 pounds)
Values rounded to closest whole integer vehicle

Again, since N_2O has a GWP of 296 with respect to CO_2, the *equivalent* CO_{2e} level would be 57.0 pounds (less than 0.1 MT) for N_2O. The final equivalent daily CO_{2e} load due to vehicular traffic would be 962.7 pounds (0.4 MT). This equates to 159.4 MT per year CO_{2e} for this activity.

[20] Ibid. ISE, 5/13/19.

[21] Source: CARB *EMFAC 2017*, California Air Resources Board, 2019.

[22] The average assumed trip length is the average travel distance to or from the site and is based upon applicant's expectations for reasonable occupancy of the site. It is anticipated that some end trips will be shorter, and some longer, but for the purposes of analysis, the average value is given.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Predicted Operational CO_{2e} Emission Levels

Emissions Due to Operation of the Proposed Pilot Plant

As previously discussed, fixed CO_2 emission sources under the context of this pilot project would consist of two different scenarios, namely:

- **Scenario 1** assumes that the SFBA plant would utilize the excess flue gas from the Calpine LMEC site as the source of CO_2 generation in the pilot process. This scenario consumes outside waste CO_2 and thus would have a negative (-) generation rate from a site emissions standpoint.
- **Scenario 2** assumes that the SFBA site would operate a registered 6.3 MBtu/hr natural gas boiler onsite. This scenario produces waste CO_2 and thus would have a positive (-) generation rate from a site emissions standpoint.

Only one scenario will be ultimately selected as the CO_2 generation for the carbon capture and mineralization process of the pilot plant, and both scenarios anticipate an approximate 70% recovery rate of CO_2 through the mineralization process that would otherwise be released into the atmosphere. The complete operational emissions summary, as estimated by the project applicant, is shown in Table 4 below.

TABLE 4: SFBA Applicant Predicted Operational Emissions

Scenario Examined	Operational Phase	Generated CO_{2e} (MT)
Scenario 1: Flue Gas Extraction	Offsite Import of CO_2 to Site	-973.1
	Recovered CO_2 Level @ 70% Efficiency	**-681.2**
Scenario 2: Onsite Boiler Utilization	Onsite Generation of CO_2	+793.4
	Recovered CO_2 Level @ 70% Efficiency	+555.4
	Net CO_2 Level Remaining	**+238.0**

Source: Atmospheric Dynamics, Inc. 4/19.

Thus, under Scenario 1, the project would remove 681.2 MT of CO_{2e} as a result of the carbon capture and mineralization process, while Scenario 2 would produce a small overall increase in CO_{2e} of 238.0 MT due to less than perfect system efficiency. These sources, in and of themselves, would not be classified as significant emission sources, and are not expected to generate a GHG impact.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Electrical Consumption GHG Emissions

The SFBA project site would require an estimated average yearly energy consumption of 775,000 KWh/year.[23] Utilizing an intensity factor consistent for a 20% *Renewable Portfolio Standard* (RPS), gives an annual equivalent CO_{2e} GHG load for the project site due to electrical usage of 225.6 MT/year.[24]

Solid Waste Generation GHG Emissions

The SFBA project site would have an onsite solid trash waste storage capacity of 10 cubic yards (cu-yd), with an average weight of 200 pounds per cubic-yard. Assuming two trash pickups per week, in accordance with proposed site requirements, the aggregate total solid waste removed from the site would be 208,000 lbs/year (or 104 short tons per year). According to the IPCC, landfill CO_{2e} generation due to trash is approximately 0.3196 pounds per pound of trash per year.[25] Thus, the direct landfill CO_{2e} contribution level would be 30.2 MT/yr.

Water Consumption / Wastewater Generation GHG Emissions

Finally, the SFBA project site would consume an estimated 110,000 gallons of potable water per year as part of the pilot plant process. The aggregate CO_{2e} emissions due to processing potable- and waste-water would equate to 919.3 pounds of CO_{2e} per year, or roughly 0.4 MT/yr.[26,27]

GHG Emissions Summary

The projected greenhouse gas emission budget for the proposed project would be the summation of the individual sources previously identified and compared against the two aforementioned pilot process scenarios, as shown in Tables 5a and -b starting on the following page.

As can be seen, both scenarios produce combined construction and operational levels far below the BAAQMD allowable threshold of 10,000 MT CO_{2e} per year. Thus, no construction or operational impacts are expected. No remedial mitigation is indicated.

---

[23] Based upon project applicant estimates of reasonable and foreseeable site utilization of 3.4 KWh/SF.

[24] The intensity conversion factor is approximately 641.86 lb-CO_2/MWh for the baseline case. This is derived by scaling the State of California 2009 CO_2 intensity factor, currently at 10.2% RPS, to account for a state required 20% RPS.

[25] Ibid., IPCC 2001.

[26] Ibid., CalEEMod Table 9.1.

[27] CalEEMod Table 9.4 for aerobic and anaerobic wastewater treatment types.

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

TABLE 5a: Summary of Significant Project-Related GHG Emissions – Scenario 1

Project Phase / Operation	Total CO_{2e} Emissions in MT/year
Construction / Material Handling / Haulage	+640.3
Operational Vehicular Emissions	+159.4
Electrical Consumption	+225.6
Solid Waste Generation	+30.2
Water Consumption / Wastewater Processing	+0.4
GHG Emissions Due to Project Development	**+1055.9**
Recovered CO_2 Level @ 70% Efficiency (Table 4)	-681.2
Final Project GHG Emissions Under Scenario 1	**+374.7**

Rounding margin of error ± 0.1 MT (220.5 pounds)

TABLE 5b: Summary of Significant Project-Related GHG Emissions – Scenario 2

Project Phase / Operation	Total CO_{2e} Emissions in MT/year
Construction / Material Handling / Haulage	+640.3
Operational Vehicular Emissions	+159.4
Electrical Consumption	+225.6
Solid Waste Generation	+30.2
Water Consumption / Wastewater Processing	+0.4
GHG Emissions Due to Project Development	**+1055.9**
Recovered CO_2 Level @ 70% Efficiency (Table 4)	+238.0
Final Project GHG Emissions Under Scenario 2	**+1293.9**

Rounding margin of error ± 0.1 MT (220.5 pounds)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

CERTIFICATION OF ACCURACY AND QUALIFICATIONS

This report was prepared by Investigative Science and Engineering, Inc. (ISE). The members of its professional staff contributing to the report are listed below:

Rick Tavares *(rtavares@ise.us)*	Ph.D. Civil Engineering M.S. Structural Engineering M.S. Mechanical Engineering B.S. Aerospace Engineering / Engineering Mechanics
Karen Tavares *(ktavares@ise.us)*	B.S. Electrical Engineering

ISE affirms to the best of its knowledge and belief that the statements and information contained herein are in all respects true and correct as of the date of this report. Should the reader have any questions regarding the findings and conclusions presented in this report, please do not hesitate to contact ISE at (760) 787-0016.

Content and information contained within this report is intended only for the subject project and is protected under 17 U.S.C. §§ 101 through 810.

Approved as to Form and Content:

Rick Tavares, Ph.D.
Project Principal
Investigative Science and Engineering, Inc. (ISE)

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

APPENDICES AND SUPPLEMENTAL INFORMATION

EMFAC 2017 EMISSION FACTOR TABULATIONS – SCENARIO YEAR 2020

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: CONTRA COSTA
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	CO_RUNEX	NOx_RUNEX	SOx_RUNEX	PM10_RUNEX	PM2_5_RUNEX	ROG_RUNEX	CO2_RUNEX
CONTRA COSTA	**2020**	**LDA**	**Aggregated**	**45**	**GAS**	**387166.7409**	**0.729271714**	**0.048728631**	**0.002472466**	**0.001193598**	**0.001097492**	**0.009936701**	**249.8497649**
CONTRA COSTA	2020	LDA	Aggregated	45	DSL	4005.649273	0.176941811	0.113463235	0.001727677	0.008258802	0.00790153	0.013849134	182.7534492
CONTRA COSTA	**2020**	**LDT1**	**Aggregated**	**45**	**GAS**	**40081.42574**	**1.332219029**	**0.118128814**	**0.002886907**	**0.001696728**	**0.001560188**	**0.024571193**	**291.7301683**
CONTRA COSTA	2020	LDT1	Aggregated	45	DSL	13.90970071	1.074770296	1.307576425	0.003476592	0.126804796	0.121319277	0.17009827	367.7533936
CONTRA COSTA	2020	LDT2	Aggregated	45	GAS	134480.6268	0.938920497	0.089040629	0.003169294	0.001160226	0.001066818	0.014068092	320.2662294
CONTRA COSTA	2020	LDT2	Aggregated	45	DSL	888.072667	0.090059156	0.03911596	0.002365519	0.004494442	0.004300015	0.010570133	250.2241971
CONTRA COSTA	**2020**	**LHD1**	**Aggregated**	**45**	**GAS**	**5622.887648**	**0.849483672**	**0.265727655**	**0.00721481**	**0.000969462**	**0.0008918**	**0.029541048**	**729.0772315**
CONTRA COSTA	2020	LHD1	Aggregated	45	DSL	10736.87332	0.457730243	2.998245791	0.004227584	0.019225528	0.01839384	0.08304297	447.1931611
CONTRA COSTA	2020	LHD2	Aggregated	45	GAS	672.2672875	0.657697081	0.245348066	0.008222078	0.000864567	0.000794937	0.021717497	830.864516
CONTRA COSTA	2020	LHD2	Aggregated	45	DSL	3585.063232	0.3723974	2.241936658	0.004669972	0.017280011	0.016532485	0.067629136	493.9889781
CONTRA COSTA	**2020**	**MCY**	**Aggregated**	**45**	**GAS**	**3966.782721**	**17.8383195**	**1.129705635**	**0.001874301**	**0.00148569**	**0.001393997**	**1.877961948**	**189.4034375**
CONTRA COSTA	2020	MDV	Aggregated	45	GAS	92065.46955	1.237172965	0.134683768	0.00388131	0.00127936	0.001177419	0.024543884	392.2175087
CONTRA COSTA	2020	MDV	Aggregated	45	DSL	2096.076883	0.151897664	0.060349339	0.003118081	0.005182304	0.00495812	0.009637681	329.8300964
CONTRA COSTA	**2020**	**MH**	**Aggregated**	**45**	**GAS**	**2039.709002**	**1.73062632**	**0.469685052**	**0.015243032**	**0.001115392**	**0.001026102**	**0.052546548**	**1540.352045**
CONTRA COSTA	**2020**	**MH**	**Aggregated**	**45**	**DSL**	**617.1566844**	**0.302883551**	**4.143920222**	**0.008870647**	**0.099414111**	**0.095113501**	**0.059295712**	**938.335768**
CONTRA COSTA	2020	Motor Coach	Aggregated	45	DSL	74.99117547	0.682509598	4.066897321	0.012858516	0.08095037	0.077448492	0.160853615	1361.048958
CONTRA COSTA	2020	OBUS	Aggregated	45	GAS	1699.201298	2.373881116	0.718238713	0.015294526	0.000591102	0.000543978	0.071313382	1545.55568
CONTRA COSTA	2020	SBUS	Aggregated	45	GAS	117.8156669	0.923218413	0.300476334	0.006945744	0.000711367	0.000654076	0.028044569	701.8873411
CONTRA COSTA	2020	SBUS	Aggregated	45	DSL	991.6605538	0.113795893	3.37678951	0.008567343	0.017370183	0.016618757	0.030186134	906.8366537
CONTRA COSTA	2020	T6 Ag	Aggregated	45	DSL	2.322875592	1.930687785	8.288701752	0.009850121	0.375279577	0.359045149	0.538031118	1042.616225
CONTRA COSTA	2020	T6 CAIRP heavy	Aggregated	45	DSL	79.08670437	0.127960762	1.081700365	0.007458995	0.021128822	0.020214798	0.028849286	789.5201954
CONTRA COSTA	2020	T6 CAIRP small	Aggregated	45	DSL	10.66773977	0.217898126	1.400846128	0.007933221	0.038608924	0.036938719	0.053281524	839.7160129
CONTRA COSTA	2020	T6 instate construction heavy	Aggregated	45	DSL	454.1095746	0.505590672	3.675700494	0.008777777	0.087038328	0.083273088	0.132015292	929.1107262
CONTRA COSTA	2020	T6 instate construction small	Aggregated	45	DSL	831.0002582	0.512527508	2.733137955	0.008513488	0.091696828	0.087730064	0.131421767	901.1361527
CONTRA COSTA	2020	T6 instate heavy	Aggregated	45	DSL	3333.934338	0.394055786	2.870833832	0.008191185	0.063892347	0.061128392	0.101219731	867.0210231
CONTRA COSTA	2020	T6 instate small	Aggregated	45	DSL	5373.48919	0.598573278	3.1516974	0.008689747	0.106731221	0.102114076	0.154690115	919.7928528
CONTRA COSTA	2020	T6 OOS heavy	Aggregated	45	DSL	43.57936995	0.129150303	1.053776417	0.007471557	0.021913567	0.020965596	0.029156923	790.8498308
CONTRA COSTA	2020	T6 OOS small	Aggregated	45	DSL	6.223591735	0.224343216	1.422657313	0.007938861	0.039808237	0.03808615	0.054933553	840.3130452
CONTRA COSTA	2020	T6 Public	Aggregated	45	DSL	1048.200081	0.113980524	4.396979005	0.008979156	0.022690136	0.021708571	0.032764451	950.426209
CONTRA COSTA	2020	T6 utility	Aggregated	45	DSL	129.0543018	0.055749257	1.25888523	0.008196963	0.007289303	0.006973971	0.012963269	867.6326362
CONTRA COSTA	2020	T6TS	Aggregated	45	GAS	4487.17646	2.523253295	0.688843381	0.014951967	0.000931377	0.000856367	0.076357885	1510.939056
CONTRA COSTA	2020	T7 Ag	Aggregated	45	DSL	1.476011826	5.017299605	17.94447106	0.015652487	0.709312622	0.678628072	1.112014835	1656.785404
CONTRA COSTA	2020	T7 CAIRP	Aggregated	45	DSL	1906.573659	0.249430247	2.291048646	0.011211498	0.030862515	0.029527416	0.051197907	1186.715359
CONTRA COSTA	2020	T7 CAIRP construction	Aggregated	45	DSL	338.3044876	0.243883759	2.240122618	0.011595928	0.030181115	0.028875493	0.04995149	1227.406487
CONTRA COSTA	2020	T7 NNOOS	Aggregated	45	DSL	2324.475754	0.268287829	1.963646563	0.010742864	0.03623146	0.034664103	0.054619615	1137.111306
CONTRA COSTA	2020	T7 NOOS	Aggregated	45	DSL	749.0489815	0.239250157	2.246956484	0.011211349	0.030270452	0.028960965	0.049326955	1186.699516
CONTRA COSTA	2020	T7 other port	Aggregated	45	DSL	1114.209252	0.300945066	3.947674733	0.013439629	0.030762789	0.029432005	0.09220972	1422.558657
CONTRA COSTA	2020	T7 POAK	Aggregated	45	DSL	5996.90892	0.342281618	4.515072074	0.013890499	0.034469744	0.032978598	0.109546689	1470.282388
CONTRA COSTA	2020	T7 Public	Aggregated	45	DSL	1133.668107	0.300979376	9.491142177	0.014423836	0.049569272	0.047424928	0.066348447	1526.735071
CONTRA COSTA	2020	T7 Single	Aggregated	45	DSL	1815.765135	0.689242273	4.866231512	0.013080359	0.099860996	0.095541053	0.16510481	1384.530592
CONTRA COSTA	2020	T7 single construction	Aggregated	45	DSL	839.2712094	0.605719535	4.880842764	0.012972797	0.08542345	0.08172807	0.143535151	1373.145413
CONTRA COSTA	2020	T7 SWCV	Aggregated	45	DSL	787.9561754	0.039375495	8.258597478	0.033953343	0.01109988	0.010619704	0.015423515	3593.895501
CONTRA COSTA	2020	T7 SWCV	Aggregated	45	NG	862.9402644	3.916552264	0.928451696	0	0.00388317	0.003715186	0.050082131	2780.007105
CONTRA COSTA	2020	T7 tractor	Aggregated	45	DSL	5553.959599	0.551369098	3.96031569	0.01211516	0.06750976	0.064589318	0.132112966	1282.366179
CONTRA COSTA	2020	T7 tractor construction	Aggregated	45	DSL	692.3248576	0.626908422	4.60262276	0.012937462	0.078729668	0.075323857	0.15431848	1369.405321
CONTRA COSTA	2020	T7 utility	Aggregated	45	DSL	86.76604441	0.15180775	3.764480376	0.013544557	0.015766178	0.01508414	0.037632863	1433.665117
CONTRA COSTA	2020	T7IS	Aggregated	45	GAS	38.00499836	37.67528889	3.730512146	0.018869598	0.001533054	0.001426884	0.564032961	1906.82693
CONTRA COSTA	2020	UBUS	Aggregated	45	GAS	50.44262803	0.108702918	0.084941911	0.008463109	0.000199253	0.000183205	0.004270481	855.2213599
CONTRA COSTA	2020	UBUS	Aggregated	45	DSL	311.7075753	0.076135541	1.454010379	0.011034364	0.00839524	0.008032066	0.000739994	1167.213421
CONTRA COSTA	2020	UBUS	Aggregated	45	NG	43.84507082	37.00020635	0.313112372	0	0.001019021	0.000974938	0.058473597	1462.977517
CONTRA COSTA	2020	All Other Buses	Aggregated	45	DSL	767.9265241	0.624895918	3.842823011	0.008522789	0.094790066	0.09068949	0.162041431	902.120651

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

AVAILABLE ONLINE CONTENT

The following high-resolution graphical content from this report is available online at the website links shown below. Use of this material is subject to ISE's electronic file distribution policy available at: *http://www.ise.us/index.php/filepolicy*.

CONTENT	DOWNLOAD LINK
Project Study Area Vicinity Map	*http://www.ise.us/projects/19004/1.jpg*
Project Study Area Parcel Map Showing Nearby Sensitive Receptors	*http://www.ise.us/projects/19004/2.jpg*
Aerial Image Showing Development Area and Surrounding Uses	*http://www.ise.us/projects/19004/3.jpg*
Proposed San Francisco Bay Aggregates Development Plan	*http://www.ise.us/projects/19004/4.jpg*

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

INDEX OF IMPORTANT TERMS

AB 32, 8
ADT, 11

CARB, 8, 9, 10
Carbon dioxide, 6
CEQA, 8, 10
CFC's, 6
CH_4, 6, 7, 9
CO, 13
CO_2, 6, 7, 9, 10, 11, 14
CO_{2e}, 10, 11
combustion byproducts, 9
Compression Ignition, 9, 10

Electrical Consumption, 14, 15
energy, 6, 14

First Law of Thermodynamics, 1

GHG, 10, 11, 12, 14
Global Warming Potential, 1, 7
greenhouse gas, 1, 6, 8, 10, 14
GWP, 1, 6, 7, 10, 11

H_2O, 6
Halocarbons, 6

Intergovernmental Panel on Climate Change, 6, 14
IPCC, 6, 14
ISE, 1, 2, 16

Methane, 6, 7
MVEI, 9

N_2O, 6, 7, 9, 10, 11
Nitrous Oxide, 6, 7

Perfluorocarbons, 6
PFC's, 6

Renewable Portfolio Standard, 14
RPS, 14

Spark Ignition, 9, 11

Water Vapor, 6

© 2019 Investigative Science and Engineering, Inc.
The leader in Scientific Consulting and Research…

Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
Air (c) Construction and operations of the project could increase concentrations of PM_{10} and $PM_{2.5}$ to cumulatively considerable concentrations in the local area.	**Minimize Dust Generation (Measure AIR-1):** During construction and full operations of the proposed project, surface wetting of the project site shall occur every 2-3 hours for a total of three times a day.	Applicant City of Pittsburg Community Development Department	During construction and operations	
Bio (a): Special status aquatic species and plants and their habitat are in close proximity to the project activities; protections are necessary for contact avoidance and prevention of upsets.	**Protection of Special-Status Fish Species (Measure BIO-1):** Implementation of the following avoidance and protection measures if construction or operational activities are necessary along the shoreline of New York Slough: • The identification and protection of special-status species populations and habitats shall be a part of a worker environmental awareness program (WEAP) for all workers onsite. Documentation of participation shall be kept onsite for review by City and/or resource agencies. • No operations or construction shall occur within the waters of New York Slough. • All discharges through the stormwater outfall to New York Slough shall be the same as with current and past use of the site, i.e. conveyance and discharge of runoff from the project site only, through existing catchments and culverts. • No alteration or reconfiguration of the shoreline at the stormwater outfall shall occur. The existing rock slope protection and soil on the shoreline shall be left in place. • No change to the location or operation of the 6-inch thermal wastewater outfall shall	Applicant City of Pittsburg Community Development Department	Prior construction and operations	

Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
	occur. The discharge shall be operated according to previously permitted operation ORDER NO. R2-2010-0095 parameters with regard to volume of the discharge and allowable temperature changes within the aquatic environment, or outlined in a future NPDES permit specific to the proposed project. • To ensure toxic substances are not released into the aquatic environment, the following measures shall be followed: all engine-powered equipment shall be well-maintained and free of leaks of fuel, oil, hydraulic fluid or any other potential contaminant; all engine-powered equipment used and operated from the decks of barges, or boats shall be positioned over drip-pans; a spill prevention and response plan shall be prepared in advance of the commencement of work; a spill kit with appropriate clean-up supplies shall be kept on hand during the construction and operations phases of the project; and refueling and maintenance of mobile equipment shall not be performed directly over the waters of the Sacramento/San Joaquin Delta. Only approved and certified fuel cans with “no-spill” spring-loaded nozzles shall be used. • Any wildlife encountered during work shall be allowed to leave the construction area unharmed and shall not be flushed, hazed, or herded away from the project site. • Any special-status species detected shall be reported to the CDFW and a survey form shall be submitted to the			

Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
	CNDDB by project biologist. **Protection of Pacific Pond Turtle (BIO-2)** Boats, barges and project-related floating or submerged equipment shall be prevented from contacting the shoreline to avoid crushing individuals that may move through the work area. If pond turtles are observed, they shall be permitted to move out of the work area on their own. If pond turtles are stationary and remain in areas where they would be disturbed by activities, they may be relocated. Only a qualified biologist with a valid scientific collecting permit and prior authorization from the CDFW may relocate Pacific pond turtles.The project biologist shall confirm and report sightings, relocations or mortalities of Pacific pond turtle to the CDFW; **Protection of Special-Status Plants (BIO-3)** The location of special-status plants and suitable habitat shall be designated as environmentally sensitive areas and clearly marked by project biologist in the field with high visibility construction fencing or staking prior to construction and operations. The identification and protection of special-status plant populations and habitats shall be a part of a worker environmental awareness program (WEAP). Documentation of participation in training shall be kept onsite for review by City and/or resource agencies. Alteration of the riprap at the stormwater outfall shall be avoided. Boats, barges and			

Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
	any floating or submerged equipment shall be prevented from contacting the shoreline to avoid crushing native vegetation. A Project Biologist with a minimum of 3 years of professional biological experience in the San Francisco Bay Delta region (resume onsite for City and/or resource agency review) shall inspect the shoreline for proper maintenance of the construction fencing or staking and identify activities that may pose a risk of impacting special-status plant populations and habitats annually. The project biologist shall report rare plant observations to the CNDDB. Accidental impacts to rare plant populations shall be reported to the CDFW. Discovery of any additional special status plants species will be reported to the CDFW, and a suitable response agreed upon before restating work in that area. If changes to the condition of the shoreline are determined to be necessary, then the project applicant will prepare a Mitigation and Monitoring Plan (MMP) subject to approval by CDFW and or RWQCB including launching boats from shoreline or working on the storm drain or cooling water discharge pipe.			

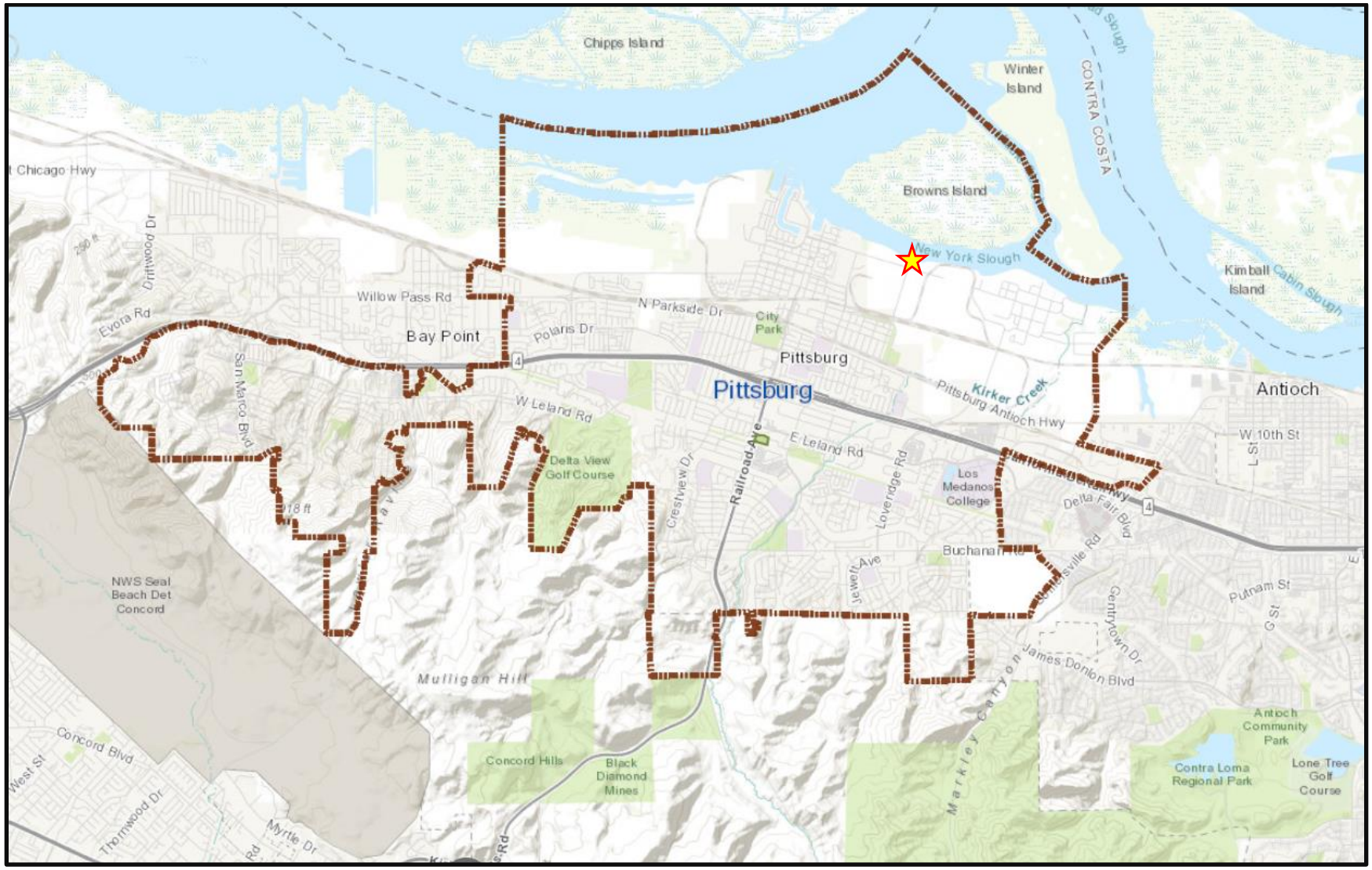
Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
BIO (d): Ensure compliance to the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC) related to protections for migratory birds and raptors.	**Protection of Special Status and Migratory Birds (Measure BIO-4):** If construction activities are scheduled to occur outside of the breeding season (i.e., September 1 through January 31), no preconstruction surveys or other mitigation measures are necessary. If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey shall be conducted of the identified work area and a buffer zone shall be established (see bullet below). The survey shall be performed by a qualified biologist no more than two weeks prior to the initiation of work. If no nesting or breeding activity is observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 76 m (250 ft) for raptors and 33 m (100 ft) for passerines should be mapped. For active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for passerines), the project biologist shall make a determination as to whether or not construction activities are likely to disrupt reproductive behavior. If it is determined that construction is unlikely to disrupt breeding behavior, construction may proceed. If it is determined that construction may disrupt breeding, the no-construction buffer zone should be expanded. The ultimate size of the no-construction buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of sight between the work area and the nest,	Applicant City of Pittsburg Community Development Department	Prior to initiating construction activities	

Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
	physical barriers, and the ambient level of human activity. For raptors, the project biologist should contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments. If it is determined that construction activities are likely to disrupt raptor breeding, construction activities within the no-construction buffer zone may not proceed until the project biologist determines that the nest is long longer occupied. If maintenance of a no-construction buffer zone is not practicable, active nests should be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If it is determined that construction activities might cause nest abandonment, work should cease until the project biologist determines that the nest is no longer occupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management should be contacted by the project biologist for guidance.			

Environmental Impact	Mitigation Measure	Monitoring Responsibility	Mitigation Timing	Verification (Signature and Date)
Hazards (b) An ammonia vapor release could create a hazard to the public.	**Development of Risk Management Plan (Measure HAZ-1):** A Risk Management Plan (RMP) shall be developed for the use of ammonia concentration of 1% or greater exceeding 500 lbs (60 gallons) 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. The RMP shall be incorporated into the Site-Specific Safety Plan. Contra Costa County is the designated Certified Unified Program Agency (CUPA) for the facility responsible for approving the RMP.	Applicant Contra Costa County Health Services City of Pittsburg Community Development Department	Prior to approval of improvement plans	
Transportation (c) Trucks filled with upscaled rock product or recycled concrete aggregate (RCA) could spill materials on roadways increasing traffic hazards or requiring the City to provide additional street cleanup on transport routes.	**Control Spillage of Hard Substrate Materials from Hauling Trucks (Measure TRANS-1):** All Trucks carrying RCA, carbonate coated aggregate, or remediated RCA aggregate shall be covered and have at least six inches of freeboard in the truck bed during transport to eliminate spillage of materials onto the roadway.	Applicant City of Pittsburg Community Development Department	During operations	

Attachment 2
Location Map
SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)

Project Site



Attachment 3
Site Photos
SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)

Above: View of project site from E. 3rd Street looking northeast
Below: View of project site from E. 3rd Street looking northwest

Above: View of existing buildings from project site looking southeast (toward E. 3rd Street)

Attachment 4
Map of Surrounding Uses
SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)

Project Site **Residential** **Commercial** **Industrial** **Other**

Attachment 5
Property Development Regulations Table – PMC Section 18.54.115
SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP)

District Development Regulations for General Industrial (IG) District:	Requirement:	Proposed Project:
Max. Height	50'-0"	30'-0"
Max. FAR	0.8	0.035 (approximate)
Max. Lot Coverage	75%	3.5% (approximate)
Min. Lot Area	20,000 sq. ft.	108,900 sq. ft.
Min. Lot Width	100'-0"	> 360'
Min. Front Yard Setback (along E. 3rd St.)	25'-0"	66'-6"
Min. Side Setback (along east boundary)	None	None
Min. Side Setback (along west boundary)	None	> 200'
Min. Rear Setback (along New York Slough)	None	> 230'
Min. Site Landscaping	10%	< 2%
Min. Parking (Heavy Manufacturing)	4 spaces (1 per 1,000 sq. ft.)	7 spaces
Loading Berths (Heavy Manufacturing)	0 spaces (1 per 15,000-30,000 sq. ft.)	0 spaces
Min. Bike Parking	0 spaces (1 per 5-10 required car parking spaces)	0 spaces
Parking Lot Trees	1 tree 1 per 6 parking spaces	2 trees

Note: *Development regulations highlighted in yellow do not apply to the project because it would involve temporary placement of equipment and there are no buildings that would require design review approval. For these regulation categories, the information noted under the "Proposed Project" column is provided for informational purposes only.*

COPYRIGHT © 2002 AEPC GROUP, LLC

SAN FRANCISCO BAY AGGREGATES

CARBON CAPTURE AND MINERALIZATION FACILITY

895 EAST 3rd STREET
Pittsburg, California 94565

ISSUED FOR PERMIT

Attachment 6

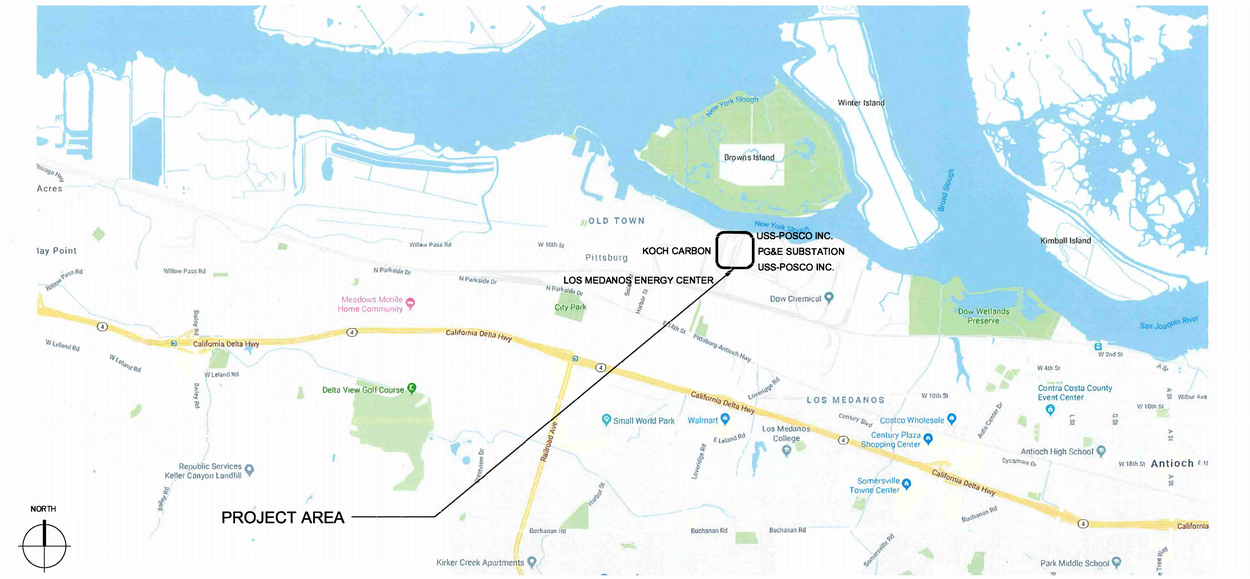
SAN FRANCISCO BAY AGGREGATES
100 COOPER CT., SUITE A
LOS GATOS, CA 95032
Tel. (408) 458-3900
Fax. (408) 458-3910

AEPC Group, LLC
DESIGN • CONSTRUCTION • MANAGEMENT

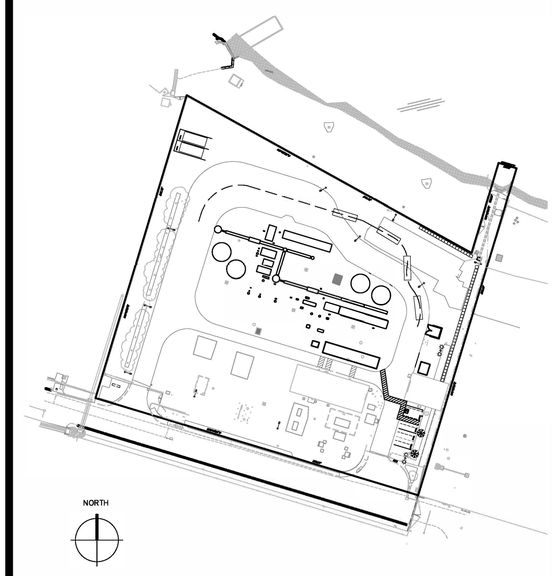
Northern California Office
5000 Executive Parkway, Suite 430
San Ramon, CA 94583
Telephone: 925-277-3050 / Facsimile: 925-824-0102

Southern California Office
1940 E. Deere Avenue, Suite 250
Santa Ana, CA 92705
Telephone: 949-224-1590 / Facsimile: 949-261-8681

VICINITY MAP



SITE PLAN



DRAWING INDEX

GENERAL
T0.1 DRAWING INDEX, SYMBOLS, GENERAL NOTES AND VICINITY MAP

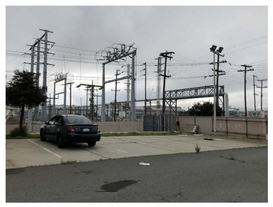
ARCHITECTURAL
A1.0 EXISTING TOPOGRAPHY PLAN
A2.0 PROPOSED SITE PLAN
A3.0 ELEVATIONS AND DETAIL

LICENSED ARCHITECT
VINCENT R. VERNEUILLE JR.
No. C 37292
REN. 01/03/19
STATE OF CALIFORNIA

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION
B	02-08-19	ISSUED FOR PERMIT
A	01-30-19	CLIENT REVIEW SUBMITTAL

REFERENCE PHOTOGRAPHS (EXISTING)



EAST PARKING 1 -

LOOKING EAST 2 -

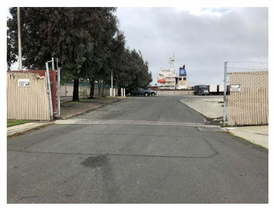
LOOKING NORTH 3 -

EAST END OF 3RD STREET 4 -

LOOKING WEST 5 -

CORNER OF ROAD INSIDE 6 -

LOOKING SOUTH 7 -



SOUTH WEST GATE 8 -

PROJECT DESCRIPTION

1. THE PROJECT WILL INSTALL EQUIPMENT WHICH WILL REMOVE CARBON DIOXIDE (CO_2) FROM A GAS SOURCE AND COMBINE THE REMOVED CO_2 WITH LOCALLY SOURCED DEMOLISHED/RETURNED CONCRETE TO PRODUCE NEW "CO_2 SEQUESTERED" AND "UPCYCLED" ROCK PRODUCTS. THESE PRODUCTS WILL BE SOLD TO BAY AREA BUSINESSES, GOVERNMENTS AND CONSUMERS FOR USE IN A WIDE RANGE OF LOW CARBON AND HIGH PERFORMANCE CONCRETE APPLICATIONS.

2. REFER TO PROJECT DESCRIPTION FOR EXPLANATION OF OPERATIONS INCLUDING STAFFING AND TRAFFIC FLOW.

SYMBOLS

1 / A8.1 — DETAIL NUMBER; SHEET WHERE DETAIL IS DRAWN. DASH INDICATES DETAIL IS DRAWN ON SAME SHEET AS REFERENCE.

DETAIL REFERENCE

1/A8.1 — DETAIL NUMBER; SHEET WHERE DETAIL IS DRAWN

BUILDING CODE DATA

1. APPLICABLE CODES
   A. 2016 CALIFORNIA BUILDING CODE
   B. 2016 CALIFORNIA PLUMBING CODE
   C. 2016 CALIFORNIA MECHANICAL CODE
   D. 2016 CALIFORNIA FIRE CODE
   E. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) ADOPTED ADDITION
   F. NATIONAL ELECTRICAL CODE (NEC) CURRENT EDITION
   G. TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
   H. 2002 NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)
   I. 2006 NFPA 25, INSPECTION, TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS (CA AMENDED)
   J. 2007 NFPA 72, NATIONAL FIRE ALARM CODE (CA AMENDED); SEE UL STD 1971 FOR "VISUAL DEVICES"
   K. 2010 CALIFORNIA ENERGY CODE

PROJECT SCOPE

CREATE NEW HYDROCARBON RECAPTURE FACILITY ON EXISTING INDUSTRIAL SITE.

SFBA
CARBON CAPTURE & MINERALIZATION FACILITY
895 East 3rd Street
Pittsburg, CA 94565

NORTH

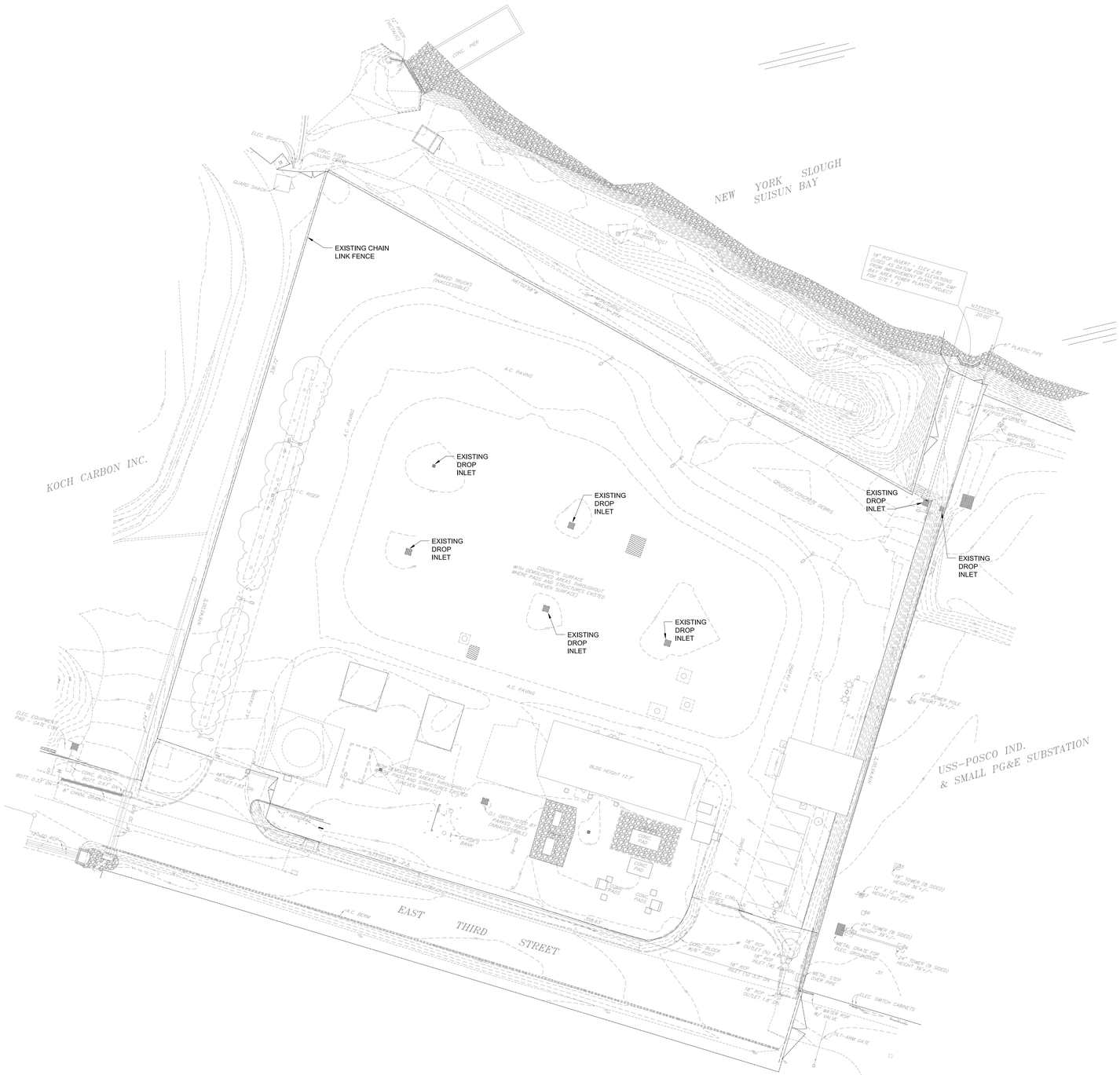
DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
		VV	TS

PROJECT NUMBER: BPLA-18239
SCALE: NONE

TITLE SHEET

T0.1

COPYRIGHT © 2002 AEPC GROUP, LLC



EXISTING TOPOGRAPHY PLAN

SCALE: 1" = 300'-0"

1 / -

0' 10' 25' 50'

SCALE: 1" = 25'

N

SYMBOL LEGEND (WHERE APPLICABLE)

XX.XX	EXISTING SPOT ELEVATION
	EXISTING EDGE OF PAVEMENT
	EXISTING CURB & GUTTER
	EXISTING PARKWAY DRAIN
	EXISTING BLOCK WALL
	EXISTING STORM DRAIN LINE
	EXISTING AC PAVEMENT
	EXISTING CONC. PAVEMENT
	EXISTING STREET LIGHT
	EXISTING FIRE HYDRANT
	EXISTING CHAIN LINK FENCE
	ELECTRICAL
	STEEL PLATE

ABBREVIATION LIST:

AP	ANGLE POINT
BC	BEGINNING OF CURVE
BEG	BEGIN
BW	BACK OF WALK
BX	BOTTOM OF X
CC	CONCRETE CORNER
CL	CENTER LINE
CO	CLEANOUT
COMM	COMMUNICATION
CONC	CONCRETE
CONIF	CONIFEROUS TREE
COR	CORNER
DI	DROP INLET DRAIN
DRWY	DRIVE WAY
EC	END OF CURVE
EG	EDGE OF GUTTER
ELEC	ELECTRICAL
ENC.	ENCLOSURE
EP	EDGE OF PAVEMENT
EPB	ELECTRICAL PULL BOX
EVLT	ELECTRICAL VAULT
EX.	EXISTING
FCE	CHAINLINK FENCE
FH	FIRE HYDRANT
FL	FLOW LINE
FOW	FACE OF WALL
FS	FINISH SURFACE
GB	GRADE BREAK
GS	GROUND SHOT
HCSGN	HANDICAP SIGN
HCSTRP	HANDICAP STRIPING
HP	HIGH POINT
ICPB	IRRIGATION CONTROL PULL BOX
ICV	IRRIGATION CONTROL VALVE
LNDNG	LANDING
LTSTD	LIGHT STANDARD
MC	MOW CURB/CONC
PED	RIBBON
POC	PEDESTAL
POL	POINT ON CURVE
PO	POINT ON LINE
POST	POST W/ POWER OUTLET
PTT	PACIFIC TELEPHONE AND TELEGRAPH
RDG	RIDGE
RSD	RAISED
RSR	RISER
SCO	SANITARY SEWER CLEANOUT
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SGN	SIGN
SMH	SANITARY SEWER MANHOLE
STLT	STREET LIGHT
STPSGN	STOP SIGN
STRP	STRIPING
TC	TOP OF CURB
TCC	TOP OF CURB CORNER
TOE	TOE
TOP	TOP OF SLOPE
TW	TOP OF WALL
TX	TOP OF X
VLT	VAULT
WHLSTP	WHEEL STOP
WM	WATER METER
WV	WATER VALVE
XWLK	CROSS-WALK STRIPE

SAN FRANCISCO BAY AGGREGATES
100 COOPER CT., SUITE A
LOS GATOS, CA 95032
Tel. (408) 458-3900
Fax. (408) 458-3910

AEPC Group, LLC
DESIGN • CONSTRUCTION • MANAGEMENT

Northern California Office
5000 Executive Parkway, Suite 430
San Ramon, CA 94583
Telephone: 925-277-3050 / Facsimile: 925-824-0102

Southern California Office
1940 E. Deere Avenue, Suite 250
Santa Ana, CA 92705
Telephone: 949-224-1590 / Facsimile: 949-261-8681

LICENSED ARCHITECT
VINCENT R. VERNEUILLE JR.
No. C 37292
REN. 01/03/19
STATE OF CALIFORNIA

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION
B	02-08-19	ISSUED FOR PERMIT
A	01-30-18	CLIENT REVIEW SUBMITTAL

SFBA
CARBON CAPTURE & MINERALIZATION FACILITY
895 East 3rd Street
Pittsburg, CA 94565

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:

PROJECT NUMBER: BPLA-18239
SCALE: AS SHOWN

EXISTING TOPOGRAPHY PLAN

A1.0

COPYRIGHT © 2002 AEPC GROUP, LLC

PROPOSED SITE PLAN

SCALE: 1" = 20'-0"

1 / -

0' 10' 20' 40'

SCALE: 1"=20'

N

GENERAL NOTES:

1. TWO BUILDINGS EXIST ON THE PROPERTY. THESE BUILDINGS WILL NOT BE OCCUPIED UNDER THIS PROJECT AND WILL NOT BE MODIFIED IN ANY WAY.
2. NO ADDITIONAL IMPERVIOUS SURFACE WILL BE ADDED UNDER THIS PROJECT. THE EXISTING SITE DRAINAGE WILL REMAIN AS IS EXCEPT THAT SEDIMENT BARRIERS WILL BE INSTALLED AT EXISTING DROP INLETS AND ON THE EAST SIDE OF THE PROPERTY.
3. PROPERTY DOES NOT ABUT A PUBLIC WAY. PEDESTRIAN ACCESS FROM THE NEAREST PUBLIC WAY DOES NOT EXIST AND WILL NOT BE INSTALLED FOR THIS PROJECT.
4. LANDSCAPING: THE EXISTING LANDSCAPING ON THE PROPERTY SHALL BE RESTORED. ADDITIONAL LANDSCAPING WILL BE INSTALLED AT THE EAST GATE OF THE PROPERTY AND SHALL CONSIST OF NATIVE, DROUGHT TOLERANT PLANTS AND GRAVEL SURFACE. LANDSCAPE PLAN WILL BE PROVIDED WITH THE PLAN CHECK SUBMITTAL FOLLOWING PLANNING APPROVAL.
5. USE GAS EMISSIONS FROM GAS-FIRED STEAM BOILER AS INTERIM CO2 SOURCE UNTIL FLUE GAS SLIPSTREAM FROM LMEC IS IN PLACE (SEPARATE SCOPE FROM CURRENT PROJECT PLANS).

SHEET NOTES:

1. INPUT MATERIAL STORAGE
2. PRODUCT STORAGE
3. TEMPORARY TRAILER
4. ACCESSIBLE PORTABLE RESTROOM
5. NEW TREES, SEE GEN. NOTE 4
6. NEW MONUMENT SIGNAGE
7. GAS-FIRED STEAM BOILER, SEE GEN. NOTE 5
8. DUMP TRUCK
9. PROCESS EQUIPMENT
10. EXISTING SWALE
11. DEMO EXISTING MONUMENT SIGN
12. NEW 5 FT. WIDE ACCESS ROUTE WITH 3 FT. WIDE STRIPING
13. 12'X19' VAN ACCESSIBLE PARKING WITH 3'X3' I.S.A. PAVEMENT SYMBOL
14. RESTRIPE EXISTING PARKING STALLS TO ACCOMMODATE ONE ACCESSIBLE VAN PARKING, SEE PARKING NOTES BELOW
15. REMOVE EXISTING WHEEL STOP
16. NEW 2 - DUMP TRUCK PARKING STALLS 12'X35' WITH WHEEL STOP
17. RESTORE EXISTING LANDSCAPING
18. PROVIDE SEDIMENT/SILT BARRIER TO EXISTING DROP INLET, SEE DETAIL 3/A3.0
19. EXISTING CONCRETE EROSION CONTROL (NOT ON PROPERTY)
20. OBSERVER, SEE DETAIL 1/A3.0 FOR SIGHT LINE VIEW
21. EXISTING GATE TO REMAIN
22. EXISTING CHAIN LINK FENCE TO REMAIN
23. NEW CHEMICAL STORAGE-LIQUIDS
24. NEW COVERED CHEMICAL STORAGE FOR SOLIDS
25. NEW ACCESSIBLE VAN PARKING POST
26. PROVIDE BARRIER AT TWO OPEN SIDES PER DETAIL 3/A3.0
27. NEW WHEEL STOP

SYMBOL LEGEND

- EXISTING LIGHT POST
- EXISTING FIRE HYDRANT
- EXISTING TREE
- NEW TREE
- TRUCK/VEHICLE PATH DIRECTION
- ACCESS ROUTE
- TRUCK ROUTE
- TYP. DUMP TRUCK
- SAND BAGS
- X / T0.1 — REFERENCE TO PHOTOS ON COVER SHEET 'X' INDICATES # OF PHOTO

PARKING NOTES:

EXISTING/RESTRIPED - 4 STANDARD PARKING STALLS (9'X19')
NEW - 1 VAN ACCESSBILE PARKING STALL (12'X19')
ACCESS AISLE (5 FT WIDE)
NEW - 2 TRUCK PARKING STALLS (12'X35')

SAN FRANCISCO BAY AGGREGATES
100 COOPER CT., SUITE A
LOS GATOS, CA 95032
Tel. (408) 458-3900
Fax. (408) 458-3910

AEPC Group, LLC
DESIGN • CONSTRUCTION • MANAGEMENT

Northern California Office
5000 Executive Parkway, Suite 430
San Ramon, CA 94583
Telephone: 925-277-3050 / Facsimille: 925-824-0102

Southern California Office
1940 E. Deere Avenue, Suite 250
Santa Ana, CA 92705
Telephone: 949-224-1590 / Facsimille: 949-261-8681

LICENSED ARCHITECT
VINCENT R. VERNEUILLE JR.
No. C 37292
REN. 01/03/19
STATE OF CALIFORNIA

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION
B	02-08-19	ISSUED FOR PERMIT
A	01-30-19	CLIENT REVIEW SUBMITTAL

SFBA CARBON CAPTURE & MINERALIZATION FACILITY
895 East 3rd Street
Pittsburg, CA 94565

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
CM		VV	TS

PROJECT NUMBER: BPLA-18239
SCALE: AS SHOWN

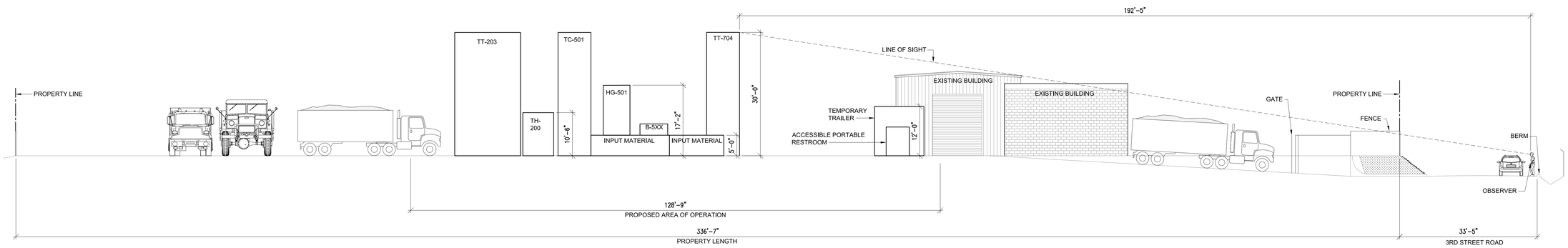
PROPOSED SITE PLAN

A2.0

COPYRIGHT © 2002 AEPC GROUP, LLC

GENERAL NOTE:

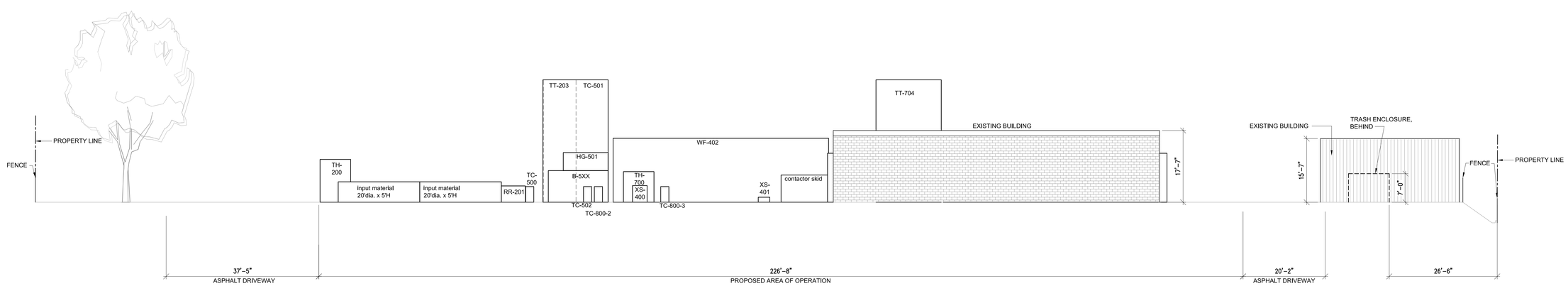
1. MAXIMUM HEIGHT OF NEW EQUIPMENT IS 30'-0" ABOVE GRADE.



ELEVATION LOOKING EAST SHOWING OBSERVER SIGHT LINE

SCALE: 3/32" = 1'-0"

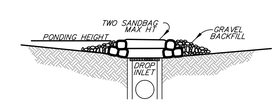
1
-



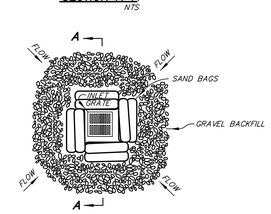
ELEVATION

SCALE: 3/32" = 1'-0"

2
-



SECTION A–A
NTS



DROP INLET SEDIMENT BARRIER DETAIL
NTS

NOTES:

1. SANDBAGS SHALL BE LAID TIGHTLY TOGETHER.
2. TRAPPED SEDIMENT SHALL BE REMOVED AFTER EACH STORM EVENT AND ANY REQUIRED REPAIRS MADE PROMPTLY THEREAFTER.
3. DOWN SLOPE ELEVATIONS MUST BE GREATER THAN THE PONDING HEIGHT TO PREVENT RUNOFF FROM BYPASSING THE INLET. A SANDBAG DIKE ON THE DOWN SLOPE MAY BE NECESSARY TO PREVENT BYPASSING OF THE INLET.

DROP INLET SEDIMENT BARRIER

SCALE: 1/4" = 1'-0"

3
-

SAN FRANCISCO BAY AGGREGATES
100 COOPER CT., SUITE A
LOS GATOS, CA 95032
Tel. (408) 458-3900
Fax. (408) 458-3910

AEPC Group, LLC
DESIGN • CONSTRUCTION • MANAGEMENT

Northern California Office
5000 Executive Parkway, Suite 430
San Ramon, CA 94583
Telephone: 925-277-3050 / Facsimile: 925-824-0102

Southern California Office
1940 E. Deere Avenue, Suite 250
Santa Ana, CA 92705
Telephone: 949-224-1590 / Facsimile: 949-261-8681

LICENSED ARCHITECT
VINCENT R. VERNEUILLE JR.
No. C 37292
REN. 01/03/19
STATE OF CALIFORNIA

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION
B	02-08-19	ISSUED FOR PERMIT
A	01-30-19	CLIENT REVIEW SUBMITTAL

SFBA CARBON CAPTURE & MINERALIZATION FACILITY
895 East 3rd Street
Pittsburg, CA 94565

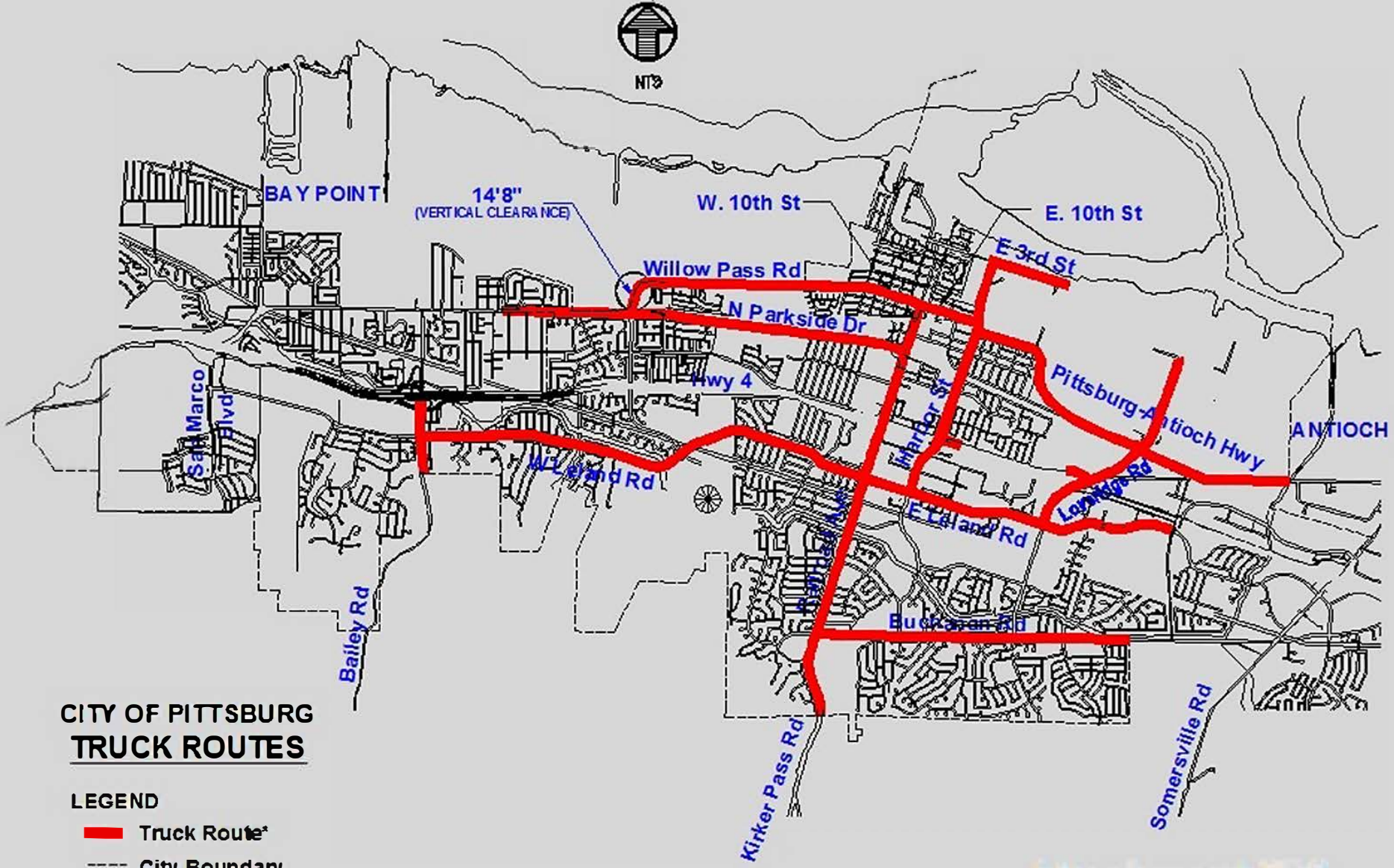
NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
CM	CM	VV	TS

PROJECT NUMBER: BPLA-18239
SCALE: AS SHOWN

ELEVATIONS AND DETAIL

A3.0



CITY OF PITTSBURG
TRUCK ROUTES

LEGEND

- Truck Route*
- City Boundary

Pilot cars req'd for loads 11' and wider on W. Leland Rd. (Bailey Rd. to Railroad Ave.), 10th St., Central Ave., and Loverage Rd. (Hwy. 4 to Pittsburg-Antioch Hwy.) Buchanan Road (Railroad Ave to Harbor St.) All other truck routes require pilot cars for loads 12' and wider.

Attachment 7

It is the responsibility of the permittee to check all underpasses, over crossings, bridges, overhead wires or other structures for impaired vertical clearances and to arrange clearance or request alternate routing before commencing travel.

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 a public hearing on:

DATE: **September 10, 2019**
TIME: **7:00 p.m.**
PLACE: **City Council Chamber at City Hall**
65 Civic Avenue, Pittsburg, California

Concerning the following matter:

SFBA Carbon Capture & Mineralization Facility Pilot Project, AP-19-1412 (UP).
This is a request by San Francisco Bay Aggregates (SFBA) for approval of a use permit to operate a temporary carbon capture and mineralization facility on a 2.5-acre site located at 895 E. 3rd Street in the IG (General Industrial) District. Assessor's Parcel No. 073-020-019. The facility would operate for 15 months and is intended to demonstrate the feasibility of a proprietary carbon sequestration process for production of "upcycled" rock aggregates.

PROJECT PLANNER: Hector J. Rojas, (925) 252-4043 or 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 at the Planning Division, weekdays during the hours of 8:00 AM to 12:00 PM and 1:00 PM to 5:00 PM. You can also find out more about the project by contacting the project planner listed above.

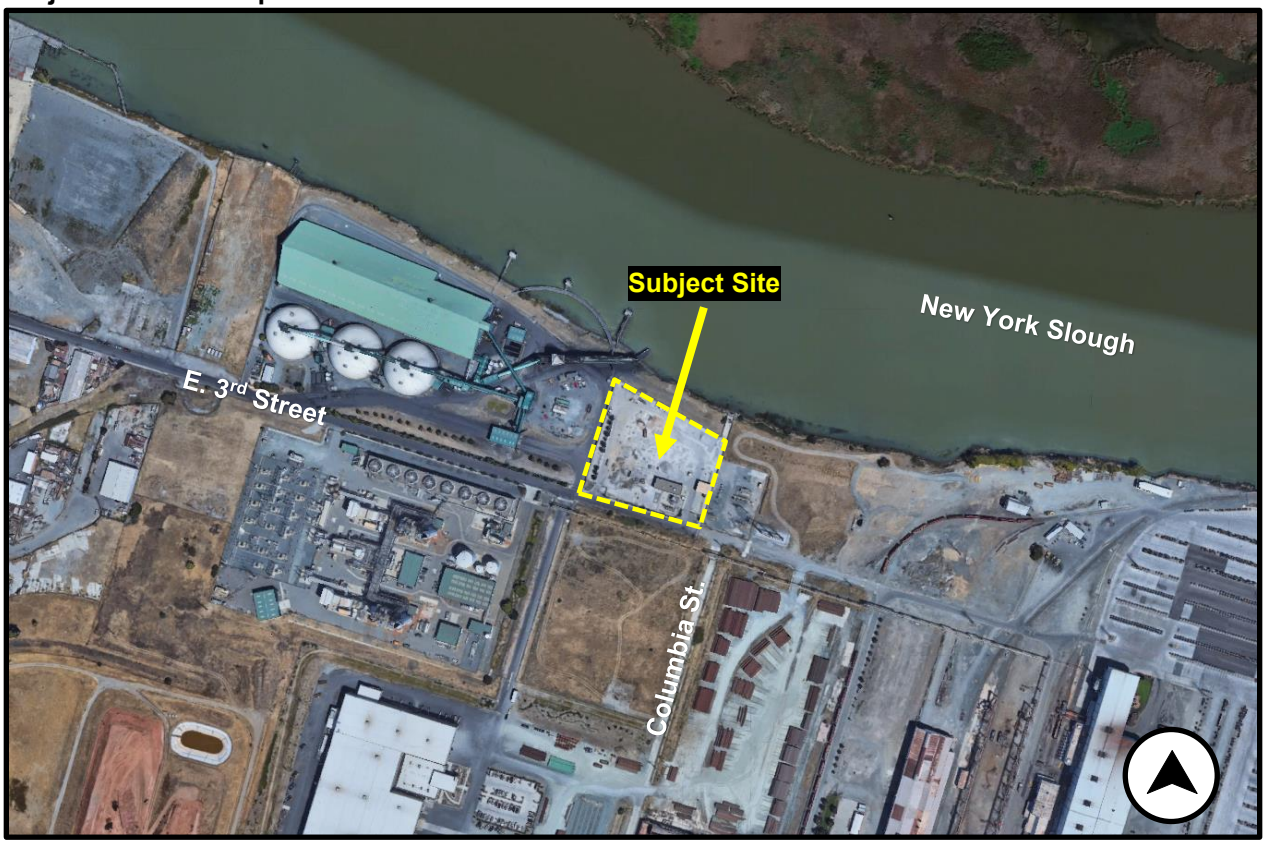
What can I do if I have comments on the project?
Comments or objections to the project can be made by writing or through oral testimony during the study session. Written comments citing the project name may be emailed to the project planner listed above, or may be mailed or delivered to: Pittsburg Planning Division, 65 Civic Avenue, Pittsburg, CA 94565. You may also register your comments or objections by attending the study session on the date and time listed above.

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

KRISTIN POLLOT, SECRETARY
PITTSBURG PLANNING COMMISSION

Project Title: SFBA Carbon Capture and Mineralization Facility, AP-19-1412 (UP)
Location: 895 E. 3rd Street

Project Location Map



City of Pittsburg
Community Development Department - Planning Division
65 Civic Avenue
Pittsburg, CA 94565

NOTICE OF PUBLIC HEARING

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

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution to Approve a Revision to Preferential Residential Permit Parking in Oak Hills to Begin at 6 a.m. on Weekdays

MEETING DATE: November 4, 2019

EXECUTIVE SUMMARY

The City has two Preferential Residential Permit Parking areas adjacent to BART stations. If approved, this resolution will extend the enforcement time period for parking permits in the Oak Hills neighborhood near Pittsburg-Bay Point BART to start at 6 a.m. instead of 9 a.m. on weekdays, consistent with enforcement of parking permits near Pittsburg Center BART.

FISCAL IMPACT

Costs for modifying the enforcement period for parking permits are primarily for installation of roadside signs, with minor costs for public outreach advising residents of the change. There are sufficient funds in the previously approved BART Station Parking Strategy and Signage Project (Project 2211) to cover these costs. No new funds are requested.

RECOMMENDATION

City Council open the public hearing, receive testimony, close the public hearing, consider any public comments, and adopt the attached Resolution approving revision to the enforcement period for Preferential Residential Permit Parking Program in the Oak Hills neighborhood to 6 a.m. to 12 p.m. weekdays

BACKGROUND

On March 25, 2001, the City Council adopted Ordinance No. 01-1179, establishing a Preferential Residential Permit Parking Policy and Program. On April 16, 2001, the City Council approved Resolution 01-9364 establishing the first preferential residential permit parking program in the Oak Hills neighborhood, consistent with Chapter 10.26 of the Pittsburg Municipal Code (PMC).

The program was implemented in response to resident complaints about BART riders using neighborhood streets for overflow parking. The resolution restricted parking in the Oak Hills neighborhood "on weekdays from 9 a.m. to 12 p.m. to vehicles displaying a valid parking permit as defined in PMC 10.26.020."

On October 16, 2017, the City Council approved Resolution 17-13380 approving establishment of preferential permit parking areas in residential neighborhoods near Pittsburg Center BART that restrict parking on weekdays between the hours of 6 a.m. and 12 p.m. to vehicles displaying a valid parking permit, as defined in PMC 10.26.020.

SUBCOMMITTEE FINDINGS

This item was not brought before a Subcommittee.

STAFF ANALYSIS

Residential permits are part of an overall parking strategy adjacent to both BART stations in the City that includes parking time limits, increased signage, transit stops, drop-off/pick-up zones and designated parking areas.

With assistance and cooperation from residents and Pittsburg Police, the parking permit program has been successful at deterring weekday commuters from parking in residential neighborhoods near both transit stations.

In Oak Hills, permits are enforced by police between 9 a.m. and noon on weekdays. In High School Village, residents requested an earlier start time due to BART's early morning ridership. In this area, permits are enforced between 6 a.m. and noon on weekdays.

The inconsistent enforcement time can be confusing to residents and to BART riders, and may complicate enforcement of the City's parking rules. If approved, the change will be the subject of a community outreach effort to residents, including neighborhood social media and door hangers within the permit area. Police will begin enforcement of the revised parking permit time period after December 1, 2019.

To be more consistent in the implementation of the preferential residential parking permit programs throughout the City, staff recommends adoption of a resolution to revise the time period for enforcement in the Oak Hills neighborhood to weekdays from 6 a.m. to noon.

ATTACHMENTS: Resolution
Public Hearing Notice

Report Prepared By: Jill Hecht, Director of Community Development

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Approving a Change to Enforcement	)	
Period for Preferential Residential Parking	)	RESOLUTION NO. 19-
Program in Oak Hills to Begin at 6 a.m.	)	

The Pittsburg City Council DOES RESOLVE as follows:

WHEREAS, On March 25, 2001, the City Council adopted Ordinance No. 01-1179, establishing a Preferential Residential Permit Parking Policy and Program in response to resident complains about BART riders using neighborhoods near the Pittsburg-Bay Point BART Station for overflow parking; and,

WHEREAS, On April 16, 2001, the City Council approved Resolution 01-9364, establishing a Preferential Residential Permit Parking Program in the Oak Hills neighborhood that restricts parking on weekdays from 9 a.m. to 12 p.m. to vehicles displaying a valid parking permit as defined in PMC 10.26.020; and,

WHEREAS, On October 16, 2017, the City Council approved Resolution 17-13380 approving establishment of a preferential permit parking area in residential neighborhoods near Pittsburg Center BART that restricts parking on weekdays between the hours of 6 a.m. and 12 p.m., in response to residents' concerns for overflow parking by BART riders with early morning commutes; and,

WHEREAS, the City desires consistent enforcement of parking restrictions between and among preferential residential parking permit areas in the City.

NOW, THEREFORE, the City Council finds and determines as follows:

Section 1. The recitals set forth above are true and correct and are hereby incorporated.

Section 2. The Preferential Residential Permit Parking program in Oak Hills shall restrict parking on weekdays, from 6 a.m. to 12 p.m., to vehicles displaying a valid parking permit as defined in PMC 10.26.020.

Section 3. The Resolution shall take effect immediately.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 4th day of November 2019, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Juan Antonio Banales, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

NOTICE OF PUBLIC HEARING

The Pittsburg City Council will hold a public hearing on:

Date: **November 4, 2019**

Time: **7:00 p.m.**

Place: **City Council Chamber at City Hall**
65 Civic Avenue, Pittsburg, California

Concerning the following matter:

Extending the enforcement time period for parking permits in the Oak Hills neighborhood near Pittsburg-Bay Point BART to start at 6 a.m. instead of 9 a.m. on weekdays, consistent with enforcement near Pittsburg Center BART.

You are invited to submit comments regarding any aspect of this matter in writing or verbally at the public hearing. If you challenge the above matter in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing.

For further details on this matter, contact Jill Hecht, Director of Community Development, 65 Civic Avenue, Pittsburg, by telephone at (925) 252-4877, through e-mail at jhecht@ci.pittsburg.ca.us , or by fax at (925) 252-4814.

Alice E. Evenson

ALICE E. EVENSON, CITY CLERK

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

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: By Minute Order, Select a Commission Appointment to a Vacancy on the Planning Commission

MEETING DATE:

EXECUTIVE SUMMARY

One (1) opening exists on the Planning Commission. The appointment will fill the seat vacated by Michael Caliguire and will expire on February 28, 2021. The City has advertised for the openings and received two applications. Applicants were invited to interview with the City Council on October 21. One applicant was interviewed at that time.

FISCAL IMPACT

There is no fiscal impact.

RECOMMENDATION

Staff recommends appointment of an eligible candidate to the Commission opening. Council may optionally choose to continue advertising for the vacancy and appointment at a later date if desired.

BACKGROUND

Staff has advertised for the vacancy and received two applications. The appointment will fill a seat vacated by Michael Caliguire which will expire on February 28, 2021.

SUBCOMMITTEE FINDINGS

This item was not submitted to a subcommittee.

STAFF ANALYSIS

On October 21, 2019 the City Council reviewed two applications for appointment to the Planning Commission. On that date candidate interviews were held. One candidate was in

attendance and was interviewed. There is one vacancy. The term will expire on February 28, 2021.

The candidates are:

Kamal Gautam
Wolfgang Croskey

ATTACHMENTS:
Applications

Report Prepared By:
Alice E. Evenson, City Clerk

CITY CLERK
OCT 04 2019

CITY OF PITTSBURG
APPLICATION FOR CITIZEN PARTICIPATION ON COMMISSION

Name of Commission: Planning Commission

Name: Kamal P Gautam

Address: [illegible] Ave, Pittsburg, CA 94565

Email: [illegible]

Telephone: Residential: [illegible] Business: [illegible]

Professional or Technical Experience: Education: Ph.D in Civil Engineering Licensed PE in California, with more than 20 years of engineering and Project management experience - mainly water power and energy.

Why are you interested in serving on this commission: I live in the area and want to paticipate and contribute to the development of the City of Pittsburg with my interest and experience.

Other Community Activities or Organizations in which you participate: none.

RETURN TO:
City Clerk's Office
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

ARE YOU AVAILABLE FOR:
Evening Meetings Yes X No ___
Daytime Meetings Yes ___ No ___ (may be).

SIGNATURE

Kamal P Gautam
PLEASE PRINT NAME

DATE 10/1/2019

CITY OF PITTSBURG
APPLICATION FOR CITIZEN PARTICIPATION ON COMMISSION

Name of Commission: Pittsburg Planning Commission

Name: Wolfgang Croskey

Address: [illegible], Pittsburg, CA 94565

Email: [illegible]

Telephone: Residential: [illegible] Business: [illegible]

Professional or Technical Experience: 14 years of real estate sales and management experience.

Why are you interested in serving on this commission:

While under the direction of City Council, my professional experience in real estate can bring to the council insight that is of use in almost all items brought before the planning commission. I love the progress out city has made, but feel that there is more that is to come and would like to be part of that.

Other Community Activities or Organizations in which you participate:

Pittsburg Chamber of Commerce, Pittsburg Rotary, NARPM, NAR, CAR

RETURN TO:
City Clerk's Office
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

ARE YOU AVAILABLE FOR:
Evening Meetings Yes X No ___
Daytime Meetings Yes X No ___

SIGNATURE

Wolfgang Croskey
PLEASE PRINT NAME

10/3/2019
DATE

CITY CLERK
OCT 04 2019

CROSKEY
REAL ESTATE

October 3, 2019

City Clerk
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

Re: Application for Planning Commission

Madam Clerk,

Included with this letter you will find a completed CITY OF PITTSBURG APPLICATION FOR CITIZEN
PARTICIPATION ON COMMISSION. I am excited to have my application submitted to the Pittsburg City
Council for review. If there are other documents or questions that the Council may need answered, please let me
know so that I can provide them in time for the interviews.

Again, thank you for accepting my application and providing it to the council

Wolfgang Croskey

CITY CLERK
OCT 0 2019

Pittsburg, CA 94565
Phone-
Fax
W

CITY OF PITTSBURG
CITY COUNCIL/AGENCY CONCURRENT MEETING MINUTES

DATE: October 21, 2019

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

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

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

Mayor Banales called the meeting of the City Council to order at 7:00 P.M. in the City Council Chamber at City Hall, 65 Civic Avenue, Pittsburg, CA after conducting Planning Commission Applicant interviews at 5:45 P.M. and convening in Closed Session at 6:00 P.M. for the following items:

1. CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION:
Significant exposure to litigation pursuant to Section 54956.9(d)(2)

Number of cases: three

Mayor Banales stated there was no reportable action taken in Closed Session.

ROLL CALL

All Members were present.

PLEDGE OF ALLEGIANCE

Chief Addington led the Pledge of Allegiance.

PROCLAMATIONS

2. Arbor Day

Bryan Ballardo, Pittsburg Public Works Superintendent introduced Wolfgang Croskey, Pittsburg, whose church will be planting trees at Highlands Ranch Park in honor of Arbor Day. They accepted the proclamation.

3. National Breast Cancer Awareness Month

The Sisters 3 Breast Cancer Support Group received the proclamation.

4. National Filipino-American History Month

Rosemary Tumbaga, Pittsburg, accepted the proclamation on behalf of the Fil-American Association.

5. National Italian-American Heritage Month

Maria Aliotti accepted the proclamation.

PRESENTATIONS

6. PG&E Presentation on Wildfire Safety

Representatives of PG&E presented their Wildfire Safety Plan.

7. Capital Improvement Program (CIP)

Gina Hayes, Senior Civil Engineer, introduced the Capital Improvement Program.

Willie Mims, Pittsburg, commented that the CIP does not seem to encompass the entire City, particularly low income neighborhoods.

Sara Foster, Pittsburg, recommended a review of speed limits throughout the City as a traffic calming measure.

CITY MANAGER REPORTS/REMARKS

City Manager Evans announced upcoming events.

CITIZENS REMARKS

Willie Mims, Pittsburg, stated he has not attended a meeting recently, but he will be coming back to follow the Council.

COMBINED CITY COUNCIL AND SOUTHWEST GHAD II CONSIDERATION

10. Adoption of City Council and Southwest Pittsburg Geologic Hazard Abatement District II Resolutions Accepting Contract 2015-03, San Marco Boulevard Class I Trail Project as Complete and Authorizing the City Engineer to File a Notice of Completion

On Motion by Vice-Mayor/Chair Killings, seconded by Member Scales-Preston to adopt and carried unanimously.

CITY COUNCIL CONSIDERATION

11. Adoption of a City Council Resolution Approving a Rate Increase Requested by Mt. Diablo Resource Recovery for the Operation of Refuse and Recycling Collection

Willie Mims, Pittsburg, commented the increase seems high. He also noted he was not given a choice in the size of containers and was not aware of a senior citizen discount.

On Motion by Vice Mayor Killings, seconded by Member White to adopt and carried unanimously.

12. Introduction and Waive First Reading of an Ordinance Amending the Pittsburg Municipal Code by Repealing Chapter 9.98 Tow Car Regulation

Willie Mims, Pittsburg, asked where the replacement ordinance was located in the agenda packet.

On Motion by Member Craft, seconded by Mayor Banales to introduce and waive first reading of the Ordinance and carried unanimously.

13. Adoption of a City Council Resolution to Authorize Application and Receipt of Senate Bill 2 (SB 2) Planning Grant Funding

On Motion by Vice-Mayor Killings, seconded by Member Craft to adopt and carried unanimously.

14. Adoption of a City Council Resolution Declaring October Italian-American Heritage Month and Filipino-American History Month and Directing Staff to Fly the Italian and Filipino Flags Throughout the Month of October at City Hall

Bernadette Silva, Pittsburg, stated she did not believe the Council should pick and choose which flags to fly and all should be represented.

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

AYES: Craft, Scales-Preston, White, Banales
NOES: Killings

15. By Minute Order Appoint Two Committee Members to an Ad Hoc Committee on Flag Protocols

On Motion by Member Craft, seconded by Mayor Banales to create an Ad Hoc Committee appointing Member White and Member Scales-Preston to serve, and carried by the following vote:

AYES: Craft, Scales-Preston, White, Banales
NOES: Killings

CONFLICT OF INTEREST STATEMENT

There were no conflict of interest statements.

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

Tony Castillo, Field Representative for Carpenters Local 152 in Contra Costa, stated he was in favor of Item 23.

Raul Poblete, Director of Training for Carpenters Training Trust Fund for Northern California in Pleasanton, stated he was in favor of Item 23.

On Motion by Member Craft, seconded by Member White to adopt and carried unanimously.

16. Minutes of October 7, 2019

17. Adoption of a City Council Resolution Authorizing the City Manager to Execute Contract Automatic Meter Reading Products

18. Adoption of a City Council Resolution to Amend the Pittsburg Police Managers Group Bargaining Agreement

19. Adoption of a City Council Resolution to Amend the Pittsburg Police Officers' Association Bargaining Agreement

20. Adoption of a City Council Resolution to Approve the Staff Response to the Contra Costa County Civil Grand Jury FY 2018-2019 Report

21. Adoption of an Ordinance Amending Title 5 of the Pittsburg Municipal Code Related to Cannabis Regulations

22. Adoption of a City Council Resolution Approving the Establishment of a Public Agencies Post-Employment Benefits Trust Administered by Public Agency Retirement Services (PARS)

23. Adoption of a City Council Resolution Approving the Contra Costa Transportation Authority 2020 Transportation Expenditure Plan (TEP) and Supporting the Countywide Imposition of One-Half of One Percent Sales Tax to Fund Transportation Improvements in Contra Costa County; Adoption of the Proposed 2020 TEP; and Conditionally Amending the Growth Management Program

COUNCIL REQUEST FOR FUTURE AGENDA ITEMS

There were no Council requests for future agenda items.

COUNCIL MEMBER REPORTS AND REMARKS

Member Craft along with Member Scales-Preston attended the APTA (American Public Transportation Association) conference in New York. She noted the homeless issue is driving policy on transportation throughout the US.

Vice-Mayor Killings attended the Economic Development Subcommittee, and the League of California Cities (LOCC) Annual Conference. He congratulated Member Scales-Preston for being sworn in as a Board member of the East Bay Division of the LOCC.

ADJOURNMENT

The City Council meeting was adjourned at 9:59 P.M. to November 4, 2019 ***in memory of Tony Jimenez and Russ Tank.***

Respectfully submitted,

Alice E. Evenson, City Clerk

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

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of an Ordinance Amending the Pittsburg Municipal Code by Repealing Chapter 9.98 Tow Car Regulation

MEETING DATE: November 4, 2019

EXECUTIVE SUMMARY

The City's adopted Purchasing Policy provides procedures for the contracting of outside services. For consistency, the Pittsburg Police Department is seeking City Council action to repeal Pittsburg Municipal Code 9.98, Tow Car Regulation, and will follow City contracting procedures for these services.

FISCAL IMPACT

None from this action.

RECOMMENDATION

City Council move to adopt the attached Ordinance repealing Pittsburg Municipal Code Chapter 9.98 Tow Car Regulation.

BACKGROUND

On October 5, 1981, the City Council adopted Ordinance 81-820 adding Chapter 9.98 "Tow Car Regulation" to Title 9 of the Pittsburg Municipal Code (PMC). The City Council has amended the Chapter from time to time, including on February 18, 1992 with adoption of Ordinance 92-1030 to revise language regarding a rotation tow list.

On February 3, 1992, the City Council approved Resolution 92-7767 to establish the number of tow operators operating in the City. The City Council most recently amended the Chapter on September 3, 1996 with adoption of Ordinance 93-1119.

Staff seeks consistency in its contractual services across all City departments, including the Police Department. The policy, method and procedures for contractual services for tow companies are appropriately addressed in the City's Purchasing Policy. The Policy was

most recently revised by the City Council on November 15, 2018, with approval of Resolution 18-13556.

On October 21, 2019, the City Council introduced, waived further reading and passed to second reading the attached Ordinance repealing Pittsburg Municipal Code Chapter 9.98 Tow Car Regulation.

SUBCOMMITTEE FINDINGS

This item was not presented to a subcommittee.

STAFF ANALYSIS

The City has adopted a Purchasing Policy for the informal and formal bidding of supplies, general services, professional services and public works projects.

PMC Chapter 9.98 “Tow Car Regulation” sets regulations for how tow companies operate in the City, including hours of operation and responsibility, and outlines the City’s selection process to enter into contracts for these services. Pittsburg Police Department needs these services as part of its routine operations.

Staff seeks consistency in its contractual procedures across City departments, and the City’s Purchasing Policy provides procedures for entering into contracts for services.

If approved, the ordinance will rescind PMC Chapter 9.98 regarding tow services. Staff will then follow the City’s Purchasing Policy, which is attached to this report, to establish and contract for these services as needed.

ATTACHMENTS: Ordinance - Repeal
City Purchasing Policy

Report Prepared By: Captain Patrick Wentz, Pittsburg Police Department

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Ordinance Repealing Chapter 9.98	)	ORDINANCE NO. 19-1471
Of the Pittsburg Municipal Code	)	
Relating to Tow Service Regulation	)	

The City Council of the City of Pittsburg DOES ORDAIN as follows:

SECTION 1. Background. The City seeks to update the municipal code to eliminate outdated provisions regarding tow service.

SECTION 2. Repeal. Chapter 9.98 of the Pittsburg Municipal Code is hereby repealed as follows:

Chapter 9.98
~~TOW CAR~~
~~REGULATION~~
[Repealed]

~~Sections:~~

~~9.98.010 Purpose and intent.~~

~~9.98.020 Regulation.~~

~~9.98.030 Unlawful solicitation.~~

~~9.98.040 Selection and designation.~~

~~9.98.050 Application fee.~~

~~9.98.060 Minimum standards for equipment and drivers.~~

~~9.98.070 Storage facilities.~~

~~9.98.080 Rotation procedure for towing vehicles other than abandoned vehicles.~~

~~9.98.090 Rotation procedure for towing abandoned vehicles.~~

~~9.98.100 Hours of availability and response time.~~

~~9.98.110 City vehicles.~~

~~9.98.120 Impounded vehicles.~~

~~9.98.130 Removal of hazards.~~

~~9.98.140 Release of vehicles.~~

~~9.98.150 Release of impounded vehicles.~~

~~9.98.160 Damage appraisals.~~

~~9.98.170 Schedule of fees and rates.~~

~~9.98.180 Vehicles stored over 30 days.~~

~~9.98.190 Collecting fees.~~
~~9.98.200 Abandoned vehicles on private property.~~
~~9.98.210 Records.~~
~~9.98.220 Supervision checks.~~
~~9.98.230 Responsibility.~~
~~9.98.240 Insurance.~~
~~9.98.250 Indemnity.~~
~~9.98.260 Termination of services and appeal.~~
~~9.98.270 Compliance with law.~~
~~9.98.280 Period to comply.~~

~~9.98.010 Purpose and intent.~~

~~The public health, safety and welfare require the timely removal of wrecked, disabled, abandoned or certain illegally parked motor vehicles. Such vehicles create hazards, especially to traffic safety, and must be removed as quickly as possible. In order to ensure the efficient removal of impediments from the city's roadways and to provide dependable service to the public, it is necessary to establish regulations for the operation of vehicle towing services.~~

9.98.020 Regulation.

~~A. The provisions of this chapter shall apply to all participating tow operators responding to requests for tow services made by the city regardless of whether the request was originated by the city or a private citizen.~~

~~A. It is unlawful for any tow service or operator to tow any vehicles subject to the provisions of this chapter unless such operator or service is either on the city's current rotational tow list or has entered into a written agreement with the city to provide towing services.~~

~~B. Nothing in this chapter prevents a private citizen from requesting any towing service to remove and tow away that citizen's vehicle.~~

~~9.98.030 Unlawful solicitation.~~

~~It is unlawful for any operator or his agent or employee to solicit any work which is within the scope of this chapter. An operator shall only tow vehicles when requested~~

~~to do so by the city or the owner or driver of a vehicle. A violation of this section shall be cause for the operator to be immediately terminated from the rotational tow list.~~

~~9.98.040 Selection and designation.~~

~~A. There shall be two rotational tow lists in the city: (1) a list for towing abandoned vehicles; and (2) a list for towing all other vehicles. The city manager or his designee shall have general supervision and control over the rotational tow lists. The city manager may, in his sole discretion, delegate all or a portion of his authority under this chapter to one or more designees, and a reference to the city manager in this chapter shall also include his designee. In lieu of a rotational list for the towing of abandoned vehicles, the city manager may enter into an agreement with a qualified tow operator to provide abandoned vehicle towing and/or storage services per the city's purchasing policy (PMC 2.85). Prior to entering into such agreement, the city shall solicit proposals by eligible operators, as directed by the city manager.~~

~~B. An operator may only apply for inclusion on one list. For abandoned vehicle tows, the city manager shall select qualified tow operators from applications received and place their names on the abandoned vehicle rotational tow list per the city's purchasing policy (PMC 2.85).~~

~~C. An operator who wishes to be included on one of the city's rotational lists shall complete an application provided by the city. An operator is eligible to apply if he possesses a valid city business license, his towing service has its principal place of business within city limits, and he meets the requirements of this chapter. For purposes of this section, "principal place of business" shall mean that the primary business office and primary storage facility shall be located within city limits. The city manager or his designee shall make the final decision as to whether or not an operator's principal place of business is located within city limits and such decision may not be appealed. The operator's primary storage facility shall be the same location as the operator's primary business office, absent prior approval from the city. The operator shall submit such additional information as the city manager may request to demonstrate the operator's ability to comply with this chapter.~~

~~D. The city manager may, in his sole discretion, approve or deny the application if in his judgment the~~

~~operator is unable to comply with the provisions of this chapter; the operator has made or caused to be made a false statement on his application; or the operator has been convicted of any crime punishable as a felony or any crime involving stolen or embezzled vehicles, stolen property, fraud, driving while intoxicated, sale or use of illegal drugs, or moral turpitude.~~

~~E. If the operator's application is denied, the operator may appeal the denial in the manner provided in PMC 9.98.260.~~

~~9.98.050 Application fee.~~

~~An operator who applies for inclusion on the rotation lists shall pay a processing fee as established by the chief of police.~~

~~9.98.060 Minimum standards for equipment and drivers.~~

~~Minimum standards for equipment and drivers of tow operators who perform services under this chapter are as follows:~~

~~A. Truck Chassis. A truck chassis shall have a capacity of at least one ton and have rear dual wheels or their equivalent.~~

~~B. Company Name. A sign showing the name of the towing company or the owner or operator of the tow car and the business address and telephone number of the owner or driver shall be displayed on both doors of the tow vehicle cab. These signs shall comply with the provisions of Vehicle Code Section 27907.~~

~~C. Lights. Tow trucks must be equipped with all lights required by state law, such as headlights, taillights, red reflectors, stoplights and warning lights. Tow trucks must also be equipped with one adjustable or portable white utility light. Tow trucks may be equipped with other lights the owner or operator may desire which are not forbidden by law.~~

~~D. Winch. Each tow truck must have one power-driven winch operated from a transmission equipped with safety dogs or equivalent braking devices.~~

~~E. Additional Equipment. Trucks must be equipped with red flares, lanterns or~~

~~reflectors, portable warning signs, hand tools, crowbar, rope, broom, shovel, dustpan, fire extinguisher (dry chemical type), portable red taillight and stoplight for towed vehicles, dry sand or other material for absorbing gas and oil from streets, equipment for opening locked vehicles and safety snubber chain. Each truck shall have at least one set of dollies readily available at all times. Drivers. Tow truck drivers shall display reasonable competence in their work and possess a valid California driver's license of the proper class as provided in Vehicle Code Section 12520. The chief of police may remove an operator from the rotation lists if he finds that the operator employs a driver who, within the preceding 36 months of the date of his service with the operator, has been convicted of one or more of the following crimes:~~

1. ~~Auto theft, burglary, possession of stolen property, grand or petty theft;~~
2. ~~A crime involving violence of the person of another;~~
3. ~~A violation of the Health and Safety Code relating to narcotics or dangerous drugs;~~
4. ~~A violation of Sections 4461, 4462(b), 4463, 4464, or 5017 of Division 3 of the California Vehicle Code;~~
5. ~~A violation of any provision of Division 4 of the California Vehicle Code; or~~
6. ~~A crime relating to illegal acquisition of a vehicle or vehicle parts or documents relating to vehicle registration or ownership.~~

~~G. Communications. An operator shall provide equipment to allow two-way radio communication capability between the operator's dispatcher and each tow truck.~~

~~9.98.070 Storage facilities.~~

~~A. Each operator of a towing service on the rotational list or under agreement with the city shall maintain a storage lot within city limits in an appropriately zoned district with adequate and secure storage space to accommodate towed vehicles. Storage lots, buildings and any fences shall be approved in writing by the city. An operator shall have access to a secured building in an approved location with the capacity to store at least 10 vehicles. Storage lots and secured building shall be designed so that stored vehicles are reasonably screened from public view.~~

B. The operator shall be responsible for the reasonable care, custody and control of any property contained in towed and/or stored vehicles and shall take all appropriate action to ensure that stored vehicles and their contents are safe from tampering or vandalism.

C. Notwithstanding subsection (A) of this section, abandoned vehicles may be stored outside city limits if the storage location has been approved in writing by the city.

9.98.080 Rotation procedure for towing vehicles other than abandoned vehicles. The police department shall evenly rotate its requests for towing vehicles other than abandoned vehicles between the operators on the rotational list for such vehicles.

A. When an operator is given and completes a call, that operator moves to the bottom of the list.

B. Whenever more than one tow truck is needed to respond to a call for service, a separate operator shall be called for each truck. Each operator called shall be credited with a call and moved to the bottom of the list in the order called

C. Whenever the owner of a vehicle or the owners representative requests a tow operator by name, the tow operator's position on the rotation lists shall not be changed. This practice shall also be followed if the owner or his representative requests a tow operator authorized to tow on behalf of a named insurance company.

D. If the department is unable to reach the operator in first position for a call, or if the operator accepts a call and is subsequently unable to respond as required, that operator shall be credited with a call and moved to the bottom of the list.

E. If the department in its judgment determines that the operator in first position is improperly equipped or otherwise incapable of adequately responding to a specific call, the department may pass over that operator and continue down the list until it reaches an operator it considers capable of adequately responding to the call. If no operator on the list has the necessary skills or equipment to adequately respond, the department may request service from an operator not on the list. A change from the normal rotation procedure under these circumstances does not alter any operator's position on the list except that the operator actually chosen shall be credited with a call and moved to the bottom of the list.

~~F. The department shall maintain rotation records and make them available for inspection to tow operators and the public upon request.~~

~~9.98.090 Rotation procedure for towing abandoned vehicles.~~

~~With respect to the towing of abandoned vehicles, the city manager may either enter into an agreement with one tow operator on such terms and conditions as may be negotiated or create a rotational tow list and follow the rotational process described in PMC 9.98.080. If the city manager elects to have an agreement with a tow operator for removal of abandoned vehicles, the city shall undertake a solicitation for proposals as directed by the city manager prior to entering into any such agreement.~~

~~9.98.100 Hours of availability and response time~~.

~~A. Each tow operator shall have at least one driver on call at all times (24 hours per day, seven days per week including Sundays and holidays) capable of responding to a police request for towing.~~

~~B. Once an operator is called by the department for service, the operator must respond to the scene within 20 minutes, unless the department has specifically requested an expedited tow, in which case the operator must respond to the scene within 10 minutes. If an operator accepts a call and subsequently cannot respond, he must notify the department of his inability to respond within five minutes of initially receiving the call. If the operator gives this required notice, he shall be moved to the bottom of the appropriate rotation list. If the operator fails to give this required notice, he shall be moved to the bottom of the rotation list and be subject to a 30-day suspension from the rotation lists by the chief of police. There is no recourse or appeal from this suspension.~~

~~C. An operator is also subject to a 30-day suspension by the chief of police without recourse if the operator accepts a call and then fails to respond within the required time.~~

~~9.98.110 City vehicles.~~

~~The chief of police is authorized to enter into an agreement with any tow operator on~~

~~the rotation lists to tow disabled city vehicles as needed. An operator shall not be credited with a call or moved to the bottom of a rotation list when called to tow a disabled city vehicle.~~

~~9.98.120 Impounded vehicles.~~

~~The chief of police is authorized to enter into an agreement with a tow operator to tow and store vehicles which the department requires to be impounded for special investigative or evidentiary reasons. Vehicles towed under this section shall be stored in a place of maximum security. The chief shall select an operator from among those operators on the rotation lists and may in his discretion call for sealed bids and any additional information he requires. An operator selected by the chief to tow vehicles under this section shall not be credited with a call or moved to the bottom of a rotation list when called to tow a vehicle under this section.~~

~~9.98.130 Removal of hazards.~~

~~Once an operator arrives at the location to which he has been dispatched, he shall cooperate with police officers on the scene in removing hazards and illegally parked vehicles as requested and shall remove all other debris and perform the duties required by Vehicle Code Section 27700.~~

~~9.98.140 Release of vehicles.~~

~~A. Towed vehicles shall be available for release at all times (24 hours per day, seven days per week, including Sundays and holidays). The operator shall ensure that an attendant is available for the purpose of releasing vehicles.~~

~~B. The operator may charge a reasonable fee in addition to ordinary charges when he releases a vehicle outside ordinary business hours if he must reopen the business to release the vehicle. When a vehicle's owner or the owner's representative requests the release of a vehicle outside ordinary business hours, the operator shall advise him if this additional fee is to be charged.~~

~~c. Stored vehicles shall be released on request to their owners or the owner's representative unless the vehicle has been impounded. Personal property within a~~

~~vehicle shall be given to the owner or operator on request, even though the vehicle is being retained in storage, unless the vehicle has been impounded. The operator or attendant shall determine whether the vehicle has been impounded by checking the relevant CHP Form 180. If the box on the form labelled "impounded" is checked, the operator or attendant shall not release the vehicle or its contents but shall advise the owner or representative to obtain a release from the Pittsburg police department.~~

~~9.98.150 Release of impounded vehicles.~~

~~An operator shall release an impounded vehicle or its contents only upon the written authorization of the police department. The department shall authorize the release of impounded vehicles within 24 hours after impounding unless it requires additional time for specific investigative or evidentiary purposes.~~

~~9.98.160 Damage appraisals.~~

~~A. An operator shall make all vehicles except impounded vehicles available to the vehicle's owner or the owner's representative, or a car dealer or body shop representative designated by the owner, or any insurance agent or insurance adjuster for the purpose of appraising damages to the vehicle.~~

~~B. An operator shall make vehicles to be appraised accessible to police department personnel and to anyone authorized by the department and upon request shall assist department personnel conducting inspections of vehicles.~~

~~9.98.170 Schedule of fees and rates.~~

~~A. The maximum chargeable fees and rates for normal rotation requests shall be established and maintained by the chief of police. These rates shall be determined after a review of rates allowed in other neighboring communities and operating data supplied by operators on rotation lists. This schedule shall be reviewed annually and adjusted if necessary. Rates for road service calls and for towing to points other than the operator's regular storage facilities at the request of the vehicle owner shall be negotiated between the tow operator and the vehicle owner.~~

~~B. No additional fees may be charged for towing services subject to this chapter except as provided in PMC 9.98.140 for release of vehicles outside ordinary business hours and Civil Code Section 3074 and Vehicle Code Section 22851.12 for lien sale processing fees.~~

~~9.98.180 Vehicles stored over 30 days.~~

~~When an operator is required to report the storage of a vehicle for over 30 days under Vehicle Code Section 10652, the operator shall provide a copy of his report to the chief of police. Storage fees for these vehicles shall be set in accordance with Vehicle Code Section 10652.5.~~

~~9.98.190 Collecting fees.~~

~~The operator is responsible for collecting all fees and charges for towing and storing vehicles under this chapter and shall conduct any necessary lien sales, except that the police department shall manage the disposition of low-valued vehicles as described in Vehicle Code Section 22851.2.~~

~~9.98.200 Abandoned vehicles on private property.~~

~~For an operator to be qualified to tow an abandoned vehicle under this chapter, the operator shall have a current, valid dismantler's license as described in Vehicle Code Section 11500.~~

~~9.98.210 Records.~~

~~The operator shall maintain records of all tow services furnished, including the license number and description of vehicles; nature of service; date and time; name of any police officers requesting the tow and whether the vehicle was ordered impounded or towed at the owner's request; location of calls; and total itemized costs of towing and storage. Records shall be maintained and available for inspection for a period of at least two years. The city manager may inspect all operator records without notice to the~~
~~operator during normal business hours~~.

~~9.98.220 Supervision checks.~~

~~The records, equipment and storage facilities of the operator shall be subject to periodic checks by the police and fire departments.~~

~~9.98.230 Responsibility.~~

~~An operator is responsible for the acts of his agents and employees while on duty. An operator is responsible for any damage to a vehicle or loss of its contents while the vehicle is in the operator's possession.~~

~~9.98.240 Insurance.~~

~~A. The operator shall maintain in full force and effect, at all times while providing towing and/or storage services under this chapter, a comprehensive general liability insurance policy in an amount specified by the city manager, but not less than $500,000 combined single limit per occurrence for bodily injury, personal injury or property damage. The operator shall name the city of Pittsburg, its agents, officers, employees and volunteers (hereafter collectively referred to as "city and its employees") as an additional insured on the policy with respect to any liability arising out of or in any way related to the operator's performance of towing and/or storage services.~~

~~B. In addition to the requirements of subsection (A) of this section, the operator shall also maintain in full force and effect, at all times while providing towing and/or storage services under this chapter, the following insurance coverage naming the city and its employees as an additional insured, in amounts specified by the city manager but not less than the amounts specified below:~~

1. ~~On-hook insurance coverage insuring the operator's tow vehicle in an amount not less than~~

   ~~$25,000;~~
2. ~~Uninsured motorist insurance in the minimum amount established by law;~~
3. ~~Garage liability including the towing and/or storage premises and operations in an amount not less than $500,000 combined single limit per occurrence for bodily injury, personal injury or property damage; and~~
4. ~~Garage keepers liability coverage to protect vehicles in the storage yard and under the operator's care, custody and control, in an amount~~

~~not less than $25,000.~~

~~C.The operator's insurance policy{ies) shall contain no limitations on the scope of protection afforded to city and its employees. The operator's insurance coverage shall be primary insurance with respect to the city and its employees and said policy(ies) shall state that the operator's insurance shall apply separately to city and each of its employees against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability. Any failure by city and its employees to comply with the reporting provisions of the policy(ies) shall not affect coverage provided to city and its employees.~~

~~D. The operator's insurance is to be placed with insurance companies with A.M. Best & Co.'s rating of no less than A-VII, or such other rating approved by the city. Any deductibles or self-insured retentions shall be declared to and approved by the city. At the sole discretion of the city, the operator shall either reduce or eliminate such deductibles or self-insured retentions with respect to city and its employees or the operator shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.~~

~~E. A copy of the operator's policy(ies) or evidence thereof shall be deposited with the city clerk. Each insurance policy required by this chapter shall be endorsed to state that coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits except after 30 days' prior written notice by certified mail, return receipt requested, has been given to the city.~~

~~9.98.250 Indemnity.~~

~~Any operator who performs towing and/or storage services under this chapter shall defend, indemnify and hold the city, its employees, agents, officers and volunteers harmless from and against any and all liability, demands, claims, damages, costs, losses, recoveries, settlements and expenses (including interest, penalties, attorney's fees, accounting fees, expert witness fees, costs and expenses) incurred by city, known or unknown, contingent or otherwise, directly or indirectly arising from or in any way related to operator's performance of towing and/or storage services.~~

~~9.98.260 Termination of services and appeal.~~

~~A. An operator may voluntarily request removal from a rotational list by giving two weeks' prior written notice to the city manager. The city manager may waive this notice requirement in his sole discretion.~~

~~B. The city manager or his designee may, after a noticed hearing conducted as set forth in Chapter 1.08 PMC, remove an operator from a rotational list if he finds that:~~

~~1. The operator has failed to comply with the requirements of this chapter, local, state or federal laws;~~

~~2. The operator has made or caused to be made a false statement on his application; or~~

~~3. The operator has been convicted of any crime punishable as a felony or any crime involving stolen or embezzled vehicles, stolen property, fraud, driving while intoxicated, sale or use of illegal drugs, or moral turpitude.~~

~~C. An operator may appeal a decision to remove him from the rotational list by filing a written notice of appeal in accordance with the requirements of Chapter 1.08 PMC. An appeal from the decision of the city manager's designee shall be heard by the city manager. An operator may appeal the city manager's decision or to the city council by filing a written notice of appeal in accordance with the requirements of Chapter 1.08 PMC.~~

~~9.98.270 Compliance with law.~~

~~The operator shall at all times comply with federal, state and local laws applicable to the towing and/or storage of vehicles.~~

~~9.98.280 Period to comply.~~

~~If a tow operator is on the city's rotational tow list, as of the effective date of the ordinance codified in this section, but does not meet a new requirement imposed by this chapter, the operator shall have two years from the effective date of the ordinance codified in this section to comply with such new requirement. If at the end of such period the operator is not in compliance, he shall be removed from the city's rotational lists in the manner set forth in this chapter as amended herein.~~

SECTION 3. Severability

If any section, subsection, sentence, clause, phrase or word of this Ordinance is for any reason held to be invalid by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed and adopted this Ordinance, and each and all provisions hereof, irrespective of the fact one or more provisions may be declared invalid.

SECTION 4. Effective Date

This Ordinance shall take effect and be in full force and effect thirty (30) days from and after its final passage.

SECTION 5. Publication.

The City Clerk shall either (a) have this ordinance published once within 15 days after adoption in a newspaper of general circulation or (b) have a summary of the ordinance published twice in a newspaper of general circulation, once 5 days before its adoption and again 20 days after its adoption.

The foregoing Ordinance was introduced at a meeting of the City Council of the City of Pittsburg held on October 21, 2019, and was adopted and ordered published at a meeting of the City Council held on November 4, 2019, by the following vote:

AYES:
NOES:
ABSTAINED:
ABSENT:

_____
Juan Antonio Banales, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

Exhibit A

CITY OF PITTSBURG
PURCHASING POLICY

REVISED NOVEMBER 2018

TABLE OF CONTENTS

Section		Page
1.	Authority Provided	1
2.	Purchasing Authority	1
3.	Informal Bidding Permitted	2
4.	Informal Bidding Procedure, not a Public Works Project	3
5.	Informal Bidding Procedure, Public Works Project	3
6.	Formal Bids	3
	6.1 For Supplies, General Services, and Professional Services	3
	6.2 For Public Works Projects	4
7.	Exemptions	4
	7.1 Emergency Purchasing	4
	7.2 “Piggyback” Purchasing	4
	7.3 Other	5
8.	Local Preference	5
9.	Minority and Women Owned Businesses	5
10.	Recycled Products Preference	5

CITY OF PITTSBURG
PURCHASING POLICY

1. Authority Provided

In compliance with Pittsburg Municipal Code Chapter 2.85.010, this Purchasing Policy was adopted by City Council Resolution No. 18-13556.

2. Purchasing Authority

Except as authorized below, no purchase may be made without the City Council's prior approval.

For purposes of this Policy, "Executive Team Member" shall mean the Assistant City Manager(s), Police Chief, Director of Finance, Human Resource Director, Public Works Director, Director of Community Services, Director of Community Development and Director of Records and Council Services.

Employees in the following positions are authorized to execute on behalf of the City agreements in the amounts as follows:

Position	Supplies	General Services	Professional Services	Public Works Projects
City Manager	$75,000 or less	$75,000 or less	$75,000 or less	$75,000 or less
City Attorney	$10,000 or less	$75,000 or less	$75,000 or less	N/A
Executive Team Member	$50,000 or less	$50,000 or less	$50,000 or less	$50,000 or less

As authorized by Pittsburg Municipal Code Section 2.85.030, the City Manager may delegate his or her duties as chief purchasing officer to other city positions so long as such delegation is in writing and consistent with this Policy. By way of example, the City Manager may delegate purchasing authority of $25,000 or less to the Planning Manager for professional services.

The City Attorney is authorized to purchase legal services, general services, and supplies for the City Attorney's Office.

All contracts must be in writing and set forth a total maximum compensation.

The contracting amounts set forth above are for one contract regardless of the duration of the contract. Contract splitting is prohibited. Contract splitting is dividing purchases into separate contracts, each below the amount of contracting authority, to avoid the requirement to obtain City Council approval or to competitive bidding.

For any multi-year contract, adequate funds must be available to fulfill the first fiscal year's obligation at the time of contract execution. Subsequent years' appropriations are subject to authorization by City Council unless allowed pursuant to state law and the terms of the contract.

Any contract for a duration of more than seven years must be approved by City Council regardless of the amount of compensation.

Any contract in an amount of $10,000 or more must be reviewed and signed approving as to form by the City Attorney.

Purchasers may amend a contract that has been approved by City Council to increase compensation when 1) the City Council has approved a contingency amount and the increase is equal or less than the contingency amount, or 2) the amount of the increase is equal or less than the amount authorized for the purchaser as set forth above.

All contracts for outside legal counsel must be approved by the City Attorney.

Supplies are the purchase or lease of goods and equipment in the general conduct of the City's business, except supplies for a public works project governed by the California Public Contracts Code.

General Services are services such as uniform cleaning, maintenance or other services which do not require any unique skill, special background, training, and obtaining such services at the lowest cost is the highest weighted factor in selection, as opposed to personal performance.

Professional Services are services from a vendor who possesses a high degree of professional or technical skill. Professional services include legal, data processing and programming, planning, environmental, financial, architecture, engineering, etc. The selection must be based on demonstrated competence and on the professional qualifications necessary for the satisfactory performance of the services. State law does not require competitive bidding for these types of services.

Public Works Project has the same meaning as set forth in California Labor Code Section 1720. It is a project for the erection, improvement, painting or repair of public buildings and works; work in or about streams, bays, waterfronts, embankments, or other work for protection against overflow; street or sewer work except maintenance or repair; and/or furnishing supplies or materials for any such project, including maintenance or repair of streets or sewers.

3. <u>Informal Bidding Permitted</u>

Informal bidding, as may be further defined through administrative procedures, is authorized with the following limitations:

	Supplies	General Services	Professional Services	Public Works Project
Suggestion of soliciting comparable quotes.	$10,000 or less	$10,000 or less	$10,000 or less	See Public Works Project "Informal Bidding Procedure"
Must solicit comparable quotes/informal proposals.	$10,001 to $50,000 must solicit a minimum of three quotes	$10,001 to $50,000 must solicit a minimum of three quotes	$10,001 to $50,000 must solicit a minimum of one quote	See Public Works Project "Informal Bidding Procedure"
Must solicit formal proposals/bids.	$50,001 or more	$50,001 or more	$50,001 or more *	More than $125,000

* State law does not require competitive bidding for Professional Services; however, to promote fairness, the City strongly encourages the solicitation of competitive proposals for these services.

4. Informal Bidding Procedure, not a Public Works Project

The City Manager may issue administrative procedures setting forth requirements of informal bidding procedures for the purchase of supplies, general services, and professional services, consistent with state law and this Policy. Such procedures shall ensure uniformity of the City's purchasing practices.

5. Informal Bidding Procedure, Public Works Projects

As authorized by Pittsburg Municipal Code Chapter 2.86, a public works project of $175,000 or less may be accomplished by informal bidding in compliance with Pittsburg Municipal Code Sections 2.86.030-060:

6. Formal Bids

6.1 For Supplies, General Services, and Professional Services

All purchases of supplies, general services, or professional services which may not be purchased under the City's informal bid thresholds shall be procured using a formal bid process. The City Manager may direct those purchases which fall within the informal bid thresholds to be formally bid, although there is no policy requirement for such a formal bid.

Formal bids for supplies, general services, or professional services shall contain the following elements and the City Manager may develop administrative procedures which adhere to these elements:

- Shall be prepared using a Request for Proposal (RFP) or a Request for Quote (RFQ) format; and
- Shall solicit potential vendors through the use of informal and/or formalized bidders lists; and

- Shall advertise the RFP or RFQ through an invitation to bid in a newspaper of general circulation, or through direct mailing, or through notices posted on the City's website; and
- Shall be publicly opened when required, in accordance with State Law, by the City Clerk or his/her designee or assignee; and
- For supplies, shall be awarded to the lowest responsive bidder; or
- For general services, shall be awarded based on best value to the City; or
- For professional services, shall be awarded in accordance with state law and this Policy.

Note: Best value is the valuation of price in conjunction with quality of service.

6.2 For Public Works Projects

Public works project purchases (including emergency purchases) which exceed the informal bid threshold shall be made in conformance with the California Public Contract Code.

A public works project of more than $1 million is subject to a Project Stabilization Agreement unless exempt, as set forth in Resolution No. 18-13456, until November 5, 2023.

7. Exemptions from Bidding

7.1 Emergency Purchasing

In the event of an emergency for a non-public works project, the City Manager or designee may waive any purchasing procedure. An emergency is defined to mean any of the following:

- There is a great public calamity.
- There is immediate need to prepare for national or local defense.
- There is a breakdown in machinery or an essential service that requires the immediate purchase of supplies or services to protect the public health, welfare or safety, or to prevent financial loss, or for the continued conduct of City services.

7.2 "Piggyback" Purchasing

Purchases may be made through an agreement for supplies or services negotiated by another governmental agency if: (a) the agreement was awarded by a public agency situated within the State of California utilizing a quotation or bid procedure substantially similar to the City's required procedures for a contract of the same type and dollar amount; or (b) the agreement is identified on the California Multiple Award Schedules ("CMAS") listing maintained by the State of California Department of General Services – Procurement Division.

7.3 Other

Based on unique facts or circumstances and a recommendation with justification from the affected department director, the City Manager after consultation with the City Attorney may waive one or more purchasing procedures if he/she determines the interests of the City are best served; provided, however, such waiver is not in violation of City Council policy or applicable law.

8. Local Preference

The City shall provide a three percent (3%) preference for local vendors on all qualifying purchases up to $50,000. To qualify for this preference, the purchase must be subject to sales tax collection. Also, the purchase order or contract must be issued to a business holding a current, valid City of Pittsburg business license and said business must be located in Pittsburg, California.

9. Minority and Women Owned Businesses

It is the City's policy to give minority suppliers an opportunity to compete on an equal basis with all other vendors in the competitive marketplace. One of the responsibilities of the Chief Purchasing Officer or his/her designee is to seek out and identify qualified, minority-owned firms and assist them in becoming familiar with the City's requirements for city purchases.

10. Recycled Products Preference

The City will consider preferences, when using competitive bids, in determining the lowest price(s) for products containing recycled materials. The following preferences are not cumulative; only one preference may be applied to a single product:

- Total aggregate purchase of ten thousand dollars ($10,000.00) or less. The City will consider a five percent (5%) preference for products containing fifty percent (50%) or more post-consumer recycled content.

- Total aggregate purchase of five thousand dollars ($5,000.00) or less. The City will consider a ten percent (10%) preference for products containing fifty percent (50%) or more post-consumer recycled content.

- Total aggregate purchase of one thousand dollars ($1,000.00) or less. The City will consider a ten percent (10%) preference for products containing fifty percent (50%) or more post-consumer recycled content.

The following procurements are exempt from the requirements as mentioned above:

- Purchases made with federal or state grant funds.
- Purchases of construction or public works projects.
- Purchases made in cooperation with other public entities.

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

TO: Mayor and Council Members

FROM: Garrett Evans, City Manager

SUBJECT: Adoption of a City Council Resolution to Authorize the City Manager to Execute the Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement between and amongst the City of Pittsburg; the City of Brentwood; the East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes.Inc. and West Coast Home Builders, Inc.

MEETING DATE: November 4, 2019

EXECUTIVE SUMMARY

To facilitate developer compliance with the Habitat Conservation Plan for the Tuscany Meadows subdivision, staff recommends the City Council authorize the City Manager to execute the Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement between and amongst the City of Pittsburg; City of Brentwood; East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes, Inc. and West Coast Home Builders, Inc.

FISCAL IMPACT

None from this action, as all mitigation fees paid in accordance to this agreement will be forwarded to the East Contra Costa County Habitat Conservancy.

RECOMMENDATION

City Council adopt a resolution authorizing the City Manager to execute the Multi-Party Mitigation and Land Dedication In-Lieu of Development fee agreement between and amongst the City of Pittsburg; the City of Brentwood; the East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes.Inc. and West Coast Home Builders, Inc.

BACKGROUND

On March 26, 2007, the City Council approved Resolution 07-10745 approving the Final Environmental Impact Report for the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), approving the final HCP/NCCP,

and approving and authorizing execution of the implementing agreement and a joint exercise of power agreement creating the East Contra Costa County Habitat Conservancy.

On November 19, 2007, the City Council adopted Ordinance 07-1293 implementing the HCP/NCCP by adding Chapter 15.108 to the Pittsburg Municipal Code.

On August 3, 2015, the City Council approved Resolution 15-13083 Certifying the Final Environmental Impact Report (EIR) for the Tuscany Meadows Residential Subdivision on 170 acres of the 'Southeast Border Area', unincorporated land between Pittsburg and Antioch. Developer Seecon Built Homes, Inc., has proposed construction of up to 917 single-family homes, 365 apartments, and three parks totaling approximately 18.6 acres.

In February 2016, the City's Planning Commission approved Resolution 10015 recommending City Council approval of the proposed development agreement and approving the vesting tentative map for the Tuscany Meadows Residential Subdivision, contingent on approval of municipal boundary changes by the Local Agency Formation Commission (LAFCO).

On March 21, 2016, the City Council approved Resolution 16-13159 initiating LAFCO proceedings for annexation of the Tuscany Meadows Residential Subdivision to the City.

SUBCOMMITTEE FINDINGS

This item was not presented to a subcommittee.

STAFF ANALYSIS

East Contra Costa County provides habitat to a wide variety of rare plants and animals. In order to receive approval to develop within this region, developers of qualifying projects are required to obtain the necessary permits from agencies that protect these natural resources. These agencies include, as applicable, the U.S. Fish and Wildlife Service at the federal level, as well as the California Department of Fish and Wildlife at the state level.

The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is a program that allows for the streamlined issuance of required permits from these state and federal agencies through a coordinated, regional approach to conservation and regulation. Developers within jurisdictions that adopted the HCP/NCCP can use this approach to receive permits through a single process.

Under the HCP/NCCP, developers may be assessed a variety of development-based fees that are intended to fund identified mitigation measures that will offset project impacts, which may include loss of habitat for species covered by the Plan. These fees include a development fee, a wetland fee, a rural road fee and a temporary impact fee (collectively, Mitigation Fees).

Although the payment of Mitigation Fees is the typical means of satisfying the HCP/NCCP, developers may also seek to comply with the program by alternative methods, such as land dedication, wetland mitigation, deed restrictions for stream setbacks, or the like. Use of an alternative requires approval of the Board of the East Contra Costa County Habitat Conservancy (Conservancy), the joint power authority that administers the HCP/NCCP.

Pittsburg is a member of the Conservancy, and development projects within the City can obtain their necessary habitat permits through use of the HCP/NCCP. Nortonville, LLC; Seecon Built Homes, Inc.; and West Coast Home Builders, Inc. are developers who own real property within and have submitted project applications to the City and to the City of Brentwood (also a Conservancy member). Collectively, these developers (Landowner Parties) have requested that they be allowed to satisfy their HCP/NCCP obligations for two developments, Tuscany Meadows in Pittsburg and Bridle Gate in Brentwood, through alternative means, namely, dedication of land and payment of reduced Mitigation Fees.

To this end, the Conservancy and Landowner Parties have negotiated the Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement (Agreement) before the City Council. The Agreement will memorialize the alternative measures agreed to by the parties for the Landowner Parties to comply with the HCP. These measures are the dedication of more than 205 acres of land, access easements over additional acreage, and the payment of reduced Mitigation Fees. Mitigation Fees payable for the Tuscany Meadows project would total $1,982,000.

The Agreement also identifies the remedies available to the other signatories if one or more parties should fail to carry out their obligations, and provides certainty that the land owners will receive approvals if they comply with the Agreement and that they will not challenge the fees or fee methodology.

On August 26, 2019, the Conservancy Board considered the Agreement and voted to approve its execution. City staff understands that the Landowner Parties have agreed to the terms set out in the Agreement and are prepared to sign it. The next steps are for cities of Pittsburg and Brentwood to seek authorization from their respective City Councils to do the same. On October 8, 2019, the Brentwood City Council approved the authorization.

The City's interests are served by executing the Agreement in that Pittsburg participates in the HCP/NCCP. The City shares the obligation to create and manage a preserve system for the species covered in the HCP/NCCP. This Agreement helps to reach that goal by providing for the dedication of key property for the preserve system, as well as other valuable additions.

In addition, Pittsburg has an obligation to ensure that projects covered by the HCP/NCCP, such as Tuscany Meadows, comply with the HCP/NCCP. This Agreement sets forth the terms and conditions under which HCP/NCCP Mitigation Fees will be paid and land will be dedicated for the covered projects.

The Agreement with exhibits is attached to this Staff Report.

ATTACHMENTS: Resolution
Agreement with Exhibits

Report Reviewed By: Donna Mooney, City Attorney

BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG

In the Matter of:

Resolution to Authorize the City Manager to Execute the Multi-Party Mitigation and Land Dedication In-Lieu Of Development Fee Agreement Between and Amongst City of Pittsburg; City of Brentwood; East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes, Inc. and West Coast Home Builders, Inc.	)	RESOLUTION NO. 19 -

The Pittsburg City Council DOES RESOLVE as follows:

WHEREAS, On March 26, 2007, the City Council approved Resolution 07-10745 approving the Final Environmental Impact Report for the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), approving the final HCP/NCCP, and approving and authorizing execution of the implementing agreement and a joint exercise of power agreement creating the East Contra Costa County Habitat Conservancy (Conservancy); and,

WHEREAS, on November 19, 2007, the City Council adopted Ordinance 07-1293 implementing the HCP/NCCP by adding Chapter 15.108 to the Pittsburg Municipal Code; and,

WHEREAS, Nortonville, LLC, Seecon Built Homes, Inc. and West Coast Home Builders, Inc. (collectively, Landowner Parties), are developers who own real property within, and have submitted project applications to, the cities of Pittsburg and Brentwood (also a member of the Conservancy). These projects are commonly known as Tuscany Meadows in Pittsburg and Bridle Gate in Brentwood; and,

WHEREAS, the Tuscany Meadows and Bridle Gate projects are subject to the requirements of the HCP/NCCP; and,

WHEREAS, a Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement (Agreement) has been prepared to document the terms of Landowner Parties' compliance with the HCP/NCCP for the Tuscany Meadows and Bridle Gate projects; and,

WHEREAS, the City of Pittsburg's interests are served by executing this Agreement in that the City participates in the HCP/NCCP, and the City thus shares the obligation to create and manage a preserve system for the species covered by the HCP/NCCP. The Agreement assists in reaching that goal by providing for the dedication of a key property for the preserve system by the Landowner Parties, as well as other valuable additions. In addition, Pittsburg also has an obligation to ensure that HCP/NCCP-covered projects, such as Tuscany Meadows, comply with the HCP/NCCP. This Agreement sets forth the terms and conditions under which the HCP/NCCP Mitigation Fees will be paid and land will be

dedicated for Tuscany Meadows; and,

WHEREAS, the City Council's authorization of the City Manager to enter into the proposed Agreement is not subject to the California Environmental Quality Act (CEQA, found at Public Resources Code 21000, et seq., as further governed by the CEQA Guidelines 14 CCR 15000, et seq.) as it does not have the potential to cause direct or reasonably foreseeable indirect physical changes in the environment. Rather, implementation of the Agreement in Pittsburg will be dependent on the approval of the associated Tuscany Meadows project, which requires further discretionary review by the City and will be the subject of public hearings and CEQA review consistent with state and local law.

NOW, THEREFORE, the City Council finds and determines as follows:

Section 1. The recitals set forth above are true and correct statements and are hereby incorporated.

Section 2. The City Council authorizes the City Manager to execute the Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement Between and Amongst City of Pittsburg; the City of Brentwood; East Contra Costa County Habitat Conservancy, Nortonville, LLC, Seecon Built Homes, Inc. and West Coast Home Builders, Inc.

Section 3. This Resolution shall take effect immediately.

PASSED AND ADOPTED by the City Council of the City of Pittsburg at a regular meeting on the 4th day of November 2019, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____
Juan Antonio Banales, Mayor

ATTEST:

_____
Alice E. Evenson, City Clerk

MULTI-PARTY MITIGATION AND LAND DEDICATION IN-LIEU OF DEVELOPMENT FEE AGREEMENT

THIS MULTI-PARTY MITIGATION AND LAND DEDICATION IN-LIEU OF DEVELOPMENT FEE AGREEMENT ("**Agreement**") is entered into by and among the **EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY** (the "**Conservancy**"), the **CITY OF PITTSBURG** ("**Pittsburg**"), the **CITY OF BRENTWOOD** ("**Brentwood**"), **NORTONVILLE, LLC**, a California limited liability company ("**Nortonville**"), **SEECON BUILT HOMES, INC.**, a California corporation ("**SBH**"), **WEST COAST HOME BUILDERS, INC.**, a California corporation ("**West Coast**"), Conservancy, Pittsburg and Brentwood are sometimes collectively referred to herein as the "**Permittees**." Nortonville, SBH and West Coast are sometimes collectively referred to herein as the "**Landowner Parties**." The Permittees and Landowner Parties are sometimes hereinafter each individually referred to as a "**Party**" and collectively referred to as the "**Parties**."

1. RECITALS.

1.1 In December, 2006, the East Contra Costa County Habitat Conservation Plan Association completed preparation of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan ("**HCP/NCCP**"). The HCP/NCCP, among other things, provides a framework to protect natural resources in eastern Contra Costa County, provides the United States Fish & Wildlife Service ("**Service**") with a basis to issue an incidental take permit under Section 10(a)(1)(B) of the Endangered Species Act, and provides the California Department of Fish & Wildlife ("**CDFW**") with a basis to issue a Natural Community Conservation Plan ("**NCCP**") permit under Section 2835 of the California Fish and Game Code.

1.2 The conservation strategy included in the HCP/NCCP proposes a system of new preserves linked to existing protected land to form a network of protected areas (the "**Preserve System**"). One of the main purposes of the Preserve System is to offset the impacts to species and habitats of urban development. The HCP/NCCP is intended to streamline certain permitting processes for future development and to rely on fees and land dedications provided by future development to assemble a portion of the Preserve System.

1.3 The Conservancy was created on April 16, 2007, pursuant to a joint exercise of powers agreement, to implement key aspects of the HCP/NCCP, including assembly and management of the Preserve System in compliance with the terms of the HCP/NCCP. The County of Contra Costa and the Cities of Pittsburg, Brentwood, Oakley, and Clayton approved the HCP/NCCP, adopted implementing ordinances and executed the Implementing Agreement. The Contra Costa County Flood Control and Water Conservation District and the East Bay Regional Park District also approved the HCP/NCCP and executed the Implementing Agreement. Therefore, such local agencies are bound to adhere to the terms of the HCP/NCCP and Implementing Agreement to offset the impacts of development projects that may be approved by these local agencies and to otherwise conserve natural resources as set forth in the HCP/NCCP.

1.4 Based on the HCP/NCCP, on July 25, 2007, the Service issued an incidental take permit under Section 10(a)(1)(B) of the Endangered Species Act ("**Incidental Take Permit**"),

and on August 6, 2007, CDFW issued a Natural Community Conservation Plan Permit under Section 2835 of the California Fish and Game Code ("**NCCP Permit**"), for the Plan Area to the County of Contra Costa, the Cities of Pittsburg, Brentwood, Oakley, and Clayton, the Contra Costa County Flood Control and Water Conservation District, and the East Bay Regional Park District. The Incidental Take Permit and the NCCP Permit are sometimes jointly referred to herein as the "**Permits**." On May 4, 2012, the U.S. Army Corps of Engineers ("**ACOE**") issued a Regional General Permit for most types of development covered under the HCP/NCCP, which permit was renewed on June 6, 2017.

1.5 The Landowner Parties intend to develop certain properties and projects that are set forth herein. The Landowner Parties have disputes and issues with the validity, funding and operation of the HCP/NCCP Plan and the validity, applicability and amount of fee requirements that apply to these properties and projects pursuant to the HCP/NCCP, and they believe that alternative mitigation consistent with the HCP/NCCP is appropriate. Accordingly, they have explored these alternatives with the Permittees and are willing to enter into this Agreement in order to use such alternative mitigation.

1.6 In light of all information available to the Parties, including, but not limited to, the HCP/NCCP and relevant biological analyses, the Parties have developed alternative means of meeting the HCP/NCCP requirement to pay a development fee ("**Development Fee**") for potential future development activities impacting certain properties within the Plan Area currently owned by some of the Landowner Parties and identified on ***Exhibit A*** attached hereto ("**Covered Properties**"). The alternatives, including land dedication and reduced Development Fee amounts, were developed in accordance with HCP/NCCP and Implementing Agreement provisions regarding "land dedication in-lieu of development fee," which is more particularly described below, and are intended to comply with, and maintain the level of conservation identified in, the HCP/NCCP and its Biological Opinion. In conjunction with the other applicable conservation measures of the HCP/NCCP, the alternatives for meeting the HCP/NCCP requirement to pay a Development Fee provide a basis for the Permittees to extend Take Authorization for development activities that may be approved on the Covered Properties, as further defined in Section 2 below, (the "**Covered Projects**").

1.7 While some of the alternatives set forth in this Agreement, including, specifically, the land dedication and reduced Development Fee amounts set forth below, differ from the standard HCP/NCCP Development Fee, the Parties agree that the alternatives described herein will serve to provide compensatory mitigation for the Covered Projects' impacts to HCP/NCCP Covered Species that meets or exceeds the compensatory mitigation provided by payment of the standard Development Fee. In light of this fact, the alternatives described in this Agreement support and advance the implementation of the HCP/NCCP's conservation strategy, the overall viability of the Preserve System, and the Permittees' ability to achieve the HCP/NCCP goals and objectives. The Parties agree that the alternatives set forth in this Agreement will adequately mitigate the Covered Projects' impacts on the species and habitat covered in the HCP/NCCP ("**HCP/NCCP Covered Species**").

1.8 As represented in the letter attached hereto as ***Exhibit B***, the Service and CDFW acknowledge and agree that this Agreement, and the commitments and alternative mitigations set forth in this Agreement, if implemented and adhered to, are consistent with and will meet or exceed the compensatory mitigation requirements for the Covered Projects' impacts to HCP/NCCP Covered Species in accordance with the HCP/NCCP and its Biological Opinion,

Implementing Agreement, and the Permits identified in Recital 1.4, that no further mitigation or compensation is required thereunder and that the Covered Projects can be authorized for Take Authorization under the Permits, pursuant to the terms and conditions of this Agreement.

1.9 The purposes of this Agreement are to:

(a) Set forth the alternatives for fulfilling the HCP/NCCP requirement to pay a Development Fee in accordance with Chapter 8.6.7 of the HCP/NCCP and Section 13.2.2.2 of the Implementing Agreement, including land dedications and reduced Development Fee amounts, that are agreed upon by the Parties and that – in conjunction with the other HCP/NCCP measures – provide a basis for the Permittees to extend Take Authorization for the Covered Projects;

(b) Describe remedies and recourse should any Party fail to perform its obligations as set forth in this Agreement;

(c) Provide assurances to the Landowner Parties that upon performance of the terms and conditions in the Agreement and compliance with other applicable HCP/NCCP requirements, the Permittees will provide take authority for the Covered Projects, and the applicable Landowner Parties shall become Third Party Participants under the Implementing Agreement, the HCP/NCCP, and the Permits, with all the rights and benefits thereof;

(d) Except as otherwise set forth herein, settle any and all disputes among the Parties relating to the HCP/NCCP, Implementing Agreement, and the Permits identified in Recital 1.4, including but not limited to the establishment, implementation and amount of the Development Fees applicable to the Covered Projects and any other projects proposed on any properties currently owned by any of the Landowner Parties or their affiliated entities except those disputes that may arise concerning the Parties' performance under this Agreement; and

(e) Acknowledge that the Covered Project on the Bridlegate Property has not yet been approved by Brentwood and that nothing in this Agreement is intended to or shall limit the discretion of Brentwood, in its consideration of the Covered Project on the Bridlegate Property, to approve, deny or condition any and all land use applications for the such Covered Project or any other project on the Bridlegate Property, except as specifically provided in this Agreement.

2. DEFINITIONS.

"**2019 Dollars**" means dollar amounts as adjusted each year by the lower of: (a) the annual Home Price Index for the Oakland-Fremont-Hayward, CA Metropolitan Division for the prior calendar year (Office of Federal Housing Enterprise Oversight) and the CPI for the San Francisco–Oakland–San Jose Metropolitan Area (U.S. Bureau of Labor Statistics), with thirty percent (30%) of each dollar amount adjusted by the Home Price Index, and seventy percent (70%) of each dollar amount adjusted by the CPI; or (b) the indices used for the Automatic Annual Adjustment of Mitigation Fees pursuant to Chapter 9.3.1 of the HCP/NCCP.

"**ACOE**" means the U.S. Army Corps of Engineers.

"**Agreement**" means this Multi-Party Mitigation and Land Dedication In-Lieu of Development Fee Agreement.

"**Building Permit**" means a building permit for a new for-sale single family residential home, as well as a building permit for part of such a structure, such as a foundation-only permit. Where more than one building permit is required, "Building Permit" refers to the first building permit for the subject unit (e.g., a single family residential unit) or Covered Project.

"**CDFW**" means California Department of Fish and Wildlife.

"**Conservancy**" means the East Contra Costa County Habitat Conservancy, a joint exercise of powers agency formed by the County of Contra Costa and the Cities of Pittsburg, Brentwood, Oakley and Clayton.

"**Covered Project"** and **"Covered Projects**" means the development activities on the Covered Properties, as described in the PSR for each Covered Project, that will receive Take Authorization under the terms and conditions of this Agreement, the HCP/NCCP, the Implementing Agreement and the Permits.

"**Covered Property**" and "**Covered Properties**" means only those properties identified in ***Exhibit A*** attached hereto owned by the Landowner Parties and commonly known as the Tuscany Meadows property (consisting of approximately 170 acres) and the Bridlegate property (consisting of approximately 134 acres).

"**CVP Inclusionary Water Approval**" means approval by the U.S. Bureau of Reclamation of the addition of the entirety of an applicable Covered Project into the Central Valley Project service area for the Contra Costa Water District.

"**Dedication Property**" and "**Dedication Properties**" means those properties identified in ***Exhibit C*** attached hereto to be dedicated in fee simple.

"**Development Fee**" means the development fee described in Chapter 9.3.1 of the HCP/NCCP.

"**Effective Date**" means the effective date as set forth in Section 6.9.

"**EBRPD**" means the East Bay Regional Park District.

"**Grading Permit**" means a grading permit or any other permit, including any ministerial permit or approval, authorizing a ground-disturbing activity.

"**Grantee**" means the recipient of a Dedication Property. For each Dedication Property, the Grantee will be the EBRPD or, if the EBRPD is unwilling or unable to accept the Dedication Property, the Conservancy or a 501(c)(3) entity designated by the Conservancy and approved by the applicable Landowner Party (such approval to not be unreasonably withheld).

"**HCP/NCCP**" means the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, dated October 10, 2006, including December 19, 2006 corrections and updates.

"**Implementing Agreement**" means the Implementing Agreement for the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan dated January 22, 2007.

"**Incidental Take Permit**" means the incidental take permit issued by the Service on July 25, 2007 based on the HCP/NCCP and any extension or subsequent version of this permit.

"**JAMS**" means JAMS, Inc., an alternative dispute resolution provider.

"**Landowner Party**" and "**Landowner Parties**" mean the entities that own the Covered Properties and/or the Dedication Properties.

"**Limited Grading**" means any grading that occurs on a Covered Property, is not part of a Covered Project, and is for the limited purposes of temporary facilities, property maintenance, geotechnical reconnaissance, water tanks and their appurtenant utilities and access roads, import or export soil or gravel stock piles and construction of their access/haul roads.

"**NCCP Permit**" means the Natural Community Conservation Plan Permit issued by CDFW on August 6, 2007 and any extension or subsequent version of this permit.

"**Nortonville**" means Nortonville, LLC, an owner of one of the Dedication Properties, and its successors.

"**Notice of Default**" mean a Notice of Default as set forth in Section 6.2.

"**Party**" or "**Parties**" means the signatories to this Agreement individually and collectively.

"**Permits**" collectively means the Incidental Take Permit and NCCP Permit.

"**Permittee**" and "**Permittees**" have the same general meaning in this Agreement as in the HCP/NCCP, except that in this Agreement they refer specifically to the Conservancy, Pittsburg and Brentwood, which are a subset of the Permittees identified in the HCP/NCCP.

"**Plan Area**" means the geographic area analyzed in the HCP/NCCP, located in the eastern portion of Contra Costa County, as depicted in Figure 1-1 of the HCP/NCCP.

"**PSR**" means Planning Survey Report, the application form for coverage under the Permits, as further described in Chapter 6.2.1 of the HCP/NCCP.

"RWQCBs" means the Regional Water Quality Control Boards.

"**SBH**" means Seecon Built Homes, Inc., one of the Landowner Parties, and its successors.

"**Service**" means the United States Fish and Wildlife Service.

"**Take Authorization**" means the extension of take authorization under the Permits for the Covered Projects in accordance with the Permits, the HCP/NCCP, the Implementing Agreement, and this Agreement.

"**Third Party Participant**" means a person or entity that qualifies for and receives Take Authorization from a Permittee in exchange for compliance with applicable conservation

measures and other terms and conditions of the Implementing Agreement, the HCP/NCCP, and the Permits, as further described in Section 13.2 of the Implementing Agreement.

"**Title Company**" means Old Republic Title Company, 1000 Burnett Avenue, Suite 400, Concord, CA 94520, Attn: Donna Jones, (925) 687-7880.

"**Waive**" means a decision that it is not necessary or appropriate to cure some or all unacceptable title and/or site conditions and execution of a written waiver accepting those conditions within the sixty (60) day Cure period.

"**West Coast**" means West Coast Homebuilders, Inc., one of the Landowner Parties, as well as an owner of one of the Dedication Properties, and its successors.

"**Wildlife Agencies**" means the CDFW and the Service.

3. LAND DEDICATIONS

The Permittees have determined that certain land dedications proposed by the Landowner Parties (the "**Dedication Properties**") would meet the requirements of Section 13.2.2.2 of the Implementing Agreement and Section 8.6.7 of the HCP/NCCP and would both help to achieve the biological goals and objectives of the HCP/NCCP and fulfill, in part, the requirements in the HCP/NCCP for a Landowner Party to pay a Development Fee for the Covered Projects, if such Covered Projects are approved by the applicable Permittees. Where used herein, and consistent with Section 2 above, the term "Grading Permit" does not include a grading permit issued for Limited Grading as defined in Sections 2 and 5.6(a) and a grading permit issued for oily dirt remediation on the Tuscany Meadows Property as described in Section 5.6(b).

3.1 **Nortonville Strip Fee Title.** Nortonville is the owner of that approximately 4-acre undeveloped real property located in the City of Pittsburg and described in the **Nortonville Strip Title Report** attached hereto as ***Exhibit D*** (the "**Nortonville Strip**").

(a) **Grant of Fee Title.** Concurrently with, and as a condition of, the issuance of a Grading Permit and Take Authorization for the Covered Project on the Tuscany Meadows Property, Nortonville shall transfer the fee title to the Nortonville Strip to the EBRPD with a grant deed that is substantially in the form attached hereto as ***Exhibit E*** ("the **Nortonville Strip Grant Deed**") provided, however, that if EBRPD is unwilling or unable to accept the Nortonville Strip Grant Deed within forty-five days of Nortonville's delivery of the signed Nortonville Strip Grant Deed, Nortonville will grant deed the Nortonville Strip to the Conservancy or a 501(c)(3) entity designated by the Conservancy. A delay in accepting the Nortonville Strip Grant Deed shall not be construed as a waiver of the obligation to convey such grant deed. Notwithstanding Section 5.2, failure to accept the conveyance of the Nortonville Strip in accordance with this Agreement within forty-five (45) days of Nortonville's delivery of the signed Nortonville Strip Grant Deed shall not delay or adversely affect the issuance of Take Authorization under this Agreement, provided Nortonville is in compliance with Section 3.1(b) and SBH is in compliance with Sections (b)(i) and 4.2(c) at the time of such conveyance.

(b) **Maintaining Current Condition.** From and after the Effective Date, Nortonville shall not encumber (except for financing purposes which shall be released prior to the grant hereunder), transfer to a non-affiliated entity, or change title to the Nortonville Strip, nor shall it take or allow any action to physically change the condition of the property in a

manner that is inconsistent with the terms and conditions of this Agreement. Prior to the transfer of the Nortonville Strip Grant Deed, Nortonville shall maintain the Nortonville Strip in substantially its current condition, as shown in the **Nortonville Strip Baseline Report** attached hereto as ***Exhibit F*** with the right to maintain, upgrade, and replace, the existing improvements within their existing footprint and weed abate as customary in the normal course of business.

(c) **Due Diligence.** The Permittees acknowledge that the Conservancy has completed the due diligence of the Nortonville Strip, including any environmental or other surveys, and they have jointly determined that the Nortonville Strip is an acceptable dedication of land in lieu of a portion of the Development Fee for the Covered Projects, in accordance with Chapter 8.6.7 of the HCP/NCCP and Section 13.2.2.2 of the Implementing Agreement. Prior to, and as a condition to, acceptance of the Nortonville Strip Grant Deed described in Section 3.1(a):

(i) Nortonville shall provide the Conservancy written notice at least sixty (60) days in advance of issuance of a Grading Permit for the applicable Covered Project on the Tuscany Meadows Property pursuant to Section 3.1(a). Upon receipt of such written notice, Conservancy shall promptly identify the Grantee for the Nortonville Strip Grant Deed in accordance with Section 3.1(a). If neither EBRPD or the Conservancy will be the Grantee, the Conservancy will identify a 501(c)(3) entity to be the Grantee.

(ii) Upon Conservancy's receipt of Nortonville's sixty(60) day written notice and, if applicable, Nortonville's approval of the 501(c)(3) entity as Grantee, Conservancy shall request that Grantee, within forty-five (45) days, at its sole cost and expense, do both of the following:

- Review the title and site condition of the Nortonville Strip to confirm that: (1) there are no material changes to the condition of title described in the Nortonville Strip Title Report; and (2) site conditions do not differ significantly from those site conditions in place at the time of execution of this Agreement as shown in the Nortonville Strip Baseline Report except for those changes in such condition consistent with Nortonville's rights set forth in Section 3.1(b) or the adverse impacts including loss of habitat due to natural phenomena, such as the impacts of fire, drought, landslides or climate change that are beyond the reasonable control of, and occur without the fault or gross negligence of, Nortonville; and

- Prepare the final Nortonville Strip Grant Deed in recordable form, specifying Grantee as the recipient.

(iii) The Title Company shall confirm that it will issue a fee title owner's title insurance policy in favor of the Grantee in the amount of $100,000.00 Dollars, subject only to those title exceptions described in the Nortonville Strip Title Report.

(d) **Acceptance of Grant Deed**. In no event shall Grantee or Conservancy be required to accept, nor shall Nortonville be deemed to have delivered, the Nortonville Strip Grant Deed unless and until:

(i) Grantee confirms that there are no material changes to the condition of title or significant differences in the site conditions on the Nortonville Strip in accordance with Section 3.1(c)(ii). Any changes in site conditions consistent with the exercise by Nortonville of its rights set forth in Section 3.1(b) or the adverse impacts including the loss of habitat due to natural environmental phenomena, such as the impacts of fire, drought, landslides

or climate change that are beyond the reasonable control of, and occur without the fault or gross negligence of, Nortonville shall not constitute a change in site conditions covered by this Section; and

(ii) The Title Company issues a title insurance policy to Grantee in accordance with Section 3.1(c)(iii).

If Conservancy fails to provide a Notice of Default to Nortonville within sixty (60) days after receiving Nortonville's notice under Section 3.1(c)(i) above, then Grantee shall be automatically deemed to have Waived title and site conditions.

(e) **Closing Costs/Maintenance Costs.** All closing, escrow, recording, and title insurance costs associated with the recordation of the Nortonville Strip Grant Deed shall be paid by the Grantee. Fees and assessments against the Nortonville Strip shall be prorated between Nortonville and Grantee as of the date the Nortonville Strip Grant Deed is recorded. Nortonville shall not be required to provide any monies or endowment for the long-term maintenance, monitoring or any other purpose by the Grantee of the Nortonville Strip.

(f) **Directional Sign.** Nortonville shall retain the right, at its election and subject to applicable local ordinance(s), to access, install and maintain on the Nortonville Strip one (1) directional sign to the Nortonville Ranch sixteen (16) square feet or less in size, with the content and location reasonably agreed to by Nortonville and the Grantee. The sign will be designed and placed to discourage access, unless authorized by Nortonville, to the closed portion of Nortonville Road. This right shall automatically terminate fifteen (15) years after the recordation of the Nortonville Strip Grant Deed.

(g) **Right of Access.** From and after the Effective Date pending recordation of the Grant Deed, Grantee shall have the right to access the Nortonville Strip, with advance written notice to Nortonville, only to complete due diligence and to monitor compliance with Nortonville's obligations under Section 3.1(b).

3.2 **Britton Property.** West Coast is the owner of that approximately 146-acre undeveloped real property located in the County of Contra Costa and described in the **Britton Property Title Report** attached hereto as ***Exhibit G*** (the "**Britton Property**").

(a) **Grant of Fee Title.** Concurrently with, and as a condition of, the issuance of a Grading Permit and Take Authorization for the Covered Project on the Bridlegate Property, West Coast shall transfer the fee title to a portion of the Britton Property to the EBRPD with a grant deed that is substantially in the form attached hereto as ***Exhibit H*** ("**the Britton Grant Deed**") along with access easements over two adjacent properties provided, however, that if EBRPD is unwilling or unable to accept the Britton Grant Deed within forty-five (45) days of West Coast's delivery of the signed Britton Grant Deed, West Coast will grant deed the Britton Property to the Conservancy or a 501(c)(3) entity designated by the Conservancy. A delay in accepting the Britton Grant Deed shall not be construed as a waiver of the obligation to convey such grant deed. Notwithstanding Section 5.2, failure to accept the conveyance of the Britton Property in accordance with this Agreement within forty-five (45) days of West Coast's delivery of the signed Britton Grant Deed shall not delay or adversely affect the issuance of Take Authorization under this Agreement, provided West Coast is in compliance with Section 3.2(b) and Sections 4.1(b)(i) and 4.1(c) at the time of such conveyance.

(b) **Maintaining Current Condition.** From and after the Effective Date, West Coast shall not encumber (except for financing purposes which shall be released upon transfer of the grant hereunder), transfer to a non-affiliated entity, or change title to the Britton Property (except as provided in Section 3.2(b)(c)(i) below), nor shall it take or allow any action to physically change the condition of the property in a manner that is inconsistent with the terms and conditions of this Agreement. Prior to the transfer of the Britton Grant Deed, West Coast shall maintain the Britton Property in substantially its current condition, as shown in the **Britton Property Baseline Report** attached hereto as ***Exhibit I***, with the right to maintain, upgrade, and replace, the existing improvements within their existing footprint and weed abate as customary in the normal course of business. Prior to the transfer of the Britton Grant Deed, West Coast shall remove those items depicted as Photo Points 2,3,8,11,12,13,14,15,16,17, 18, 19,and 20 in the Britton Property Baseline Report.

(c) **Due Diligence.** The Permittees acknowledge that the Conservancy has completed the due diligence of the Britton Property, including any environmental or other surveys, and they have jointly determined that the Britton Property is an acceptable dedication of land in lieu of a portion of the Development Fee for the Covered Project on the Bridlegate Property, in accordance with Chapter 8.6.7 of the HCP/NCCP and Section 13.2.2.2 of the Implementing Agreement. Prior to, and as a condition to, acceptance of the Britton Grant Deed described in Section 3.2(a):

(i) West Coast shall, at its cost, prepare a plat and legal description for that portion of the Britton Property which shall be transferred to Grantee, which portion is generally depicted on the attached ***Exhibit J*** and is understood to include that portion of the Britton Property outside the fenced area. Such plat and legal description shall include an access easement over the remaining portion of the Britton Property with such access to be limited to use of the existing unpaved road. West Coast shall provide the plat and legal description to the Conservancy who shall, with the Grantee, process a parcel map exemption with the County for the creation of the portion of the Britton Property as a legal parcel. All costs associated with such processing shall be borne by the Conservancy or the Grantee.

(ii) West Coast shall prepare two (2) access easements over the two parcels identified as APNs 117-08-004 and 117-380-023 ("Parcel H"), which are generally depicted on the attached ***Exhibit J*** with such access to be limited to use of the existing unpaved road on APN 117-08-004 and the access on Parcel H to be private (non-public) access.

(iii) West Coast shall provide the Conservancy written notice at least sixty (60) days in advance of issuance of a Grading Permit for the Covered Project on the Bridlegate Property pursuant to Section 3.2(a). Upon receipt of such written notice, Conservancy shall promptly identify the Grantee for the Britton Grant Deed in accordance with Section 3.2(a). If neither EBRPD or the Conservancy will be the Grantee, the Conservancy will identify a 501(c)(3) entity to be the Grantee.

(iv) Upon Conservancy's receipt of West Coast's sixty (60) day written notice and, if applicable, West Coast's approval of the 501(c)(3) entity as Grantee, Conservancy shall request that Grantee, within forty-five (45) days, at its sole cost and expense, do both of the following:

- Review the title and site condition of the Britton Property to confirm that: (1) there are no material changes to the condition of title described in the Britton

Property Title Report (except as provided in Section 3.2(c)(i) above); and (2) site conditions do not differ significantly from those site conditions in place at the time of execution of this Agreement as shown in the Britton Property Baseline Report except for the removal of those items described in Section 3.2(b) above and those changes in such condition due to West Coast's rights set forth in Section 3.2(b) above or the adverse impact including loss of habitat due to natural phenomena, such as the impacts of fire, drought, landslides or climate change that are beyond the reasonable control of, and occur without the fault or gross negligence of, West Coast.

- Prepare the final Britton Grant Deed in recordable form, specifying Grantee as the recipient.

(d) The Title Company shall confirm that it will issue a fee title owner's title insurance policy in favor of the Grantee in an amount not less than $949,000.00 Dollars, subject only to those title exceptions described in the Britton Property Title Report.

(e) **Acceptance of Grant Deed**. In no event shall Grantee or Conservancy be required to accept, nor shall West Coast be deemed to have delivered, the Britton Grant Deed unless and until:

(i) Grantee confirms that there are no material changes to the condition of title or significant differences in the site conditions on the Britton Property in accordance with Section 3.2(c)(ii). Any changes in site conditions due to the exercise by West Coast of its rights set forth in Section 3.2(b) or the adverse impact including loss of habitat due to natural environmental phenomena, such as the impacts of fire, drought, landslides or climate change that are beyond the reasonable control of, and occur without the fault or gross negligence of, West Coast shall not constitute a change in site conditions covered by this Section; and

(ii) The Title Company issues a title insurance policy to Grantee in accordance with Section 3.2(c)(iii).

If Conservancy fails to provide a Notice of Default to West Coast within sixty (60) days after receiving West Coast's notice under Section 3.2(c)(i) above, then Grantee shall be automatically deemed to Waive title and site conditions.

(f) **Grazing License.** West Coast shall have the right, at its election, to continue to graze the Britton Property itself or by its designee for a period of up to twenty (20) years at no cost following conveyance to the Grantee, if consistent with Contra Costa County's land use policies and zoning and limited to that amount appropriate for the Britton Property, in accordance with the Grazing License attached hereto as ***Exhibit K***. West Coast shall forfeit such grazing license if it fails to graze the Britton Property for three consecutive years.

(g) **Closing Costs/Maintenance Costs**. All closing, escrow, recording, and title insurance costs associated with the recordation of the Britton Grant Deed shall be paid by the Grantee. Fees and assessments against the Britton Property shall be prorated between West Coast and Grantee as of the date the Britton Grant Deed is recorded. West Coast shall not be required to provide any monies or endowment for the long-term maintenance, monitoring or other purposes by the Grantee of the Britton Property.

(h) **Permanent Monument.** West Coast shall have the right, at West Coast's sole expense, to install and maintain one free-standing decorative monument with a brass or

bronze plaque of mutually approved size (not to exceed 7'x4' x 4') in a defined 20'x20' area, content, and permanent and visibly prominent location (such approval by the Grantee to not be unreasonably withheld) identifying the prior ownership and the owner's story of his ownership of the property as generally depicted on the attached ***Exhibit L.*** If there are no public trails constructed by Grantee on the Britton Property, the location of the monument within the Britton Property shall be nearest to, or prominently visible from, the closest public trail constructed by Grantee on Grantee's adjacent property. The monument may be installed by West Coast at or after such time as the Grantee opens the Britton Property to public recreational access. The Grantee shall not move, remove or alter the monument and plaque.

(i) **Right of Access.** From and after the Effective Date pending recordation of the Grant Deed, Grantee shall have the right to access the Britton Property, with advance written notice to West Coast, only to complete due diligence and to monitor compliance with West Coast's obligations under Section 3.2(b).

3.3 **Britton Adjacent Property.** West Coast is the owner of that approximately 55-acre undeveloped real property located in the City of Concord, County of Contra Costa and described in the **Britton Adjacent Property Title Report** attached hereto as ***Exhibit M*** (the "**Britton Adjacent Property**").

(a) **Grant of Fee Title.** Concurrently with, and as a condition of, the issuance of a Grading Permit and Take Authorization for the Covered Project on the Bridlegate Property, West Coast shall transfer the fee title to the Britton Adjacent Property to the EBRPD with a grant deed that is substantially in the form attached hereto as ***Exhibit N*** ("**the Britton Adjacent Grant Deed**") provided, however, that if EBRPD is unwilling or unable to accept the Britton Adjacent Grant Deed within forty-five (45) days of West Coast's delivery of the signed Britton Adjacent Grant Deed, West Coast will grant deed the Britton Adjacent Property to the Conservancy or a 501(c)(3) entity designated by the Conservancy. A delay in accepting the Britton Adjacent Grant Deed shall not be construed as a waiver of the obligation to convey such grant deed. Notwithstanding Section 5.2, failure to accept the conveyance of the Britton Adjacent Property in accordance with this Agreement within forty-five (45) days of West Coast's delivery of the signed Britton Adjacent Grant Deed shall not delay or adversely affect the issuance of Take Authorization under this Agreement, provided West Coast is in compliance with Section 3.3(b) and Sections 4.1(b)(i) and 4.1(c) at the time of such conveyance.

(b) **Maintaining Current Condition.** From and after the Effective Date, West Coast shall not encumber (except for financing purposes which shall be released upon transfer of the grant hereunder), transfer to a non-affiliated entity, or change title to the Britton Adjacent Property, nor shall it take or allow any action to physically change the condition of the property in a manner that is inconsistent with the terms and conditions of this Agreement. Prior to the transfer of the Britton Adjacent Grant Deed, West Coast shall maintain the Britton Property in substantially its current condition, as shown in the **Britton Adjacent Property Baseline Report** attached hereto as ***Exhibit O***, with the right to maintain, upgrade, and replace, the existing improvements within their existing footprint and weed abate as customary in the normal course of business.

(c) **Due Diligence.** The Permittees acknowledge that the Conservancy has completed the due diligence of the Britton Adjacent Property, including any environmental or other surveys, and they have jointly determined that the Britton Adjacent Property is an

acceptable dedication of land in lieu of a portion of the Development Fee for the Covered Project on the Bridlegate Property, in accordance with Chapter 8.6.7 of the HCP/NCCP and Section 13.2.2.2 of the Implementing Agreement. Prior to, and as a condition to, acceptance of the Britton Adjacent Grant Deed described in Section 3.3(a):

(i) West Coast shall provide the Conservancy written notice at least sixty (60) days in advance of issuance of a Grading Permit for the Covered Project on the Bridlegate Property pursuant to Section 3.3(a). Upon receipt of such written notice, Conservancy shall promptly identify the Grantee for the Britton Adjacent Grant Deed in accordance with Section 3.3(a). If neither EBRPD or the Conservancy will be the Grantee, the Conservancy will identify a 501(c)(3) entity to be the Grantee.

(ii) Upon Conservancy's receipt of West Coast's sixty (60) day written notice and, if applicable, West Coast's approval of the 501(c)(3) entity as Grantee, Conservancy shall request that Grantee, within forty-five (45) days, at its sole cost and expense, do both of the following:

- Review the title and site condition of the Britton Adjacent Property to confirm that: (1) there are no material changes to the condition of title described in the Britton Adjacent Property Title Report; and (2) site conditions do not differ significantly from those site conditions in place at the time of execution of this Agreement as shown in the Britton Adjacent Property Baseline Report except for those changes in such condition due to West Coast's rights set forth in Section 3.3(b) above or the adverse impact including loss of habitat due to natural phenomena, such as the impacts of fire, drought, landslides or climate change that are beyond the reasonable control of, and occur without the fault or gross negligence of, West Coast.

- Prepare the final Britton Adjacent Grant Deed in recordable form, specifying Grantee as the recipient.

(iii) The Title Company shall confirm that it will issue a fee title owner's title insurance policy in favor of the Grantee in the amount of $357,500.00 Dollars, subject only to those title exceptions described in the Britton Adjacent Property Title Report.

(d) **Acceptance of Grant Deed.** In no event shall Grantee or Conservancy be required to accept, nor shall West Coast be deemed to have delivered, the Britton Adjacent Grant Deed unless and until:

(i) Grantee confirms that there are no material changes to the condition of title or significant differences in the site conditions on the Britton Adjacent Property in accordance with Section 3.3(c)(ii). Any changes in site conditions due to the exercise by West Coast of its rights set forth in Section 3.3(b) or the adverse impact including loss of habitat due to natural environmental phenomena, such as the impacts of fire, drought, landslides or climate change that are beyond the reasonable control of, and occur without the fault or gross negligence of, West Coast shall not constitute a change in site conditions covered by this Section; and

(ii) The Title Company issues a title insurance policy to Grantee in accordance with Section 3.3(c)(iii).

If Conservancy fails to provide a Notice of Default to West Coast within sixty (60) days after receiving West Coast's notice under Section 3.3(c)(i) above, then Grantee shall be automatically deemed to Waive title and site conditions.

(e) **Grazing License.** West Coast shall have the right, at its election, to continue to graze the Britton Adjacent Property itself or by its designee for a period of twenty (20) years at no cost following conveyance to the Grantee, if consistent with Contra Costa County's land use policies and zoning and limited to that amount appropriate for the Britton Adjacent Property, in accordance with the Grazing License attached hereto as ***Exhibit K.*** West Coast shall forfeit such grazing license if it fails to graze the Britton Adjacent Property for three consecutive years.

(f) **Closing Costs/Maintenance Costs.** All closing, escrow, recording, and title insurance costs associated with the recordation of the Britton Adjacent Grant Deed shall be paid by the Grantee. Fees and assessments against the Britton Adjacent Property shall be prorated between West Coast and Grantee as of the date the Britton Adjacent Grant Deed is recorded. West Coast shall not be required to provide any monies or endowment for the long-term maintenance, monitoring or other purposes by the Grantee of the Britton Adjacent Property.

(g) **Sign License.** West Coast shall have the right, at its election and at its cost, either before or after the transfer of the Britton Adjacent Property, to access, install and maintain one (1) sign on the Britton Adjacent Property to be used only for marketing the sale or lease of residential housing units. The sign may be double faced and will be in the location generally depicted on the attached Exhibit P and shall not exceed 12'wide by 8'high. This right shall automatically terminate ten (10) years after the recordation of the Britton Adjacent Grant Deed.

(h) **Right of Access.** From and after the Effective Date pending recordation of the Grant Deed, Grantee shall have the right to access the Britton Adjacent Property, with advance written notice to West Coast, only to complete due diligence and to monitor compliance with West Coast's obligations under Section 3.3(b).

4. PAYMENT OF DEVELOPMENT FEES.

In consideration of the land dedications described in Section 3, the Permittees have determined that the Development Fees for each Covered Project will be reduced, and the Landowner Parties have agreed to pay the reduced Development Fees, as provided in this Section, if the Covered Project is approved by the applicable Permittee. Where used herein, and consistent with Section 2 above, the term "Grading Permit" does not include a grading permit issued for Limited Grading as defined in Section 2.

4.1 **Bridlegate Property.** West Coast shall satisfy its obligation to pay the Development Fee under the HCP/NCCP for the Covered Project on the Bridlegate Property, including all appurtenant improvements included in the Covered Project, as set forth in this Section.

(a) **Development Fee Amount.** West Coast shall pay an HCP/NCCP Development Fee in the total amount of Three Million One-Hundred Fifty-Six Thousand Dollars ($3,156,000) in 2019 Dollars for the Covered Project on the Bridlegate Property, as set forth in this Section.

(b) **Development Fee Cash Payments**.

(i) Concurrent with the issuance of a Grading Permit and Take Authorization for the Covered Project on the Bridlegate Property, West Coast shall pay the sum of Four-Hundred Seventy-Three Thousand Four-Hundred Dollars ($473,400) in 2019 Dollars to Brentwood, the applicable Permittee.

(ii) West Coast shall pay to Brentwood, the applicable Permittee, the sum of Two Million Six-Hundred Eighty-Two Thousand Six-Hundred Dollars ($2,682,600) in 2019 Dollars, which sum shall be due at Building Permit issuance for single family residential production units and paid on a pro rata basis at issuance of individual Building Permits based on the cumulative amount of $2,682,600 and the approved single family residential unit count, such that at the issuance of a Building Permit for the last single family residential unit constructed as part of the Covered Project on the Bridlegate Property, West Coast shall complete its payment of $2,682,600. For model home units and their parking lots, the fees that would otherwise be due at Building Permit for a production unit shall instead be due prior to approval for occupancy, i.e., they shall be due at approval for occupancy, not at occupancy approval for model home use. At West Coast's option, fees due at Building Permit can be pre-paid in blocks of ten (10) prior to issuance of the first permit in each group of ten (10). The cumulative fee amount for the Covered Project on the Bridlegate Property will not change if the unit count changes for the Project. Notwithstanding the above, the cumulative fee amount of $2,682,600 shall in any event be due from West Coast on July 1, 2032 unless the term of the Permits has been extended, in which case this time period shall be extended by the same amount of time that the term of the Permits is extended. If grading for the Covered Project on the Bridlegate Property has not started by July 1, 2032, the cumulative fee amount shall be due prior to issuance of a Grading Permit for the Covered Project, provided the Grading Permit is issued and Take Authorization is granted prior to expiration of the Permits, as extended, if applicable.

(iii) All unpaid fees set forth in this Section 4.1(b) will be adjusted automatically each year as provided for in Section 2 under the definition of "2019 Dollars" but will not be subject to any other adjustments based on Development Fee revisions or audits.

(c) **Security for Fee Payments.** To secure performance of West Coast's obligations under Section 4.1(b)(ii), concurrent with the issuance of the Grading Permit and Take Authorization for the Covered Project, West Coast shall deposit with the Brentwood, for the express benefit of, and to the reasonable satisfaction of, Brentwood and the Conservancy, security in the amount of $2,682,600 in 2019 Dollars. The security may be a transferable bond or bonds by one or more duly authorized corporate sureties or an irrevocable standby letter of credit, as determined by West Coast, in a form approved in advance in writing by Brentwood and the Conservancy, which approval shall not be unreasonably withheld or unduly delayed. West Coast shall ensure that the full amount of the security required by this Section 4.1(c) shall remain in effect until West Coast has fulfilled its obligations under Section 4.1(b)(ii). The Parties shall cooperate with West Coast by promptly signing any necessary documentation requested should West Coast seek to reduce the bond or letter or credit as the fees under Section 4.1(b)(ii) above are paid. However, any reduction in bond or letter of credit amounts shall account for inflation of the remaining fees to be paid such that the remaining bond or letter of credit amount stays proportionate with the number of building permits not yet issued.

(d) **Fulfillment of Development Fee Requirement.** The sum of $3,156,002 (in 2019 Dollars), paid by West Coast as described in Section 4.1(a) and Section 4.1(b), the deposit of security as described in Section 4.1(c), the grant of fee title described in Sections 3.2 and 3.3, at the times set forth therein, together shall fulfill the HCP/NCCP requirement to pay the Development Fee for the Covered Project on the Bridlegate Property. No other fees or fee amounts shall be due under the HCP/NCCP for long term maintenance of the Dedication Properties or with respect to the Covered Project, except for any wetland impact fees, rural road fees, or temporary impact fees that may be required consistent with standard application of the HCP/NCCP (except no temporary impact or rural road fees shall be imposed for work done to maintain, repair, or replace in situ, existing roads and improvements); provided, however, that West Coast shall pay for other costs provided in this Agreement, as well as any administrative fee imposed by Brentwood. Once the Grading Permit fee set forth in Section 4.1(b)(i) above is paid, no rural road or temporary impact fees shall thereafter be imposed.

4.2 **Tuscany Meadows.** SBH is the owner of that certain approximately 169-acre undeveloped real property located in the City of Pittsburg known as the "**Tuscany Meadows Property**." SBH shall satisfy its obligation to pay the Development Fee under the HCP/NCCP for the Covered Project on the Tuscany Meadows Property, including all appurtenant improvements included in the Covered Project, as set forth in this Section.

(a) **Development Fee Amount**. SBH shall pay the HCP/NCCP Development Fee in the total amount of One-Million Nine-Hundred Eighty-Two Thousand Dollars ($1,982,000) in 2019 Dollars for the Covered Project on the Tuscany Meadows Property, as provided in this Section.

(b) **Development Fee Cash Payments.**

(i) Concurrent with the issuance of the Grading Permit and Take Authorization for the Covered Project on the Tuscany Meadows Property, SBH shall pay the sum of Two-Hundred Ninety-Seven Thousand Three-Hundred Dollars($297,300) in 2019 Dollars to Pittsburg, the applicable Permittee.

(ii) SBH shall pay to Pittsburg, the applicable Permittee, the sum of One Million Six-Hundred Eighty-Four Thousand Seven-Hundred Dollars($1,684,700) in 2019 Dollars, which sum shall be due at Building Permit issuance for single family residential production units and paid on a pro rata basis at issuance of individual Building Permits based on the cumulative fee amount of $1,684,700 and the approved single family residential unit count, such that at the issuance of a Building Permit for the last single family residential unit constructed as part of the Covered Project on the Tuscany Meadows Property, SBH shall complete its payment of $1,684,700. For model home units and their parking lots, the fees that would otherwise be due at Building Permit for a production unit shall be due prior to approval for occupancy, i.e., they shall be due at approval for occupancy, not at occupancy approval for model home use. At SBH's option, fees due at Building Permit can be pre-paid in blocks of ten (10) prior to issuance of the first Building Permit in each group of ten (10). The cumulative fee amount for the Covered Project on the Tuscany Meadows Property will not change if the unit count changes for the Project. Notwithstanding the above, the cumulative fee amount of $1,684,700 in 2019 Dollars shall in any event be due from SBH no later than July 1, 2032, unless the term of the Permits has been extended, in which case this time period shall be extended by the same amount of time that the term of the Permits is extended. If construction of the Covered

Project on the Tuscany Meadows Property has not started by July 1, 2032, the cumulative fee amount shall be due prior to issuance of a Grading Permit for the Covered Project, provided the Grading Permit is issued and Take Authorization is granted before the expiration of the Permits, as extended, if applicable.

(iii) All unpaid fee amounts set forth in this Section 4.2(b) will be adjusted automatically each year as provided for in Section 2 under the definition of "2019 Dollars" but will not be subject to any other adjustments based on Development Fee revisions or audits.

(c) **Security for Fee Payments.** To secure performance of SBH's obligations under Section 4.2(b)(ii), prior to the issuance of the Grading Permit and Take Authorization for the Covered Project, SBH shall deposit with Pittsburg, for the express benefit of Pittsburg and the Conservancy, an adequate and satisfactory security in the amount of $1,684,700 in 2019 Dollars. The security may be a transferable bond or bonds by one or more duly authorized corporate sureties or an irrevocable standby letter of credit, as determined by SBH, in a form approved in advance in writing by Pittsburg and the Conservancy, which approval shall not be unreasonably withheld or unduly delayed. SBH shall ensure that the full amount of the security required by this Section 4.2(c) shall remain in effect until SBH has fulfilled its obligations under Section 4.2(b)(ii). The Parties shall cooperate with SBH by promptly signing any necessary documentation requested should SBH seek to reduce the bond as the fees under Section 4.2(b)(ii) above are paid. However, any reduction in bond amounts shall account for inflation of the remaining fees to be paid such that the remaining bond amount stays proportionate with the number of building permits not yet issued

(d) **Fulfillment of Development Fee Requirement.** The sum of $1,982,000 (in 2019 Dollars), paid by SBH as described in Section 4.2(a) and Section 4.2(b), the deposit of security as described in Section 4.2(c), the grant of fee title described in Section 3.1, at the times set forth therein, together shall fulfill the HCP/NCCP requirement to pay a Development Fee for the Covered Project on the Tuscany Meadows Property. No other fees or fee amounts shall be due under the HCP/NCCP for the maintenance of the Dedication Properties or with respect to the Covered Project, except for any wetland impact fees, rural road fees, or temporary impact fees that may be required consistent with standard application of the HCP/NCCP (except no temporary impact or rural road fees shall be imposed for work done to maintain, repair, or replace in situ, existing roads and improvements); provided, however, that SBH shall pay for other costs as provided in this Agreement, as well as any administrative fee imposed by Pittsburg. Once the Grading Permit fee set forth in Section 4.2(b)(i) above is paid, no rural road or temporary impact fees shall thereafter be imposed.

5. ADDITIONAL TERMS AND CONDITIONS.

5.1 **Memoranda of Take Authorization.** Within thirty (30) days after receiving a Take Authorization for a Covered Project, the applicable Landowner Party shall cause a memorandum of take authorization to be recorded against the applicable Covered Property in the Official Records of the County of Contra Costa. The memorandum shall be in the form attached hereto as ***Exhibit Q.*** The purpose of the memoranda of take authorization shall be to provide record notice of the terms and conditions and ensure that they run with the land. Such memorandum shall further provide that it shall be automatically released from title to each single family home transferred to a third party single family home buyer. After the initial recordation

of such memoranda and at the reasonable request of any Party, the Parties shall cooperate to re-record any memorandum as reasonably necessary to fulfill the purpose of this Section. Upon request of a Landowner Party following the expiration or termination of a Take Authorization, Pittsburg or Brentwood, as applicable, and the Conservancy, shall deliver to the Landowner Party a duly executed and acknowledged quitclaim deed suitable for recordation in the Official Records of the County of Contra Costa and in a form and content reasonably satisfactory to the Landowner Party, for the purpose of evidencing in the public records the expiration or termination of the Take Authorization.

5.2 **Extension of Take Authorization.** Take authorization shall be provided for each Covered Project individually under the terms and conditions of this Agreement. Except as specifically provided in this Agreement, all applicable terms and conditions of the HCP/NCCP, Implementing Agreement, and permits will apply to the Take Authorization for each Covered Project. Take coverage for the Covered Properties will be provided in accordance with, and will remain in effect as provided in, Section 13.2.2 of the Implementing Agreement and Section 6.2 of the HCP/NCCP, including any extensions of the term of the Permits. Take authorization will be provided for each Covered Project by either Pittsburg or Brentwood, as applicable, once all of the following have occurred with regard to the Covered Project in accordance with this Agreement:

(i) the HCP/NCCP permit application and Planning Survey Reports ("**PSRs**") for the Covered Project is deemed complete by Pittsburg or Brentwood, as applicable;

(ii) HCP/NCCP terms and conditions (e.g., avoidance and minimization measures) for the project have been determined by the Permittee and made binding conditions of approval for the Covered Project. The Parties acknowledge that such HCP/NCCP terms and conditions have already been identified and covered in the PSR and CEQA review and are binding conditions of approval for the Tuscany Meadows project;

(iii) Pittsburg or Brentwood, as applicable, determines that the Covered Project as described in the permit application and PSR is consistent with this Agreement and the HCP/NCCP and includes this Agreement and the applicable HCP/NCCP terms and conditions as conditions of approval;

(iv) the development fee amounts identified in Sections 4.1(b)(i) and 4.2(b)(i), where applicable, are paid in accordance with this Agreement;

(v) the security for fee payments identified in Sections 4.1(c) and 4.2(c), where applicable, is provided in accordance with this Agreement; and

(vi) the grant of fee title identified in Sections 3.1, 3.2 and 3.3, where applicable, are completed in accordance with this Agreement.

(a) **Fee Amounts Due at Issuance of Building Permit.** The Parties acknowledge that the fee amounts identified in Sections 4.1(b)(ii) and 4.2(b)(ii) are not due until after a Take Authorization has been provided for the applicable Covered Project. However, such Take Authorizations shall be contingent on payment of such fee amounts, such that the Conservancy or, as applicable, Pittsburg or Brentwood, may suspend the Take Authorizations if such payments are not made in accordance with this Agreement. In addition, Pittsburg or Brentwood, as applicable, shall include as a condition of approval for each Covered Project a

requirement to pay such fee amounts and shall suspend issuance of Building Permits for any Covered Project for which such payments are not timely made in accordance with this Agreement.

(b) **Wetland Mitigation.** Wetland mitigation and other standard HCP/NCCP measures have been adequately covered in the June 2012 PSR for the Tuscany Meadows Covered Project, in accordance with standard requirements of the HCP/NCCP. Such requirements and measures shall be covered in a PSR for the Bridlegate Property prior to issuance of grading permit for the Covered Project on the Bridlegate Property. The Conservancy shall cooperate with the applicable Landowner Party to facilitate the processing, review, and approval of the PSR by Brentwood. If requested by an applicable Landowner Party, the Conservancy shall promptly and reasonably respond to requests for wetland delineation verification to confirm compliance with HCP/NCCP requirements. The applicable Landowner Party shall cover the Conservancy's reasonable costs in doing so.

5.3 **Cooperation on Clean Water Act Compliance PSR Preparation.** The Conservancy shall cooperate with the applicable Landowner Party in its efforts to obtain necessary ACOE and Regional Water Quality Control Board ("**RWQCB**") permits for the Covered Projects and Central Valley Project Inclusionary Water Approvals for the Tuscany Meadows property. The Conservancy shall also cooperate with the Landowner Parties in their efforts to ensure that wetland mitigation provided in accordance with the HCP/NCCP is credited to mitigation obligations necessary to receive coverage under the ACOE Regional General Permit and related permits that may be necessary from the RWQCBs. The Conservancy shall further cooperate with the Permittees and the Landowner Parties to expedite the processing, review and approval of PSRs for the Covered Project on the Bridlegate property.

5.4 **Consultation**. The Parties shall cooperate to support the use of this Agreement and the HCP/NCCP as satisfying the consultation requirements under Section 7 of the Endangered Species Act for the inclusion of the Tuscany Meadows project into the Central Valley Water Project. Such cooperation shall be at no additional cost to any Party. As stated in the letter attached hereto as Exhibit B, USFWS and CDFW have approved this Agreement and provided that consultation under Section 7 of the Endangered Species Act with the U.S. Bureau of Reclamation related to processing a letter of inclusion into the Central Valley Project for these projects shall be consistent with the Biological Opinion issued for the HCP/NCCP and that they will not seek to impose requirements on covered activities related to covered species in excess of the requirements of the Permits, the HCP/NCCP or the Implementing Agreement. Should such agencies seek to require more mitigation for a Covered Project than is provided for under this Agreement, then the Conservancy and Pittsburg or Brentwood, as applicable, will initiate the dispute resolution procedure set forth in Section 21.1 of the Implementing Agreement, as provided in Section 16 of the Implementing Agreement, it being the intent of all Parties hereto that there shall be no increase in the amount and cost of mitigation provided by Landowners for the Covered Projects.

5.5 **No Opposition to Covered Projects by Conservancy.** The Conservancy agrees to not oppose, either directly or indirectly, the approval by the applicable agency of development authorizations and approvals for the Covered Projects. For purposes of this section "development authorizations and approvals" means, but is not limited to, a CEQA notice of determination; a vesting tentative map application or approval; a development agreement; a permit or other authorization from the U.S. Army Corps of Engineers, to the extent required by

law; a certification or other authorization from the Regional Water Quality Control Board, to the extent required by law; and application for CVP Inclusionary Water Approval (where applicable) and other agency permits or authorizations that may or will be needed for a Covered Project. Notwithstanding the above, the Conservancy shall retain the right to comment on HCP/NCCP related matters, including but not limited to HCP/NCCP compliance under the terms and conditions of this Agreement, regarding the Covered Projects, so long as such comments are consistent with the understandings, commitments, and obligations of the Parties set forth in this Agreement. At the applicable Landowner Party's request, and if the Covered Project is in compliance with this Agreement and applicable provisions of the HCP/NCCP, the Conservancy shall, within thirty (30) days, write a letter confirming that the Covered Project is in compliance with the HCP/NCCP.

5.6 **Limited Initial Grading and Remedial Grading.**

(a) To the extent that Pittsburg or Brentwood, as applicable, allow any Limited Grading to occur on any of the Covered Properties ,the applicable Landowner Party shall pay a proportionate share of the fee to be paid at Grading Permit (as set forth in Sections 4.1(b)(i) and 4.2(b)(i) above) based on the acreage impacted (regardless of whether the impact is temporary or permanent), with the balance of the fee to be paid in accordance with those referenced sections. If such Limited Grading is covered under a separate take authorization pursuant to the HCP/NCCP, such proportionate share of the fee shall not be required and HCP/NCCP fee amounts paid for acreage impacted by the Limited Grading under the separate take authorization shall be credited toward the fee to be paid at Grading Permit set forth in Section 4.1(b)(i) or 4.2(b)(i), as applicable. The requirements of Section 3 of this Agreement shall not apply to Limited Grading.

(b) Notwithstanding the above, no proportionate share of such fee shall be due for the remedial grading and processing work to be conducted on the Tuscany Meadows Property for the remediation of the oily dirt resulting from the prior tank farm uses. The requirements of Section 3 of this Agreement shall not apply to this remedial grading.

5.7 **Use of Dedication Properties Before Transfer.** The retained interests in all lands conserved and granted hereunder will remain available to the Landowner Parties and the owners of the Dedication Properties, for use, enjoyment, and transfer, subject to the terms and conditions of this Agreement.

5.8 **Transfer of Real Property.** The transfer of a Covered Property to a third party shall not relieve any Party to this Agreement from its obligations under Sections 4.1(b) and 4.2(b). Such Landowner Party shall remain jointly and severally liable for such obligations. The applicable Landowner Party shall deliver written notice of the transfer to Conservancy and the applicable city Permittee within ten (10) calendar days of such transfer.

5.9 **Antioch HCP.** The Landowner Parties agree not to oppose or comment on the initiation by the Conservancy or the City of Antioch of a proposed Habitat Conservation Plan for the City of Antioch. Notwithstanding the above, the Landowner Parties reserve the right to comment on and challenge any proposed draft or final Antioch HCP or similar plan or HCP implementation program and the environmental review associated with such plan or its implementation.

5.10 **No Opposition to HCP/NCCP Fees.** The Landowner Parties, or entities in which Albert D. Seeno, Jr. or Thomas A. Seeno, individually or jointly, are the majority owners, trustees, partners or shareholders, and specifically excluding their children or entities in which their children are the majority owners, ("**Affiliated Entities**"), own properties that are, on the Effective Date, subject to the HCP/NCCP implementing ordinances of HCP/NCCP Permittees, including, but not limited to, Pittsburg and Brentwood, and which are not Dedication Properties or Covered Properties as identified in ***Exhibit R*** ("**Other Development Properties**"). The Landowner Parties, on behalf of themselves and the Affiliated Entities, shall not protest payment of or otherwise challenge, and hereby waives and releases the Permittees from any and all claims, liabilities, damages, or causes of action, regarding any HCP/NCCP fees described in Chapter 9.3 with regard to Covered Properties, Dedication Properties, or any such Other Development Properties or any projects proposed thereon. In addition, the Landowner Parties shall not oppose adoption or implementation of the year 3, year 6, or year 10 periodic fee audits by HCP/NCCP Permittees, including, but not limited to, Pittsburg and Brentwood, or any automatic fee updates based on indices and formulas established in the HCP/NCCP. The Parties agree that, if any Landowner Party, or any Affiliated Entity, protests payment of or challenges any such HCP/NCCP fees, periodic audits, or automatic fee updates, such protest or challenge shall constitute a default under this Agreement that shall be addressed through the procedures in Section 6.2 of this Agreement.

This covenant not to protest or challenge HCP/NCCP fees, periodic audits, or automatic updates, does not apply to any of the following:

(a) an increase in HCP/NCCP development fees as the result of a periodic audit (i.e., not as the result of an automatic HCP/NCCP fee update) approved or adopted after the year 10 fee audit, as described in Chapter 9.3.1 of the HCP/NCCP, which year 10 fee audit the Parties acknowledge and accept will likely be adopted after the Effective Date;

(b) an amendment of the HCP/NCCP fee zones under which an Other Development Property is placed in a higher fee zone;

(c) a modification or amendment of the HCP/NCCP that will increase the mitigation requirements, including but not limited to HCP/NCCP fee amounts, on any of the Other Development Properties; or

(d) protests or challenges to HCP/NCCP fees as applied to, or HCP/NCCP participation regarding, a property acquired by a Landowner Party or Affiliated Entity after the Effective Date, provided the Landowner Party provides satisfactory evidence to the Conservancy that any such property was acquired after the Effective Date and was not previously owned by a Landowner Party or any Affiliated Entity.

6. MISCELLANEOUS PROVISIONS.

6.1 **Cooperation.** The Parties shall cooperate in implementing this Agreement. In the case of the Conservancy, "cooperate" shall mean that the Conservancy, subject to available resources as prioritized by the Conservancy Board, shall expend reasonable resources and efforts to fulfill its obligations created by this Agreement consistent with its responsibilities, authorities, and the goals of the HCP/NCCP.

6.2 **Default; Dispute Resolution Process; Remedies.**

(a) **Default.**

(i) **Events of Default**. Subject to any extensions of time by mutual consent, in writing, the failure or unreasonable delay by any Party to perform any material term or provision of this Agreement for a period of forty-five (45) days after the delivery of a written notice of default ("**Notice of Default**") from another Party shall constitute a default under this Agreement. The Parties expressly acknowledge and agree that an event of default with respect to one of the Covered Projects shall not affect the provisions, obligations or performance of the Parties with respect to any other Covered Project not a subject of such event of default.

(ii) **Notice of Default**. Any Notice of Default given hereunder shall specify, in detail, the nature of the alleged event of default and the manner in which such event of default may be satisfactorily cured in accordance with the terms and conditions of this Agreement.

(iii) **Cure Period**. During the forty-five (45) day time period after receipt of the Notice of Default, which is the period herein specified for cure of an event of default (the "**Cure Period**"), the Party charged therewith shall not be considered to be in default for purposes of institution of legal proceedings with respect thereto.

(iv) **Remedies after Expiration of Cure Period**. After Notice of Default and expiration of the Cure Period, if the alleged default has not been cured, the non-defaulting Party may, at its option, institute the dispute resolution procedures set forth in Section 6.2(b) below.

(b) **Dispute Resolution.**

(i) **General Framework.** The Parties recognize that this Agreement is a relatively complex document with many forward-looking obligations and it is possible that one or more disputes may arise regarding it. Any dispute or controversy between the Permittees and the Landowner Parties arising from or related to this Agreement, including the interpretation, enforcement, breach, default, termination or applicability of this Agreement (collectively, a "**Dispute**") shall be resolved pursuant to the procedures in this Section.

(ii) **Informal Negotiations.** Any Dispute shall in the first instance be the subject to direct negotiations between the appropriate Parties. Any Complaining Party may invoke dispute resolution by sending a written "**Notice of Dispute**" to any other Party. The date this Notice of Dispute is sent will be deemed the "**Commencement Date**" of informal negotiations. The Notice of Dispute shall describe in detail the Dispute at issue and shall propose a specific resolution. The Responding Party shall respond in writing within ten (10) days of its receipt of the Notice, by either accepting the proposed resolution or proposing an alternative resolution. During this negotiation period, the Parties shall work together in good faith to attempt to resolve the Dispute. The Parties may extend this negotiation period by mutual agreement in writing. Unless extended by mutual written agreement, the informal negotiation period shall expire twenty (20) days from the date the Responding Party receives the Notice of Dispute.

(iii) **Mediation.** If the Parties do not resolve a Dispute through informal negotiations, any Party (whether the Complaining Party or Responding Party) may, at

its sole election and at its sole expense, initiate non-binding mediation with JAMS, Inc., ("**JAMS**") in order to attempt to resolve any such Dispute. If a Party makes this election, both the Complaining Party and Responding Party are required to comply with the provisions of this Section. A Party, if it chooses to commence mediation, shall provide to JAMS and the other Parties a written request for mediation, setting forth the subject of the Claim and the relief requested, no later than twenty (20) days after the completion of the informal negotiation period, unless such date has been extended by the Parties in writing. The Parties will cooperate with JAMS and with one another in selecting a mediator from the JAMS panel of neutrals, and in scheduling the mediation proceedings to occur in a mutually convenient location in the San Francisco Bay Area. The Parties covenant that they will participate in the mediation in good faith and that, if they are the Party initiating the mediation, they shall be solely responsible for the payment of all costs billed by JAMS. Each Party shall otherwise bear its own costs and fees, including attorneys' fees and expert fees incurred during the mediation. Any Party may seek equitable relief or make protective court filings relating to a Dispute prior to the mediation. Except for such actions, no Party may commence a civil action with respect to the matters submitted to the mediation until after the completion of the initial mediation session, or sixty (60) days after the date of filing the written request for mediation, whichever occurs first ("**Mediation Completion Date**"). Mediation may continue after the commencement of a civil action, if all Parties so agree in writing. This provision requiring a Party to mediate at the other Party's election may be enforced by any Court of competent jurisdiction, and the Party seeking enforcement of this provision shall be entitled to an award of all costs, fees and expenses, including attorneys' fees, expended to force compliance with this mediation provision, excluding, however, the costs of the mediation itself and attorneys' fees expended during mediation.

(iv) **Tolling of Claims.** The Parties agree that, beginning with the Commencement Date of informal negotiations and continuing through the Mediation Completion Date (if mediation is invoked), or through ten (10) days after the end of the informal negotiation period (if mediation is not invoked), and without any further writing among the Parties, any statute of limitations applicable to claims arising from or related to the Dispute shall be deemed to have been tolled from the Commencement Date until the Mediation Completion Date, or until ten (10) days after the end of the informal negotiation period (if no mediation), or for such longer period as the Parties may mutually agree in writing to extend the tolling period.

(v) **Judicial Action.** Notwithstanding the foregoing, no determination or conclusion reached through the dispute resolution process shall have a binding effect on any Party (unless so agreed to by the Party) and any Party may choose to pursue judicial action if the dispute resolution processes do not resolve the Dispute.

(c) **Remedies.** The Parties agree that the following remedies will be available in any judicial action at law or in equity based on or related to the Agreement:

(i) The remedies for breach of this Agreement shall be limited to declaratory relief, equitable relief, including specific performance, temporary, preliminary, and permanent injunctive relief, actions for return or restitution of fees or any other monetary payments made under this Agreement, reformation, reconveyance of properties and/or termination of this Agreement. In no event shall any Party be liable for special, consequential, or punitive damages.

6.3 **Force Majeure.**

(a) In the event that a Party is wholly or partially prevented from performing obligations under this Agreement because of causes beyond the reasonable control of and without the fault or negligence of such Party ("**Force Majeure**"), including, but not limited to, acts of God, natural disasters such as fire or flood, terrorism, restraint by court order, labor disputes, or sudden actions of the elements (and excluding adverse changes in the economic condition of either of the Landowner Parties specifically or the economy generally, or changes in market conditions or demand), the Party shall be excused temporarily from whatever performance is affected by such unforeseeable cause to the extent so affected, and such failure to perform shall not be considered a material violation or breach, provided that:

(i) The suspension of performance is of no greater scope and no longer duration than is required by the Force Majeure;

(ii) Within seven (7) business days after the occurrence of the Force Majeure, the Party invoking this Section shall give the other Parties written notice describing the particulars of the occurrence;

(iii) The Party shall use best efforts to remedy its inability to perform (however, this paragraph shall not require the settlement of any strike, walk-out, lock-out or other labor dispute on terms which in the sole judgment of the Party is contrary to its interest); and

(iv) When the Party is able to resume performance of their obligations, it shall give the other Parties written notice to that effect.

6.4 **Applicable Law.** This Agreement shall be governed by, and construed and enforced in accordance with the laws of the State of California.

6.5 **Legal Challenge and Cooperation.** In the event of any legal or equitable action or other proceeding instituted by any third party (including a governmental entity or official) challenging the validity of any provision of this Agreement or any action taken by the Parties in furtherance of this Agreement, the Parties hereby agree to cooperate in defending said action or proceeding.

6.6 **Notices.** Any notice or communication required hereunder shall be in writing and may be given either by hand delivery or by registered mail, return-receipt requested. Notice, whether given by registered mail or personal delivery, shall be deemed to have been given and received on the actual receipt by any of the addresses designated below as the Party to whom notices are to be sent. Any Party hereto may at any time, upon written notice to the other Parties hereto, designate any other address in substitution of the address to which such notice or communication shall be given. Such notices or communications shall be given to the Parties at their addresses set forth below:

The Conservancy:
Attn: Executive Director
c/o Contra Costa County Department of Conservation and Development
30 Muir Road
Martinez, CA 94553
Telephone: (925) 674-7831

The City of Pittsburg:
Attn: Community Development Director
65 Civic Avenue
Pittsburg, CA 94565
Telephone: 925-252-4814

The City of Brentwood:
Attn: Community Development Director
150 City Park Way
Brentwood, CA 94513
Telephone: (925) 516-5405

Landowner Parties: Nortonville, LLC, Seecon Built Homes, Inc., West Coast Home Builders, Inc.
Attn: Albert D. Seeno, Jr.
4021 Port Chicago Highway
Concord, California 94520
Telephone: (925) 671-7711

with a copy to: Jeanne C. Pavao, General Counsel
Attn: Legal Department
4021 Port Chicago Highway
Concord, California 94520
Telephone: (925) 671-7711

6.7 **Venue**. In the event that suit shall be brought by any Party to this Agreement, the Parties agree that venue shall be exclusively vested in the state court in the County of Contra Costa, State of California or in a federal court with geographic jurisdiction of this County.

6.8 **Severability**. If any term, provision, covenant, or condition of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions of this Agreement shall continue in full force and effect unless enforcement of this Agreement as so invalidated would be unreasonable or grossly inequitable under all the circumstances or would frustrate the purposes of this Agreement.

6.9 **Effective Date**. This Agreement will become effective on the date after all of the following have occurred (the "**Effective Date**"):

(a) execution by all Parties of this Agreement; and

(b) execution by the Service and CDFW of the letter attached hereto as ***Exhibit B***.

6.10 **Entire Agreement.** This Agreement and the exhibits attached hereto contain all the representations and the entire agreement between the Parties with respect to:

(a) compliance with the HCP/NCCP requirement to pay a Development Fee for the Covered Projects;

(b) remedies and recourse should any Party fail to perform its obligations as set forth in this Agreement; and

(c) assurances to the Landowner Parties that upon performance of the terms and conditions in the Agreement, including compliance with applicable HCP/NCCP terms and conditions as provided in Section 5.2(ii) of this Agreement, the Permittees will provide Take Authorization for the Covered Projects, and the Landowner Parties shall become Third Party Participants under the Implementing Agreement, the HCP/NCCP, and the Permits, with all the rights and benefits thereof.

Except as otherwise specified in this Agreement and the exhibits hereto, any prior correspondence, memoranda, agreements, warranties, or representations are superseded in total by this Agreement and exhibits hereto.

6.11 **Attorneys' Fees.** In the event any Party to this Agreement breaches the terms of this Agreement, the prevailing Party in any lawsuit or court proceeding brought upon this Agreement shall be entitled to recover its reasonable attorneys' fees and costs incurred in the enforcement of this Agreement.

6.12 **Reserved Powers.** Notwithstanding any other provision of this Agreement, nothing in this Agreement shall:

(a) expand or restrict the discretion of Pittsburg or Brentwood when determining what action(s) to take regarding applications or project proposals submitted by a Landowner Party, including limiting the discretion of Brentwood, in its consideration of projects on the Bridlegate Property, to approve, deny or condition any and all land use applications for the Covered Project or any other project on the Bridlegate Property, except as specifically required by this Agreement;

(b) expand or restrict the discretion of Pittsburg or Brentwood when adopting or amending development policies, impact fees, taxes, regulations, standards and processing requirements;

(c) operate as a waiver or limitation to any condition of approval required or imposed by Pittsburg or Brentwood on a Covered Project provided that any such condition of approval does not expressly conflict with the provisions of this Agreement;

(d) expand or restrict the discretion of the Conservancy in its implementation of the HCP/NCCP, including any decision to enter into a land dedication in lieu of development fee agreement with any other applicant on terms and conditions that the Conservancy deems appropriate, except as explicitly required by this Agreement;

(e) operate as a waiver or limitation to any mitigation measure required or imposed by Pittsburg or Brentwood on a Covered Project under CEQA that is not inconsistent with this Agreement;

(f) require any of the Landowner Parties to undertake any of the Covered Projects if that Party determines, in its sole discretion, not to proceed with such development;

(g) except for the matters addressed in this Agreement, interfere with the Landowner Parties' exercise of discretion to pursue and manage other land use and

environmental permits, approvals, authorizations and other entitlements from local, regional, state or federal government agencies having jurisdiction of any part of a Covered Project in whatever sequence, manner and approach that it deems necessary; or

(h) except for the waivers, agreements, requirements and obligations of the Landowner Parties regarding fees, land dedications, permits, approvals, authorizations or other entitlements set forth in this Agreement, waive or restrict the rights of the Landowner Parties to challenge in any forum or by any appropriate means any other permit, entitlement, approval, authorization or other entitlements for any of the Covered Projects.

6.13 **Counterparts.** This Agreement may be executed in duplicate counterpart originals, each of which is deemed to be an original, and all of which when taken together shall constitute one (1) and the same instrument.

6.14 **Term, and Termination.** This Agreement shall continue in full force until terminated. The Agreement may be terminated only by written mutual agreement of all Parties or by judicial action in accordance with Section 6.2(c).

[SIGNATURES ON FOLLOWING PAGE]

CITY OF PITTSBURG

By:_____
Name:_____
Its:_____

CITY OF BRENTWOOD

By:_____
Name:_____
Its:_____

EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY,
a joint exercise of powers agency.

By:_____
Name:_____
Its:_____

NORTONVILLE, LLC,
a California limited liability company

By: _____
Name: _____
Its: _____

SEECON BUILT HOMES, INC.
a California corporation

By:_____
Name:_____
Its:_____

WEST COAST HOME BUILDERS, INC.,
a California corporation

By:_____
Name:_____
Its:_____

LIST OF EXHIBITS

Exhibit A – Map of Covered Properties (Tuscany Meadows and Bridlegate)

Exhibit B – Letter from the Service and CDFW

Exhibit C – Map of Dedication Properties (Nortonville Strip and Britton)

Exhibit D – Nortonville Strip Title Report

Exhibit E – Nortonville Strip Grant Deed

Exhibit F – Nortonville Strip Baseline Report

Exhibit G – Britton Title Report

Exhibit H – Britton Grant Deed

Exhibit I – Britton Baseline Report

Exhibit J – Depiction of Britton Property and Access Easements

Exhibit K – Britton Grazing License Agreement

Exhibit L – Britton Permanent Monument

Exhibit M – Britton Adjacent Property Title Report

Exhibit N – Britton Adjacent Grant Deed

Exhibit O – Britton Adjacent Baseline Report

Exhibit P – Britton Adjacent Sign Location

Exhibit Q - Memorandum of Take Authorization

Exhibit R – Other Development Properties

Exhibit A – Map of Covered Properties (Tuscany Meadows and Bridlegate)

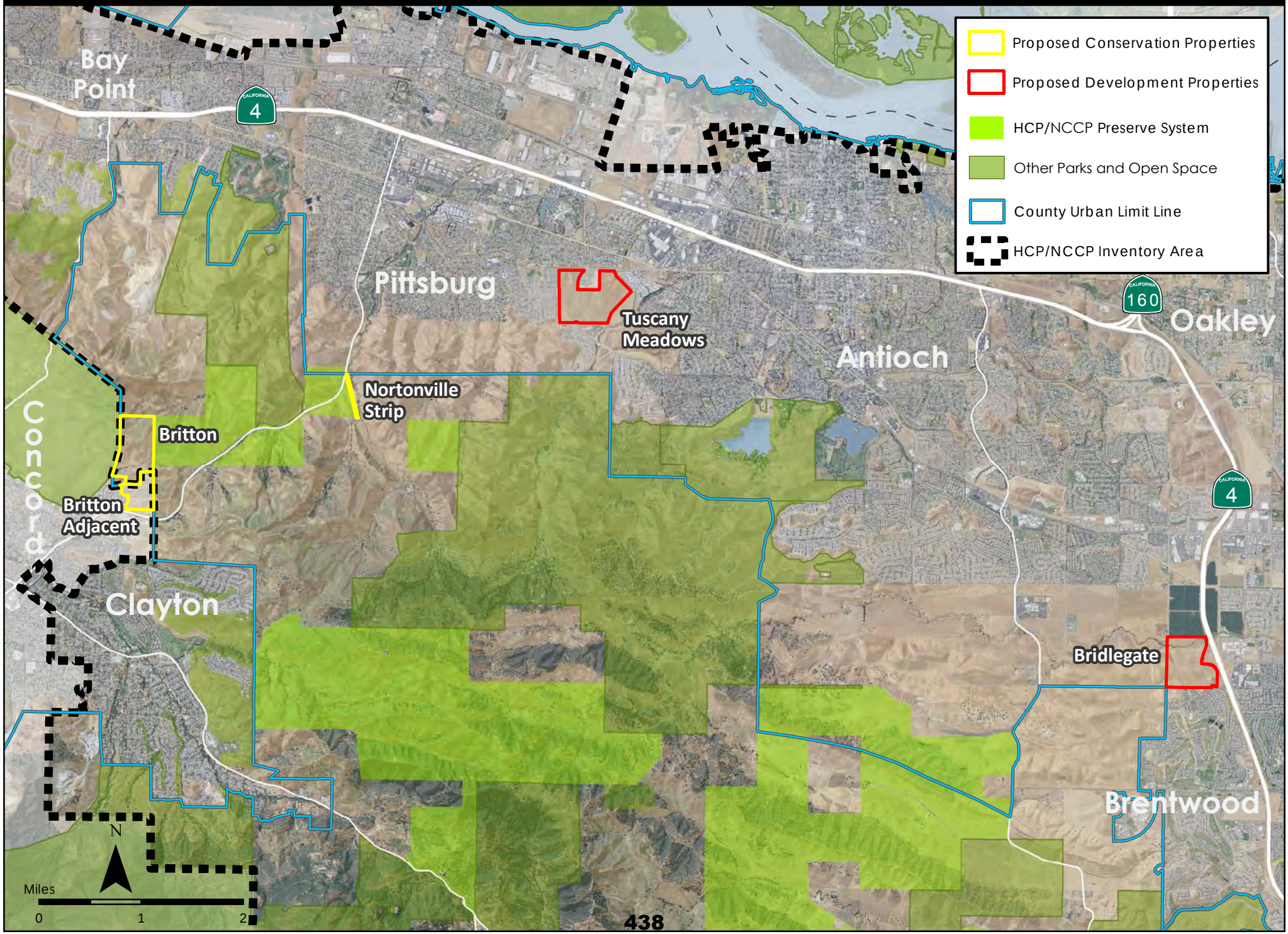

Proposed Conservation Properties
Proposed Development Properties
HCP/NCCP Preserve System
Other Parks and Open Space
County Urban Limit Line
HCP/NCCP Inventory Area
Bay Point
Pittsburg
Tuscany Meadows
Antioch
Oakley
Nortonville Strip
Britton
Britton Adjacent
Concord
Clayton
Bridlegate
Brentwood
4
160
N
Miles
0
1
2

Exhibit B – Letter from U.S. Fish and Wildlife Service and California Department of Fish and Wildlife

Department of Fish and Wildlife
Bay Delta Region
7329 Silverado Trail
Napa, California 94558

U.S. Fish & Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, RoomW-2605
Sacramento, California 95825-1846

DRAFT

Chairman
And Members of the Board
East Contra Costa County Habitat Conservancy
30 Muir Road
Martinez, CA 94553

Mayor
And Members of the City Council
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

Mayor
And Member of the City Council
City of Brentwood City Hall
150 City Parkway
Brentwood, CA 94513

Dear Honorable Boardmembers and City Councilmembers:

The East Contra Costa County Habitat Conservancy (Conservancy) has asked the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) to approve a proposal by Nortonville, LLC, Seecon Built Homes, Inc., and West Coast Home Builders, Inc., to dedicate land in lieu of development fees in compliance with the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP) section 8.6.7. That proposal is attached to this letter.

The proposed dedication of land in lieu of fees would result in three dedications of land to the ECCC HCP/NCCP Preserve System and in reductions of ECCC HCP/NCCP development fees for two projects seeking coverage under the ECCC HCP/NCCP (Covered Projects). The properties proposed for dedication to the ECCC HCP/NCCP Preserve System with their approximate acreages and the two Covered Projects listed with their approximate adjusted development fees are listed below.

Properties proposed for dedication:

1. Britton Property (135 acres)
2. Britton Adjacent Property (54 acres)
3. Nortonville Strip (5 acres)

Covered Projects:

1. Bridlegate ($3,156,000)
2. Tuscany Meadows ($1,982,000)

The USFWS and CDFW have determined that this proposed dedication of land in lieu of development fees, if fully implemented, would be consistent with the Endangered Species Act section 10(a)(1)(B) incidental take permit issued by the USFWS and the National Community Conservation Plan Permit issued by CDFW under Section 2835 of the California Fish and Game Code for the ECCC HCP/NCCP (Permits), with the ECCC HCP/NCCP, and with the Implementing Agreement for the ECCC HCP/NCCP (Implementing Agreement). The USFWS and CDFW approve the proposed dedication of land in lieu of development fees in accordance with the ECCC HCP/NCCP section 8.6.7. Note that while the Britton Adjacent Property contributes to meeting ECCC HCP/NCCP biological goals and objectives (i.e. providing important habitat linkages) and is appropriate to include in the proposed dedication of land in lieu of fees, based on it's location outside of the ECCC HCP/NCCP Plan Area, it cannot be credited towards the acreage of preserved land in the ECCC HCP/NCCP Preserve System.

As stated in sections 16.1 and 16.2 of the Implementing Agreement, unless otherwise required by law or regulation, and provided the proposed dedication of land in lieu of development fees is implemented in full, USFWS and CDFW will not seek to impose measures related to incidental take under the Endangered Species Act and the Natural Community Conservation Planning Act in excess of the requirements of the Permits, the ECCC HCP/NCCP, or the Implementing Agreement on the Covered Projects regarding impacts of Covered Activities on Covered Species. Consultation under Section 7 of the Endangered Species Act with the U.S Bureau of Reclamation related to processing a letter of inclusion into the Central Valley Project for these projects shall be consistent with the biological opinion issued for the ECCC HCP/NCCP and will not seek to impose requirements on Covered Activities related to Covered Species in excess of the requirements of the Permits, the ECCC HCP/NCCP, or the Implementing Agreement.

Should the development projects associated with the proposed land in lieu agreement require federal Endangered Species Act section 7 consultations, the USFWS will complete the consultations pursuant to the regulatory time frames described in 50 CFR 402.14. Section 7 consultations (biological opinions) for covered activities under the ECCCHCP/NCCP, such as the development projects associated with the proposed land in lieu agreement, have typically been completed in significantly less than 135 days.

Sincerely,

U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office

California Department of Fish and Wildlife
Bay Delta Region

DRAFT

Exhibit C – Map of Dedication Properties (Nortonville Strip, Britton and Britton Adjacent)

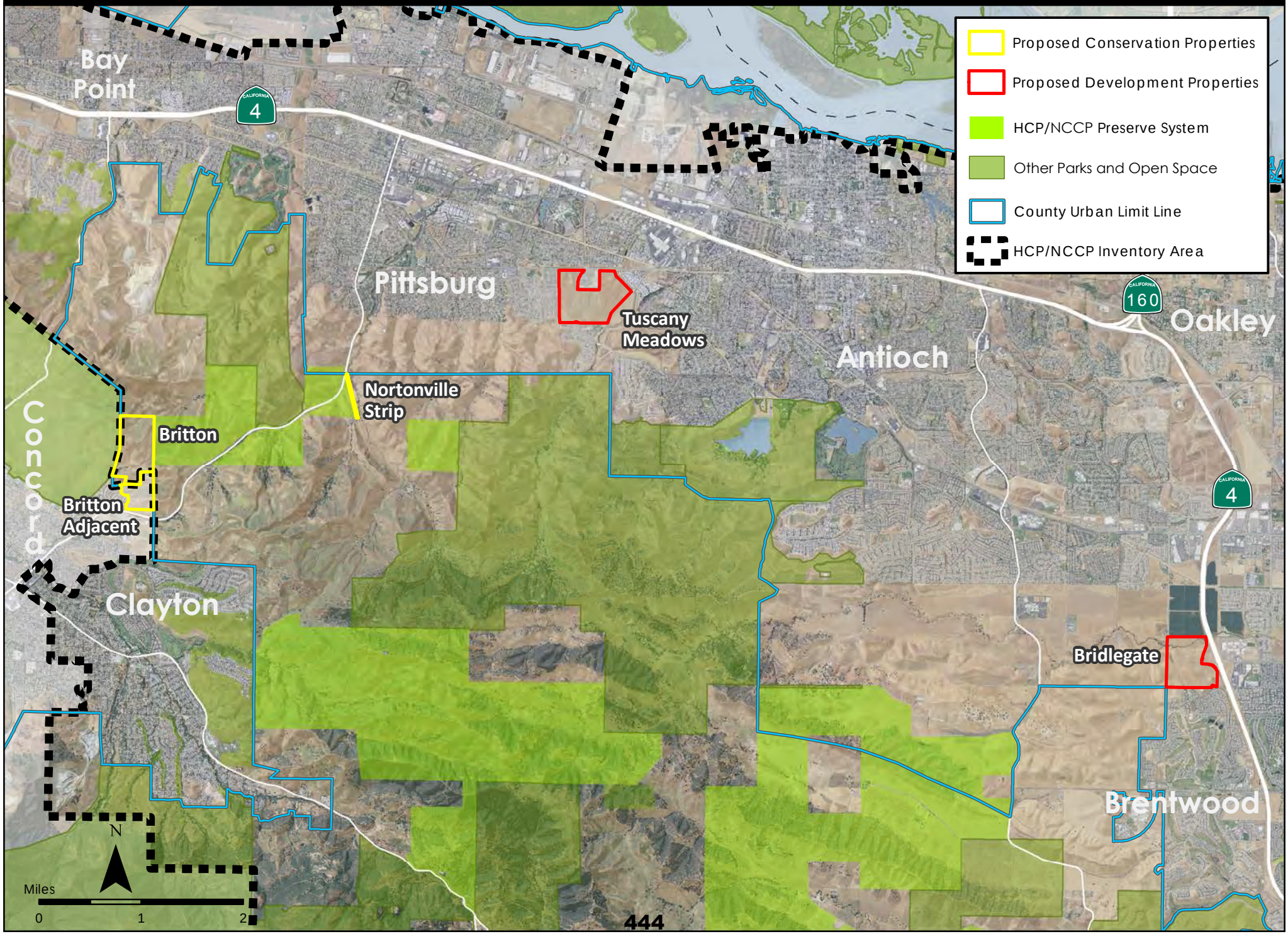

Proposed Conservation Properties
Proposed Development Properties
HCP/NCCP Preserve System
Other Parks and Open Space
County Urban Limit Line
HCP/NCCP Inventory Area
Bay Point
Pittsburg
Tuscany Meadows
Antioch
Oakley
Nortonville Strip
Britton
Britton Adjacent
Concord
Clayton
Bridlegate
Brentwood
4
160
N
Miles
0
1
2

Exhibit D – Nortonville Strip Title Report

OLD REPUBLIC TITLE COMPANY

1000 Burnett Ave, Suite 400
Concord, CA 94520
(925) 687-7880 Fax: (925) 687-4836

PRELIMINARY REPORT

Our Order Number 0147021911-DJ

THE SEENO COMPANIES
4021 Port Chicago Highway
Concord, CA 94520

Attention: JEANNE C. PAVAO

When Replying Please Contact:

Donna Jones
DonnaJ@ortc.com
(925) 687-7880

Property Address:

Nortonville Strip, Pittsburg, CA 94565
[Unincorporated area of Contra Costa County]

In response to the above referenced application for a policy of title insurance, OLD REPUBLIC TITLE COMPANY, as issuing Agent of Old Republic National Title Insurance Company, hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said Policy or Policies are set forth in Exhibit I attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the Homeowner's Policy of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit I. Copies of the Policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit I of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.
It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of May 15, 2018, at 7:30 AM

OLD REPUBLIC TITLE COMPANY
For Exceptions Shown or Referred to, See Attached

The form of policy of title insurance contemplated by this report is:

CLTA Standard Coverage Policy -1990. A specific request should be made if another form or additional coverage is desired.

The estate or interest in the land hereinafter described or referred or covered by this Report is:

Fee

Title to said estate or interest at the date hereof is vested in:

NORTONVILLE, LLC, a California limited liability company

The land referred to in this Report is situated in the unincorporated area of the County of Contra Costa, State of California, and is described as follows:

PARCEL ONE:

A portion of the Northeast 1/4 of Section 31, Township 2 North, Range 1 East, Mount Diablo Base and Meridian, being the property described in the Deed from Margaret G. Thomas, widow of R. G. Thomas, to Black Diamond Mining Company, a corporation, dated March 1, 1877, recorded May 2, 1910, in Book 153 of Deeds, Page 266, Contra Costa County Records, described as follows:

A certain strip or piece of land situated and being in the County of Contra Costa, State of California, and being a part of the Northeast 1/4 of Section 31, Township 2 North, Range 1 East of Mount Diablo Base and Meridian, being more particularly described as the part of said 1/4 Section on which the railroad track is located and built, together with 50 feet in width of land on each side of said railroad track, measuring from the center thereof.

APN: 075-070-003

PARCEL TWO:

A portion of the Northwest 1/4 of Section 32, Township 2 North, Range 1 East, Mount Diablo Base and Meridian, being the property described in the Deed from Annie Latimer and David Latimer to Southport Land and Commercial Company, dated March 21, 1913, recorded March 24, 1913, in Book 198 of Deeds, Page 226, Contra Costa County Records, described as follows:

Beginning at a point in the West side of the County Road from Pittsburg to Nortonville where it crosses the line between Sections 31 and 32, Township 2 North, Range 1 East, Mount Diablo Base and Meridian; thence Southeasterly along the West side of said road, 638 feet to the South boundary of said Northwest 1/4 Section; thence Westerly along said South boundary 103 feet; thence Northwesterly, parallel to said County Road and 100 feet distant therefrom 240 feet to line between Sections 31 and 32; thence North on section line, 385 feet to beginning.

APN: 075-060-014

At the date hereof exceptions to coverage in addition to the Exceptions and Exclusions in said policy form would be as follows:

1. Taxes and assessments, general and special, for the fiscal year 2018 - 2019, a lien, but not yet due or payable.

2. Taxes and assessments, general and special, for the fiscal year 2017 - 2018, as follows:

Assessor's Parcel No	:	075-070-003	
Code No.	:	86010	
1st Installment	:	$13,611.00	Marked Paid
2nd Installment	:	$13,611.00	Marked Paid
Land Value	:	$12,725.00	

Affects Parcel One

3. Taxes and assessments, general and special, for the fiscal year 2018 - 2019, as follows:

Assessor's Parcel No	:	075-060-014	
Code No.	:	86010	
1st Installment	:	$83.84	Marked Paid
2nd Installment	:	$83.84	Marked Paid
Land Value	:	$3,837.00	

Affects Parcel Two

4. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Section 75, et seq., of the Revenue and Taxation Code of the State of California.

5. Ordinance No. 97-30, Revision of Eastern Contra Costa Sub-Regional Transportation Mitigation Fees, by the Board of Supervisors of Contra Costa County, recorded August 6, 1997, Series No. 97-140390;

Ordinance No. 97-29, Urgency Measure for Interim Authorization to Revise Eastern Contra Costa Sub-Regional Transportation Mitigation Fees, recorded August 6, 1997, Series No. 97-140391;

Resolution and Ordinance for the Eastern Urgency Ordinance for the Eastern Contra Costa Sub-Regional Transportation Mitigation Fee Program, recorded August 18, 1997, Series No. 97-148355.

6. An unrecorded lease, upon the terms, covenants and conditions contained or referred to therein,

Lessor: Southport Land and Commercial Company
Lessee: Louis J. Ginochio

As disclosed by off record information.

NOTE: The present ownership of said leasehold or leaseholds and other matters affecting the interest of the lessee or lessees are not shown herein.

---------- Informational Notes ----------

A. The applicable rate(s) for the policy(s) being offered by this report or commitment appears to be section(s) 1.1.

B. NOTE: The last recorded transfer or agreement to transfer the land described herein is as follows:

Instrument Entitled	:	Grant Deed
By/From	:	Seecon Financial & Construction Co., Inc., a California corporation
To	:	NORTONVILLE, LLC, a California limited liability company
Recorded	:	July 2, 2009 in Official Records under Recorder's Serial Number 2009-0156095

Exhibit I

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY - 1990
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or {iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.-

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;.

   (c) resulting in no loss or damage to the insured claimant;

   (d) attaching or created subsequent to Date of Policy; or

   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land Is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments Which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims Which are not shown by the public records but which could be ascertained by an inspection of the land which may be asserted by persons in possession thereof,

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

OLD REPUBLIC TITLE

rev. 07/2016

FACTS

WHAT DOES OLD REPUBLIC TITLE DO WITH YOUR PERSONAL INFORMATION?

Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and employment information • Mortgage rates and payments and account balances • Checking account information and wire transfer instructions When you are *no longer* our customer, we continue to share your information as described in this notice.
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Old Republic Title chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does Old Republic Title share?	Can you limit this sharing?
For our everyday business purposes — such as to process your transactions, maintain your account(s), or respond to court orders and legal investigations, or report to credit bureaus	**Yes**	**No**
For our marketing purposes — to offer our products and services to you	**No**	**We don't share**
For joint marketing with other financial companies	**No**	**We don't share**
For our affiliates' everyday business purposes — information about your transactions and experiences	**Yes**	**No**
For our affiliates' everyday business purposes — information about your creditworthiness	**No**	**We don't share**
For our affiliates to market to you	**No**	**We don't share**
For non-affiliates to market to you	**No**	**We don't share**

Questions	**Go to** www.oldrepublictitle.com (*Contact Us*)

Who we are	
Who is providing this notice?	Companies with an Old Republic Title name and other affiliates. Please see below for a list of affiliates.

What we do	
How does Old Republic Title protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. For more information, visit http://www.OldRepublicTitle.com/newnational/Contact/privacy.
How does Old Republic Title collect my personal information?	We collect your personal information, for example, when you: • Give us your contact information or show your driver's license • Show your government-issued ID or provide your mortgage information • Make a wire transfer We also collect your personal information from others, such as credit bureaus, affiliates, or other companies.
Why can't I limit all sharing?	Federal law gives you the right to limit only: • Sharing for affiliates' everyday business purposes - information about your creditworthiness • Affiliates from using your information to market to you • Sharing for non-affiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See the "Other important information" section below for your rights under state law.

Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. • *Our affiliates include companies with an Old Republic Title name, and financial companies such as Attorneys' Title Fund Services, LLC, Lex Terrae National Title Services, Inc., Mississippi Valley Title Services Company, and The Title Company of North Carolina.*
Non-affiliates	Companies not related by common ownership or control. They can be financial and non-financial companies. • *Old Republic Title does not share with non-affiliates so they can market to you*
Joint marketing	A formal agreement between non-affiliated financial companies that together market financial products or services to you. • *Old Republic Title doesn't jointly market.*

Other Important Information

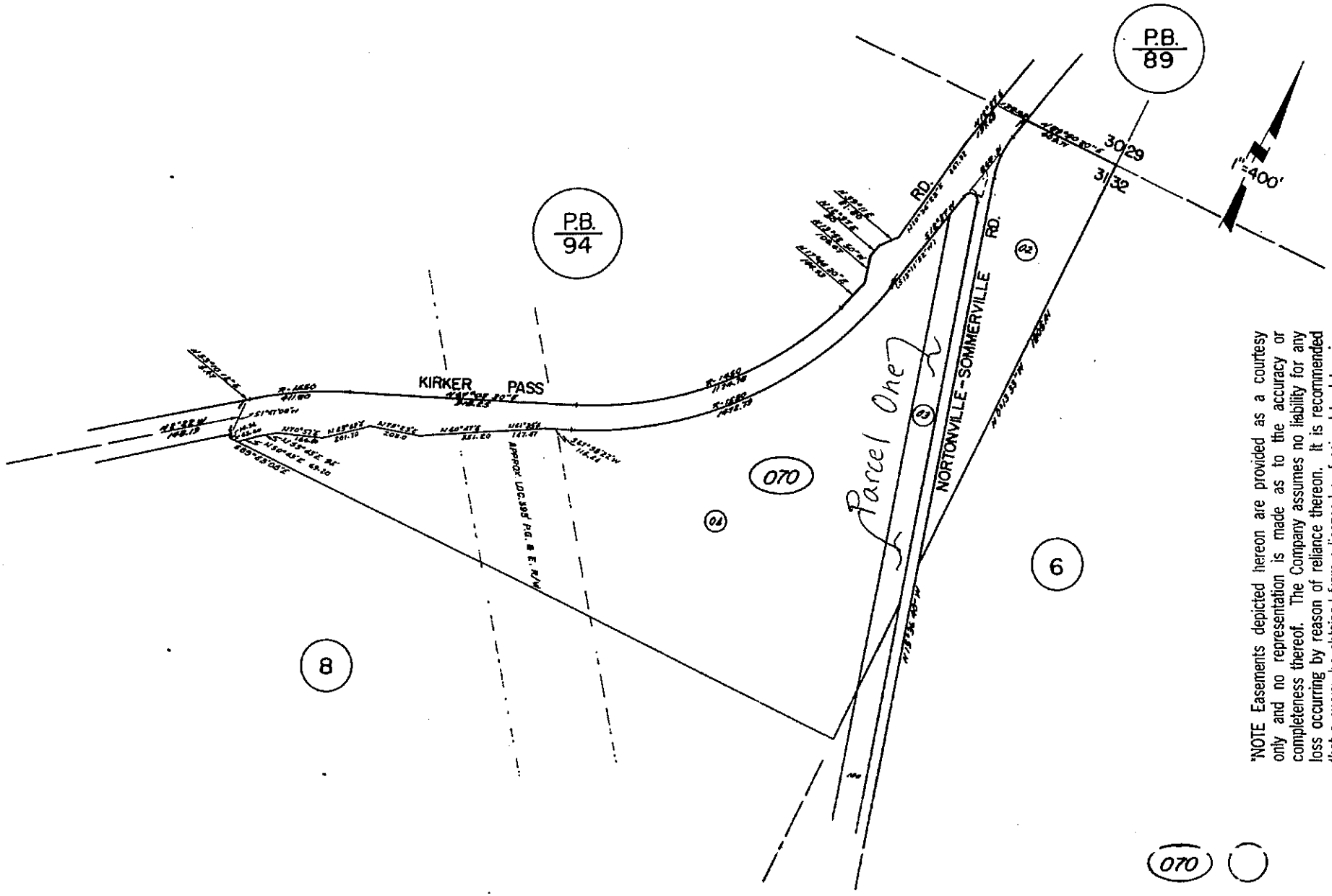
Oregon residents only: We are providing you this notice under state law. We may share your personal information (described on page one) obtained from you or others with non-affiliate service providers with whom we contract, such as notaries and delivery services, in order to process your transactions. You may see what personal information we have collected about you in connection with your transaction (other than personal information related to a claim or legal proceeding). To see your information, please click on "Contact Us" at www.oldrepublictitle.com and submit your written request to the Legal Department. You may see and copy the information at our office or ask us to mail you a copy for a reasonable fee. If you think any information is wrong, you may submit a written request online to correct or delete it. We will let you know what actions we take. If you do not agree with our actions, you may send us a statement.

Affiliates Who May be Delivering This Notice

American First Abstract, LLC	**American First Title & Trust Company**	**American Guaranty Title Insurance Company**	**Attorneys' Title Fund Services, LLC**	**Compass Abstract, Inc.**
eRecording Partners Network, LLC	**Genesis Abstract, LLC**	**Kansas City Management Group, LLC**	**L.T. Service Corp.**	**Lenders Inspection Company**
Lex Terrae National Title Services, Inc.	**Lex Terrae, Ltd.**	**Mara Escrow Company**	**Mississippi Valley Title Services Company**	**National Title Agent's Services Company**
Old Republic Branch Information Services, Inc.	**Old Republic Diversified Services, Inc.**	**Old Republic Exchange Company**	**Old Republic National Title Insurance Company**	**Old Republic Title and Escrow of Hawaii, Ltd.**
Old Republic Title Co.	**Old Republic Title Company of Conroe**	**Old Republic Title Company of Indiana**	**Old Republic Title Company of Nevada**	**Old Republic Title Company of Oklahoma**
Old Republic Title Company of Oregon	**Old Republic Title Company of St. Louis**	**Old Republic Title Company of Tennessee**	**Old Republic Title Information Concepts**	**Old Republic Title Insurance Agency, Inc.**
Old Republic Title, Ltd.	**Republic Abstract & Settlement , LLC**	**Sentry Abstract Company**	**The Title Company of North Carolina**	**Title Services, LLC**
Trident Land Transfer Company, LLC				

POR. N.E. 1/4 SEC. 31 T2N RIE MDBM

TAX CODE AREA



"NOTE Easements depicted hereon are provided as a courtesy only and no representation is made as to the accuracy or completeness thereof. The Company assumes no liability for any loss occurring by reason of reliance thereon. It is recommended that a survey be obtained from a licensed professional to determine actual locations"

454

070

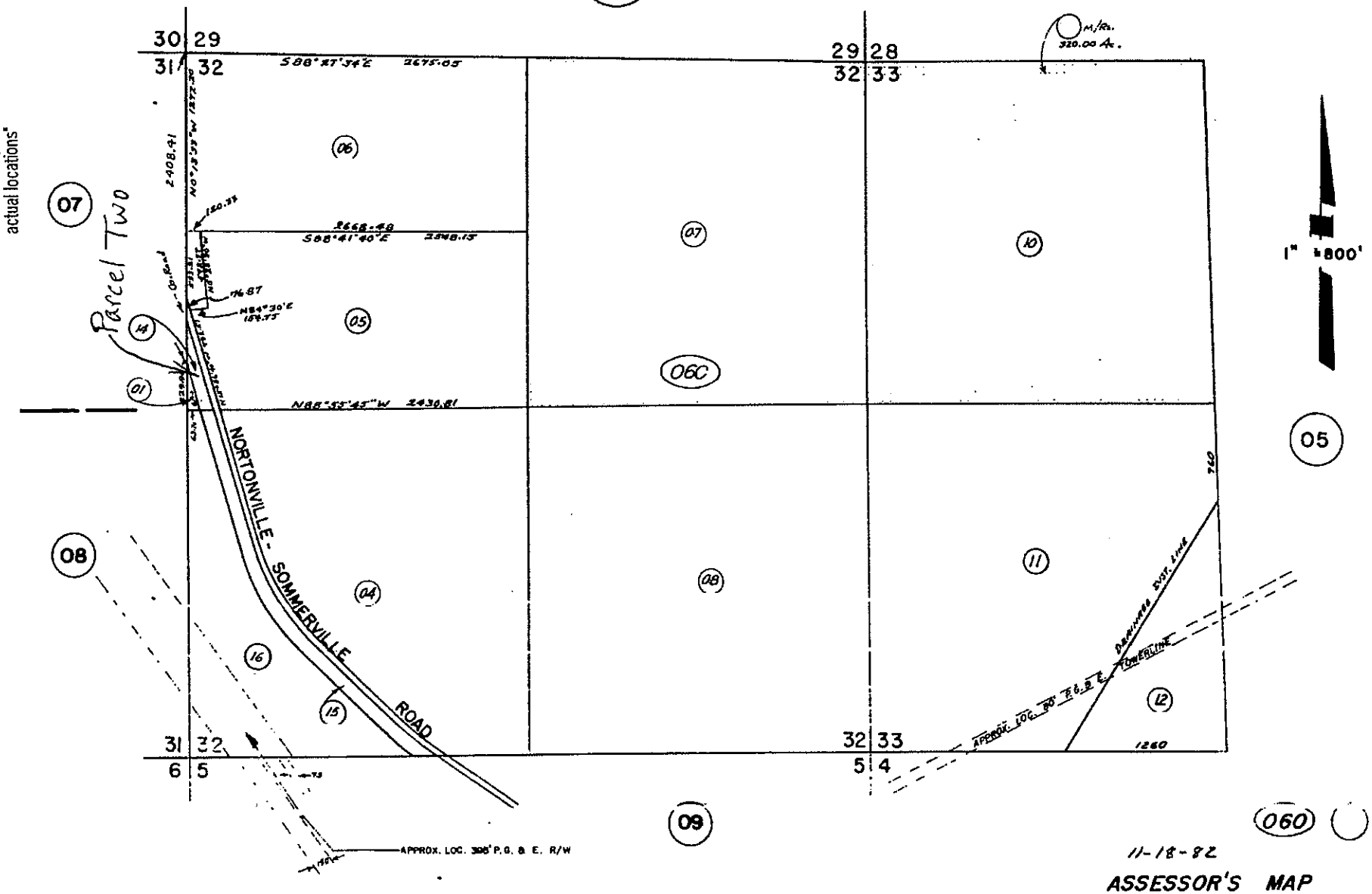
ASSESSOR'S MAP
BOOK 75 **PAGE** 07
CONTRA COSTA COUNTY, CALIF.
1/5/63

"NOTE Easements depicted hereon are provided as a courtesy only and no representation is made as to the accuracy or completeness thereof. The Company assumes no liability for any loss occurring by reason of reliance thereon. It is recommended that a survey be obtained from a licensed professional to determine actual locations"

SEC. 32 & W 1/2 SEC. 33 T.2N., R.1E., M.D.B.&M.

TAX CODE AREA

PB 89



11-18-82

ASSESSOR'S MAP

BOOK 75 PAGE 06

COUNTY OF CONTRA COSTA, CALIF.

455

Exhibit E – Nortonville Strip Grant Deed

RECORDING REQUESTED BY:

Old Republic Title Company

WHEN RECORDED MAIL DOCUMENT
AND TAX STATEMENTS TO:

Attn:

(SPACE ABOVE THIS LINE IS FOR RECORDER'S USE ONLY)

GRANT DEED

The undersigned Grantor(s) declare(s):
Documentary Transfer Tax is $
☐ computed on full value of property conveyed, or
☐ computed on full value less of liens and encumbrances remaining at time of sale.
x Unincorporated area: ☐ City of

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

NORTONVILLE, LLC, a California limited liability company,

hereby GRANT(S) to

, a ,

that property in the County of Contra Costa, State of California, described as:

See *Exhibit A* attached hereto and made a part hereof.

Date: , 20

NORTONVILLE, LLC,
a California limited liability company

By:_____
Name:_____
Its:_____

Form: 2/29/2016

MAIL TAX STATEMENTS AS DIRECTED ABOVE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

(Civil Code §1189)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) **ss.**
COUNTY OF _____)

On _____, 20____, before me, _____,
a Notary Public, personally appeared _____
_____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
SIGNATURE OF NOTARY PUBLIC

PARCEL ONE:

A portion of the Northeast 1/4 of Section 31, Township 2 North, Range 1 East, Mount Diablo Base and Meridian, being the property described in the Deed from Margaret G. Thomas, widow of R. G. Thomas, to Black Diamond Mining Company, a corporation, dated March 1, 1877, recorded May 2, 1910, in Book 153 of Deeds, Page 266, Contra Costa County Records, described as follows:

A certain strip or piece of land situated and being in the County of Contra Costa, State of California, and being a part of the Northeast 1/4 of Section 31, Township 2 North, Range 1 East of Mount Diablo Base and Meridian, being more particularly described as the part of said 1/4 Section on which the railroad track is located and built, together with 50 feet in width of land on each side of said railroad track, measuring from the center thereof.

APN: 075-070-003

PARCEL TWO:

A portion of the Northwest 1/4 of Section 32, Township 2 North, Range 1 East, Mount Diablo Base and Meridian, being the property described in the Deed from Annie Latimer and David Latimer to Southport Land and Commercial Company, dated March 21, 1913, recorded March 24, 1913, in Book 198 of Deeds, Page 226, Contra Costa County Records, described as follows:

Beginning at a point in the West side of the County Road from Pittsburg to Nortonville where it crosses the line between Sections 31 and 32, Township 2 North, Range 1 East, Mount Diablo Base and Meridian; thence Southeasterly along the West side of said road, 638 feet to the South boundary of said Northwest 1/4 Section; thence Westerly along said South boundary 103 feet; thence Northwesterly, parallel to said County Road and 100 feet distant therefrom 240 feet to line between Sections 31 and 32; thence North on section line, 385 feet to beginning.

APN: 075-060-014

Exhibit F – Nortonville Strip Baseline Report

BASELINE DOCUMENTATION REPORT

NORTONVILLE STRIP PROPERTY (FEE) LAND TRANSFER
(APN#S 075-060-014 AND 075-070-003)
CONTRA COSTA COUNTY, CALIFORNIA

OCTOBER 31, 2018

Prepared for

East Contra Costa County Habitat Conservancy
30 Muir Road
Martinez, CA 94553

Prepared by

Heath Bartosh

NOMAD ECOLOGY
(925) 228-1027
822 MAIN STREET
MARTINEZ, CA 94553

TABLE OF CONTENTS

Section 1. Introduction 1
1.1. Purpose of the Property Acquisition 1
1.2. Purpose of the Baseline Documentation Report 1
Section 2. Documentation Methods 3
2.1. Data Resources 3
2.2. Personnel and Field Investigation 3
2.3. Resource Documentation and Mapping 3
2.4. Limitations 4
Section 3. Property Description 6
3.1. Regional Setting 6
3.2. Local Setting 6
3.3. Hydrology Characteristics 7
3.4. Land Use 7
3.5. Anthropogenic Features 8
3.6. Land Cover and Environmental Conditions 11
3.7. Invasive Species and Noxious Weeds 15
Section 4. References 17

LIST OF TABLES

Table 1. APNs of the Nortonville Land Transfer 1
Table 2. HCP Land Cover Types in the Study Area 11
Table 3. Vegetation Community Classifications Systems Comparisons 14
Table 4. Invasive Weeds Observed in the Study area 15

LIST OF FIGURES

Figure 1. Location of the Nortonville Strip Property 2
Figure 2. Regional Map 20
Figure 3. Aerial Photograph 21
Figure 4. Anthropogenic Features 22
Figure 5. Land Cover Types 23
Figure 6. Photo Point Locations 24

LIST OF APPENDICES

APPENDIX A Figures 19
APPENDIX B Property Acquisition 25
APPENDIX C Photographs 27

Section 1. INTRODUCTION

As requested by East Contra Costa County Habitat Conservancy (Conservancy), Nomad Ecology (Nomad) prepared this Baseline Documentation Report (BDR) for the Nortonville Land Transfer (NLT). The NLT is located within rural unincorporated Contra Costa County, California (Figures 1, 2, and 3 in Appendix A). The NLT includes portions of two parcels totaling 5.4 acres, located in the eastern portion of the Pittsburg Hills at the valley bottom of Kirker Creek. This parcel is located near the western boundary of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP or Plan) Inventory Area (Jones and Stokes, 2006). It is also adjacent to and west of Nortonville Road and to the east of Conservancy owned Austin-Thomas North property. Accessors Parcel Numbers (APNs) for the parcel portions included in this document are depicted in Table 1.

Table 1. APNs of the Nortonville Land Transfer

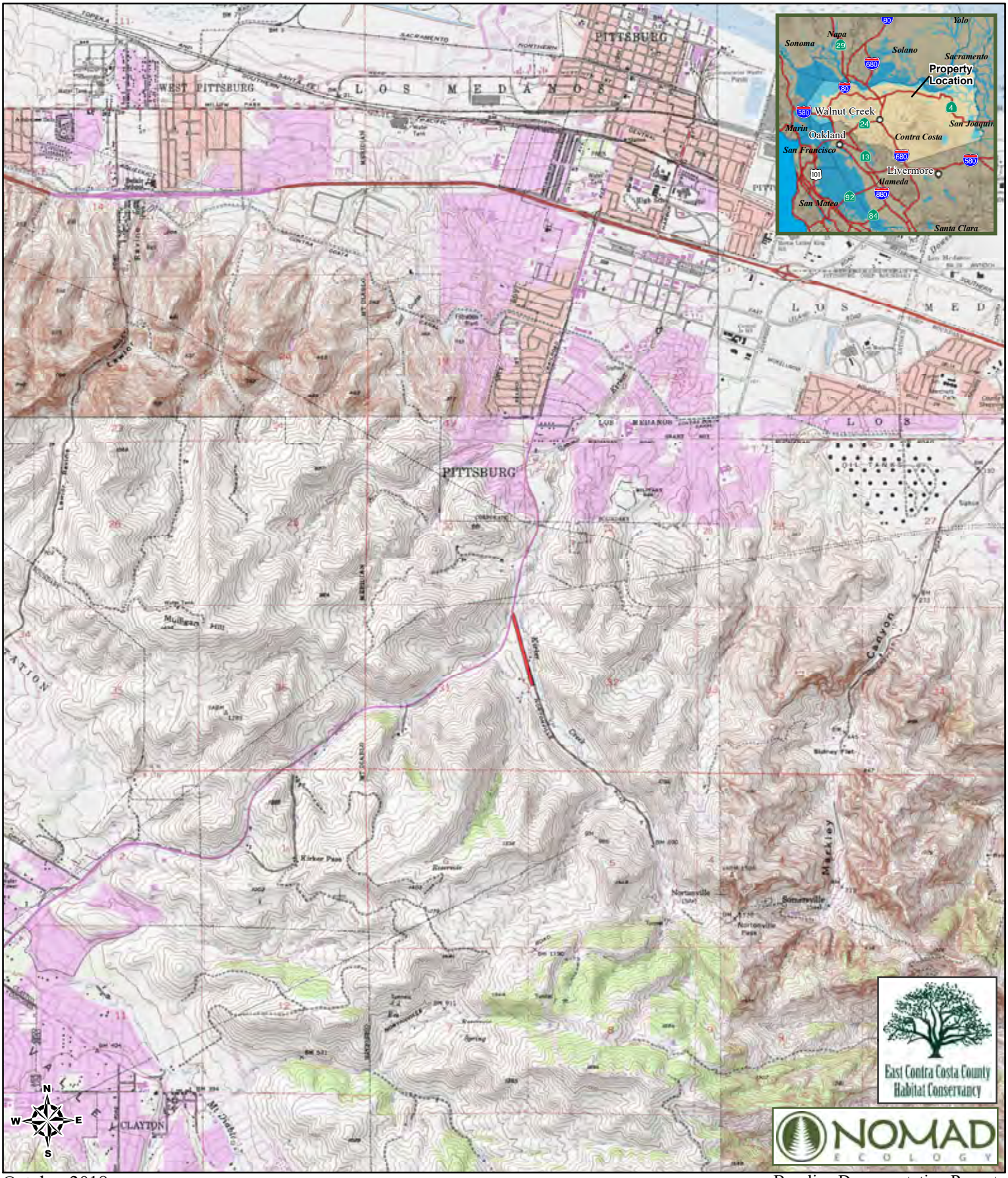
APN	ACRES
075-060-014	0.82
075-070-003	4.58
Total	**5.40**

1.1. PURPOSE OF THE PROPERTY ACQUISITION

The purpose of the property transfer is to ensure that existing and future natural values and associated wildlife and habitat values of the land will be forever protected by preventing any use of the land that would impair or interfere with the conservation values. The property transfer will confine the use of the land to such activities that are consistent with this purpose, including, without limitation, those involving the preservation, restoration, and enhancement of the property's wildlife species and their habitats.

1.2. PURPOSE OF THE BASELINE DOCUMENTATION REPORT

The purpose of the BDR is to establish and document the condition of the property to provide a baseline against which to determine whether such condition has changed significantly and, if such condition has changed significantly, to determine the nature and extent of the change, including whether the change is the result of natural phenomena, such as fire, drought, landslide or climate change.



October 2018

Baseline Documentation Report

Legend

Nortonville Land Transfer

Figure 1

Nortonville Land Transfer

Settlement Agreement

East Contra Costa County Habitat Conservancy

1:48,000

0 0.25 0.5 Miles

Sources: USGS, Contra Costa County. Projection: NAD 83 UTM 10 North.

Section 2. DOCUMENTATION METHODS

2.1. DATA RESOURCES

Botanical taxonomy and nomenclature conforms to *The Jepson Manual* (Baldwin et al. 2012) with the exception of recent circumscriptions posted on the Jepson eFlora (Jepson Flora Project 2018) website. Common names of plant species are derived from *The Calflora Database* (Calflora 2018).

2.2. PERSONNEL AND FIELD INVESTIGATION

Nomad senior botanist Heath Bartosh conducted a reconnaissance-level survey of the NLT on August 24, 2018. Per the Conservancy's instructions, the primary focus of the survey was to document man-made features and infrastructure as well as scenic features. Mr. Bartosh inspected and photographed any agricultural or grazing infrastructure on the NLT. This included all known structures and water sources (e.g., troughs). While completing that task, Mr. Bartosh made efforts to document the biological resources present on site. Those efforts included documenting baseline environmental conditions, land cover types, and large infestations of invasive species or noxious weeds.

Protocol-level surveys for special-status plants and animals were not conducted as part of this assessment.

2.3. RESOURCE DOCUMENTATION AND MAPPING

Field data including the locations of photo points, invasive species and man-made features were collected using a handheld Global Positioning System (GPS) device. A data point was collected for each aforementioned feature. These data points were then transferred to a desktop computer Geographic Information System (GIS) platform operating ESRI ArcGIS for creating polygons, where necessary, and populating attribute tables.

2.3.1 PHOTOPOINTS

Photographs were taken during the course of the survey to document observations or locations where data was collected. GPS data points were recorded for all photo points and converted into a GIS shapefile. All photo points recorded are depicted in Figure 4 (Appendix A) and these photos are shown in Appendix C.

2.3.2 VEGETATION COMMUNITY DATA

Vegetation communities in this report are described using HCP/NCCP Land Cover Types (Jones and Stokes 2006). Representative photographs were taken for each Land Cover Type observed within the NLT.

2.3.3 INVASIVE SPECIES

Significant observations of invasive plant and/or animal species encountered within the NLT were recorded as GPS data points. Invasive species were evaluated to determine their status within the NLT, and their potential effect on native species, special-status species and other natural resources.

2.3.4 ANTHROPOGENIC FEATURES

Spatial and description data was collected for all man-made features within the NLT including access roads, power lines, ponds, gates, and livestock structures, among others. All features recorded are depicted in the relevant maps in Figure 4 (Appendix A).

2.4. LIMITATIONS

Nomad was directed by Conservancy staff to focus documentation efforts on man-made features; therefore, survey coverage was generally limited to areas where these types of features were located. Due to these constraints, information on biological resources should be considered preliminary and incomplete.

Based on the timing of the assessment, and the sampling intensity, it was not possible to rule out the presence of any potentially occurring special-status plant, fish, or wildlife species. However, inferences on presence or absence were possible for specific special-status plant species with blooming periods corresponding to the August 2018 site visit. Negative findings during site assessments or focused surveys may not indicate absence unless field surveys conform to agency approved protocols. Moreover, for many species it is virtually impossible to prove absence even if surveys conform to approved protocols.

Plants

Because only one site visit was conducted in August, all plant species growing within the study area may not have been observed due to varying flowering phenologies and life forms, such as bulbs, biennials, and annuals. Other potentially dominant species within vegetation communities on site may be present during other times of the year. A floristic study not only requires every plant observed to be identified to a level necessary to determine their regulatory status, it also necessitates a sufficient number of site visits spaced throughout the growing season within the blooming periods of all plant species, including common taxa, to ensure a complete inventory is obtained (CNPS 2001, CDFW 2018, USFWS 2000). Some of the plant species identified in this report are tentative due to the absence of morphological characters, resulting from immature reproductive structures or seasonal desiccation, which is required to make species-level determinations. In these cases, *cf* (compares to) is used to indicate provisional species identification based on gestalt, vegetative morphology and/or a species' known range.

Species dominance, particularly with regard to annuals, may change depending on the sampling season. In addition, certain plant species, especially annuals, may be absent in some years due to annual variations in temperature and rainfall, which influence germination and plant phenology. Finally, colonization of new populations within an area may occur from year to year. Our descriptions of the vegetation communities and species occurring on the NLT are based on the sampling we conducted during the late summer of 2018. Those descriptions may be subject to change in the event multiple seasons or years of data are collected. In certain cases, the term "provisional" is used when sufficient data exists to propose a vegetation type, but enough research and regional information has not been gathered to confirm the Land Cover Type (Jones and Stokes 2006). The phrase "in part" is used to signify that vegetation descriptions may include additional annual species if surveys are conducted during other seasons.

Animals

We did not survey for animals. Any species noted in the course of conducting the reconnaissance for this report were recorded. Several factors constrained our ability to identify wildlife species that occur on the NLT. First, late summer is generally a poor time of year to detect bird species in North America. Most species have completed reproductive activities, are less active, and vocalize infrequently (if at all). This makes their detection considerably more difficult. It is extremely difficult to detect secretive species outside of the breeding season because detection is dependent on vocalizations that may cease once reproductive activities have been completed.

Second, songbirds are most easily detected in the early morning or late evening, rather than during other times of the day (Grue et al. 1981, Skirvin 1981). Due to the scope of work, we could not survey all habitat types during the optimal time for bird detection.

Third, many of the surveys were limited to what could be detected from the vehicle while driving between man-made features. This limited Nomad's ability to detect soaring birds, small birds, and small mammals.

Finally, the site visit was conducted on the cusp of the breeding season and fall migration. This limited Nomad's ability to make inferences on the breeding status of many of the species detected during the surveys and also precluded the detection of species that may occur on the NLT only during migration or the winter.

Section 3. PROPERTY DESCRIPTION

3.1. REGIONAL SETTING

The 5.4-acre NLT includes portions of Sections 31 and 32 of Township 2 North and Range 1 West within the Mount Diablo Baseline and Meridian. It is situated within the San Joaquin Valley subregion of the California Floristic Province, within the Kirker Pass watershed (CCWF 2003), and appears on the Clayton (37121h8) 7.5-minute USGS topographic quadrangles.

As described in the *Ecological Subregions of California* (USDA 1997), the NLT is located within the Suisun Hills and Valleys subsection of the Central California Coast Section. The *Ecological Subregions of California* form the basis for describing regional variation in California alliance descriptions in *A Manual of California Vegetation* (Sawyer et al. 2009).

3.1.1 SUISUN HILLS AND VALLEYS

The Suisun Hills and Valleys are characterized by low hills north and south of the Carquinez Strait, and include valleys between the hills, and plains at the west end of the Sacramento-San Joaquin River Delta. The climate is hot and sub-humid and is very windy on the hills adjacent to and north of the Strait (USDA 1997).

This is a subsection of steep to moderately steep northwesterly aligned hills, valleys between the hills, and the edge of a plain that is the floor of the Great Valley. Elevations range from sea-level to 1,428 feet (435 meters) in the Briones Hills. Mass wasting and fluvial erosion are the main geomorphic processes. The Suisun Hills and Valleys are mainly comprised of Cretaceous, Eocene, and Miocene marine sedimentary rocks and late Quaternary alluvium, and minor amounts of Pliocene nonmarine sediments and volcanic rocks (USDA 1997). Most of the soils are leached free of carbonates, but calcium carbonates have accumulated in some soils on alluvial plains and more soluble salts accumulated in somewhat poorly drained soil (USDA 1997).

For this region the mean annual precipitation ranges from 15 to 20 inches and nearly all of the precipitation is rainfall. The mean annual temperature is generally between 56° to 60°F and the mean freeze-free period is from 250 to 275 days. Hydrologically, runoff is rapid from the hills, but slow from the alluvial plains. All but the larger streams are dry throughout the summer (USDA 1997).

3.2. LOCAL SETTING

The NLT is located in the north-central portion of Contra Costa County, just south of the City of Pittsburg, California (Figure 1). The NLT is approximately 3.5 air-miles south of downtown Pittsburg and 6.8 air-miles north of the summit of Mount Diablo (Figure 2, Appendix A). Access to the NLT is from Nortonville Road via Kirker Pass Road (Figure 3, Appendix A). The NLT shares its western boundary with the Austin-Thomas North Conservancy property and abuts Nortonville Road to the east.

The NLT consists of a linear shaped property with a northeast to southwest orientation. From north to south is approximately 0.4 miles long and east to west approximately 100 feet wide. It is characterized by undeveloped and relatively flat valley bottom directly adjacent to and following Nortonville Road to the east. This portion of Nortonville Road is paved. The diversity of vegetation types is low because the majority of the NLT is dominated by grasslands. No hydrologic features are present. A small area in the southern portion of the property burned in the 2013 Kirker Fire, however a majority of the land has not had a fire greater than 10 acres recorded since at least 1878 (beginning of record keeping), based on Cal

Fire (2016) fire perimeter data. No evidence of recent fire was observed within the study area during the 2018 site visit.

3.2.1 Topography and Prominent Geographic Features

The topography of the NLT is characterized by flat valley bottom associated with floodplains of Kirker Creek. Though relatively flat from east to west, there is a gentle incline from north to south. The lowest point being 328 feet (100 meters) in elevation in the northern portion where Nortonville Road meets Kirker Pass Road. The highest point is 395 feet (120 meters) in elevation at the southern portion of the property

3.2.2 Climate

Locally the climate of the study area is characterized as Mediterranean with cool, wet winters and warm to hot, dry summers. It is presumed that the study area is near the edge of the coastal fog incursion zone and therefore occasionally receives moisture other than direct precipitation. Tule fog generated from the Central Valley can also influence the climate and sun exposure of the NLT from the fall to spring. Annual precipitation ranges from 18 to 19 inches annually (PRISM 2018).

3.2.3 Geology and Soils

The underlying geology mainly comprises Surficial deposits of undivided (Pleistocene and Holocene) alluvium (Graymer et al. 2000).

The property contains four soil types. Two of these soil types are Altamont-Fontana Complex, which comprises clay soils and are found on 30 to 50 percent and 50 to 75 percent slopes. Another soil type is Diablo Clay, which is found on 30 to 50 percent slopes. And finally, Rincon Clay loam, which is found on 2 to 9 percent slopes (USDA 1977). These soil types are categorized only for grazing and are not considered prime, unique, or a soil of statewide interest (FMMP 2016).

3.3. Hydrology Characteristics

Hydrology onsite is influenced by precipitation, surface water runoff, geologic stratigraphy, topography, soil permeability, and plant cover. Hydrologic features discussed in this section include intermittent and perennial features. Ephemeral drainages are not included in the discussion below. No hydrologic features (including drainages, ponds, or springs) are present within the NLT. The NLT drains, via sheet flow, into Kirker Creek and its namesake watershed which flows into the Sacramento-San Joaquin Delta.

3.3.1 Ponds

No ponds were observed in the property boundaries.

3.3.2 Springs

No springs were observed in the aquisition boundaries.

3.4. Land Use

Land use on site is primarily agricultural, in the form of cattle grazing. No information was available on historical land use of the NLT. All surrounding land is currently used as grazing land. To the immediate west of the NLT, the Austin-Thomas North property is currently owed by the Conservancy. To the east and across Nortonville Road is privately owned grazing land.

3.4.1 GRAZING

Cattle are not stocked on the NLT intentionally, however there is evidence of cattle activity. This is likely due to the fact that there is no fence separating the NLT and the Austin Thomas Ranch to the west, which is occasionally stocked with cattle.

3.4.2 SCENIC FEATURES

The gentle sloping valley of the NLT is easily visible in its entirety from Nortonville Road, the Austin-Thomas Ranch and the hillslopes of the NLT. The north end of the NLT is visible from Kirker Pass Road.

The NLT visible from Kirker Pass Road.

3.4.3 RECREATIONAL USE

No public recreational use of the property is known to occur historically or currently.

3.5. ANTHROPOGENIC FEATURES

A majority of this is property is undeveloped, however four anthropogenic features associated with access and cattle ranching were documented. Man-made features include a fence, gate, road, and minor water infrastructure. All anthropogenic features are depicted in Figure 4 (Appendix A).

3.5.1 FENCES

A barbed wire fence follows the eastern side of the property separating it from Nortonville road. The fence is a five-strand barbed wire fence supported by metal t-posts. The fence is offset from the road edge approximately 10 feet to the west. This run of fencing is approximately 2,333 feet long. A single Powder River gate is associated with this fence and allows access to the property from Nortonville road.

Five-Strand Barbed wire fence on the NLT.

Powder River gate for access onto property from Nortonville Road.

3.5.2 ROADS

Access infrastructure within the NLT comprises a single graveled road that is approximately 12-feet wide and 358 feet long that accesses the adjacent property to the west.

Gravel road mapped as ruderal and adjacent to the oak woodland on the NLT.

3.5.3 Power or Gas Lines

No power or gas line right-of-ways or infrastructure are known to be currently present on the NLT.

3.5.4 Structures and Water Infrastructure

Water infrastructure on the property includes two dilapidated water troughs towards the north end of the NLT adjacent to Nortonville Road. No structures were observed on site.

Two metal water troughs adjacent to Nortonville Road

3.5.5 Debris Piles

No debris piles were observed on site.

3.6. LAND COVER AND ENVIRONMENTAL CONDITIONS

This subsection describes vegetation communities following the Land Cover Types described in the HCP/NCCP (Jones & Stokes 2006). HCP/NCCP Land Cover Types observed within the NLT include Ruderal Grassland, Annual Grassland, Oak woodland, and Urban (Table 2). The location of Land Cover Types in the NLT is shown in Figure 5 (Appendix A).

Table 2. HCP Land Cover Types in the Study Area

LAND COVER	ACREAGE
Ruderal	0.09
Annual Grassland	5.05
Oak Woodland	0.19
Urban	0.06
Total:	**5.4 acres**

Land cover types are further cross referenced using three commonly used vegetation classification systems including *California Vegetation* (Holland and Keil 1995), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *Manual of California Vegetation, Second edition* (Sawyer et al. 2009)[1]. In addition, habitat types from the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2018) are included to reference habitat types listed in the CNPS Inventory to HCP/NCCP Land Cover Types found on site.

Holland (1986) provides a generalized community-level description for natural vegetation communities present within the project area. Vegetation that interfaces with urban or developed landscapes, *i.e.* Ruderal, is treated using Holland and Keil (1995). Beneath the natural community-level more detail is accomplished using *Manual of California Vegetation, Second edition* which identifies vegetation communities as alliances[2]. Non-vegetated types, such as Stream (open water) or Urban are not treated in these vegetation classification systems.

Table 3 relates HCP/NCCP Land Cover Types to the commonly used vegetation classification systems described above. The codes used in Table 3 reflect those associated with Holland (1986) types and the *California Natural Communities List* (CDFW 2018).

3.6.1 GRASSLANDS

A total of two Land Cover Types found on site are grasslands as described in the HCP/NCCP: Ruderal and Annual Grassland. Characteristic taxa of each of these Land Cover Types are described below.

[1] This is due to the fact that the HCP Land Cover Types, in many cases, do not refer to standard vegetation community treatments and is therefore an effort to relate HCP Land Cover Types to these commonly used classification systems for regional context and regulatory continuity.

[2] An allinace is a classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or layer with the highest canopy cover. Alliances reflect regional to subregional climates, substrates, hydrology, and disturbance regimes.

Ruderal

As described in the HCP/NCCP, ruderal vegetation is characterized by sparse nonnative, typically weedy vegetation, occupying vacant parcels surrounded by developed areas. Based on the description by Holland and Keil (1995) ruderal vegetation is an assemblage of plants, often a mixture of both native and non-native weed species, that thrive in waste areas, heavily grazed pastures, cultivated and fallow fields, roadsides, parking lots, footpaths, around residences and similar disturbed sites in towns and cities and along rural roadways. Ruderal communities are difficult to characterize and are often temporary assemblages. In areas of frequent human disturbance, the majority of wild plants are often introduced weeds rather than natives. Some urban weeds are ornamentals that have escaped from cultivation. Ruderal species may at times be integrated into various other communities (Holland and Keil 1995).

Within the NLT, the ruderal vegetation type consists of the gravel road at the northern end of the property. Non-native weedy species are found sparsely on the edge of the gravel road and include curly dock (*Rumex crispus*[*]) and black mustard (*Brassica nigra**).

Annual Grassland

As described in the HCP/NCCP, annual grassland is characterized by grass and forb species dominating the land cover and trees and shrubs comprising less than 5 percent canopy cover. The dominant grass species are non-native annuals. Based on the description by Holland (1986), non-native grassland is a dense to sparse cover of annual grasses with flowering culms up to 3 feet (one meter) tall. Associates often include "showy-flowered" native annual forbs. This community occurs on fine-textured, usually clay soils, moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Germination occurs with the onset of the late fall rains while growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer and fall dry season, persisting as seeds. This community usually occurs below 3,000 feet but reaches 4,000 feet in the Tehachapi Mountains and interior San Diego County, and intergrades with coastal prairie along the Central Coast.

Within the NLT, annual grassland occupies the majority of the site. This plant community is dominated by non-native annual grasses including oats (*Avena barbata, A. fatua**) and ripgut brome (*Bromus diandrus**). Native and non-native herbaceous species also present in this community included Great Valley gumweed (*Grindelia camporum*), field bindweed (*Convolvulus arvensis**) jimsonweed (*Datura wrightii*), yellow starthistle (*Centaurea solstitialis**), Mediterranean lineseed (*Bellardia trixago**), and turkey-mullein (*Croton setiger*).

[*] Denotes a non-native species that has an origin outside of California

Typical Annual Grasslands within the NLT.

3.6.2 OAK WOODLAND

As described by the HCP/NCCP, oak woodland is grassland with a tree canopy cover of more than 10%. Typical oak species present in oak woodland in the inventory area include blue oak, interior live oak, valley oak and coast live oak. Other trees such as California bay, California buckeye, and foothill pine may be codominant (Jones and Stokes 2006).

Within the NLT, oak woodland was present at one location towards the southern end between Nortonville Road and the gravel road on the property. Oak woodland was dominated by a valley oak (*Quercus lobata*) overstory. The herbaceous understory had similar species community as the surrounding annual grassland.

Table 3. Vegetation Community Classifications Systems Comparisons

HCP/NCCP Land Cover Types[3]	Vegetation Community and Wetland Classification Systems			
	Terrestrial Communities[4]	California & National Vegetation[5]	CNPS Inventory[6]	Wetlands & Deepwater Habitats[7]
Ruderal	Ruderal (*Holland & Keil 1995*)	Not Described	Not Described	Upland
Annual Grassland	Non-Native Grassland (42200) (*Holland 1986*)	*Avena fatua* Semi-Natural Herbaceous Alliance (Wild Oats Grassland) (44.150.01) *Bromus hordeaceus* Semi-Natural Herbaceous Alliance (Annual Brome Grassland) (42.026.00)	Valley and Foothill Grassland	Upland
Oak woodland	Valley Oak Woodland (71130) *(Holland 1986)*	*Quercus lobata* Woodland Alliance (Valley Oak Woodland) (71.040.00)	Cismontane Woodland Broadleaved Upland Forest	Upland
Urban	Not Described	Not Described	Not Described	Upland

[3] East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (Jones & Stokes 2006)
[4] Terrestrial Natural Communities of California (Holland 1986) or (Holland & Keil 1995)
[5] California Natural Communities List (CDFW 2018)
[6] CNPS Inventory of Rare and Endangered Plants of California Habitat Types (CNPS 2018)
[7] Classification of Wetlands & Deepwater Habitats of the U.S. (Cowardin et al. 1979)

3.1. INVASIVE SPECIES AND NOXIOUS WEEDS

During the course of the surveys, no invasive wildlife species were observed; however, a single noxious weed that has the potential to change the quality of grasslands or could be a management concern was observed within the NLT.

3.1.1 NOXIOUS WEEDS

Some of the non-indigenous plant species encountered on-site are tracked by the California Department of Food and Agriculture (CDFA 2018) and the California Invasive Plant Council (Cal-IPC 2018) due to their noxious or invasive behavior. Species tracked by these organizations are given a certain rating based on criteria such as ecological impacts, treatment or eradication priority, and threats they pose to agricultural economics. Rating classifications given by Cal-IPC and CDFA are shown in Table 4.

One noxious weed that could be of concern is yellow starthistle*. Yellow starthistle* was distributed diffusely throughout the whole property in Annual Grassland habitat. This population is not particularly dense in any one area and does not currently threaten the integrity of the annual grasslands on site, but occurrences are throughout and thus should be monitored to ensure they do not become a management concern. Summary information on this species is included below. Information appearing under the headings General Information and Relevant Life History Traits was primarily excerpted from DiTomaso, J.M. and E.A. Healy. 2007. *Weeds of California and Other Western States*. University of California Agriculture and Natural Resources Publication 3488.

Table 4. Invasive Weeds Observed in the Study area

SPECIES NAME	COMMON NAME	CAL-IPC	CDFA
Centaurea solstitialis	yellow starthistle	High	C

Cal-IPC Weed Ranking Definitions:

High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate: These species have substantial and apparent - but generally not severe - ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic (Cal-IPC 2018).

CDFA Species Definition

Species considered a noxious weed by CDFA are listed on the California Noxious Weed List (CDFA 2018).

Yellow Star Thistle (*Centaurea solstitialis*)

General Information

Yellow star thistle is a winter annual and occasionally a biennial in the sunflower family (Asteraceae). Plants are highly competitive and typically develop dense, impenetrable stands that displace desirable vegetation. Yellow star thistle is considered one of the most serious rangeland weeds in the western United States. It contains an unidentified compound that causes chewing disease in horses. Yellow star thistle inhabits open disturbed sites, open hillsides, grassland, rangeland, open woodlands, fields, pastures, roadsides, waste places, and cultivated fields (DiTomaso and Healy 2007).

Relevant Life History Traits

Yellow star thistle reproduces by seed. Seed head production is highly variable and depends on a variety of factors including soil moisture and competition. Seeds fall near the parent plant and are dispersed short distances by wind and greater distances by human activities, animals, water, mud, and soil movement. Large flushes of seeds typically germinate after the first fall rains, but smaller germination flushes can occur in winter and early spring. Shaded conditions reduce flower production and root growth. Plants exist as basal rosettes through winter and early spring until flower stems develop in late spring or early summer (DiTomaso and Healy 2007).

Threats to Sensitive Habitats or Rare Plants

No immediate threats to rare plants, wildlife, or sensitive natural communities are known at this time.

Section 4. REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. *The Jepson manual: vascular plants of California, second edition*. University of California Press, Berkeley.

The Calflora Database. 2018. *Information on Wild California Plants for Conservation, Education, and Appreciation*. http://www.calflora.org/.

California Department of Food and Agriculture. 2018. *Noxious Weed Encycloweedia*. Accessed. http://www.cdfa.ca.gov/phpps/ipc/encycloweedia/encycloweedia_hp.htm

California Department of Fish and Wildlife (CDFW). 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural communities.* Wildlife and Habitat Data Analysis Branch

_____. 2018. *California Natural Communties List.* The Vegetation Classification and Mapping Program. Wildlife and Habitat Data Analysis Branch. January.

CalFire 2016. *Fire Perimeter Data to 2016.* California Department of Forestry and Fire Protection.

California Invasive Plant Council (Cal-IPC). 2018. *California Invasive Plant Inventory*, online. Accessed. http://www.cal-ipc.org/ip/inventory/weedlist.php.

California Native Plant Society (CNPS). 2001. *CNPS Botanical Survey Guidelines*, CNPS Inventory, 6th Ed. Revised June 2.

_____. 2018. *Inventory of Rare and Endangered Plants* (online edition). California Native Plant Society. Sacramento, CA. Accessed from http://rareplants.cnps.org/

Contra Costa Watershed Forum (CCWF). 2003. *Contra Costa County Watershed Atlas.* November.

DiTomaso, J.M. and E.A. Healy. 2007. *Weeds of California and Other Western States*. University of California Agriculture and Natural Resources Publication 3488.

Farmland Mapping and Monitoring Program (FMMP). 2016. Field Report Contra Costa County. California Department of Conservation.

Graymer, R.W., D.L. Jones, and E.E. Brabb. 1994. *Preliminary geologic map emphasizing bedrock formations in Contra Costa County, California: A digital database*. Open-File Report 94-622. U.S. Geological Survey.

Grue, C.E., R.P. Balda, and C.D. Johnson. 1981. Diurnal activity patterns and population estimates of breeding birds within a disturbed and undisturbed desert community. Stud. Avian Biol. 6:292-296.

Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. 156 pp.

Holland, V.L. and D.J. Keil. 1995. *California Vegetation.* Kendall/Hunt Pub. Co. Dubuque, Iowa. 516 pp.

Jepson Flora Project (JFP). 2018 (v. 5.0). *Jepson eFlora, http://ucjeps.berkeley.edu/IJM.html*.

Jones & Stokes. 2006. *East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan.* October. (J&S 01478.01.) San Jose, CA.

PRISM. 2018. *103-Year High-Resolution Precipitation Climate Data Set for the Conterminous United States.* Oregon State University.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation.* Second edition. California Native Plant Society, Sacramento. 1300 pp.

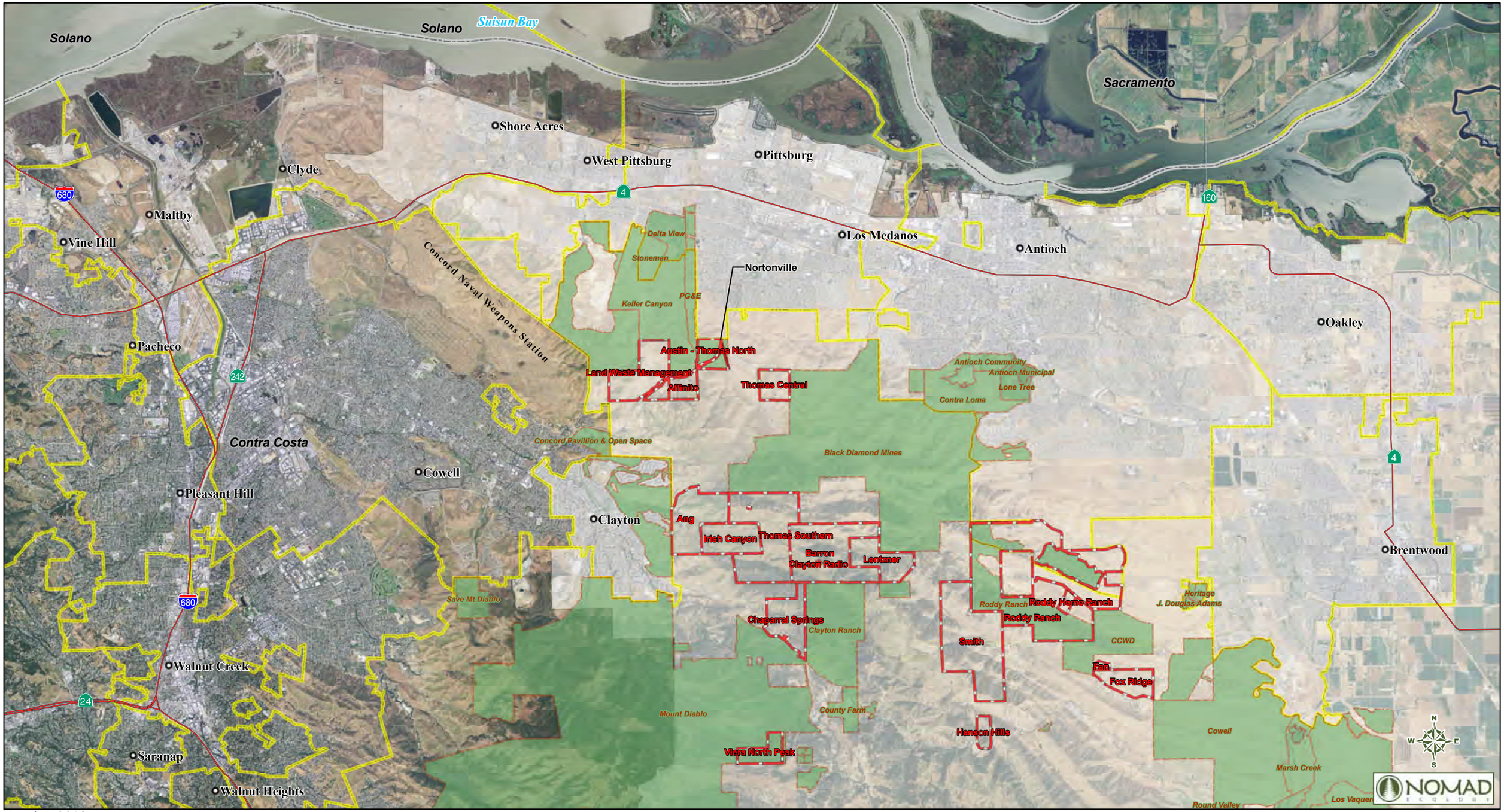
Skirvin, A.A. 1981. *Effect of time of day and time of season on the number of observations and density estimates of breeding birds*. Stud. Avian Biol. 6:271-274.

U.S. Department of Agriculture (USDA). 1977. Soil Survey of Contra Costa County. Natural Resources Conservation Service.

_____. 1997. *Ecological Subregions of California, Section and Subsection Descriptions*. USDA, Forest Service Pacific Southwest Region. R5-EM-TP-005. September.

U.S. Fish and Wildlife Service (USFWS). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. Ventura Fish & Wildlife Office. January.

APPENDIX A FIGURES



October 2018

Baseline Documentation Report

Legend

- Nortonville Land Transfer
- HCP Acquisition Parcels
- Public Land and Easements
- City Limit Boundaries
- HCP Inventory Area
- County Boundaries

Figure 2

Regional Context of the Nortonville Land Transfer

Settlement Agreement

East Contra Costa County Habitat Conservancy

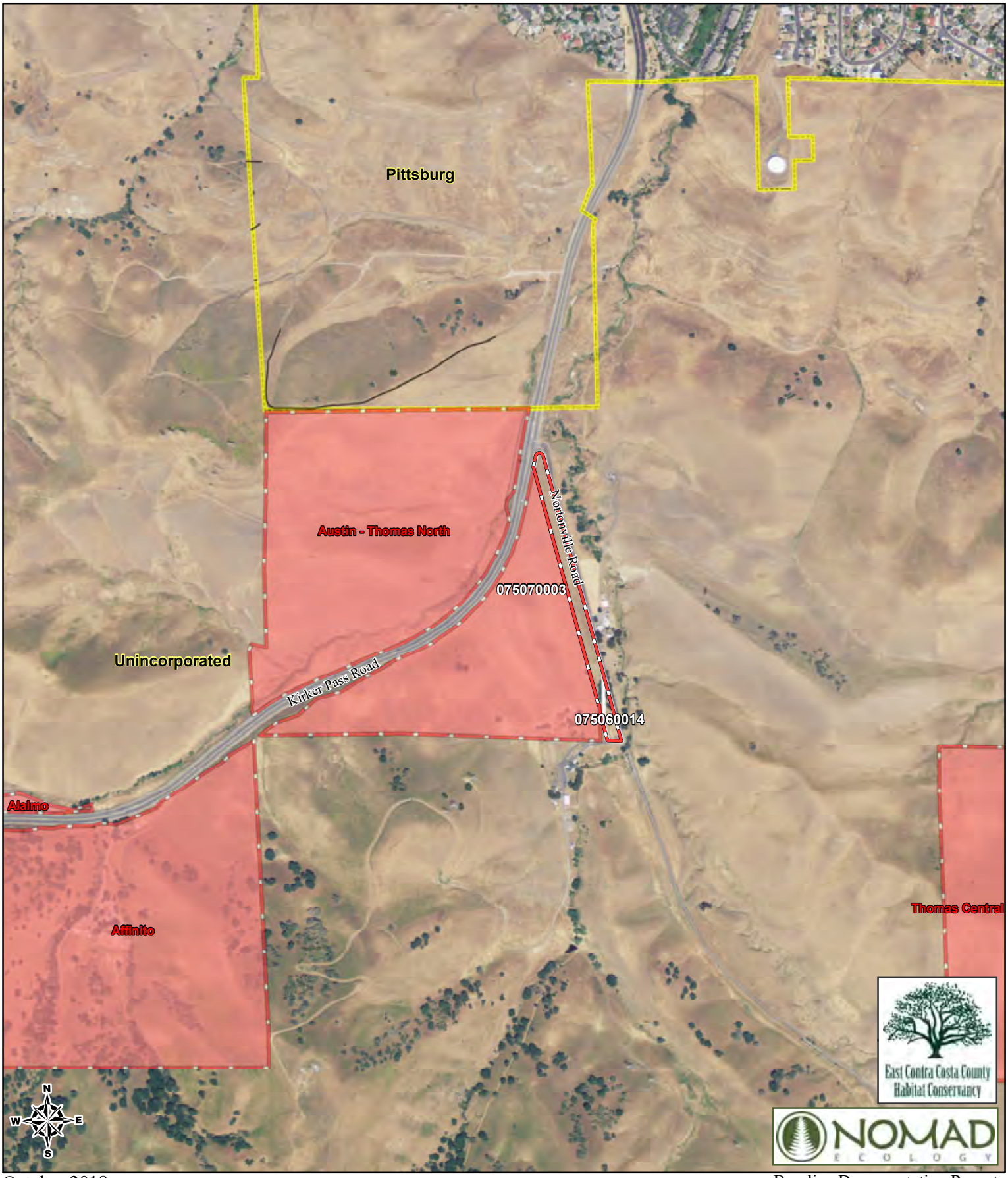
East Contra Costa County Habitat Conservancy

1:95,040

0 0.75 1.5 Miles

Sources: NAIP 2012; Contra Costa County. Projection: NAD 83 UTM Zone 10 North.

Contra Costa County, California



Legend
- Nortonville Land Transfer
- HCP Acquisition Parcels
- Parcel Lines
- Roads
- City Limit Boundaries

Figure 3
Aerial Photo of the NLT
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:12,000
0 500 1,000
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

Legend

NLT

Barbed Wire Fence

Antrhopogenic Features

Gate

Trough

Figure 4

Anthropogenic Features

Settlement Agreement

East Contra Costa County Habitat Conservancy

1:6,000

0 250 500

Feet

Sources: USGS, EBRPD. Projection: NAD 83 UTM 10 North.

Legend
NLT Land Cover Types
Annual Grassland
Oak Woodland
Ruderal
Urban

Figure 5
Land Cover Types of the NLT
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: USGS, EBRPD. Projection: NAD 83 UTM 10 North.

Legend
NLT
Photo Points

Figure 6
Photo Points of the NLT
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: USGS, EBRPD. Projection: NAD 83 UTM 10 North.

APPENDIX B PROPERTY ACQUISITION

APPENDIX C PHOTOGRAPHS

Photopoint: 1

File Number: 140748

Looking east at gate.

Northing (m): 4203982 **Easting (m):** 596867 **Date:** 08/24/18

Photopoint: 2

File Number: 141035

Two metal troughs adjacent to Nortonville Road.

Northing (m): 4203965 **Easting (m):** 596864 **Date:** 8/24/18

Photopoint: 3

File Number: 142119

View, looking southeast, away from Kirker Pass Road.

Northing (m): 4204187 **Easting (m):** 596797 **Date:** 8/24/18

Exhibit G – Britton Title Report

OLD REPUBLIC TITLE COMPANY

1000 Burnett Ave, Suite 400
Concord, CA 94520
(925) 687-7880 Fax: (925) 687-4836

PRELIMINARY REPORT

3RD UPDATE

WEST COAST HOME BUILDERS, INC.
4021 PORT CHICAGO HIGHWAY
CONCORD, CA 94520

Our Order Number 0147005256-DJ

When Replying Please Contact:

Donna Jones
DonnaJ@ortc.com
(925) 687-7880

Property Address:

APN's 094-130-008 & 018 and 117-080-004, , CA
[Unincorporated area of Contra Costa County]

In response to the above referenced application for a policy of title insurance, OLD REPUBLIC TITLE COMPANY, as issuing Agent of Old Republic National Title Insurance Company, hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said Policy or Policies are set forth in Exhibit I attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the Homeowner's Policy of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit I. Copies of the Policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit I of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.
It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of May 4, 2018, at 7:30 AM

OLD REPUBLIC TITLE COMPANY
For Exceptions Shown or Referred to, See Attached

The form of policy of title insurance contemplated by this report is:

CLTA Standard Coverage Policy -1990. A specific request should be made if another form or additional coverage is desired.

The estate or interest in the land hereinafter described or referred or covered by this Report is:

Fee

Title to said estate or interest at the date hereof is vested in:

WEST COAST HOME BUILDERS , INC., a California Corporation

The land referred to in this Report is situated in the unincorporated area of the County of Contra Costa, State of California, and is described as follows:

A parcel of land lying partly in the Rancho Monte Del Diablo, partly in Section 35 of Township 2 North, Range 1 West and partly in Section 2 of Township 1 North, Range 1 West of Mount Diablo Base and Meridian, State of California, more particularly described as follows:

Beginning at the intersection of the northerly line of the SE 1/4 of said Section 35 with the easterly line of the 4,961.16-acre parcel described in the Fourth Amendment to the Lis Pendens in the Action entitled "United States of America vs. W.J. Von Heckeron, et al," District Court Case No. 23529-G, recorded on March 29, 1945, in Book 812, Page 413 of Official Records, of Contra Costa County; thence, easterly along said northerly line 1770 feet, more or less, to the NE corner of the SE 1/4 of said Section 35; thence southerly, along the easterly line of said Section 35, 2,640 feet, more or less, to the SE corner of said Section 35; thence continuing southerly along the easterly line of said Section 2, 300 feet, more or less, thence, westerly, at right angles 660 feet, more or less, to the westerly line of the E 1/2 of the NE 1/4 of the NE 1/4 of Section 2; thence, southerly along said westerly line 690 feet, more or less, to the southeasterly corner of the NW 1/4 of the NE 1/4 of the NE 1/4 of said Section 2; thence westerly along the southerly line of the NW 1/4 of the NE 1/4 of the NE 1/4 660 feet, more or less, to the the southwesterly corner of said NW 1/4 of the NE 1/4 of the NE 1/4; thence southwesterly 1400 feet, more or less, to the northerly corner of the parcel of land described in the deed from Joseph Chaves, Jr., et ux, to Contra Costa Cerebral Palsy Society, recorded August 18, 1966, in Book 5186, page 286, Official Records of Contra Costa County, said northerly corner being also a point on the general easterly line of said 4,961.16-acre parcel; thence along last said line N. 43° 18' 03" E. 800 feet, more or less; thence continuing along said general easterly line, N. 15° 10' 03" E., 1478.05 feet; thence continuing along said general easterly line north, 1600 feet, more or less, to the point of beginning.

Said parcel being shown on the Record of Survey R.S. 2650, filed April 16, 2004, Book 129 of Licensed Surveyor's Maps, Page 11, Contra Costa County Records.

Being APN's 094-130-008 & 018 and 117-080-004

At the date hereof exceptions to coverage in addition to the Exceptions and Exclusions in said policy form would be as follows:

1. Taxes and assessments, general and special, for the fiscal year 2018 - 2019, a lien, but not yet due or payable.

2. Taxes and assessments, general and special, for the fiscal year 2017 - 2018, as follows:

Assessor's Parcel No	:	094-130-008	
Bill No.	:	090141	
Code No.	:	79-044	
1st Installment	:	$1,292.24	Marked Paid
2nd Installment	:	$1,292.24	Marked Paid
Land	:	$229,015.00	
Imp. Value	:	$0.00	
Exemption	:	$0.00	

3. Taxes and assessments, general and special, for the fiscal year 2017 - 2018, as follows:

Assessor's Parcel No	:	094-130-018	
Bill No.	:	090144	
Code No.	:	79-067	
1st Installment	:	$529.31	Marked Paid
2nd Installment	:	$529.31	Marked Paid
Land	:	$90,169.00	
Imp. Value	:	$0.00	
Exemption	:	$0.00	

4. Taxes and assessments, general and special, for the fiscal year 2017 - 2018, as follows:

Assessor's Parcel No	:	117-080-004	
Bill No.	:	118087	
Code No.	:	02-001	
1st Installment	:	$24.20	Marked Paid
2nd Installment	:	$24.20	Marked Paid
Land	:	$1,851.00	
Imp. Value	:	$0.00	
Exemption	:	$0.00	

5. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Section 75, et seq., of the Revenue and Taxation Code of the State of California.

6. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Deed
Granted to	:	Great Western Power Company, a corporation
For	:	Towers, poles, transmission lines and pipelines
Recorded	:	November 18th, 1907 in Book 131 of Deeds, Page 289
Affects	:	A portion

Modified by Agreement recorded September 18, 1958, in Book 3232, Page 114 Official Records.

Said matters affect Assessor's Parcel Number 094-130-018

7. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Deed
Granted to	:	Occidental Petroleum Corporation, a corporation
For	:	Pipelines
Recorded	:	October 25th, 1965 in Book 4979 of Official Records, Page 23
Affects	:	A portion

Said matters affect Assessor's Parcel Numbers 094-130-008 and 094-130-018

8. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Easement
Granted to	:	Southern Pacific Pipe Lines, Inc., a Delaware Corporation
For	:	A pipe line
Recorded	:	February 21st, 1984 in Book 11661 of Official Records, Page 882, under Recorder's Serial Number 84-23013
Affects	:	A portion

A Common Use Agreement pertaining thereto, executed by and between North State Development Co. and SFPP, L.P., was recorded February 18, 1992 in Book 17231, Official Records, Page 597 and an Amendment and Clarification of Easement between said parties was recorded February 18, 1992, in Book 17231, Official Records, Page 601.

Said matters affect Assessor's Parcel Number 094-130-018

9. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Southern Pacific Pipe Lines Easement
Granted to	:	Southern Pacific Pipe Lines, Inc., a Delaware Corporation
For	:	A pipe line
Recorded	:	March 30th, 1984 in Book 11721 of Official Records, Page 808, under Recorder's Serial Number 84-44028
Affects	:	A portion

A Common Use Agreement pertaining thereto, executed by and between North State Development Co. and SFPP, L.P., was recorded February 18, 1992 in Book 17231, Official Records, Page 597 and an Amendment and Clarification of Easement between said parties was recorded February 18, 1992, in Book 17231, Official Records, Page 601.

Said matters affect Assessor's Parcel Number 094-130-018

10. Provisions for landscape maintenance as contained in that certain instrument executed by and between North State Development Co., A. D. Seeno Construction Co. and the City of Concord, recorded January 10, 1991, in Book 16345, of Official Records, Page 300, under Recorder's Serial Number 91-5392.

Said matters affect portions of Assessor's Parcel Numbers 094-130-018 and 117-080-004

11. Ordinance No. 97-30 Revisions of Eastern Contra Costa Sub-Regional Transportation Mitigation Fees, recorded August 6, 1997, under Recorder's Serial Number 97-140390 and Ordinance No. 97-29 Urgency Measure for Mitigation to Revise Eastern Contra Costa Sub-Regional Transportation Mitigation Fees, recorded August 6, 1997, under Recorder's Serial Number 97-140931 and Resolution and Ordinance to Extend the Urgency Ordinance for the Eastern Contra Costa Sub-Regional Transportation Mitigation Fee Program, recorded August 18, 1997, under Recorder's Serial Number 97-148355 of Official Records, all executed by the Contra Costa County Board of Supervisors.

Said matters affect all of the herein described property, being Assessor's Parcel Numbers 094-130-008; 094-130-018 and 117-080-004

---------- Informational Notes ----------

A. The applicable rate(s) for the policy(s) being offered by this report or commitment appears to be section(s) to be determined.

B. NOTE: The last recorded transfer or agreement to transfer the land described herein is as follows:

Instrument Entitled	:	Grant Deed
By/From	:	North State Development Co.
To	:	WEST COAST HOME BUILDERS , INC., a California Corporation
Recorded	:	February 1, 1996 in Official Records under Recorder's Serial Number 96-18765

C. All transactions that close on or after March 1, 2015 will include a $20.00 minimum recording service fee, plus actual charges required by the County Recorder.

Exhibit I

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY - 1990
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or {iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.-

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;.

   (c) resulting in no loss or damage to the insured claimant;

   (d) attaching or created subsequent to Date of Policy; or

   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land Is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments Which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims Which are not shown by the public records but which could be ascertained by an inspection of the land which may be asserted by persons in possession thereof,

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

OLD REPUBLIC TITLE

rev. 07/2016

FACTS

WHAT DOES OLD REPUBLIC TITLE DO WITH YOUR PERSONAL INFORMATION?

Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and employment information • Mortgage rates and payments and account balances • Checking account information and wire transfer instructions When you are *no longer* our customer, we continue to share your information as described in this notice.
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Old Republic Title chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does Old Republic Title share?	Can you limit this sharing?
For our everyday business purposes — such as to process your transactions, maintain your account(s), or respond to court orders and legal investigations, or report to credit bureaus	**Yes**	**No**
For our marketing purposes — to offer our products and services to you	**No**	**We don't share**
For joint marketing with other financial companies	**No**	**We don't share**
For our affiliates' everyday business purposes — information about your transactions and experiences	**Yes**	**No**
For our affiliates' everyday business purposes — information about your creditworthiness	**No**	**We don't share**
For our affiliates to market to you	**No**	**We don't share**
For non-affiliates to market to you	**No**	**We don't share**

Questions	**Go to** www.oldrepublictitle.com (*Contact Us*)

Who we are	
Who is providing this notice?	Companies with an Old Republic Title name and other affiliates. Please see below for a list of affiliates.

What we do	
How does Old Republic Title protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. For more information, visit http://www.OldRepublicTitle.com/newnational/Contact/privacy.
How does Old Republic Title collect my personal information?	We collect your personal information, for example, when you: • Give us your contact information or show your driver's license • Show your government-issued ID or provide your mortgage information • Make a wire transfer We also collect your personal information from others, such as credit bureaus, affiliates, or other companies.
Why can't I limit all sharing?	Federal law gives you the right to limit only: • Sharing for affiliates' everyday business purposes - information about your creditworthiness • Affiliates from using your information to market to you • Sharing for non-affiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See the "Other important information" section below for your rights under state law.

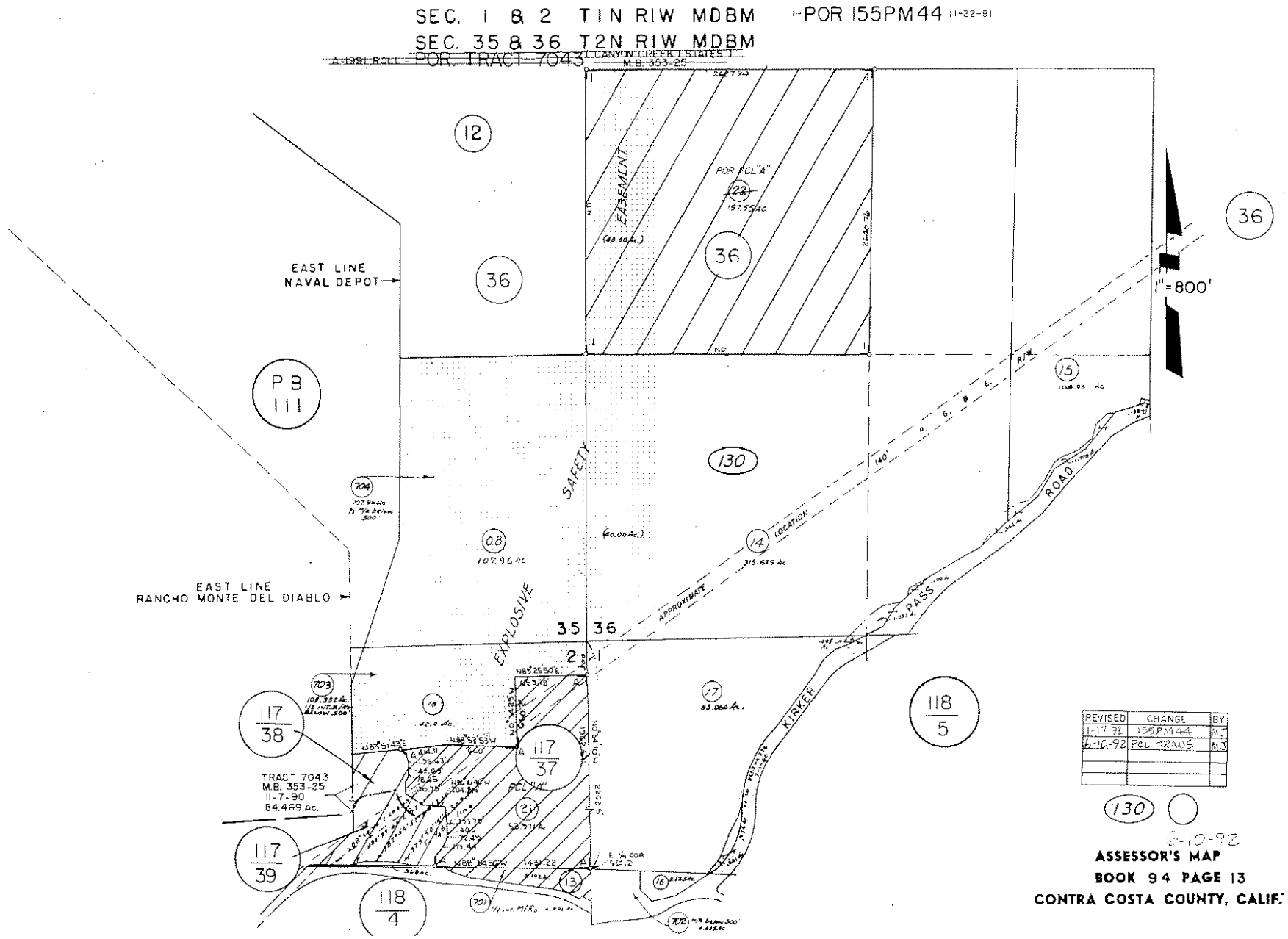
Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. • *Our affiliates include companies with an Old Republic Title name, and financial companies such as Attorneys' Title Fund Services, LLC, Lex Terrae National Title Services, Inc., Mississippi Valley Title Services Company, and The Title Company of North Carolina.*
Non-affiliates	Companies not related by common ownership or control. They can be financial and non-financial companies. • *Old Republic Title does not share with non-affiliates so they can market to you*
Joint marketing	A formal agreement between non-affiliated financial companies that together market financial products or services to you. • *Old Republic Title doesn't jointly market.*

Other Important Information

Oregon residents only: We are providing you this notice under state law. We may share your personal information (described on page one) obtained from you or others with non-affiliate service providers with whom we contract, such as notaries and delivery services, in order to process your transactions. You may see what personal information we have collected about you in connection with your transaction (other than personal information related to a claim or legal proceeding). To see your information, please click on "Contact Us" at www.oldrepublictitle.com and submit your written request to the Legal Department. You may see and copy the information at our office or ask us to mail you a copy for a reasonable fee. If you think any information is wrong, you may submit a written request online to correct or delete it. We will let you know what actions we take. If you do not agree with our actions, you may send us a statement.

Affiliates Who May be Delivering This Notice

American First Abstract, LLC	**American First Title & Trust Company**	**American Guaranty Title Insurance Company**	**Attorneys' Title Fund Services, LLC**	**Compass Abstract, Inc.**
eRecording Partners Network, LLC	**Genesis Abstract, LLC**	**Kansas City Management Group, LLC**	**L.T. Service Corp.**	**Lenders Inspection Company**
Lex Terrae National Title Services, Inc.	**Lex Terrae, Ltd.**	**Mara Escrow Company**	**Mississippi Valley Title Services Company**	**National Title Agent's Services Company**
Old Republic Branch Information Services, Inc.	**Old Republic Diversified Services, Inc.**	**Old Republic Exchange Company**	**Old Republic National Title Insurance Company**	**Old Republic Title and Escrow of Hawaii, Ltd.**
Old Republic Title Co.	**Old Republic Title Company of Conroe**	**Old Republic Title Company of Indiana**	**Old Republic Title Company of Nevada**	**Old Republic Title Company of Oklahoma**
Old Republic Title Company of Oregon	**Old Republic Title Company of St. Louis**	**Old Republic Title Company of Tennessee**	**Old Republic Title Information Concepts**	**Old Republic Title Insurance Agency, Inc.**
Old Republic Title, Ltd.	**Republic Abstract & Settlement , LLC**	**Sentry Abstract Company**	**The Title Company of North Carolina**	**Title Services, LLC**
Trident Land Transfer Company, LLC				



REVISED	CHANGE	BY
1-17-92	155PM44	MJ
6-10-92	PCL TRANS	MJ

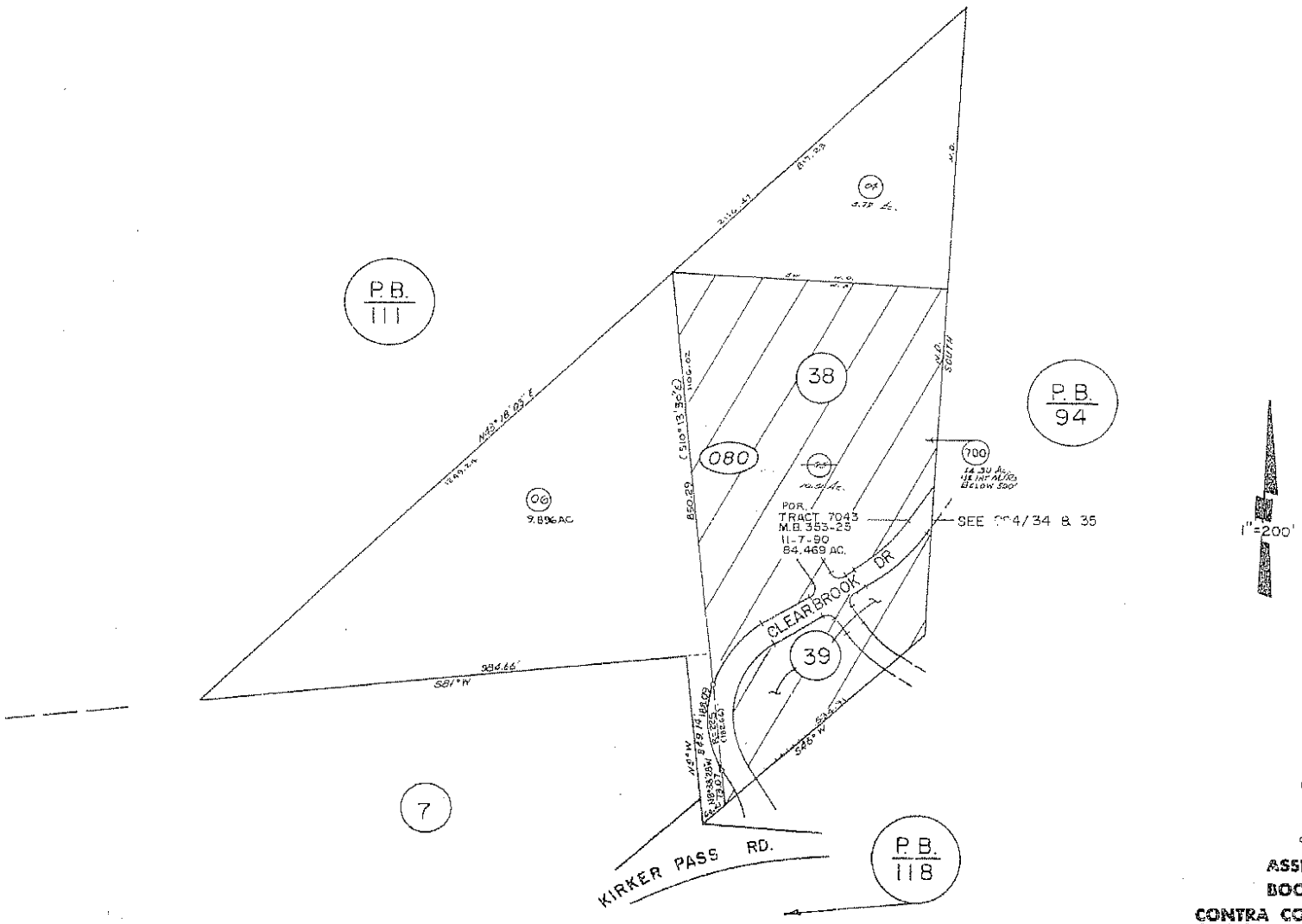
130

6-10-92

ASSESSOR'S MAP
BOOK 94 PAGE 13
CONTRA COSTA COUNTY, CALIF.

RANCHO MONTE DEL DIABLO

TAX CODE AREA



OCT 2 3 1996

080

9-14-96 MJ

ASSESSOR'S MAP
BOOK 117 PAGE 08
CONTRA COSTA COUNTY, CALIF.

FR. 75-19
2-8-03

Description: Contra Costa,CA Assessor Map 117.8 page 1 of 1
Order: 1 Comment:

Description: Contra Costa,CA Record Map 129.11 Page 1 of 1
Order: 1 Comment:

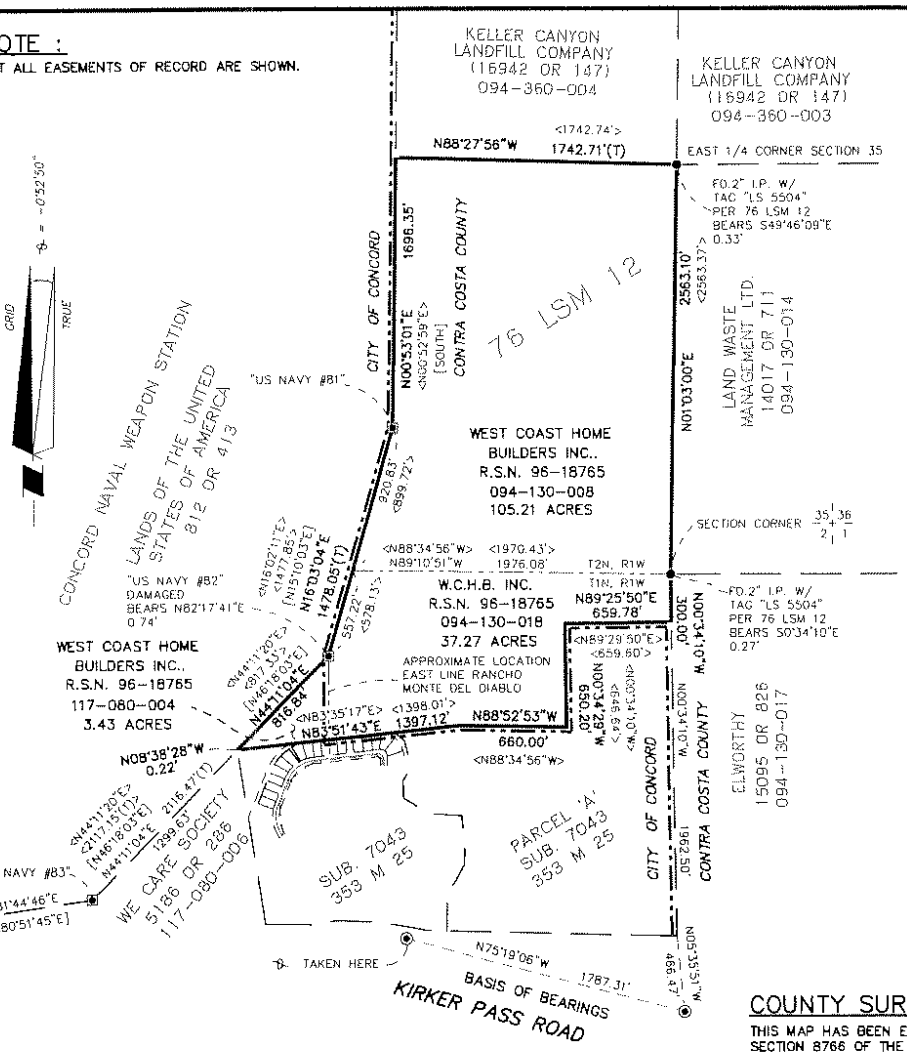
RECORD OF SURVEY
R.S. 2650

BEING A PORTION OF THE SOUTHEAST 1/4 OF SECTION 35, TOWNSHIP 2 NORTH, RANGE 1 WEST, MOUNT DIABLO BASE AND MERIDIAN, AND A PORTION OF THE NORTHEAST 1/4 OF SECTION 2, TOWNSHIP 1 NORTH, RANGE 1 WEST, MOUNT DIABLO BASE AND MERIDIAN, AND A PORTION OF THE RANCHO MONTE DEL DIABLO.

CITY OF CONCORD &
UNINCORPORATED CONTRA COSTA COUNTY
STATE OF CALIFORNIA
JANUARY 2004 SCALE: 1"=500'

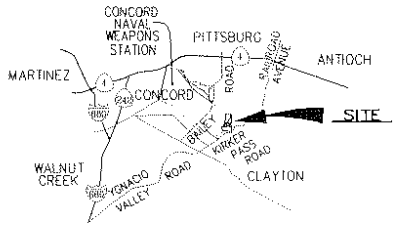
ISAKSON & ASSOCIATES INC.
CIVIL ENGINEERING & LAND SURVEYING
2255 YGNACIO VALLEY ROAD -
WALNUT CREEK, CALIFORNIA

NOTE :
NOT ALL EASEMENTS OF RECORD ARE SHOWN.



LEGEND:

- (T) TOTAL
- (M-M) MONUMENT TO MONUMENT
- IP IRON PIPE
- RB CONCRETE REINFORCING BAR
- ■ FOUND SURFACE MONUMENT TYPE, SIZE, AND ID. AS NOTED
- ◉ FOUND C.C.CO. MONUMENT PER 353 M 25
- ▣ FOUND 8" x 8" CONCRETE MONUMENT SET BY U.S. NAVY PERIMETER SURVEY DATED JANUARY 4, 1945. DRAWING NO. 339,532. ID NO. AS NOTED
- [ ] RECORD PER U.S. NAVY PERIMETER SURVEY DATED JANUARY 4, 1945 DRAWING NO. 339,532.
- < > RECORD PER 76 LSM 12
- CITY / COUNTY LIMIT LINE
- BOUNDARY OF AREA SURVEYED
- PARCEL BOUNDARY



VICINITY MAP
NOT TO SCALE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE LAND SURVEYOR'S ACT AT THE REQUEST OF WEST COAST HOME BUILDERS INC. IN JANUARY 2002.

DATED: 2/10, 2004

DAVID O. ISAKSON, R.C.E. 21764
EXPIRATION DATE: 9-30-05

REGISTERED PROFESSIONAL ENGINEER DAVID O. ISAKSON NO. 21764 EXP. 9-30-05 CIVIL STATE OF CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE LAND SURVEYOR'S ACT THIS 15th DAY OF April, 2004.

MAURICE M. SHIU
COUNTY ROAD COMMISSIONER-SURVEYOR

DEPUTY COUNTY ROAD COMMISSIONER-SURVEYOR

EXPIRATION DATE: 12/31/04

L.S. NO.: 5999

LICENSED LAND SURVEYOR DENNIS TWEEDER Exp. 12/31/04 No. 5999 STATE OF CALIFORNIA

RECORDER'S STATEMENT

FILED THIS 16th DAY OF APRIL, 2004, AT 8:00 A.M.
IN BOOK 129 OF LICENSED SURVEYOR'S MAPS AT PAGE 11,
AT THE REQUEST OF DAVID O. ISAKSON.
#04-135871

STEPHEN L. WEIR
COUNTY COUNTY RECORDER

BY: _____
DEPUTY COUNTY RECORDER

BASIS OF BEARINGS:

THE CALIFORNIA COORDINATE SYSTEM ZONE III (CCS 27) THE BEARING NORTH 75° 19' 06" WEST OF THE MONUMENT LINE OF KIRKER PASS ROAD, AS SHOWN ON THE MAP OF SUBDIVISION 7043, FILED IN BOOK 353 OF MAPS, AT PAGE 25 IN THE OFFICE OF THE COUNTY RECORDER OF CONTRA COSTA COUNTY. ALL DISTANCES SHOWN ARE GROUND DISTANCES. TO OBTAIN GRID DISTANCES MULTIPLY BY 0.999921

200155 A.P.N. 094-130-008, 094-130-018, 117-080-004 SHEET 1 OF 1

4-16-04 8:00 AM 129-11

129 LSM 11

Exhibit H – Britton Grant Deed

RECORDING REQUESTED BY:

Old Republic Title Company

'HEN RECORDED MAIL DOCUMENT
.ND TAX STATEMENTS TO:

Attn:

(SPACE ABOVE THIS LINE IS FOR RECORDER'S USE ONLY)

GRANT DEED

The undersigned Grantor(s) declare(s):
Documentary Transfer Tax is $
[ ] computed on full value of property conveyed, or
[ ] computed on full value less of liens and encumbrances remaining at time of sale.
x Unincorporated area: [ ] City of

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

WEST COAST HOME BUILDERS, INC., a California corporation,

ereby GRANT(S) to

, a ,

that property in the County of Contra Costa, State of California, described as:

See ***Exhibit A*** attached hereto and made a part hereof.

Date: , 20

WEST COAST HOME BUILDERS, INC.,
a California corporation

By:
Name:
Its:

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

(Civil Code §1189)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) **ss.**
COUNTY OF _____)

On _____, 20____, before me, _____,
a Notary Public, personally appeared _____
_____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
SIGNATURE OF NOTARY PUBLIC

EXHIBIT A

The land referred to is situated in the unincorporated area of the County of Contra Costa, State of California, and is described as follows:

A parcel of land lying partly in the Rancho Monte Del Diablo, partly in Section 35 of Township 2 North, Range 1 West and partly in Section 2 of Township 1 North, Range 1 West of Mount Diablo Base and Meridian, State of California, more particularly described as follows:

Beginning at the intersection of the northerly line of the SE 1/4 of said Section 35 with the easterly line of the 4,961.16-acre parcel described in the Fourth Amendment to the Lis Pendens in the Action entitled "United States of America vs. W.J. Von Heckeron, et al," District Court Case No. 23529-G, recorded on March 29, 1945, in Book 812, Page 413 of Official Records, of Contra Costa County; thence, easterly along said northerly line 1770 feet, more or less, to the NE corner of the SE 1/4 of said Section 35; thence southerly, along the easterly line of said Section 35, 2,640 feet, more or less, to the SE corner of said Section 35; thence continuing southerly along the easterly line of said Section 2, 300 feet, more or less, thence, westerly, at right angles 660 feet, more or less, to the westerly line of the E 1/2 of the NE 1/4 of the NE 1/4 of Section 2; thence, southerly along said westerly line 690 feet, more or less, to the southeasterly corner of the NW 1/4 of the NE 1/4 of the NE 1/4 of said Section 2; thence westerly along the southerly line of the NW 1/4 of the NE 1/4 of the NE 1/4 660 feet, more or less, to the the southwesterly corner of said NW 1/4 of the NE 1/4 of the NE 1/4; thence southwesterly 1400 feet, more or less, to the northerly corner of the parcel of land described in the deed from Joseph Chaves, Jr., et ux, to Contra Costa Cerebral Palsy Society, recorded August 18, 1966, in Book 5186, page 286, Official Records of Contra Costa County, said northerly corner being also a point on the general easterly line of said 4,961.16-acre parcel; thence along last said line N. 43° 18' 03" E. 800 feet, more or less; thence continuing along said general easterly line, N. 15° 10' 03" E., 1478.05 feet; thence continuing along said general easterly line north, 1600 feet, more or less, to the point of beginning.

Said parcel being shown on the Record of Survey R.S. 2650, filed April 16, 2004, Book 129 of Licensed Surveyor's Maps, Page 11, Contra Costa County Records.

Being APN's 094-130-008 & 018 and 117-080-004

Exhibit I – Britton Baseline Report

BASELINE DOCUMENTATION REPORT

BRITTON PROPERTY
(APN# 094-130-008 AND 094-130-018)
CONTRA COSTA COUNTY, CALIFORNIA

OCTOBER 31, 2018

Prepared for

East Contra Costa County Habitat Conservancy
30 Muir Road
Martinez, CA 94553

Prepared by

Heath Bartosh

NOMAD ECOLOGY
(925) 228-1027
822 MAIN STREET
MARTINEZ, CA 94553

TABLE OF CONTENTS

Section 1. Introduction 1
1.1. Purpose of the Property Acquisition 1
1.2. Purpose of the Baseline Documentation Report 1
Section 2. Documentation Methods 3
2.1. Data Resources 3
2.2. Personnel and Field Investigation 3
2.3. Resource Documentation and Mapping 3
2.4. Limitations 4
Section 3. Property Description 6
3.1. Regional Setting 6
3.2. Local Setting 6
3.3. Hydrology Characteristics 7
3.4. Land Use 15
3.5. Anthropogenic Features 16
3.6. Land Cover and Environmental Conditions 20
3.7. Invasive Species and Noxious Weeds 30
Section 4. References 33

LIST OF TABLES

Table 1. APNs of the Britton Conservation Property 1
Table 2. Lengths of Creeks and Tributaries 8
Table 3. Wetlands of the BP 10
Table 4. HCP Land Cover Types in the Study Area 20
Table 5. Vegetation Community Classifications Systems Comparisons 22
Table 6. Invasive Weeds Observed in the Study area 31

LIST OF FIGURES

Figure 1. Location of the Britton Conservation Property 2
Figure 2. Regional Map 36
Figure 3. Aerial Photograph 37
Figure 4. Hydrologic Features 38
Figure 5. Anthropogenic Features 39
Figure 6. Land Cover Types 40
Figure 7. Photo Point Locations 41
Figure 8. Invasive Plants 42

LIST OF APPENDICES

APPENDIX A Figures 35
APPENDIX B Property Acquisition 43
APPENDIX C Photographs 45

Section 1. INTRODUCTION

As requested by East Contra Costa County Habitat Conservancy (Conservancy), Nomad Ecology (Nomad) prepared this Baseline Documentation Report (BDR) for the Britton Property (BP). The BP is located on unincorporated land in Contra Costa County immediately beyond the limits of the City of Concord, California (Figure 1). The BP includes portions of two parcels totaling 142.43-acres and is located in the Pittsburg Hills, near the northern terminus of the Diablo Range. This property is located near the western boundary of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP or Plan) Inventory Area (Jones and Stokes, 2006) and is contiguous with the western boundary of the Land Waste Management Conservancy Property.

Table 1. APNs of the Britton Conservation Property

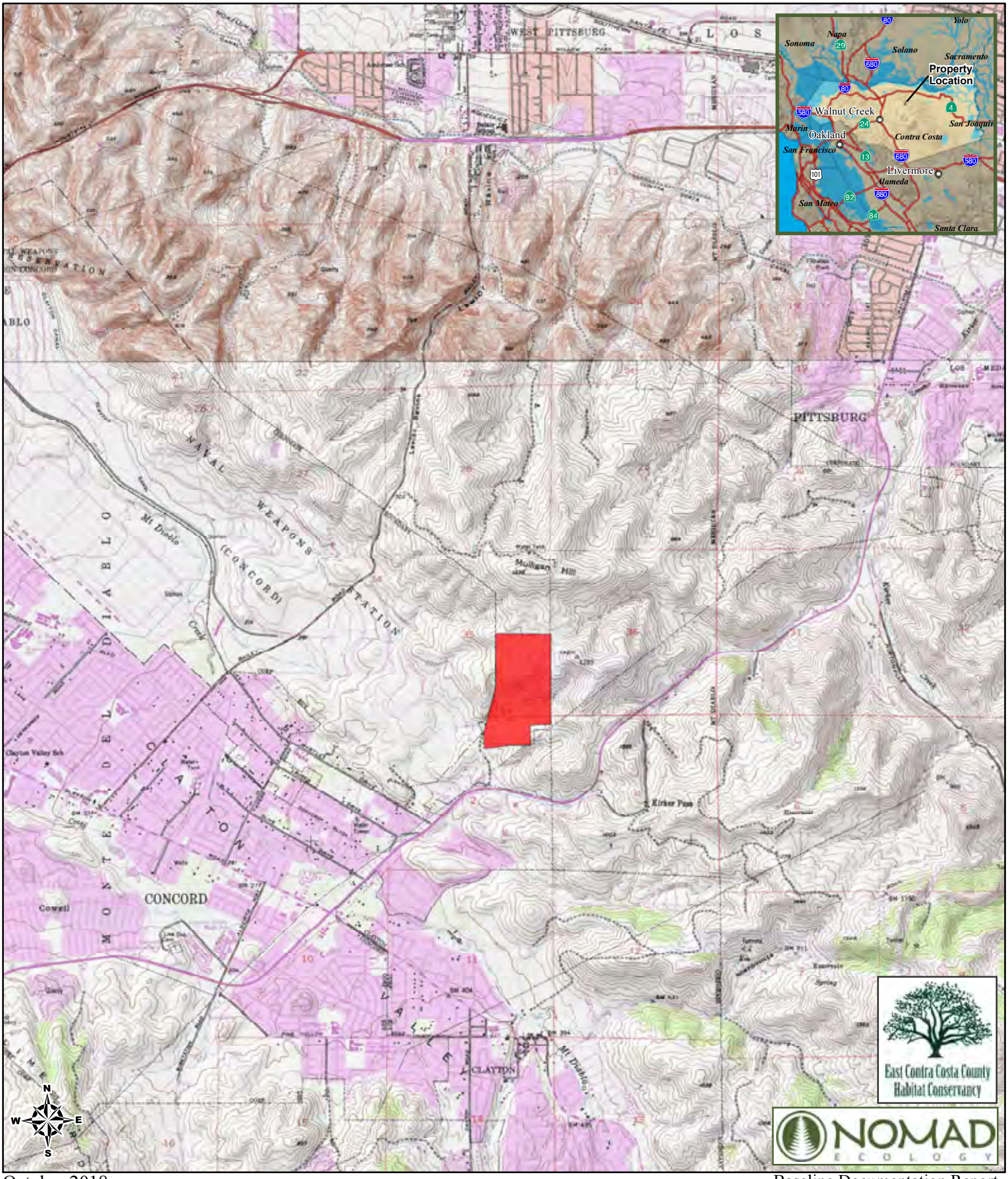
APN	ACRES
094-130-008	105.20
094-130-018	37.23
Total	**142.43**

1.1. PURPOSE OF THE PROPERTY ACQUISITION

The purpose of the acquisition is to ensure that existing and future natural values and associated wildlife and habitat values of the acquisition area will be forever protected by preventing any use of the acquisition area that would impair or interfere with the conservation values. The acquisition will confine the use of the parcels to such activities that are consistent with this purpose, including, without limitation, those involving the preservation, restoration, and enhancement of the acquisition area's wildlife species and their habitats.

1.2. PURPOSE OF THE BASELINE DOCUMENTATION REPORT

The purpose of the BDR is to establish and document the condition of the property to provide a baseline against which to determine whether such condition has changed significantly and, if such condition has changed significantly, to determine the nature and extent of the change, including whether the change is the result of natural phenomena, such as fire, drought, landslide or climate change.



Legend
Britton Property

Figure 1
Britton Property
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:48,000
0 0.25 0.5
Miles

Sources: USGS, Contra Costa County. Projection: NAD 83 UTM 10 North.

Section 2. DOCUMENTATION METHODS

2.1. DATA RESOURCES

Botanical taxonomy and nomenclature conforms to *The Jepson Manual* (Baldwin et al. 2012) with the exception of recent circumscriptions posted on the Jepson eFlora (Jepson Flora Project 2018) website. Common names of plant species are derived from *The Calflora Database* (Calflora 2018).

2.2. PERSONNEL AND FIELD INVESTIGATION

Nomad senior botanist Heath Bartosh visited the MCE on August 15, 2018 to conduct a reconnaissance-level survey of the parcels included in the BP. Per the Conservancy's instructions, the primary focus of the survey was to document man-made features and infrastructure as well as scenic features. Mr. Bartosh inspected and photographed all agricultural or grazing infrastructure on the BP, if present. All previously known structures and water sources were accessed via a 4x4 truck, except for some features that were accessed on foot. While completing that task, Mr. Bartosh made efforts to document the biological resources present on the BP. Those efforts included documenting baseline environmental conditions, land cover types, and large infestations of invasive species.

Protocol-level surveys for special-status plants and animals were not conducted as part of this assessment.

2.3. RESOURCE DOCUMENTATION AND MAPPING

Field data including the locations of photo points, invasive species, and man-made features were collected using a handheld Global Positioning System (GPS) device. A data point was collected for each aforementioned feature. These data points were then transferred to a desktop computer Geographic Information System (GIS) platform operating ESRI ArcGIS for creating polygons, where necessary, and populating attribute tables.

2.3.1 PHOTOPOINTS

Photographs were taken during the course of the survey to document observations or locations where data was collected. GPS data points were recorded for all photo points and converted into a GIS shapefile. All photo points recorded are depicted in Figure 7 of Appendix A and these photos are shown in Appendix C.

2.3.2 VEGETATION COMMUNITY DATA

Vegetation communities in this report are described using HCP/NCCP Land Cover Types (Jones and Stokes 2006). Representative photographs were taken for each Land Cover Type observed within the acquisition.

2.3.3 INVASIVE SPECIES

Significant observations of invasive plant and/or animal species encountered within the property were recorded as GPS data points. Invasive species were evaluated to determine their status within the property, and their potential effect on native species, special-status species and other natural resources.

2.3.4 ANTHROPOGENIC FEATURES

Spatial and description data were collected for all man-made features within the property including access roads, power lines, and gates, among others. All features recorded are depicted in Figure 7 of Appendix A.

2.4. LIMITATIONS

Nomad was directed by Conservancy staff to focus documentation efforts on man-made features. Therefore, survey coverage was generally limited to areas where these types of features were located. Due to these constraints, information on biological resources should be considered preliminary and incomplete.

Based on the timing of the assessment, and the sampling intensity, it was not possible to rule out the presence of any potentially occurring special-status plant, fish, or wildlife species. However, inferences on presence or absence were possible for specific special-status plant species with blooming periods corresponding to the August 2018 site visit. Negative findings during site assessments or focused surveys may not indicate absence unless field surveys conform to agency approved protocols. Moreover, for many species it is virtually impossible to prove absence even if surveys conform to approved protocols.

Plants

Because only one site visit was conducted in August, all plant species growing within the study area may not have been observed due to varying flowering phenologies and life forms, such as bulbs, biennials, and annuals. Other potentially dominant species within vegetation communities on site may be present during other times of the year. Therefore, the present study is not floristic in nature. A floristic study not only requires every plant observed to be identified to a level necessary to determine their regulatory status, it also necessitates a sufficient number of site visits spaced throughout the growing season within the blooming periods of all plant species, including common taxa, to ensure a complete inventory is obtained (CNPS 2001, CDFW 2018, USFWS 2000). Some of the plant species identified in this report are tentative due to the absence of morphological characters, resulting from immature reproductive structures or seasonal desiccation, which is required to make species-level determinations. In these cases, *cf* (compares to) is used to indicate provisional species identification based on gestalt, vegetative morphology and/or a species' known range.

Species dominance, particularly with regard to annuals, may change depending on the sampling season. In addition, certain plant species, especially annuals, may be absent in some years due to annual variations in temperature and rainfall, which influence germination and plant phenology. Finally, colonization of new populations within an area may occur from year to year. Our descriptions of the vegetation communities and species occurring on the BP are based on the sampling we conducted during the late summer of 2018. Those descriptions may be subject to change in the event multiple seasons or years of data are collected. In certain cases, the term "provisional" is used when sufficient data exists to propose a vegetation type, but enough research and regional information has not been gathered to confirm the Land Cover Type (Jones and Stokes 2006). The phrase "in part" is used to signify that vegetation descriptions may include additional annual species if surveys are conducted during other seasons.

Animals

We did not survey for animals. Any species noted in the course of conducting the reconnaissance for this report were recorded. Several factors constrained our ability to identify wildlife species that occur on the BP. First, late summer is generally a poor time of year to detect bird species in North America. Most species have completed reproductive activities, are less active, and vocalize infrequently (if at all). This makes their detection considerably more difficult. It is extremely difficult to detect secretive species

outside of the breeding season because detection is dependent on vocalizations that may cease once reproductive activities have been completed.

Second, songbirds are most easily detected in the early morning or late evening, rather than during other times of the day (Grue et al. 1981, Skirvin 1981). Due to the scope of work, we could not survey all habitat types during the optimal time for bird detection.

Third, many of the surveys were limited to what could be detected from the vehicle while driving between man-made features. This limited Nomad's ability to detect soaring birds, small birds, and small mammals.

Finally, the site visit was conducted on the cusp of the breeding season and fall migration. This limited Nomad's ability to make inferences on the breeding status of many of the species detected during the surveys and also precluded the detection of species that may occur on the BP only during migration or the winter.

Section 3. PROPERTY DESCRIPTION

3.1. REGIONAL SETTING

The 142.43-acre BP includes portions of Section 2 of Township 1 North and Range 1 West and Section 35 of Township 2 North and Range 1 West within the Mount Diablo Baseline and Meridian. It is situated near the boundary of the San Francisco Bay Area and San Joaquin Valley subregions of the California Floristic Province. It falls within the Mt. Diablo Creek watershed (CCWF 2003) and appears on the Clayton (37121h8) 7.5-minute USGS topographic quadrangle.

As described in the *Ecological Subregions of California* (USDA 1997), MCE is located within the Suisun Hills and Valleys subsection of the Central California Coast Section. The *Ecological Subregions of California* form the basis for describing regional variation in California alliance descriptions in *A Manual of California Vegetation* (Sawyer et al. 2009).

3.1.1 SUISUN HILLS AND VALLEYS

The Suisun Hills and Valleys are characterized by low hills north and south of the Carquinez Strait, and include valleys between the hills, and plains at the west end of the Sacramento-San Joaquin River Delta. The climate is hot and sub-humid and is very windy on the hills adjacent to and north of the Strait (USDA 1997).

This is a subsection of steep to moderately steep northwesterly aligned hills, valleys between the hills, and the edge of a plain that is the floor of the Great Valley. Elevations range from sea-level to 1,428 feet (435 meters) in the Briones Hills. Mass wasting and fluvial erosion are the main geomorphic processes. The Suisun Hills and Valleys are mainly comprised of Cretaceous, Eocene, and Miocene marine sedimentary rocks and late Quaternary alluvium, and minor amounts of Pliocene nonmarine sediments and volcanic rocks (USDA 1997). Most of the soils are leached free of carbonates, but calcium carbonates have accumulated in some soils on alluvial plains and more soluble salts accumulated in somewhat poorly drained soil (USDA 1997).

For this region the mean annual precipitation ranges from 15 to 20 inches and nearly all of the precipitation is rainfall. The mean annual temperature is generally between 56° to 60°F and the mean freeze-free period is from 250 to 275 days. Hydrologically, runoff is rapid from the hills, but slow from the alluvial plains. All but the larger streams are dry throughout the summer (USDA 1997).

3.2. LOCAL SETTING

The BP is located in the north-central portion of Contra Costa County and adjacent to the eastern boundary of the City of Concord, California (Figure 2 & 3, Appendix A). The central point of the BP is approximately 5.3 air-miles southeast of downtown Concord and 6.3 air-miles north of the summit of Mount Diablo (Figure 2). The BP shares its western boundary with Concord Naval Weapons station, its eastern boundary with the Land Waste Management Habitat Conservancy acquisition, and abuts the Canyon Creek residential subdivision to the south. The majority of the parcel is generally rectangular, oriented in a north-south manner. From north to south the BP is approximately 0.7 miles long and from east to west 0.4 mile wide. The main access to the BP is located approximately 0.15 miles south of the property boundary from Clearbrook Drive via Kirker Pass Road.

With the exception of the residential subdivision to the south, the BP is generally surrounded by a system of undeveloped northwest to southeast trending ridgetops. The property itself is predominantly located on

the southern and western slopes of these ridges, which slope toward two unnamed tributaries of Mt. Diablo Creek. Few dirt access roads have been bladed throughout the property, and while it is mostly undisturbed rolling hills there is evidence of corrals and outbuildings associated with livestock grazing where these two tributaries meet on site. These roads appear to be maintained annually. The diversity of vegetation types is low because the majority of the BP is dominated by grasslands. There are two perennial hydrologic features present. No part of the property has had a fire greater than 10 acres recorded since at least 1878 (beginning of record keeping), based on Cal Fire (2016) fire perimeter data. No evidence of recent fire was observed within the study area during the 2018 site visit.

3.2.1 Topography and Prominent Geographic Features

The topography of the BP is largely the south- and west-facing foothill slopes of the northwest and southeast oriented Mulligan Hill, which is approximately 0.40-mile north of the BP. This complex of ridges is part of the Pittsburg Hills which separate the cities of Pittsburg and Concord (Figure 2, Appendix A). The slopes of this property fall toward a small and narrow valley that is located near the eastern boundary in the southern half of the BP. This valley is where the two primary drainages (MD-1 and MD-2) converge before flowing off site to the west. The highest point of the BP is approximately 1,110 feet (338 meters) in elevation located near the northeast corner of the property. The lowest point of the property is approximately 540 feet (165 meters) in elevation and is where the northernmost unnamed tributary to Mt. Diablo Creek (MD-1) flows west off site. Topography of the BP is largely gently sloping on the southern half of the property and moderate to steeply sloping on the northern half of the property, although the northern third becomes a gentle incline rising toward Mulligan Hill.

3.2.2 Climate

Locally the climate of the study area is characterized as Mediterranean with cool, wet winters and warm to hot, dry summers. It is presumed that the BP is near the edge of the coastal fog incursion zone and therefore occasionally receives moisture other than direct precipitation. Tule fog generated from the Central Valley can also influence the climate and sun exposure of the BP from the fall to spring. Annual precipitation ranges from 19 to 21 inches annually (PRISM 2018).

3.2.3 Geology and Soils

The underlying geology mainly comprises sedimentary rock types such as sandstone, siltstone, and mudstone, as well as volcanic rock types such as basaltic dikes and sills. However, the majority of the geology on site is alluvium from the Quaternary period (Graymer et al. 2000).

A total of two soil types are mapped as occurring within the property area: Altamont-Fontana complex and Garreston series. Altamont-Fontana complex soils comprise clay soils, which on the BP are found on 30 to 50 percent slopes (USDA 1977). Garreston series soils are comprised of loams that are found on 2 to 5 percent slopes on the BP (USDA 1977). These soil types are categorized only for grazing and are not considered prime, unique, or a soil of statewide interest (FMMP 2016).

3.3. Hydrology Characteristics

Hydrology onsite is influenced by precipitation, surface water runoff, geologic stratigraphy, topography, soil permeability, and plant cover. Hydrologic features discussed in this section include intermittent and perennial features. Ephemeral drainages are not included in the discussion below. Only two tributaries (MD-1 and MD-2) to Mt. Diablo Creek were observed. These tributaries include both intermittent and perennial portions and contribute to the Mt. Diablo Creek watershed which flows into Suisun Bay. A portion of the BP contributes to the Kirker Creek watershed but it is only sheet flow from the higher ridges in the northeastern portion of the property and is therefore not discussed further. All hydrologic

features appear in Figure 4 (Appendix A). The lengths of creeks and their tributaries occurring on the BP are included in Table 2.

Table 2. Lengths of Creeks and Tributaries

Creeks and Tributaries	Watershed	Linear Feet	Miles
Mt. Diablo Creek Tributary 1 (MD-1a and MD-1b)	Mount Diablo	1,455.76	0.28
Mt. Diablo Creek Tributary 2 (MD-2)	Mount Diablo	691.80	0.13
Totals		**2,147.56**	**0.41**

3.3.1 Mt. Diablo Creek Watershed

The Mt. Diablo Creek watershed is a sub-drainage of the northwestern slopes of the Pittsburg Hills area. The two unnamed tributaries of Mt. Diablo Creek were observed along the western boundary (MD-1) and in the southern portion of the property. MD-1 is separated into two segments (MD-1a and MD-1b) because the northern segment exits the property before returning to the BP. MD-1a begins in the northwest portion of the property and flows in a southerly direction near the western boundary then turns slightly west and exits the property where it flows for a short distance on Concord Naval Weapons Station. This segment of MD-1 is intermittent and has a narrow channel with an obvious bed and bank. The channel becomes MD-1b where it reenters the property on the western boundary. It is an intermittent channel for a very short distance before reaching an in-channel seep. Downstream of this seep MD-1b becomes a permanent wetland (PW-1) and the channel disappears into a flat and vegetated wetland complex. Where the influence of permanent water ends the intermittent MD-1b channel reemerges and flows west off site. The defined channel of MD-2 originates near the southeastern corner of the property where it flows west as an intermittent channel from the Conservancy's Land Waste Management acquisition. This channel flows through one small culvert before it reaches an in-channel seep. Downstream of this seep MD-2 also becomes a permanent wetland. This drainage does not reform a channel but terminates in a pond (P-1). Beyond this pond there is no defined channel connecting MD-1 and MD-2 and these two drainages are actually bisected by a road. However, it is presumed that when the pond overflows, waters of MD-2 sheet flow into MD-1 where this water is carried off site. Only MD-2 is identified as an intermittent "blue-line" streams on the USGS topographic quadrangle. Although the USGS topo map shows MD-2 is shown to connect with MD-1 it is likely road blading and pond construction since the last revision of this topo map (1994) has severed this hydrologic connection.

MD-1a, looking southwest, before it leaves the property for a short distance.

MD-1a where it reenters the BP. The seep at the head of PW-1 is in the distance.

MD-1b in the distance, beyond the dark patch of vegetation (milk thistle), before it exits the property. P-1 is to the left of the milk thistle patch.

MD-2 before hitting the seep downstream, the Land Waste Management Property in the distance.

3.3.2 WETLANDS

Within the BP there are two types of wetland features present, permanent wetland and seasonal wetland. These features are located within the channel of MD-1 and MD-2. The size of these features is shown in Table 3 and they are depicted in Figure 4 of Appendix A.

Table 3. Wetlands of the BP

WETLAND FEATURE	SQUARE FEET	ACRES
Permanent Wetlands		
PW-1	15,969.10	0.37

Wetland Feature	Square Feet	Acres
PW-2	1,750.78	0.04
PW-3	3,462.42	0.08
PW-4	12,228.30	0.28
Subtotal	**17,441.50**	**0.40**
Seasonal Wetlands		
SW-1	1,293.64	0.04
Subtotal	**1,293.64**	**0.04**
Total Wetlands	**18,735.14**	**0.44**

Permanent wetlands are located in the lower reaches of MD-1 and MD-2, where both of these drainage corridors begin to flatten out near the valley in the southwestern portion of the property. All of these permanent wetlands are seep fed. PW-1 is associated with MD-1b and is fed by a seep at the upstream end, although water captured below the seep at this relatively flat portion of the drainage likely adds to soil saturation in addition to the seep flows. PW-2 is an isolated, seep fed, permanent wetland that is elevated from the MD-1a channel, where it is positioned on the slope above. At the time of the site visit it did not appear to have a hydrologic connection to PW-1.

Upper portion of PW-1, looking northwest.

Lower portion of PW-1, looking southwest.

The discrete and isolated PW-2, located on the slope above PW-1,
Mount Diablo in the distance.

PW-3 and PW-4 are located in the MD-2 drainage corridor and are seep fed at several locations. These two permanent wetlands are separated by a culvert beneath a dirt access road. This is a large complex of seeps and wetlands that appear to have been diverted and altered by human activity. Water from these seeps eventually flows into a shallow downstream pond (P-1) where it is captured. At the time of the site visit all of these permanent wetlands either had saturated soils or were holding water a few inches deep.

Seep at the head of PW-3, looking southeast.

PW-3 just below the seep at the upstream end, looking west.

PW-4 where concrete debris has been placed in an attempt to divert water flow
Looking northeast.

The lower section of PW-4 before it enters P-1, looking west.

A single seasonal wetland is also present in the BP. It is located immediately north of P-1, on the other side of the dirt access road. It is presumed that when water overflows P-1, it sheet flows across the road and is captured by a small shallow depression (SW-1) which is mostly unvegetated. When SW-1 overflows it enters MD-1b and flows off site.

SW-1 with dirt access road in the background.

3.3.3 PONDS

A single pond (P-1) was observed within the BP. This is a man-made stock pond that captures water from PW-3 and PW-4. This is near circular shaped pond is approximately two feet deep when full and was holding water at the time of the August site visit. P-1 totals 0.03 acre (1,228.00 square feet). This pond lacks an obvious spillway and when full water likely sheet flows over the dirt access road to the north, into SW-1 and eventually into MD-1a.

3.3.4 SPRINGS

A total of five springs were observed within the BP, all considered perennial since they were flowing and/or wet at the time of the August site visit. Two of these seeps are associated with MD-1 and the remaining three are associated with MD-2.

3.4. LAND USE

Land use on site is primarily agricultural in the form of cattle grazing. No information was available on historical land use of the BP. The surrounding land is either other habitat conservancy holdings, grazing land, or residential subdivisions.

3.4.1 GRAZING

As far as is known, the historical and current use of the BP is livestock (cattle) grazing. The site has open and rolling grasslands with open water sources and some water development. The water sources on site are the permanent wetlands and pond. It is unknown what type of grazing operation BP can support. The average seasonal carrying capacity of the BP is approximately 60 to 80 head for 8-10 months of the year. The type of operation, e.g. cow-calf or stocker, is not documented by the property owners.

3.4.2 SCENIC FEATURES

The rolling grassy foothills and lower slopes of Mulligan Hill on the BP are visible from Kirker Pass Road, Nortonville Road, parts of Black Diamond Mines Regional Preserve, the city of Concord, the city of Clayton, the Land Waste Management Property (EBRPD), as well as from State Highway 4.

The upper portion of the BP is visible from Mount Diablo, Clayton, Concord, and Kirker Pass Road.

3.4.3 RECREATIONAL USE

No public recreational use of the BP is known to occur historically or currently.

3.5. ANTHROPOGENIC FEATURES

While a majority of the BP has been left undeveloped there are several anthropogenic features mainly associated with access, cattle ranching, and power transmission. Man-made features include roads, fences and gates, culverts, debris and power and gas rights-of-way. All anthropogenic features are depicted in Figure 5 (Appendix A).

3.5.1 FENCES

Within the BP, fences serve as either boundary fences or pasture boundaries. Along the western and northern boundaries a six-foot-high chain link fence topped with barbed wire is present. This high security fence separates Concord Naval Weapons Station and the BP. There is also another a six-foot-high chain link fence that separates a mitigation pond or detention basin from the BP in the southwest corner of the property. This pond or basin is not located on the BP; however, the boundary fence for this feature encroaches onto the BP. The other fence lines are typical 4 or 5 strand barbed wire fence and, depending on the age, are supported by wood posts or metal t-posts. These barbed wire fences separate the BP from adjacent properties or divide grazing pastures. Based on fence line mapping during the site visit, a total of 1.93 miles of fencing exists on the BP, 0.96 miles is chain-link and 0.97 miles is 4 or 5 strand barbed wire. Each boundary ingress or pasture is entered either through a gate. Gates are either green Powder River brand steel or custom steel. A total of three gates were recorded on the property (Figure 5, Appendix A).

Chain link fence along the western boundary of the BP.

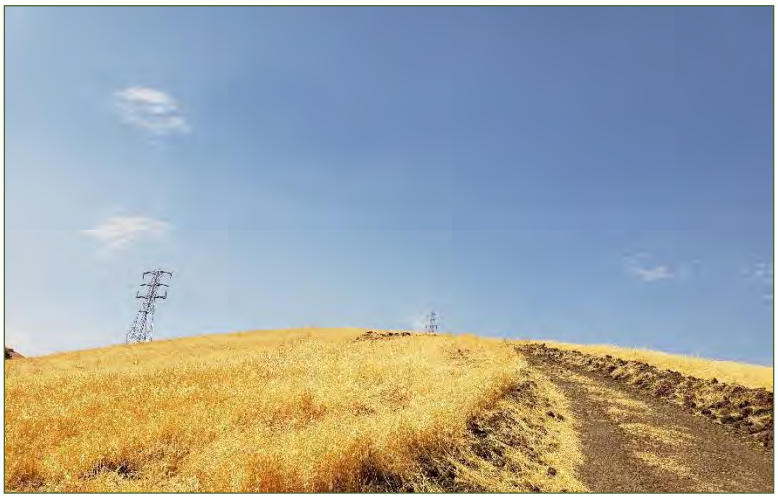
Chain link fence to the right, separating the BP from the basin.

Barbed wire pasture fence on the southern portion of the BP.

Powder river gate in the northeastern corner at the Land Waste Management boundary.

3.5.2 ROADS

Access infrastructure within the BP comprises only dirt roads that are approximately 12-feet wide. These roads are created by grading (blading) the road surface and receive infrequent use and maintenance and may require a four-wheel drive vehicle, especially during wet weather. However, these roads do appear to be maintained by annual blading. Developed and designated trails are not known to occur within the BP. The total road length within the MCE is estimated to be 3.15 miles (Figure 5, Appendix A).



Bladed dirt access road on the MCE.

3.5.3 CULVERTS

Culvert infrastructure within the BP includes two 18-inch concrete culverts along MD-2, where it crosses under dirt access roads.

3.5.4 DEBRIS

During the site visit any debris or trash piles that have been deposited on the BP were recorded. Debris observed during the August site visit consisted of old troughs, piles of wood from old fence posts and corrals, abandoned cars, broken concrete, miscellaneous metal, a broken down shed and a cattle chute in disrepair. Photographs of all these items are included in Appendix C.

3.5.5 POWER AND GAS LINES

Within the BP there are two power line rights-of-way of lattice tower (transmission) construction. Both of these lines run in a northeast to southwest direction near the southern boundary in a corner of the BP. Although these rights-of-way pass through the BP no lattice towers are actually present on site.

A gas transmission right-of-way also exists on the BP. This runs parallel to the lattice tower transmission lines and enters and exits the property in the same general areas. This right-of-way is not marked by paddles located on the BP, though paddles are visible off site.

Lattice type power transmission line on the BP.

3.6. LAND COVER AND ENVIRONMENTAL CONDITIONS

This subsection describes vegetation communities following the Land Cover Types described in the HCP/NCCP (Jones & Stokes 2006). HCP/NCCP Land Cover Types observed within the BP include Annual Grassland, Nonnative Woodland, Permanent Wetland, Pond, Rock Outcrops, Seasonal Wetland, and Urban (Table 4). Because urban is unvegetated is not described below. The location of each Land Cover Type in the BP is shown in Figure 6 (Appendix A).

Table 4. HCP Land Cover Types in the Study Area

LAND COVER	ACREAGE
Annual Grassland	127.71
Nonnative Woodland	1.43
Permanent Wetland	0.77
Pond	0.03
Rock Outcrops	0.37
Ruderal	11.89
Seasonal Wetland	0.03
Urban	0.20
Total:	**142.43**

*As specified in the HCP/NCCP, streams are mapped as linear features.

Land cover types are further cross referenced using three commonly used vegetation classification systems including *California Vegetation* (Holland and Keil 1995), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *Manual of California Vegetation, Second edition* (Sawyer et al. 2009)[1]. In addition, habitat types from the *CNPS Inventory of Rare and*

[1] This is due to the fact that the HCP Land Cover Types, in many cases, do not refer to standard vegetation community treatments and is therefore an effort to relate HCP Land Cover Types to these commonly used classification systems for regional context and regulatory continuity.

Endangered Plants of California (CNPS 2018) are included to reference habitat types listed in the CNPS Inventory to HCP/NCCP Land Cover Types found on site.

Holland (1986) provides a generalized community-level description for natural vegetation communities present within the project area. Vegetation that interfaces with urban or developed landscapes, *i.e.* Ruderal, is treated using Holland and Keil (1995). Beneath the natural community-level more detail is accomplished using *Manual of California Vegetation, Second edition* which identifies vegetation communities as alliances[2]. Non-vegetated types, such as stream (open water) and Urban, are not treated in these vegetation classification systems.

Table 5 relates HCP/NCCP Land Cover Types to the commonly used vegetation classification systems described above. The codes used in Table 5 reflect those associated with Holland (1986) types and the *California Natural Communities List* (CDFW 2018).

3.6.1 GRASSLANDS

A total of two Land Cover Types found on site are grasslands as described in the HCP/NCCP: Ruderal and Annual Grassland. Characteristic taxa of each of these Land Cover Types are described below.

Ruderal

As described in the HCP/NCCP ruderal vegetation is characterized by sparse nonnative, typically weedy vegetation, occupying vacant parcels surrounded by developed areas. Based on the description by Holland and Keil (1995) ruderal vegetation is an assemblage of plants, often a mixture of both native and non-native weed species that thrive in waste areas, heavily grazed pastures, cultivated and fallow fields, roadsides, parking lots, footpaths, around residences and similar disturbed sites in towns and cities and along rural roadways. Ruderal communities are difficult to characterize and are often temporary assemblages. In areas of frequent human disturbance, the majority of wild plants are often introduced weeds rather than natives. Some urban weeds are ornamentals that have escaped from cultivation. Ruderal species may at times be integrated into various other communities (Holland and Keil 1995).

Within the BP, ruderal vegetation is present along bladed roadways and in areas around the valley where much of the former grazing infrastructure is present, near P-1. Plant species typical of ruderal vegetation on site include yellow starthistle (*Centaurea solstitialis**), pigweed (*Amaranthus albus**), hoary mustard (*Hirschfeldia incana**), stinkwort (*Dittrichia graveolensi**), ripgut brome (*Bromus hordeaceus**), purple starthistle (*Centaurea calcitrapa**), horehound (*Marrubium vulgare**), fennel (*Foeniculum vulgare**), Italian thistle (*Carduus pycnocephalus* subsp. *pycnocephalus*), and milk thistle (*Silybum marianum**). Of these areas there are dense infestations of milk thistle, particularly in the understory and around Nonnative Woodland, as well as near the lower portions of the banks of MD-1 and MD-2. Much of the roadways are unvegetated.

[2] An allinace is a classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or layer with the highest canopy cover. Alliances reflect regional to subregional climates, substrates, hydrology, and disturbance regimes.

[*] Denotes a non-native species that has an origin outside of California

Table 5. Vegetation Community Classifications Systems Comparisons

HCP/NCCP Land Cover Types[3]	Vegetation Community and Wetland Classification Systems			
	Terrestrial Communities[4]	California & National Vegetation[5]	CNPS Inventory[6]	Wetlands & Deepwater Habitats[7]
Annual Grassland	Non-Native Grassland (42200) (*Holland 1986*)	*Avena fatua* Semi-Natural Herbaceous Alliance (Wild Oats Grassland) (44.150.01) *Bromus hordeaceus* Semi-Natural Herbaceous Alliance (Annual Brome Grassland) (42.026.00)	Valley and Foothill Grassland	Upland
Nonnative Woodland	Not Described	Not Described		
Permanent Wetland	Coastal and Valley Freshwater Marsh (52410) *(Holland 1986)*	*Schoenoplectus actutus* Herbaceous Alliance Hardstem and California Bulrush marshes (52.128.00) *Typha angustifolia* Herbaceous Alliance Cattail Marshes (52.050.00)	Marshes and Swamps	Palustrine persistent emergent freshwater wetland
Pond (Unvegetated)	Not Described	Not Described	Not Described	Palustrine Freshwater Wetland
Rock Outcrop	Not Described	Not Described	Not Described	Not Described
Ruderal	Ruderal (*Holland & Keil 1995*)	Not Described	Not Described	Upland
Seasonal Wetland	Not Described	Not Described	Meadows and Seeps (in part)	Persistent Palustrine Emergent Wetland
Stream	Not Described	Not Described	Not Described	Riverine streambed

[3] East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (Jones & Stokes 2006)
[4] Terrestrial Natural Communities of California (Holland 1986) or (Holland & Keil 1995)
[5] List of Vegetation Alliances and Associations (CDFW 2018)
[6] CNPS Inventory of Rare and Endangered Plants of California Habitat Types (CNPS 2018)
[7] Classification of Wetlands & Deepwater Habitats of the U.S. (Cowardin et al. 1979)

HCP/NCCP Land Cover Types[3]	Vegetation Community and Wetland Classification Systems			
	Terrestrial Communities[4]	California & National Vegetation[5]	CNPS Inventory[6]	Wetlands & Deepwater Habitats[7]
Urban	Not Described	Not Described	Not Described	Upland

Milk thistle* infestation visible near the bottom of PW-1

Dark patch of ruderal vegetation in the distance (southwest corner of property).

Dense patch of Italian thistle* near a gate in the southwest corner of the property.

Annual Grassland

As described in the HCP/NCCP, annual grassland is characterized by grass and forb species dominating the land cover and where trees and shrubs comprise less than 5 percent canopy cover. The dominant grass species are non-native annuals. Based on the description by Holland (1986) non-native grassland is a dense to sparse cover of annual grasses with flowering culms up to 3 feet (one meter) tall. Associates often include "showy-flowered" native annual forbs. This community occurs on fine-textured, usually clay soils, moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Germination occurs with the onset of the late fall rains while growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer and fall dry season, persisting as seeds. This community usually occurs below 3,000 feet but reaches 4,000 feet in the Tehachapi Mountains and interior San Diego County, and intergrades with coastal prairie along the Central Coast.

Within the study area, annual grassland occupies the majority of the site, with the exception of the southwest corner. This plant community is dominated by non-native annual grasses including oats (*Avena barbata**), soft chess (*Bromus hordeaceus**), Italian ryegrass (*Festuca perennis**), hare barley (*Hordeum murinum* subsp. *leporinum**), and ripgut brome (*Bromus diandrus**). Native creeping wildrye (*Elymus triticoides*) and purple needlegrass (*Stipa pulchra**) are also present but not of the size or composition to comprise their own vegetation communities. Native and non-native herbaceous species also present in this community included Great Valley gumweed (*Grindelia camporum*), field bindweed (*Convolvulus arvensis**), rose clover (*trifloium hirtum**), fiddle dock (*Rumex pulcher**), and cardoon (*Cynara cardunculus* subsp. *flavescens**). A few individual valley oaks (*Quercus lobata*) and shrubs like poison oak (*Toxicodendron diversilobum*) and California sagebrush (*Artemisia californica*) are present scattered in the grassland. It should be noted that the invasive plant cardoon is also commonly scattered throughout the grassland in the upper half of the property. Although it is common it does not form a mappable community of its own, such as ruderal. Small unmappable infestations of weeds are also present within the annual grassland matrix and include milk thistle* and Italian thistle*.

Typical Annual Grassland of the BP.

3.6.2 WETLAND

A total of two Land Cover Types found on site are wetlands as described in the HCP/NCCP: Permanent and Seasonal Wetland. Characteristics of each of these Land Cover Types are described below.

Permanent Wetland

As described by the HCP/NCCP, permanent wetlands are characterized by a year-round water source. They are typically dominated by erect, rooted, herbaceous hydrophytic plant species adapted to growing in conditions of prolonged inundation. Of the vegetation types described by Holland (1986), the most similar is freshwater marsh and freshwater seep. This vegetation type is dominated by perennial, emergent monocots 1-15 feet (0.40-4.5 meters) in height. It typically occurs on sites that lack a significant current and are permanently flooded by freshwater along the edges of water bodies, dune swales, slough terrace edges, banks, channels and mouth margins of rivers, bottomlands, ditch margins, lagoons, ponds, reservoir margins and along geologic faults. This community is most extensive in the upper portion of the Sacramento-San Joaquin River Delta.

Within the BP four permanent wetland features were mapped. The vegetation of these areas varies between drainage segments and tends to have a discrete distribution of different plant species. Stands of species observed included narrowleaf cattail (*Typha angustifolila*), watercress (*Nasturtium officinale*), iris-leaved rush (*Juncus xiphioides*), celery (*Apium ggraveolens**), cursed crowfoot (*Ranunculus sceleratus* var. *sceleratus*), loostrife hyssop (*Lythrum hyssopifolia**), birdfott trefoil (*Lotus corniculatus**), Bermuda grass (*Cynodon dactylon**), rabbitsfoot grass (*Polypogon monspeliensis*), water beard grass (*Polypogon viridis**), Mexican rush (*Juncus mexicanus*), yerba mansa (*Anemopsis californica*), and Baltic rush (*Juncus balticus* var. *ater*). In addition, mature trees are rooted in these wetlands, including Fremont cottonwood (*Populus fremontii* subsp. *fremontii*) and red willow (*Salix laevigata*).

PW-1 supporting a stand of yerba mansa.

PW-2 full of cattails.

PW-3 supporting water beard grass and cursed crowfoot.
Cottonwood and red willow in the distance.

PW-4 with grazed cattails and Bermuda grass.

3.6.3 AQUATIC

A total of two Land Cover Types found on site are aquatic as described in the HCP/NCCP: Pond and Stream. Characteristics of each of these Land Cover Types are described below.

Pond

The HCP defines ponds as small perennial or seasonal water bodies dominated by little or no vegetation. If vegetation is present, it is typically submerged or floating. There is a single pond located within the BP located near the western boundary at the terminus of PW-4. The only vegetation observed at this pond at the time of the site visit was submerged aquatic plants such as horned pondweed (*Zannichellia palustris*).

Stream

The HCP/NCCP defines a stream as a long, narrow body of flowing water that occupies a channel with a defined bed and bank and moves to lower elevations under the force of gravity. The two drainages (MD-1 and MD-2) on site fit this category.

3.6.4 ROCK OUTCROP

The HCP defines rock outcrops as exposures of bedrock that typically lack soil and have sparse vegetation. Rock outcrops on site are comprised of Andesite. Within the study area, two areas of rock outcrops are located within the annual grassland vegetation community on the northern part at the top of two knolls. Poison oak was growing on one of them.

Rock on the western side of the BP.

3.6.5 DEVELOPED

A total of two Land Cover Types found on site are developed as described in the HCP/NCCP: Nonnative Woodland and Urban. Characteristics of each of these Land Cover Types are described below.

Nonnative Woodland

Nonnative woodlands are those areas where ornamental and other introduced species of trees have been planted or naturalized and dominate to form a dense canopy. Nonnative woodland was mapped primarily in areas surrounded by development, where the signatures and locations did not meet the requirements for oak or riparian woodlands. Nonnative woodland was included as a separate land cover type because some stands could provide suitable habitat for raptors.

Within the BP Nonnative Woodland are two separate stands of tree of heaven (*Ailanthus altissima**). These stands are located where it appears a former corral and outbuildings were established. These mature trees have a dense enough canopy to provide enough shade to change the species composition of the understory compared to the surrounding ruderal habitat and annual grassland.

Outer edge of the Nonnative Woodland with young tree of heaven saplings in the foreground.

Urban

Urban sites are those areas where the native vegetation has been cleared for residential, commercial, industrial, transportation, or recreational structures. Within the BP, the property line, as currently drawn, includes an alley associated with the residential subdivision to the south.

3.7. INVASIVE SPECIES AND NOXIOUS WEEDS

During the course of the surveys, no invasive wildlife species were observed. However, a few noxious weeds that have the potential to change the quality of grasslands or could be a management concern were encountered within the BP.

3.7.1 NOXIOUS WEEDS

Some of the non-indigenous plant species encountered on-site are tracked by the California Department of Food and Agriculture (CDFA 2018) and the California Invasive Plant Council (Cal-IPC 2018) due to their noxious or invasive behavior. Species tracked by these organizations are given a certain rating based on criteria such as ecological impacts, treatment or eradication priority, and threats they pose to agricultural economics. Rating classifications given by Cal-IPC and CDFA are shown in Table 6 and Figure 8 (Appendix A).

There are two noxious weeds currently on site that could be of concern, milk thistle* and cardoon*.There are areas of dense infestations of milk thistle* that have already type converted grasslands into weed patches and should be managed as soon as possible to avoid these patches expanding or colonizing other areas. Although cardoon* occurs as scattered individuals and in diffuse patches that currently do not threaten the integrity of the annual grasslands on site it should be monitored to ensure it does not become a management concern. Summary information on these two species is included below. Information appearing under the headings General Information and Relevant Life History Traits was primarily excerpted from DiTomaso, J.M. and E.A. Healy. 2007. *Weeds of California and Other Western States*. University of California Agriculture and Natural Resources Publication 3488.

Table 6. Invasive Weeds Observed in the Study area

SPECIES NAME	COMMON NAME	CAL-IPC	CDFA
Cynara cardunculus subsp. *flavescens*	cardoon	Moderate	On List
Silybum marinum	milk thistle	Limited	---

Cal-IPC Weed Ranking Definitions:

High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate: These species have substantial and apparent - but generally not severe - ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic (Cal-IPC 2018).

CDFA Species Definition

Species considered a noxious weed by CDFA are listed on the California Noxious Weed List (CDFA 2018).

Cardoon (*Cynara cardunculus* subsp. *cardunculus*)

General Information

Artichoke thistle is a large perennial in the sunflower family (Asteraceae) that usually invades disturbed grassland primarily in coastal regions. Dense colonies displace desirable vegetation and wildlife and can exclude livestock. Artichoke thistle is native to the Mediterranean region and inhabits disturbed, open sites in grassland, pasture, chaparral, coastal sage scrub, riparian areas, and abandoned agricultural fields (DiTomaso and Healy 2007).

Relevant Life History Traits

Artichoke thistle reproduces primarily by seed and less frequently by root fragments usually resulting from mechanical disturbance. Most seeds fall near the parent plant or are dispersed short distances with wind and to greater distances with human activities, water, mud, soil movement, and animals. Most seeds germinate after the first fall rains and can survive about 5 years in the soil under field conditions. Individual plants often live for many years (DiTomaso and Healy 2007).

Threats to Sensitive Habitats or Rare Plants

No immediate threats to rare plants, wildlife, or sensitive natural communities are known at this time.

Milk Thistle (*Silybum marianum*)

General Information

Milk thistle is an erect winter or summer annual or biennial in the sunflower family (Asteraceae). Milk thistle often occurs in dense, competitive stands. Depending on the amount of soil moisture plants can range from very small to very tall. It inhabits disturbed sites, roadsides, pastures, fields, agronomic crops, waste places, orchards, and trail margins in chaparral and woodlands. Milk thistle grows best on fertile soils. It is native to the Mediterranean region. (DiTomaso and Healy 2007).

Relevant Life History Traits

Milk thistle flowers from April to July. Milk thistle reproduces by seed. Seeds probably disperse only short distances with wind but they can disperse to greater distances with human activities, water, soil movement, animals and as a crop seed or feed contaminant. Most seeds germinate after the first fall rain,

but some can germinate throughout winter and early spring. Seeds can survive at least nine years under field conditions (DiTomaso and Healy 2007).

Threats to Sensitive Habitats or Rare Plants

No immediate threats to rare plants, wildlife, or sensitive natural communities are known at this time. However, the patches on site are dense and large enough to warrant abatement efforts to prevent expansion and spread.

Section 4. REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. *The Jepson manual: vascular plants of California, second edition*. University of California Press, Berkeley.

The Calflora Database. 2018. *Information on Wild California Plants for Conservation, Education, and Appreciation*. http://www.calflora.org/.

California Department of Food and Agriculture. 2018. *Noxious Weed Encycloweedia*. Accessed. http://www.cdfa.ca.gov/phpps/ipc/encycloweedia/encycloweedia_hp.htm

California Department of Fish and Wildlife (CDFW). 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural communities.* Wildlife and Habitat Data Analysis Branch

_____. 2018. *California Natural Communties List.* The Vegetation Classification and Mapping Program. Wildlife and Habitat Data Analysis Branch. January.

CalFire 2016. *Fire Perimeter Data to 2016.* California Department of Forestry and Fire Protection.

California Invasive Plant Council (Cal-IPC). 2018. *California Invasive Plant Inventory*, online. Accessed. http://www.cal-ipc.org/ip/inventory/weedlist.php.

California Native Plant Society (CNPS). 2001. *CNPS Botanical Survey Guidelines*, CNPS Inventory, 6th Ed. Revised June 2.

_____. 2018. *Inventory of Rare and Endangered Plants* (online edition). California Native Plant Society. Sacramento, CA. Accessed from http://rareplants.cnps.org/

Contra Costa Watershed Forum (CCWF). 2003. *Contra Costa County Watershed Atlas.* November.

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131 pp.

DiTomaso, J.M. and E.A. Healy. 2007. *Weeds of California and Other Western States*. University of California Agriculture and Natural Resources Publication 3488.

Farmland Mapping and Monitoring Program (FMMP). 2016. Field Report Contra Costa County. California Department of Conservation.

Graymer, R.W., D.L. Jones, and E.E. Brabb. 1994. *Preliminary geologic map emphasizing bedrock formations in Contra Costa County, California: A digital database*. Open-File Report 94-622. U.S. Geological Survey.

Grue, C.E., R.P. Balda, and C.D. Johnson. 1981. Diurnal activity patterns and population estimates of breeding birds within a disturbed and undisturbed desert community. Stud. Avian Biol. 6:292-296.

Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. 156 pp.

Holland, V.L. and D.J. Keil. 1995. *California Vegetation.* Kendall/Hunt Pub. Co. Dubuque, Iowa. 516 pp.

Jepson Flora Project (JFP). 2018 (v. 5.0). *Jepson eFlora, http://ucjeps.berkeley.edu/IJM.html*.

Jones & Stokes. 2006. *East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan.* October. (J&S 01478.01.) San Jose, CA.

PRISM. 2018. *103-Year High-Resolution Precipitation Climate Data Set for the Conterminous United States.* Oregon State University.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation.* Second edition. California Native Plant Society, Sacramento. 1300 pp.

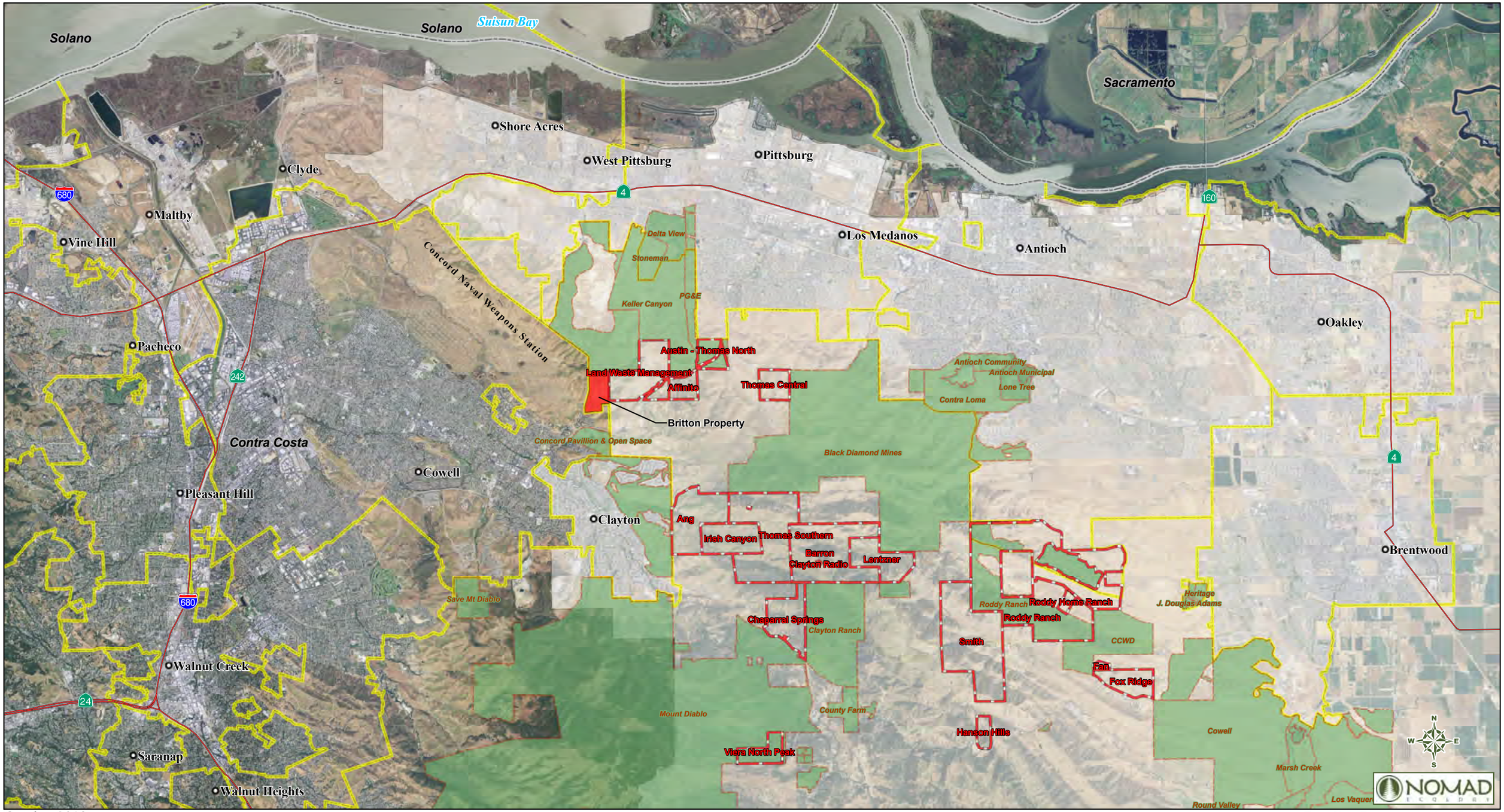
Skirvin, A.A. 1981. *Effect of time of day and time of season on the number of observations and density estimates of breeding birds*. Stud. Avian Biol. 6:271-274.

U.S. Department of Agriculture (USDA). 1977. Soil Survey of Contra Costa County. Natural Resources Conservation Service.

_____. 1997. *Ecological Subregions of California, Section and Subsection Descriptions*. USDA, Forest Service Pacific Southwest Region. R5-EM-TP-005. September.

U.S. Fish and Wildlife Service (USFWS). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. Ventura Fish & Wildlife Office. January.

APPENDIX A FIGURES



October 2018

Baseline Documentation Report

Legend

- Britton Property
- HCP Acquisition Parcels
- Public Land and Easements
- City Limit Boundaries
- HCP Inventory Area
- County Boundaries

Figure 2

Regional Context of the Britton Property

Settlement Agreement

East Contra Costa County Habitat Conservancy

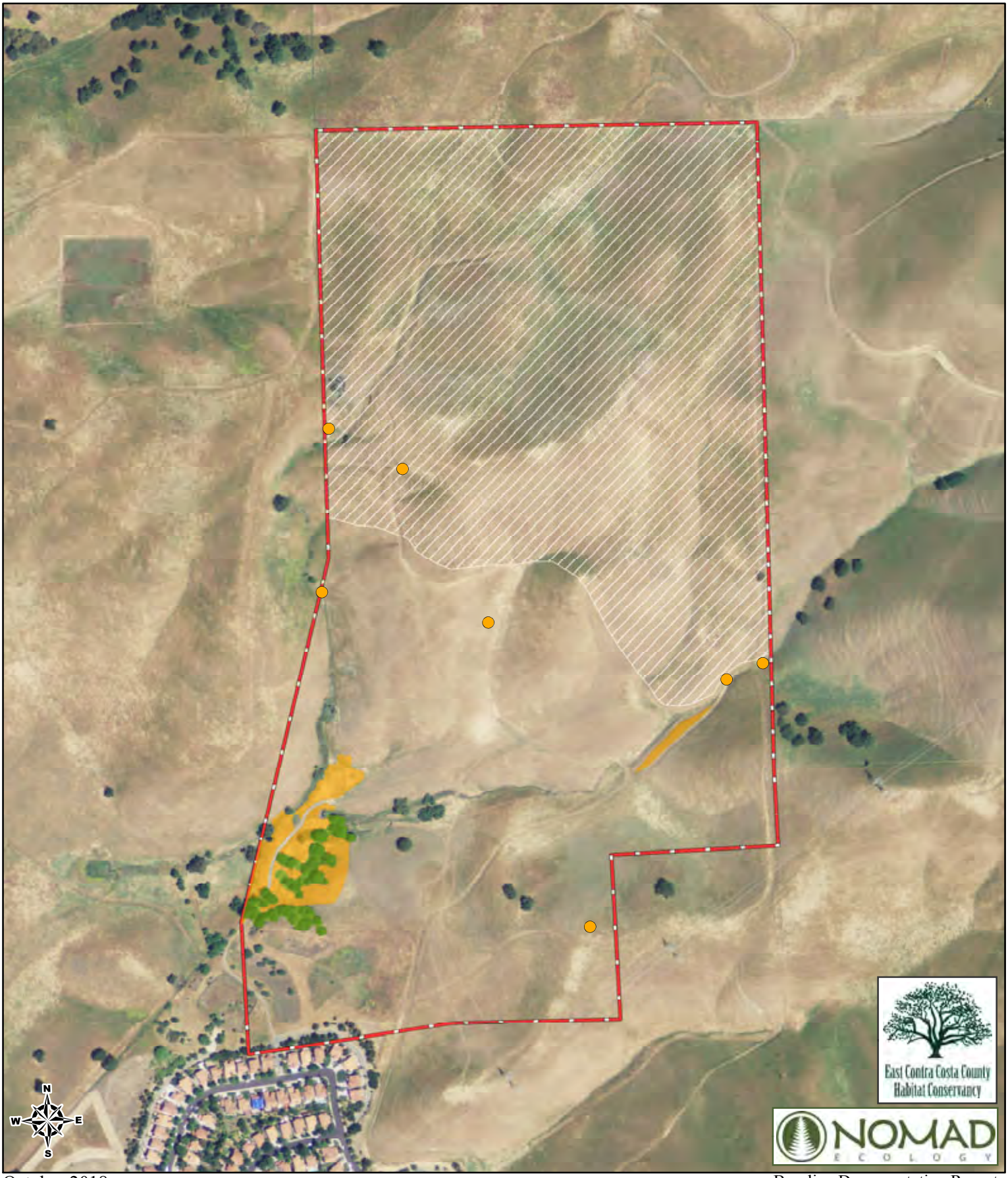
1:95,040

0 0.75 1.5 Miles

East Contra Costa County Habitat Conservancy

Sources: NAIP 2012; Contra Costa County. Projection: NAD 83 UTM Zone 10 North.

Contra Costa County, California

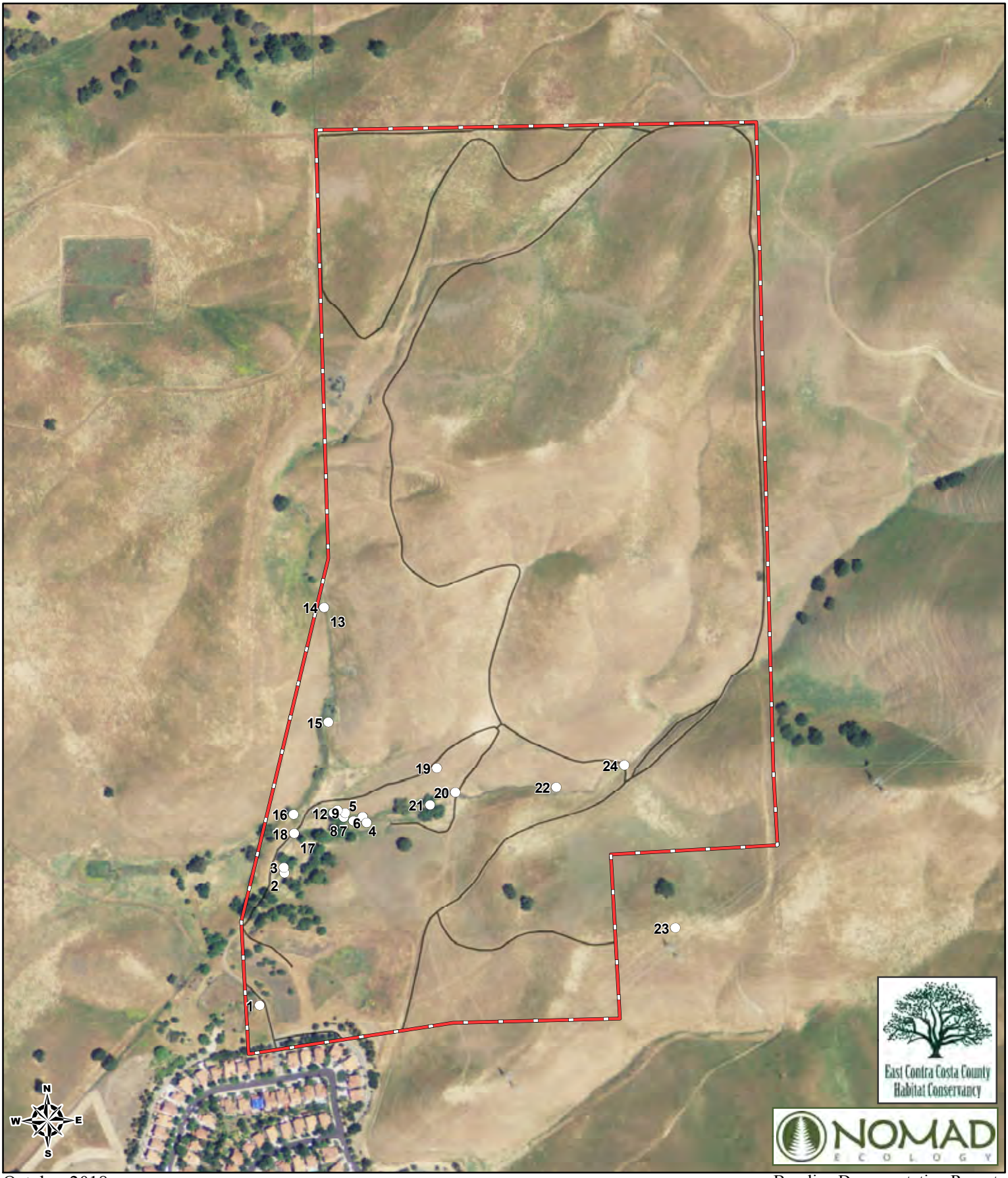


Legend
- Britton Invasive Plants
  - Milk Thistle
  - Milk Thistle
  - Tree of Heaven
  - Artichoke Thistle

Figure 8
Invasive Plants
Settlement Agreement
East Contra Costa County
Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

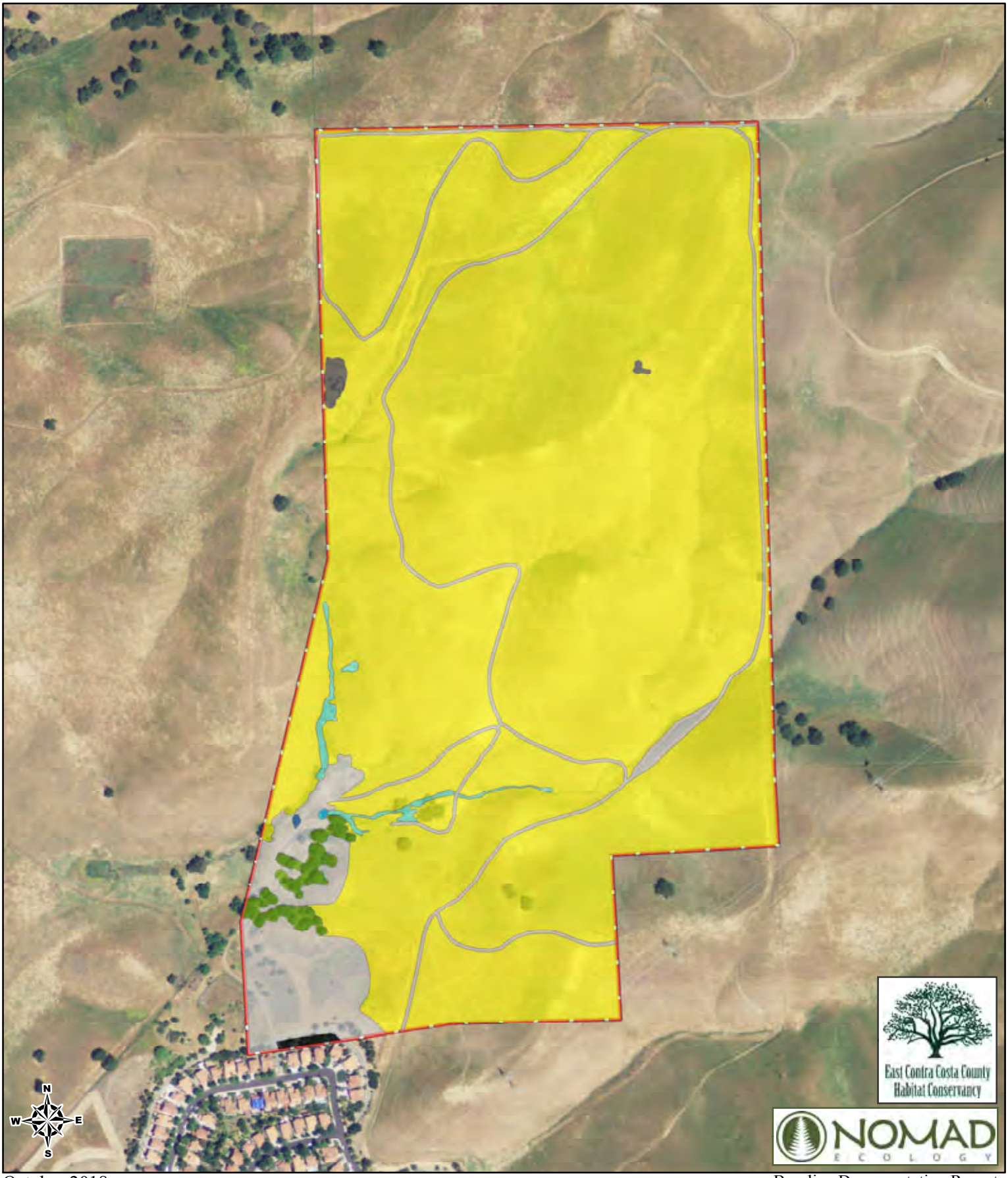


Legend
- Britton
- Roads
- Photo Points

Figure 7
Photo Points
Settlement Agreement
East Contra Costa County
Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.



Legend

Britton

Land Cover Types

Annual Grassland
Nonnative Woodland
Permanent Wetland
Pond
Rock Outcrop
Ruderal
Seasonal Wetland
Urban

Figure 6

Land Cover Types of the BP

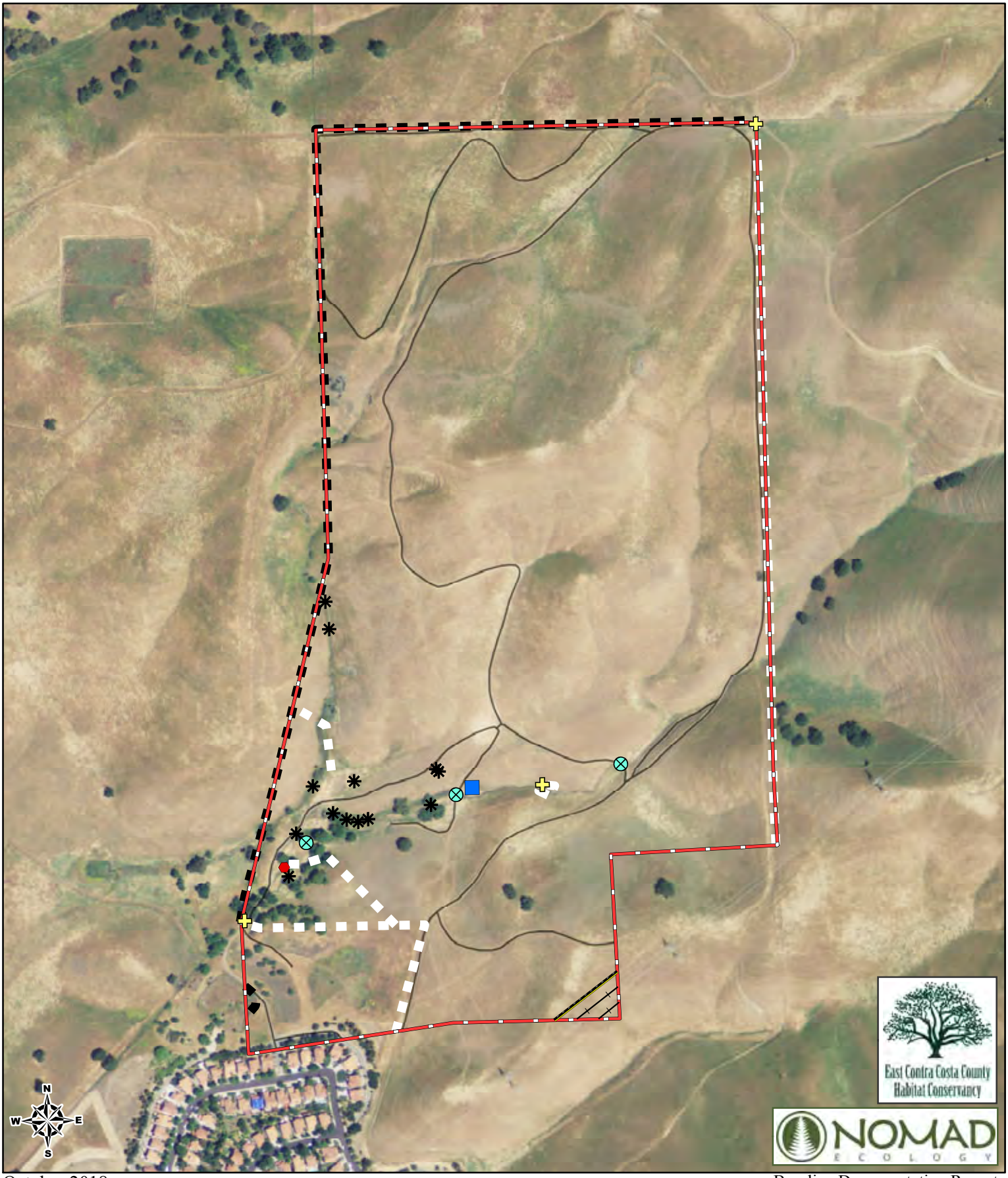
Settlement Agreement

East Contra Costa County Habitat Conservancy

1:6,000

0 250 500 Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.



Legend

- Britton
- Roads
- **Fencelines**
  - Barbed Wire
  - Chainlink Fence
- Power Lines
  - Electric Line
  - Gas Line
- Other Infrastructure
  - Cattle Chute
  - Culvert
  - Debris
  - Gate
  - Trough

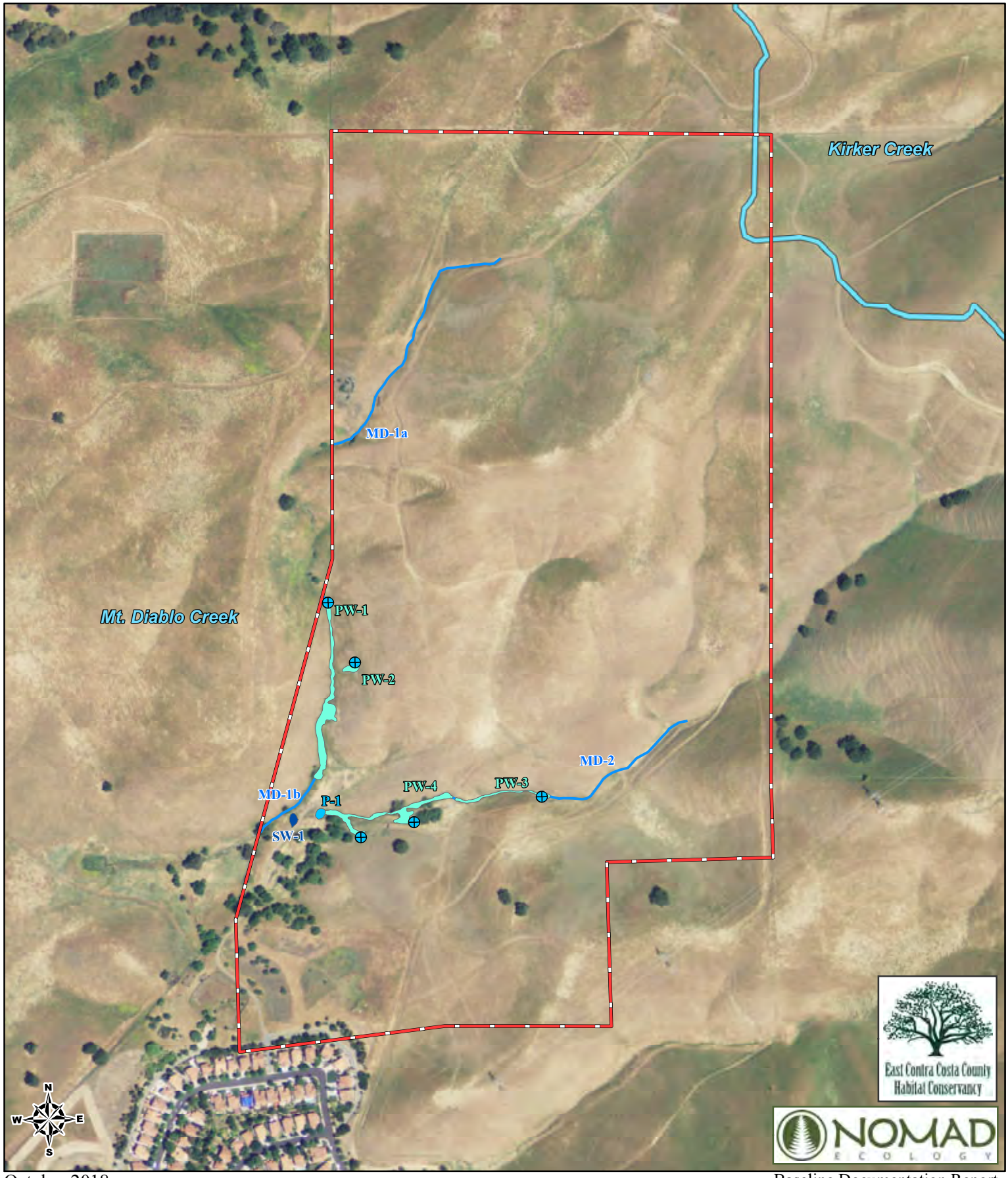
Figure 5

Anthropogenic Features

Settlement Agreement
East Contra Costa County
Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: Contra Costa County; NAIP. Projection: NAD 83 UTM 10 North.



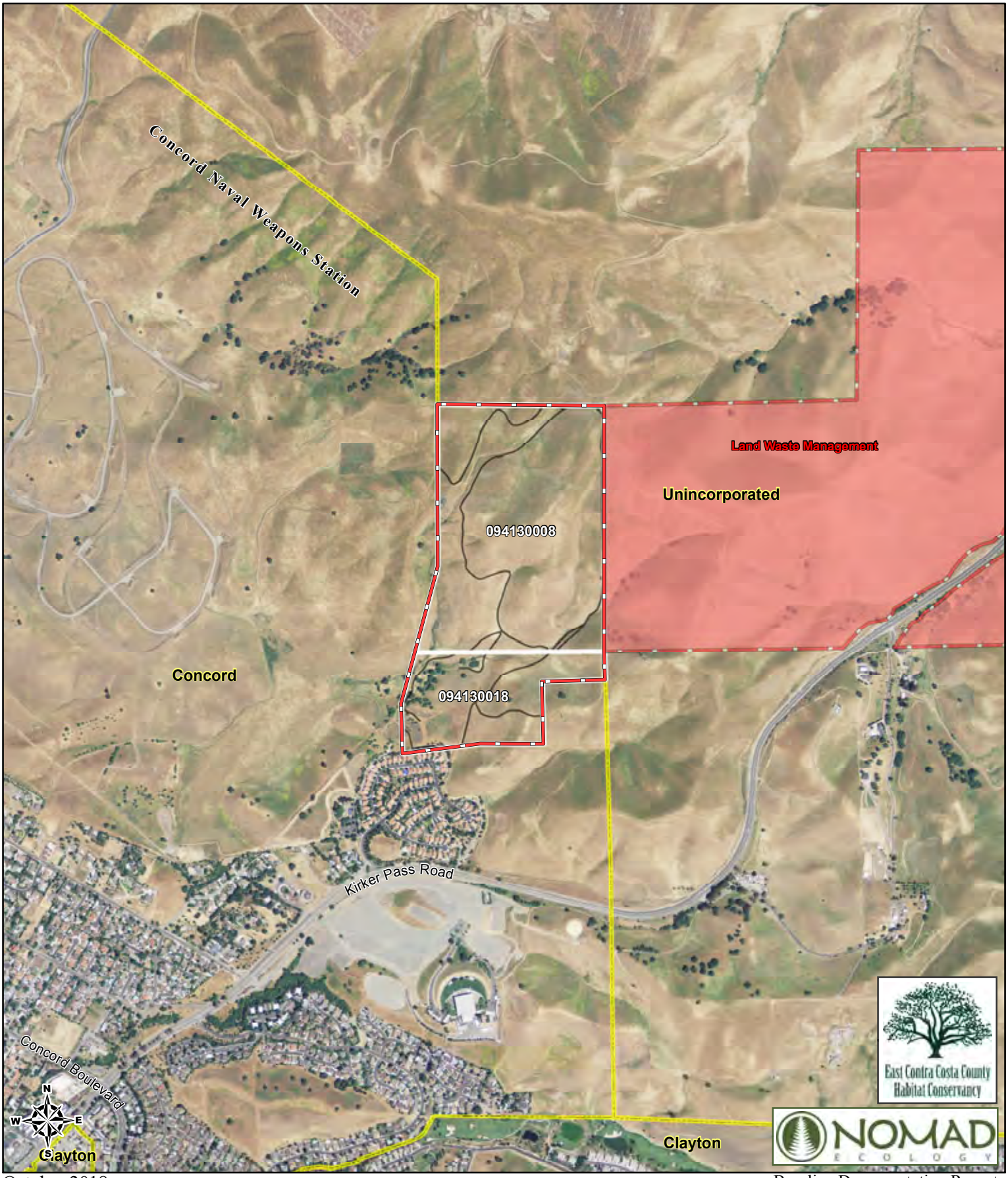
Legend

Britton	Wetlands
Springs	Permanent Wetland
Drainages	Pond
Watershed Boundaries	Seasonal Wetland

Figure 4
Hydrologic Features of the BP
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.



Legend
- Britton Property
- HCP Acquisition Parcels
- Parcel Lines
- Roads
- City Limit Boundaries

Figure 3
Aerial Photo of the Britton Property
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:15,840
0 0.125 0.25 Miles

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

APPENDIX B PROPERTY ACQUISITION

APPENDIX C PHOTOGRAPHS

Photopoint: 1

File Number: 082127

Area mapped as Ruderal vegetation near the southern boundary. Adjacent residential subdivision and detention basin fence visible.

Northing (m): 4202658 **Easting (m):** 593085 **Date:** 08/15/18

Photopoint: 2

File Number: 0101838

Remnants of old shed located in Nonnative Woodland.

Northing (m): 4202817 **Easting (m):** 593118 **Date:** 8/15/18

Photopoint: 3

File Number: 101959

Remnants of old cattle chute located in Nonnative Woodland on the edge of the valley.

Northing (m): 4202824 **Easting (m):** 593117 **Date:** 8/15/18

Photopoint: 4

File Number: 103129

Concrete debris located within PW-4.

Northing (m): 4202883 **Easting (m):** 593214 **Date:** 8/15/18

Photopoint: 5

File Number: 103132

A second pile of concrete debris located in PW-4.

Northing (m): 4202883 **Easting (m):** 593214 **Date:** 8/15/18

Photopoint: 6

File Number: 103330

A third pile of concrete debris located in PW-4 and placement looks to divert water flow.

Northing (m): 4202876 **Easting (m):** 593218 **Date:** 8/15/18

Photopoint: 7

File Number: 103324

A fourth pile of concrete debris, in and on the margin of PW-4.

Northing (m): 4202878 **Easting (m):** 593202 **Date:** 8/15/18

Photopoint: 8

File Number: 103546

An old truck located near the lower end of PW-4.

Northing (m): 4202883 **Easting (m):** 593191 **Date:** 8/15/18

Photopoint: 9

File Number: 103604

Tire embedded in PW-4.

Northing (m): 4202888 **Easting (m):** 593193 **Date:** 8/15/18

Photopoint: 10

File Number: 103830

Rock pile located in the Nonnative Woodland.

Northing (m): 4202891 **Easting (m):** 593183 **Date:** 8/15/18

Photopoint: 11

File Number: 103838

Pile of metal debris located in Nonnative Woodland.

Northing (m): 4202888 **Easting (m):** 593179 **Date:** 8/15/18

Photopoint: 12

File Number: 104228

Abandoned car located between P-1 and PW-1.

Northing (m): 4202888 **Easting (m):** 593179 **Date:** 8/15/18

Photopoint: 13

File Number: 105030

Roll of pig fencing in PW-1 with grass growing in it.

Northing (m): 4203136 **Easting (m):** 593172 **Date:** 8/15/18

Photopoint: 14

File Number: 105120

A crushed cattle trough in PW-1.

Northing (m): 4203136 **Easting (m):** 593172 **Date:** 8/15/18

Photopoint: 15

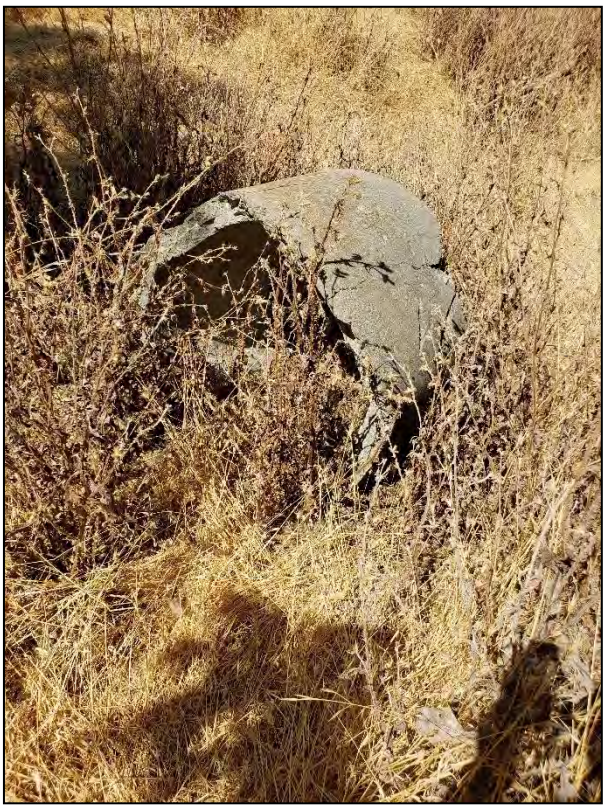
File Number: 110128

Dilapidated wood box near PW-1

Northing (m): 4202998 **Easting (m):** 593174 **Date:** 8/15/18

Photopoint: 16

File Number: 110330



Broken concrete culvert near SW-1.

Northing (m): 4202887 **Easting (m):** 593130 **Date:** 8/15/18

Photopoint: 17

File Number: 110417

Pile of wood debris in Nonnative Woodland.

Northing (m): 4202864 **Easting (m):** 593131 **Date:** 8/15/18

Photopoint: 18

File Number: 110959

Metal and wood debris near SW-1.

Northing (m): 4202864 **Easting (m):** 593131 **Date:** 8/15/18

Photopoint: 19

File Number: 111026

Old wood post north of PW-4.

Northing (m): 4202940 **Easting (m):** 593304 **Date:** 8/15/18

Photopoint: 20

File Number: 111420

Another abandoned car near PW-4.

Northing (m): 4202910 **Easting (m):** 593326 **Date:** 8/15/18

Photopoint: 21

File Number: 111543

A tire and concrete debris out the northern margin of PW-4.

Northing (m): 4202896 **Easting (m):** 593295 **Date:** 8/15/18

Photopoint: 22

File Number: 112406

Functional trough with PW-3 and milk thistle* patch in the background.

Northing (m): 4202914 **Easting (m):** 593448 **Date:** 8/15/18

Photopoint: 23

File Number: 120402

Gas line paddles located just off the property to the east, evidence of a right-of-way on site.

Northing (m): 4202742 **Easting (m):** 593588 **Date:** 8/15/18

Photopoint: 24

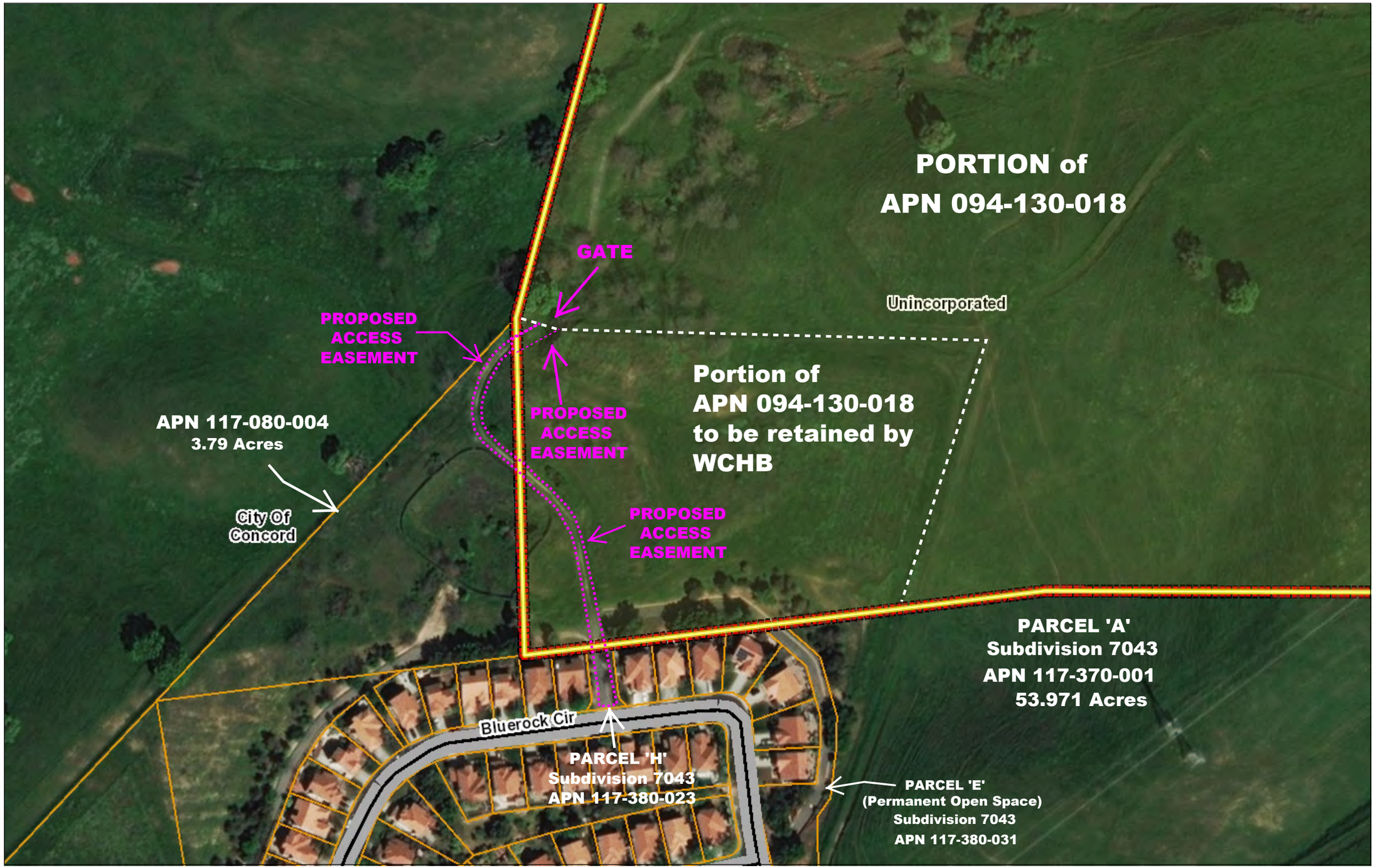
File Number: 120737

Electric transmission line and lattice tower visible in the distance.

Northing (m): 4202939 **Easting (m):** 593530 **Date:** 8/15/18

Exhibit J – Depiction of Britton Property and Access Easements

Map Title



Legend

- City Limits
- Unincorporated
- Highways
- Highways Bay Area
- Streets
- Maintained Roads
- Water Bodies
- County Boundary
- Assessment Parcels
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

1: 2,257

0.1 0 0.04 0.1 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

Contra Costa County -DOIT GIS

Exhibit K – Britton Grazing License Agreement

East Bay Regional Park District
Grazing License

(With special terms relating to Licensee's related Mitigation Agreement with the East Contra Costa County Habitat Conservancy.)

Licensee:

Address:

Park:	Date:
Grazing Unit:	
County:	Term:
Acres:	Start Date:
AUMs:	End Date:

Table of Contents

1. GOALS AND PURPOSE 3
2. PREMISES 3
3. GENERAL USE OF PREMSES 4
4. ACCEPTANCE AND SURRENDER OF PREMISES .....
5. ENTRY AND INSPECTION .....
6. LICENSEE AS INDEPENDENT CONTRACTOR .....
7. ASSIGNMENT AND SUBLETTING .....
8. LICENSEE HAVING AGENT OR MANAGER RELATIONSHIP .....
9. INITIAL TERM, POSSESSION, EXTENSION, TERMINATION .....
10. RENT .....
11. NOTIFICATIONS .....
12. ANNUAL GRAZING PLAN .....
13. LICENSEE'S DEFAULT .....
14. REMEDIES ON DEFAULT .....
15. LICENSEE PROBATION .....
16. LIVESTOCK CARRYING CAPACITY .....
17. CHANGE IN LIVESTOCK CARRYING CAPACITY BY LICENSOR .....
18. CHANGE IN LIVESTOCK CARRYING CAPACITY BY MUTUAL CONSENT .....
19. EXCEEDING LIVESTOCK CARRYING CAPACITY WITHOUT AUTHORIZATION .....
20. RESIDUAL DRY MATTER STANDARDS .....
21. RANGE READINESS .....
22. LAND MANAGEMENT AND FORAGE UTILIZATION .....
23. WEED AND PEST CONTROL .....
24. LICENSEE'S OBLIGATION TO PERFORM ROUTINE MAINTENANCE .....
25. LICENSEE'S OBLIGATION TO PERFORM RESOURCE IMPROVEMENTS AND SPECIAL CONSERVATION ACTIVITIES .....
26. ALTERATIONS, LIENS .....
27. UTILITIES .....
28. LIVESTOCK IDENTIFICATION .....
29. SUPPLEMENTAL FEEDING .....
30. DISPOSAL OF LIVESTOCK CARCASSES .....
31. CARE OF PERMITTED ANIMALS .....
32. OUTBREAKS OF DISEASE .....
33. MOTORIZED VEHICLES AND HEAVY EQUIPMENT .....
34. FIREARMS .....
35. REMOVAL OR USE OF NATURAL RESOURCES .....
36. COMPLIANCE WITH LAW .....
37. INDEMNIFICATION .....
38. INSURANCE .....
39. TAXES .....
40. CONFLICT OF INTEREST .....
41. COSTS OF SUIT/ADVICE OF COUNSEL .....
42. SURRENDER OF LICENSE, ...
43 CUMULATIVE REMEDIES, NON-WAIVIER .....
44. MISCELLANEOUS .....

SIGNATURES .....

EAST BAY REGIONAL PARK DISTRICT
GRAZING LICENSE

This GRAZING LICENSE is made and entered into in the City of Oakland, County of Alameda, State of California, on _____, by and between EAST BAY REGIONAL PARK DISTRICT, ("Licensor" or "EBRPD"), whose address is 2950 Peralta Oaks Court, Oakland, California 94605-0381, and _____, ("Licensee"), whose address is _____.

1. GOALS AND PURPOSE

The EBRPD Master Plan (2013) states that "The District will conserve, enhance, and restore biological resources to promote naturally functioning ecosystems. Conservation efforts may involve using managed conservation grazing, in accordance with Wildland Management Policies and Guidelines, prescribed burning, mechanical treatments, Integrated Pest Management, and/or habitat protection and restoration." The District Stewardship Department manages and implements grazing practices with the help of qualified livestock producers from the local and regional ranching community.

The EBRPD Grazing License is a stewardship management tool. The District Stewardship Department develops and manages livestock grazing practices and plans for the Park Open Space and Wildlands. The District Wildland Vegetation Program Manager and Rangeland Specialist oversees the implementation of current livestock practices with the Park Supervisors and the livestock management Licensees.

The Licensee incorporates the District Stewardship Managements objectives for each grazing unit. Management goals include: 1) minimizing wildfire potential and brush encroachment 2) encouraging and enhancing native grassland species 3) controlling and managing invasive weedy vegetation,) enhancing wildlife habitat, 5) protecting and enhancing riparian and wetland habitat values, 6) controlling and minimizing erosion potential, and 7) maintaining open landscapes and viewsheds.

The premises underlying this License Agreement, as described in Section 2.a. below, have been or are concurrently herewith being transferred from the Licensee to the Licensor in fee ownership at no cost to Licensor, in satisfaction of Licensee's Mitigation Agreement with the East Contra Costa County Habitat Conservancy.

As also required in that Mitigation Agreement, the premises shall be subject to a Deed Restriction held by the East Contra Contra County Habitat Conservancy. The East Contra Costa County Habitat Conservancy has determined that this license is consistent with the terms of that Deed Restriction.

2. PREMISES

a. Licensor hereby licenses to Licensee, and Licensee hereby licenses from Licensor for the non-exclusive purpose of livestock grazing pursuant to the terms and conditions hereinafter set forth, that certain real property situated in the County of _____State of California, hereinafter called "premises," containing an area of _____ acres, more or less, and more specifically described and depicted in Exhibits "A" and "B" attached hereto and made a part hereof.

b. Licensee has historically grazed the premises. Licensor, however, makes no warranties and/or representations to Licensee concerning the suitability of the premises for grazing purposes.

c. Licensee's use of the premises is subject to:

(1) The primary rights of individuals using East Bay Regional Park District owned or leased lands, which comprise the premises in whole or in part, to the fullest extent that the exercise of the Licensor's rights are compatible with and do not unduly interfere with the Licensee's activities authorized herein and as set out in its Grazing Plan. Certain public recreational trail construction and uses, and resource conservation activities are compatible activities, as further detailed in section 25 below.

(2) All policies, rules, and regulations of the East Bay Regional Park District, except as authorized under this License Agreement.

(3) All existing easements, servitudes, licenses, and rights of way for canals, ditches, levees, roads, highways, and telegraph, telephone, and electric power lines, railroads, pipelines, and other purposes, whether recorded or not.

(4) Recognition by the Licensee that this Grazing License does not bestow a property right, but is a privilege approved for the use and benefit of the person, persons, or legal entity to whom it is issued or with whom executed for purposes of providing vegetation management services to the Licensor.

(5) Recognition by the Licensee that the premises consist of public land, and that cooperation of the Licensee and Licensor is necessary to conserve the flora, fauna, soil, water, air, and other natural resources of the premises through appropriate land management.

3. GENERAL USE OF PREMISES

Licensee shall use the premises for livestock grazing, and for operations normally associated with such grazing, and for no other purpose or purposes whatsoever, without the prior written consent of Licensor. Licensee shall conduct all operations on the premises in a responsible, safe, professional, cooperative, and environmentally conscious manner, and is responsible at all times for containment of livestock on the premises. Licensor reserves and retains for itself and its successors or assigns all waters and water rights appurtenant to the premises and the right to all water subject to appropriation and use thereon, including the right to develop, conserve, store, and convey such water, and to remove, export, or deliver such water from the premises to locations elsewhere upon, or to properties other than, the premises, except such water as Licensor deems necessary and beneficial for watering of livestock on the premises, and for other uses associated with the rights herein granted by this License, consistent with resource conservation objectives. Licensee's use of water is with permission of Licensor and shall not develop into a prescriptive right.

4. ACCEPTANCE AND SURRENDER OF PREMISES

By entry under this License, Licensee accepts the premises in their present "as is" condition and agrees that on the last day of the term, or upon sooner termination of this License, or upon the withdrawal of Licensee from said premises, Licensee shall peaceably vacate and surrender the premises and the appurtenances thereon to Licensor in the same condition as when received, reasonable use, wear, or damage by fire, Act of God, or the elements excepted, and shall remove all personal property from the premises.

5. ENTRY AND INSPECTION

Licensor and its agents reserve full authority to enter onto the premises to inspect them, make any changes or alterations or repairs which Licensor shall consider necessary for the protection, improvement or preservation thereof, or to post any notice provided for by law, or otherwise to protect any and all rights to Licensor; and Licensee shall not be entitled to any compensation by reason of the exercise by Licensor of any such rights herein reserved. Nothing

herein contained shall be construed to obligate Licensor to make any changes, alterations or repairs to said premises.

6. LICENSEE AS INDEPENDENT CONTRACTOR

Licensee enters into this License as an independent contractor and not as an agent or employee of Licensor, as the word "employee" is defined in the Workmen's Compensation Act of the State of California.

7. ASSIGNMENT AND SUBLETTING

Neither this license nor any rights or interest hereunder shall be transferred or assigned by Licensee voluntarily or involuntarily, nor shall the premises or any portion thereof be sublet, nor shall Licensee permit the use of the premises or any part thereof by any Unaffiliated third party or parties for any purpose, nor shall this License or any interest therein be assignable by action of law, including bankruptcy (voluntary or involuntary) and no sheriff, trustee, creditor, purchaser at any judicial sale, officer of any court, or receiver shall acquire the use or possession of said premises or any part thereof, nor shall they acquire any rights under this License, unless the written consent thereto of Licensor is first obtained. Licensee may, however, upon first obtaining the written approval of Licensor, take for pasturage livestock belonging to a third party or parties. No such consent by Licensor under this paragraph shall constitute a waiver or discharge of the provisions of this paragraph except as to the specific instance covered by such consent.

a."Unaffiliated" as used herein means any individual or business organization other than these specific "Affiliated" entities: 1) West Coast Home Builders, Inc., 2) Eden Valley Ranch, and 3) any successor entities in which Albert D. Seeno, Jr., or Tom Seeno have a controlling interest.

8. LICENSEE HAVING AGENT OR MANAGER RELATIONSHIP

Notwithstanding paragraph 7 above, Licensee may make legal arrangements with a third party to assist Licensee in operating the premises and to manage permitted livestock under an agent or manager relationship, with the understanding that Licensee shall retain full responsibility for compliance with the provisions, covenants, and requirements of this License. Licensee shall provide Licensor with a copy of the written agreement between Licensee and third-party agents or managers specifying the scope of authority conferred upon said agents or managers by the Licensee. The person or persons so designated shall, in addition, abide by paragraph 11. (d) of the Notifications Section of this License.

9. INITIAL TERM, POSSESSION, EXTENSION, TERMINATION

a. Unless sooner terminated or mutually extended in accordance with the provisions contained herein, the term of this Agreement shall be for (5) five years commencing _____ and ending _____. So long as Licensee is in compliance with this License, Licensor shall administratively renew the agreement under the General Manager's authority, subject to Licensee's approval and agreement, for three (3) additional (5) five-year terms:

(1) commencing _____ and ending _____;

(2) commencing _____ and ending _____; and

(3) commencing _____ and ending _____.

If Licensee remains in possession of the premises after expiration or termination of the term, or after the date in any notice given by Licensor to Licensee terminating this License, with Licensor's written consent and in the absence of a contrary written agreement between the parties, such possession by Licensee shall be deemed to occur from month-to-month terminable upon thirty

(30) days written notice given at any time by either party to the other, and subject to all provisions of this License. Notwithstanding anything herein contained to the contrary, Licensor shall, after the expiration of the second five-year term, have the right at any time thereafter to terminate this License for any reason whatsoever upon three-hundred and sixty-five (365) days' prior written notice to Licensee, subject to compensation to Licensee for the fair market value of the remainder of the License Agreement, based on the Licensor's then-current rates for the current approved annual grazing plan's AUM value.

b. Notwithstanding subsection a. above to the contrary, Licensor shall have the right to terminate this License as to a portion of the premises if Licensor requires the same to be devoted to resource protection and conservation or public trail uses. Said termination shall become effective upon Licensor giving Licensee ninety (90) days' prior written notice thereof. Such termination shall in no event apply to any portion of the premises in excess of ten (10) acres.

c. As a condition of the Licensee's Mitigation Agreement with the East Contra Costa County Habitat Conservancy ("HCP Mitigation Agreement"), the premises will be conveyed to the East Bay Regional Park District in fee concurrently with the effective date of this License. As a result, Licensee will already be in possession of the premises as of the effective date of this License. Licensor shall not be liable for any damage caused to Licensee for any gap or decrease in use suffered by Licensee as a result of any conditions imposed by the HCP Mitigation Agreement, whether incurred before or after entry into this License Agreement.

10. RENT

In conformity with the Licensee's HCP Mitigation Agreement, Licensee's rent payments for grazing privileges granted under this License are set at one dollar ($1.00) per year, the adequacy of which is hereby acknowledged under the specific circumstances laid out herein. Any disputes over the fair market value of diminished or lost grazing rights under any term of this License, however, shall be calculated by reference to the Licensor's regular grazing rents calculation method described in Exhibit C of this Grazing License. Exhibit C includes the Rental Adjustment Table and the method for recording and calculating AUMs for the Stocking Reports.

11. NOTIFICATIONS

a. Prior to the commencement of the initial term, and annually thereafter, Licensee shall notify the Park Supervisor assigned to the premises, or their designates at least fourteen (14) days prior to the date Licensee intends to introduce livestock to the premises. Licensor shall have fourteen (14) days from the receipt of such notice to verify range readiness conditions as specified in paragraph 20 (a), (b), and (c). Licensee shall refrain from introducing livestock to the premises if the Park Supervisor or Wildland Vegetation Program Manager notifies Licensee that such range readiness conditions are not met.

b. Licensee shall submit monthly stocking reports and a brief description, as provided in subsection f. below, of any incidents on the premises by mail, Fax, or Email (preferred) to the Park Supervisor assigned to the premises and to the Wildland Vegetation Program Manager or designee by the 15th of the following month. Reports submitted after the 15th shall be considered late. Continued missing or late reports will be addressed per section 15 of this License. Information in the stocking report shall include the dates introduced, number, kind and class of livestock, AUMs, and pasture units of all livestock grazing the premises. A final Stocking Report shall be submitted by the Licensee to the Wildland Vegetation Program Manager or designee at the end of each year.

c. Licensee shall provide seven (7) days advance notice to the Licensor, and shall provide specific notification to the Park Supervisor assigned to the premises, before performing any major livestock roundups and, once the public trail is in place pursuant to section 25 (c) below, any activities involving the movement of animals on the premises and/or the use of corral facilities, or the introduction or removal of livestock. At the request of the Licensor and Park

Supervisor, Licensor and Licensee shall confer to identify mutually agreeable ways to minimize conflicts with park users.

d. Licensee shall notify Licensor by October 1 if it will not graze the premises during the following November to October grazing season, and Licensor shall have the right to graze the premises, or to lease the premises to a third party for grazing, during that grazing season in a manner consistent with the terms and conditions of this License.

e. Licensor and Licensee shall provide to one another home, office, work, mobile, cellular, third party, and other telephone numbers where they can be reached or a message can be left. Licensor and Licensee will also maintain answering machine, voice mail, e- mail and/or FAX capability to provide a means of reporting emergency situations and conveying to one another important messages and instructions in the event of the other's absence. The Licensor shall require Licensee to respond within a minimum of 24 hours and act upon said emergencies, messages, and instructions.

f. Communication is essential. Licensee is responsible for notifying Licensor within 24 hours of knowledge of any serious accidents or incidents involving livestock or Licensee equipment on the premises or neighboring lands. Brief incident reports shall be submitted with each monthly stock report indicating any predation incidents, newly identified weed infestations, vandalism or infrastructure damage, or other information regarding the premises that is relevant to the manage and care for the livestock. If no incident occurred, it can be reported as no incidents.

g. Wherever this License provides for notices between the parties, or wherever the law requires or gives the right of serving a notice, the same shall be served as appropriate either verbally, personally, by telephone, facsimile transmission, electronic mail, or via the Postal Services, including registered or certified mail, if necessary. All notices to Licensor shall be delivered as follows:

Notices to "Licensor":
East Bay Regional Park District
2950 Peralta Oaks Court
P.O. Box 5381
Oakland, CA 94605-0381

Notices to "Park Supervisor":
[address]
[fax number]
[email address]

Notices to "Wildland Vegetation Program Manager":
[address]
[fax number]
[email address]

Notices to "Integrated Pest Management Specialist":
[address]
[fax number]
[email address]

All notices to Licensee shall be delivered as stated in Exhibit A. Licensor and Licensee may, at any time in the manner provided herein, change the place of receiving notice.

12. ANNUAL GRAZING PLAN

An Annual Grazing Plan will be maintained for the premises that describes the type of grazing program that is employed (e.g., seasonal or year-long cow/calf program, seasonal stocker program, sheep, etc.) and management adjustments and improvements that are required (e.g., grazing timing, stocking rates, season, infrastructure development, etc.). The initial Annual Grazing Plan is attached hereto as Exhibit D and is incorporated herein. The Licensee and the Park Supervisor shall meet once each year sometime between October 1 and December 31 to review and evaluate the grazing program, exchange information and set goals and management adjustments for the following November to October grazing season. Any adjustments of the Annual Grazing Plan made will be prepared by the Licensee, based on the annual meeting, and submitted in a dated, written form, for review, comment, and approval by Licensor, approval of which shall not unreasonably be withheld. The Wildland Vegetation Program Manager will provide information and recommendations pertinent to the overall vegetation management goals. Adjustments during the grazing season based on weather related issues, drought, and acts of God will be made by the Licensor in its reasonable discretion.

13. LICENSEE'S DEFAULT

The occurrence of any one or more of the following events shall constitute a default and breach of this License by Licensee:

a. The vacating or abandoning of the premises by the Licensee. The Premises shall be deemed "vacated" for purposes of this Agreement if Licensee fails to graze the premises for three consecutive years.

b. The failure of Licensee to make any payment of any sum required by Licensee to be paid to Licensor at the times or in the manner herein provided.

c. The failure by Licensee to observe and perform any of the covenants, conditions, or provisions of this License where such failure shall continue for a period of fifteen (15) days after written notice thereof by Licensor to Licensee; provided, however, that if the nature of Licensee's default is such that more than fifteen (15) days are reasonably required for its cure, then Licensee shall not be deemed to be in default if Licensee commences a cure within a fifteen (15) day period and thereafter diligently prosecutes such cure to completion.

14. REMEDIES ON DEFAULT

In the event of any such default or breach by Licensee, as herein above described, Licensor may, at any time thereafter, with or without notice or demand, and without limiting Licensor in the exercise of any other right or remedy which Licensor may have at law or in equity by reason of such default, failure, breach or neglect:

a. Terminate this License prior to the expiration of the term hereof, in which case Licensee shall immediately, quietly and peaceably surrender and deliver to the Licensor the possession of the premises, including preexisting and new improvements made thereon in the condition in which they were found, reasonable wear and tear excepted.

b. Enter the premises or any part thereof and, with or without terminating this License, and with or without process of law, expel, remove, and put out Licensee or any person or persons occupying said premises, and remove all personal property and livestock therefrom, using such force as may be necessary to repossess said premises, without prejudice to any remedy which might otherwise be available at law or equity, and without liability to any person for damages sustained by reason of such removal. No such entry or taking of possession of said premises by Licensor shall be construed as an election on its part to terminate this License unless a written notice of such intention be given Licensee.

c. Let and relet said premises in whole or in part, at such rental and upon such terms and for such length of time, whether less or greater than the unexpired portion of the term of this

License, as Licensor may see fit, and recover from Licensee any charges and adjustments as may be due hereunder. Notwithstanding such letting or reletting, should this License not be terminated, Licensor may, at any time thereafter elect to terminate it.

15. LICENSEE PROBATION

If Licensee fails, neglects, or refuses to perform, meet or observe any of its material obligations hereunder and has been given written notice by the Licensor of any such breach of the covenant(s) contained in this License and failed to timely cure such breach, Licensor may, at its option, place the Licensee on probation. In the event the Licensee is placed on probation, the Licensor will so inform the Licensee by written notice of the reason(s) for which probation is given. If after one year from the initiation of probation, Licensee fails to remedy all deficiencies previously described by written notice to the satisfaction of the Licensor, the Licensor may then at its option proceed with termination of this License without further notice. More than two written probation notices shall be grounds for termination or nonrenewal of this License Agreement.

16. LIVESTOCK CARRYING CAPACITY

a. Livestock carrying capacity, as defined herein, is the level of livestock use allowed on the premises consistent with forage production, resource conservation, and recreational objectives. The unit of measure of livestock carrying capacity shall be the animal unit month (AUM), which, as defined herein, is the amount of forage (equivalent to 1000 pounds of dry, herbaceous plant material) necessary to sustain a mature cow for a period of one month. Licensor shall regulate the kind and number of livestock, and the amount of time the premises are grazed by same, herein defined as the period of use, to assure conformity to livestock carrying capacity estimates. Licensor shall be the sole but reasonable judge as to the livestock carrying capacity of the premises, or any part or parts thereof, and shall, at its option, give such consideration as it deems advisable to the compatibility of said livestock carrying capacity with vegetation, wildlife, fisheries, soil, water, air, aesthetic, and other resource and recreational values in making adjustments to the Annual Grazing Plan pursuant to Section 12, consistent with the grazing rights provided in this License.

17. CHANGE IN LIVESTOCK CARRYING CAPACITY BY LICENSOR

At the annual meeting between Licensor and Licensee pursuant to Section “12”, Licensor may modify the kind and number of animals permitted, animal unit months, and/or period of use for the current year and any or all succeeding years remaining in the term, if, in Licensor’s reasonable opinion, such modification is necessary for conservation of the premises. Unless so changed, said number of animals, AUMs, or periods of use for any lease-year shall remain as set forth in the most recent Annual Grazing Plan approved by Licensor.

18. CHANGE IN LIVESTOCK CARRYING CAPACITY BY MUTUAL CONSENT

In addition to the changes in the kind and number of animals permitted, animal unit months, and/or period of use allowed on the premises hereinabove provided for, livestock carrying capacity may also be changed at any other time by revising the Annual Grazing Plan by mutual agreement of the Licensee and Licensor. Any such change shall remain in force and effect until the beginning of the next November-October grazing season, unless sooner terminated or amended by further mutually agreed to amendment of the Annual Grazing Plan.

19. EXCEEDING LIVESTOCK CARRYING CAPACITY WITHOUT AUTHORIZATION

Licensee shall limit the number of livestock to be grazed upon the premises and the period of use so that the authorized number of animal unit months is not exceeded. Should said premises be grazed in excess of the authorized number of animal unit months, Licensee shall immediately remove all or such number of livestock as are necessary to comply with the maximum livestock carrying capacity set forth in the most recent Annual Grazing Plan approved by the Licensor. achieved.

20. RESIDUAL DRY MATTER STANDARDS

a. Residual dry matter (RDM), as used herein, is a measure of dry, herbaceous plant material in pounds per acre or kilograms per hectare representing the amount of plant residue that the Licensor has specified must remain on the ground at the conclusion of grazing within the given grazing season. The amount of residual dry matter on the ground at the end of the grazing season until regrowth begins shall be approximately 1000 lbs/acre on all slopes, unless otherwise specified in the Annual Grazing Plan.

b. Licensee shall periodically monitor forage utilization to insure that residual dry matter levels reach the minimum standards and allow ample time to decrease herd size or remove livestock. If the RDM levels drop below the amounts hereinabove specified, then all livestock shall be immediately removed from the affected area(s) until such time Licensor determines that said area(s) have recovered sufficiently to allow restocking.

c. Optional residual dry matter standards that require more or less plant material to remain on the ground following grazing may be prescribed for the premises, in whole or in part, at Licensor's reasonable discretion, to promote soil stability, maintain plant productivity or diversity, enhance visual and recreational values, conserve wildlife habitat, and/or reduce fire hazards.

21. RANGE READINESS

a. Livestock that traditionally are returned to the premises prior to the onset of fall rains shall not be allowed to graze said premises until an inspection as per Paragraph 11. (a) of this Grazing License is conducted by the Licensor to ensure that adequate dry plant material is available to support permitted livestock into the late fall when green forage will begin to provide sufficient vegetative cover.

b. In situations where, in the previous November-October grazing season, forage utilization has occurred to within or beyond the residual dry matter standards established in Paragraph 19 (a) of this Grazing License, Licensor shall require that sufficient plant regrowth be established to provide adequate forage and soil protection before grazing of the premises, in whole or in part, will be allowed to resume or continue, and that the resumption or continuation of such grazing shall occur only after green annual grasses have achieved a height of two (2) to three (3) inches.

c. Licensor shall make an annual assessment of early rainfall patterns to determine whether precipitation appears average or significantly different than the norm. In the event said rainfall patterns remain below normal, resulting in below normal forage production and diminished livestock carrying capacity, Licensor, in consultation with Licensee, shall reconsider, delay, or modify, if necessary, the date of livestock introduction to the premises, period of use, and/or stocking levels commensurate with forage availability and other resource management considerations.

22. LAND MANAGEMENT AND FORAGE UTILIZATION

a. Licensee shall distribute or rotate livestock evenly throughout said premises or among pasture fields consistent with the Annual Grazing Plan Licensee shall not cause overgrazing to occur on the premises and shall obtain optimum distribution of grazing animals over said premises by frequent herding, by strategic location of supplemental feeds, and by maintaining in good condition and repair boundary and interior fencing and developed water for livestock. Licensee shall use said premises consistent with the Annual Grazing Plan, and with due regard to the conservation of the natural resources thereon, and without discrimination in reference to other private and leased lands controlled by Licensee as part of Licensee's overall grazing operation. Licensee shall conduct grazing operations on said premises so that minimum residual dry matter standards are met or exceeded, except in areas near water facilities, corrals, loafing areas or rocky or soil barrens areas that will never meet 1000 pounds production due to the soil type.

b. Licensor shall evaluate periodically the relative presence, abundance, dominance, and composition of native herbaceous plant species as an indicator of range condition in various locations of the premises, and may propose adjustments to the Annual Grazing Plan in accordance with Section 12 to influence and enhance such plant composition through adjusting grazing practices in consultation with Licensee on all or part of said premises.

c. Licensee shall at all times prevent livestock from trespassing onto lands owned or operated by Licensor for which the Licensee is not authorized to graze, into areas within the premises excluded from grazing, or upon adjacent, third-party, private and public lands.

d. Licensee is responsible at all times to adhere to the aforementioned conditions, and Licensor shall advise Licensee when in the reasonable opinion of the Licensor, any of said conditions are not being accomplished. Licensee recognizes that in some years it may be necessary to reduce stocking or remove animals earlier than expected due to unusual or emergency conditions. Licensor shall have the right to direct the termination of grazing in the event of overgrazing or direct the amount of grazing that will not constitute overgrazing. Should the License be terminated in accordance with the provisions of this License, Licensee shall have no recourse to damages against the Licensor or any of its employees.

23. WEED AND PEST CONTROL

a. Licensor shall be responsible for first reducing weed and pest populations to what it determines to be a manageable level, and the Licensee shall manage weed and pest control thereafter at Licensee's sole cost and expense. Licensor shall determine at what point subsequent responsibility for weed and pest control will be transferred to the Licensee, and shall specify in writing feasible and appropriate materials and practices to be used to manage said weed and pest control, which Licensee shall abide by in conducting weed and pest control operations. An annual pest management site assessment will be made of the premises by Licensor's Integrated Pest Management Specialist and/or Range Management Specialist, and Licensee shall be notified in writing of the status of the problem, need for, timing of, and procedures for managing weed and pest control on the premises.

b. Licensee is prohibited from transporting, mixing, applying, storing, or disposing or otherwise permitting the transportation, mixture, application, storage, or disposal of pesticides or hazardous substances upon the premises without having first obtained written permission from Licensor's Integrated Pest Management Specialist. Licensee is further prohibited from using any pesticide or hazardous substance anywhere on the premises in an unsafe or careless manner or in any manner that is contrary to the manufacturer's instructions as they appear on the label, or as further modified by the Licensor. The transportation, mixture, application, storage, or disposal of pesticides or hazardous substances upon the premises shall be conducted in accordance and compliance with Licensor's pest management policies and practices, pesticide application permit requirements, and all Federal, State, County and local regulations.

c. Licensee shall take precautions to prevent drift, or movement off-site, of any and all chemicals used in weed and pest control operations, and the Licensee shall maintain sufficient materials, tools, and equipment on-site to contain and clean up any hazardous spills that may result from use of such chemicals. Licensee shall not dispose of on park land any excess chemicals, containers, medicines, materials, or paraphernalia used to control weeds and pests, or to treat livestock on the premises.

d. In the event Licensee shall fail to perform its obligations hereunder, Licensor, in addition to all other remedies available hereunder or by law, and without waiving any said alternative remedies, may perform same, with Licensee agreeing to reimburse Licensor the cost thereof.

24. LICENSEE'S OBLIGATION TO PERFORM ROUTINE MAINTENANCE

a. Licensee shall, at Licensee's sole cost and expense, and in a timely manner throughout the term hereof, maintain the premises and all existing improvements thereon, as well as any improvements constructed by Licensee for grazing operations or as required by the HCP Mitigation Agreement, and all appurtenances thereto in good order and condition to the satisfaction of the Licensor, including, but not limited to, any barns, windmills, boundary and interior fences, including fences installed for resource protection purposes, gates, corrals, cattleguards, water developments (spring boxes, storage tanks, and accessory pipes), and other improvements related to grazing use of said premises without any alterations or additions except as shall be first reasonably approved by Licensor. It shall be acceptable to manage and maintain improvements and appurtenances that need replacement at a minimal operational level pending their replacement or reconstruction. Licensee hereby waives all rights to make repairs at the expense of Licensor as provided for in any statute or law in effect at the time of execution of this License or any amendment thereof or any other statute or law which may be hereafter enacted during the term of this License.

b. In the event Licensee shall fail to perform its obligations hereunder, Licensor, in addition to all other remedies available hereunder or by law, and without waiving any said alternative remedies, may perform same, with Licensee agreeing to repay Licensor the cost thereof within thirty (30) days of Licensor's presentation to Licensee of a bill for such costs.

25. RESOURCE IMPROVEMENTS, SPECIAL CONSERVATION ACTIVITIES, AND TRAIL DEVELOPMENT AND USE

a. Licensor or its designees may, at its own expense, enter the premises and perform Resource Improvements and Special Conservation Activities. Licensor may exclude grazing on a maximum of 10 acres on the premises for purposes of Resource Improvements and Special Conservation Activities and public trail purposes set forth in subsection c. below. 'Resource Improvements and Special Conservation Activities' " as used herein, shall mean any management activity for the protection, preservation, restoration, and improvement of the premises or any part thereof including natural resources, property and any and all appurtenant facilities..

b. Licensee's grazing rights under this License are all expressly subordinate to its obligations under the HCP Mitigation Agreement. Licensor shall be held harmless for any reduction in value to the Licensee arising from any compliance activities required thereunder.

c. Licensee accepts this License subject to the knowledge of Licensor's intent to build and open a public regional trail across the property at a future date presently unknown, connecting Concord Hills and Black Diamond Mines. The trail alignment will avoid/minimize impacts to natural and cultural resources by being as short and flat as reasonably possible and shall not exclude compatible grazing operations. Licensee's rights under this License are subject to that use, and the access, construction and uses of such trail shall not constitute an abridgment of any rights granted under this License.

d. Licensee and Licensor shall work collaboratively to expand and improve the

current livestock watering facilities within the first five-year term and to seek funding for such improvements.

26. ALTERATIONS, LIENS

a. Licensee agrees not to make any alterations of, changes in, or additions to the premises without the prior written consent of Licensor. The consent of Licensor shall not be required for minor repairs to existing fencing or other existing improvements. As a condition to granting its consent, Licensor shall require that:

(1) Licensee shall submit for Licensor's approval detailed final plans and specifications and working drawings of the proposed alterations and the name of its contractor at least fifteen (15) days before the date it intends to commence the alterations.

(2) Any alterations must be approved by all appropriate government agencies, and all applicable permits and authorizations must be obtained prior to commencement of the alterations, and such alterations shall be completed with due diligence in compliance with the plans and specifications and all applicable laws.

b. All alterations, additions and improvements, including fixtures, made to or upon the premises, except unattached, movable fixtures owned by the Licensee, shall be the property of Licensor, and shall remain upon and be surrendered with the premises, except that Licensee will ascertain from Licensor within thirty (30) days before the end of this term whether Licensor desires to have the premises, or any part or parts thereof, restored to the condition they were found in when the premises were delivered to Licensee and, if Licensor shall so desire, Licensee shall so restore said premises or such part or parts thereof before the end of the term of this License, entirely at Licensee's own cost and expense.

c. Licensee agrees that, if any such alterations, changes or additions are to be made, Licensee shall indemnify, defend, protect and hold harmless Licensor from all liens, claims, demands, and liabilities arising out of any work performed, materials furnished, or obligations incurred by or for Licensee upon said premises during said term and shall not suffer any such lien or other lien to be created.

27. UTILITIES

Licensee agrees to pay for all water, fuel, gas, oil, heat, electricity, power, materials and services which may be furnished to or used upon said premises in conjunction with grazing activities.

28. LIVESTOCK IDENTIFICATION

All permitted livestock and their offspring shall be branded or marked with the brand or mark of the Licensee or its affiliated entity. Licensor, under certain conditions, may require Licensee to identify permitted livestock with distinctive eartags or brands to prevent or detect trespass by unauthorized animals. Licensee shall be required for the record to submit to Licensor a copy or copies of Licensee's Certificate(s) of Brand.

29. SUPPLEMENTAL FEEDING

a. Licensee shall not conduct supplemental feeding of domestic livestock on the premises to prolong grazing use in areas where established forage utilization levels have been reached or exceeded.

b. Licensee shall relocate supplemental feeding sites when such sites become sufficiently grazed, or at the direction of Licensor, so as to minimize the potential for resource damage from congregating animals.

c. Licensee shall locate supplements out of sight of roads, trails and public use areas, in under-utilized areas of said premises, and at least 1000 feet or more away from water,

whenever possible.

d. In the event of unusual or emergency circumstances, such as drought or the loss of vegetation by wildfire, Licensee may, with Licensor's approval, which shall not be unreasonably withheld, conduct short-term supplemental feeding on the premises until Licensee can make arrangements to remove livestock from the premises, which may require short-term confinement of permitted livestock to restricted locations within said premises to minimize resource impacts.

30. DISPOSAL OF LIVESTOCK CARCASSES

Licensee shall, at Licensor's sole discretion, remove, bury, or relocate to a remote site in a manner satisfactory to the Licensor any and all livestock which may die on the premises. If Licensee fails to remove, bury, or relocate such livestock within five (5) days of notice by Licensor requesting same, Licensor may, acting alone or through contract with an outside party, cause the removal, burial, or relocation of such livestock and be monetarily reimbursed by the Licensee for any labor and material expended. Said reimbursement shall be due and payable within thirty (30) days.

31. CARE OF PERMITTED ANIMALS

Licensee shall maintain permitted animals in a healthy condition at all times. Licensor shall reserve the right to contract for the services of a veterinarian to attend to or euthanize sick animals on park land and be monetarily reimbursed by the Licensee in the event Licensee is unable or unwilling to provide medical assistance to the animal in a timely manner. Said reimbursement shall be due and payable within thirty (30) days. Licensee shall remove from the premises, within 24 hours upon notification by Licensor, any and all problem or aberrant animals posing a threat or nuisance to park visitors, staff, or neighbors.

32. OUTBREAKS OF DISEASE

Licensee shall immediately report to Licensor and all proper governmental authorities any case of infectious animal disease appearing in livestock on the premises, and shall, at Licensee's sole cost and expense, take all steps required to isolate, control, and eliminate any such disease. Livestock exhibiting symptoms of diseases communicable to humans shall be immediately removed from the premises.

33. MOTORIZED VEHICLES AND HEAVY EQUIPMENT

Motorized vehicles used by Licensee shall be restricted to two-track fire roads, and Licensee shall refrain from using roads during wet conditions. Licensor may make exceptions to allow the use of balloon-tired all-terrain vehicles on wet roads upon approval of the Park Supervisor assigned to the premises. Licensor will provide Licensee with copies of fire closure plans and Licensee will honor all park fire closures and fire restrictions involving access and the use of motor vehicles, welding, and power tools. All motorized vehicles and equipment used by Licensee on park land shall be outfitted with appropriate spark arrestors and mufflers. No heavy equipment, including, but not limited to bulldozers, backhoes, excavators, or trenchers shall be allowed to cross or operate on the premises without Licensor's consent.

34. FIREARMS

Licensee shall not carry on their person or use firearms on the premises. Problem animals interfering with livestock operations shall be handled through the Licensor's Police Department in cooperation with County Animal Control or the California Department of Fish and Wildlife.

35. REMOVAL OR USE OF NATURAL RESOURCES

Licensee shall not destroy or remove nor permit to be destroyed or removed any earth, soil, vegetation, artifacts, fossils, or firewood found on the premises, nor commit any waste

thereon, without written authority from Licensor to commit any such acts, except where such earth, soil, or vegetation in the form of landslides, down trees, or shrubs are creating an immediate hazard and impediment to the routine operation of the rights herein granted. Licensee shall not hunt, fish, or camp, nor permit any hunting, fishing, or camping upon the premises, and shall, at all times, keep and maintain said premises in a clean and sanitary condition to the satisfaction of the Licensor.

36. COMPLIANCE WITH LAW

Licensee shall comply with all applicable laws, permits, statutes, ordinances, rules, governmental orders and regulations pertaining to the occupancy and use of the premises hereunder, and shall furnish evidence as to Licensee's compliance therewith upon request by the Licensor. Licensee shall not do, or suffer to be done upon the premises, any act or thing which is or may be a nuisance, and shall not use or permit others to use said premises for any unlawful purpose.

37. INDEMNIFICATION

a. Licensee agrees to indemnify, hold harmless, defend, and protect Licensor, its officers, directors, agents, employees, invitees (each of which is an indemnitee) from and against any and all claims, losses, damages, demands, liabilities, suits, costs, expenses (including attorneys' fees), penalties, judgments, or obligations whatsoever for or in connection with injury (including death), damage to any person, loss or damage of property to whomsoever belonging, or pecuniary or monetary loss resulting from, arising out of, or in any way related to activity conducted by the Licensee. This includes, but is not limited to, Licensee's development, construction, use, maintenance, and occupation of, and/or removal from the premises, and any facilities or operations thereon, including events occurring on or off the property, premises, or facilities, regardless of how the injury or damage was caused or suffered, unless the injury or damage resulted from the sole negligence or the intentional and willful misconduct of the Licensor, its officers, directors, agents or employees.

b. Licensee hereby waives all claims and recourse against Licensor, including the right of contribution for loss, damage, or expenses by reason of death or injury to persons or damage to the premises, and releases Licensor from any liability relating to or in any way connected with Licensee's activities or Licensee's use of the property, premises, or facilities, unless injury or damage is caused by the sole negligence or the intentional and willful misconduct of Licensor, its officers, directors, agents or employees.

c. The provisions of this section shall survive the termination or expiration of this License.

38. INSURANCE

a. Licensee shall procure, and keep in force during the term of the License, at Licensee's own cost and expense, the following policies of insurance with companies licensed to do business in the State of California and which are acceptable to the Licensor in Licensor's sole opinion. Licensee shall, within fifteen (15) days from the date of the License, supply Licensor with a copy of any policy certified to be a true and complete copy of the original showing that such insurance is in force prior to commencement of the term.

(1) Workers' Compensation as required by law and Employer's Liability with limits of $500,000 per occurrence.

(2) Public Liability (bodily injury and property damage) including premises and operations, blanket contractual liability, broad form property damage, personal injury and owner's and contractor's protective liability in an amount not less than $1,000,000 per occurrence.

(3) Automobile Liability (bodily injury and property damage) extending to owned, non-owned and hired vehicles and including contractual liability covering all liability assumed under the License in an amount not less than $1,000,000 per occurrence.

Each of the above policies must contain a provision that the policy shall not be cancelled or materially changed without thirty (30) days' prior written notice to Licensor. No cancellation provision in any insurance policy shall be construed in derogation of the continuous duty of Licensee to furnish the required insurance during the term of the License.

b. The policies listed under a.(1) above shall contain a waiver of subrogation against Licensor, its officers, directors, agents and employees.

c. The policies listed under a.(2) and (3) above shall name the District as an additional insured with respect to the operations performed under this Agreement.

d. That coverage afforded on behalf of Licensor under (2) and (3) above shall be primary insurance and any other insurance available to Licensor under any other policies shall be excess over the insurance outlined above.

e. Upon written request by Licensor, the insurer or his agent shall furnish a copy of any policy cited above, certified to be a true and complete copy of the original.

39. TAXES

Licensee agrees to be responsible for all taxes that arise by virtue of the imposition of a possessory interest tax and such other taxes as arise from the grazing operation.

40. CONFLICT OF INTEREST

Licensee hereby warrants and represents to Licensor that no officer and/or employee of the Licensor, nor any member of Licensor's Board of Directors has or will have, directly or indirectly, any interest whatsoever in this License.

41. ADVICE OF COUNSEL

Both parties have had a full and complete opportunity to have this Grazing License reviewed by legal counsel and no presumption or rule that ambiguity shall be construed against the drafting party shall apply to the interpretation or enforcement of this Grazing License.

42. SURRENDER OF LICENSE

No act or conduct of the Licensor shall be deemed to be or constitute an acceptance of the surrender of the premises by Licensee prior to the expiration of the term hereof, and such acceptance by Licensor of surrender by Licensee shall only flow from and must be evidenced by a written acknowledgement of acceptance of surrender by the Licensor. The voluntary or other surrender of this License by Licensee, or a mutual cancellation thereof, shall not work a merger, and shall, at the option of the Licensor, terminate all or any existing sublicenses or sub-tenancies, or concessions, or may at the option of the Licensor operate as an assignment to him of any or all such sublicenses or sub-tenancies or concessions.

43. CUMULATIVE REMEDIES, NON-WAIVER

The receipt by the Licensor of any payment with or without knowledge of the breach of any covenant hereof shall not be deemed a waiver of any such breach and no waiver by Licensor of any sum due hereunder or any provision hereof shall be deemed to have been made unless expressed in writing and signed by the Licensor. No delay or omission in the exercise of any right or remedy accruing to Licensor upon any breach by Licensee under this License shall impair such right or remedy or be construed as a waiver of any such breach theretofore or hereafter occurring. The waiver by Licensor of any breach of any term, covenant or condition herein contained shall

not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant or condition herein contained. All rights, powers, options or remedies afforded to the Licensor either hereunder or by law shall be cumulative and not alternative and the exercise of one right, power, option or remedy shall not bar other rights, powers, options or remedies allowed herein or by law.

44. MISCELLANEOUS

a. It is agreed by and between the parties hereto that all the agreements herein contained upon the part of Licensee, whether technically covenants or conditions, shall be deemed conditions for the purpose hereof, conferring upon Licensor, in the event of breach of any of said agreements, the right to terminate this License pursuant to the provisions of this License.

b. In the event where there is more than one Licensee, the obligation of the Licensee's execution of this License shall be joint and several. The words "Licensor" and "Licensee" as used herein shall include the plural as well as the singular. The covenants and agreements contained herein shall be binding upon and be enforceable by the parties hereto and their respective heirs, executors, administrators, successors and assigns, subject to the restrictions herein imposed on assignment by Licensee.

c. Time is of the essence of this License and of each and every covenant, condition and provision herein contained.

d. The paragraph headings of this License are inserted only as a matter of convenience and for reference and in no way define, limit or describe the scope or intent of this License or any provision thereof or in any way affect this License.

e. The word "term" as used herein shall be deemed to refer to both the initial and extended term.

f. This License shall be governed by the Laws of the State of California.

g. This License contains all of the agreements and understandings of the parties pertaining to the subject matter contained herein and supersedes all prior, contemporaneous agreements, representations, and understandings of the parties.

h. The unenforceability, invalidity, or illegality of any provision herein contained shall not render the other provisions unenforceable, invalid or illegal.

IN WITNESS WHEREOF the parties hereto have subscribed their names, the day and year first hereinabove written.

By _____ By _____

EAST BAY REGIONAL PARK DISTRICT LICENSEE

EXHIBIT A

TO THAT CERTAIN GRAZING LICENSE

DATED _____

BETWEEN THE EAST BAY REGIONAL PARK DISTRICT ("Licensor") and

_____("Licensee")

1. PREMISES

The premises are located in EBRPD Park _____, Unit ___,

County of _____, State of California, and are described as follows:

2. TERM

The initial term shall be for _____commencing

_____, and ending _____

3. LIVESTOCK CARRYING CAPACITY

The average livestock carrying capacity shall be _____animal unit months (AUMs), and shall be subject to adjustment at the reasonable discretion of Licensor.

4. NOTICES

Licensee's address:_____

Resolution No._____

Adopted:_____

INITIALS:

_____ _____
Licensor Licensee

Exhibit B

Grazing License Map

EXHIBIT C

DETERMINATION AND PAYMENT OF GRAZING RENT

A license-year is defined as the 12 month period commencing each November 1st and extending through October 31st of the following year. For each and every license-year, which shall begin on the first day of the term of this License, and thereafter on November 1 of each year during said term, the annual rent for grazing use shall be determined in accordance with the "Rental Adjustment Table," hereinafter contained, and shall be adjusted upward or downward from license-year to license-year, depending upon the grazing capacity of the premises as determined by Licensor, and whether the average selling price of beef cattle, as hereinafter computed, is higher or lower than the corresponding average selling price for the preceding license-year.

For the purpose of determining the rental, the average selling price of beef cattle shall be taken as the average selling price of Medium Frame No. 1 Muscling Steers and Heifers, 500-800 lbs., as reported by the Cattle Marketing Information Service, Inc. (Cattle-Fax) for the month of June of each license-year. The rental rate determined from this process will be used to compute the grazing rent for the subsequent license-year beginning November 1st.

In the event that said average sales price of beef cattle is not obtainable in any year from Cattle-Fax as now constituted, then the average sales price to be used in determining the rental rate shall be obtained from some other authentic source to be selected by Licensor as providing a comparable price for the purpose. It is further mutually understood and agreed that in the event the Federal Government or any agency whatever in any manner subsidizes the raising of beef cattle, thereby effecting a lower average sales price as reported by Cattle-Fax referred to above, the annual rental shall be increased to fully offset the effect of the subsidy payment on the sale price of cattle.

The rental rate per animal unit month to be paid by Licensee for any given license-year shall be determined through the use of the attached Rental Adjustment Table, within which the average selling price of beef cattle per hundred-weight, as so reported for the month of June of that license-year as defined above, shall be matched with the appropriate price range found in Column 1 of said table to determine the corresponding rental rate found opposite this entry in Column 2. The rent payment due to Licensor shall be computed by multiplying this rental rate by the total number of animal unit months of forage authorized by Licensor for said license-year.

The annual rent due as hereinabove calculated shall be due and payable by Licensee in lawful money of the United States in semi-annual installments. The District will bill the Licensee for the animal unit month (AUM) amount based upon the Stocking Report. The first installment shall be determined from the Stocking Report of the first half of the grazing season ending on April 30. The second installment shall be determined from the Stocking Report of the second half of the grazing season ending on October 31. For seasonal grazing operations where livestock are removed early in the second half of the grazing season (June), the final Stocking Report is due 10 days after the livestock have been removed. Grazing rents must be paid within 30 days of due dates or accrue interest at the rate of 1% per month or fraction thereof until paid, and if not paid within thirty (30) days of the date of demand, Licensor, may, at its option, terminate this license, in which case the provisions of default as set forth in Paragraphs 12 and 13 of this license shall apply.

This License is subject to the following additional reservations, conditions and agreements, and Licensee does hereby further agree with Licensor as follows:

1. Licensee shall, during said term, pay to Licensor at its office 2950 Peralta Oaks Court, Oakland, CA 94605, or at such other place as may be designated in writing by Licensor,

the said rent and each and every installment thereof, at the time and in the manner aforesaid. Said rent shall be due and payable on the basis of the determination by Licensor of the AUM capacity of the premises for each and every license-year.

2. The words "animal unit month" (AUM) as used in this License shall mean the utilization of the premises for feeding purposes by one animal, 1,000 pounds or more in weight, for a period of one month. Authorized AUMs shall be assigned on the basis of the carrying capacity of the premises as determined by Licensor, and stocking levels shall be computed by calculating the relative forage requirements of each of the kind or kinds of livestock intended to be grazed on the premises in any one grazing season, as expressed by the following conversion factors.

Kind of Livestock	Animal Unit Months (AUMs)
Adult Cow with Calf up to 6 months old	1.00
Heifer or Steer, 2 years & older (1,000 lbs or more)	1.00
Yearling to 2-year-old (750# to 1,000 lbs)	0.75
Weaned Calf to Short Yearling (up to 750 lbs)	0.50
Bull	1.00
Horse	1.25
Sheep	0.20
Goats	0.20

The premises shall be used by Licensee only for grazing of animals designated in the table above entitled "Kind of Livestock." The total number of animal unit months accruing from grazing the premises by the kinds of livestock authorized by Licensor during any given license-year shall remain consistent with and not exceed the livestock carrying capacity established by the Licensor.

3. Licensee shall submit monthly Stocking Reports by mail, Fax, or Email to the Park Supervisor assigned to the premises at the end of each month. The AUMs only have to be calculated at the end of April and October for calculating the rent. A Stocking Report presented below in this exhibit is an example of a seasonal stocker grazing program. The sample shows how to present the information and calculate the AUMs. Also shown below is the Animal Unit Month Calculation Table.

EXHIBIT C

Rent Adjustment Table

COLUMN 1 Medium Frame No. 1 Muscling Steers & Heifers (500 – 800 lbs.) Average Selling Price per cwt. For June of License Year	COLUMN 2 Rental Per Animal Unit Month	COLUMN 1 Medium Frame No. 1 Muscling Steers & Heifers (500 – 800 lbs.) Average Selling Price per cwt. For June of License Year	COLUMN 2 Rental Per Animal Unit Month
$ 45.01 to 45.50	$10.50	$ 63.01 to 63.50	$12.30
45.51 to 46.00	10.55	63.51 to 64.00	12.35
46.01 to 46.50	10.60	64.01 to 64.50	12.40
46.51 to 47.00	10.65	64.51 to 65.00	12.45
47.01 to 47.50	10.70	65.01 to 65.50	12.50
47.51 to 48.00	10.75	65.51 to 66.00	12.55
48.01 to 48.50	10.80	66.01 to 66.50	12.60
48.51 to 49.00	10.85	66.51 to 67.00	12.65
49.01 to 49.50	10.90	67.01 to 67.50	12.70
49.51 to 50.00	10.95	67.51 to 68.00	12.75
50.01 to 50.50	11.00	68.01 to 68.50	12.80
50.51 to 51.00	11.05	68.51 to 69.00	12.85
51.01 to 51.50	11.10	69.01 to 69.50	12.90
51.51 to 52.00	11.15	69.51 to 70.00	12.95
52.01 to 52.50	11.20	70.01 to 70.50	13.00
52.51 to 53.00	11.25	70.51 to 71.00	13.05
53.01 to 53.50	11.30	71.01 to 71.50	13.10
53.51 to 54.00	11.35	71.51 to 72.00	13.15
54.01 to 54.50	11.40	72.01 to 72.50	13.20
54.51 to 55.00	11.45	72.51 to 73.00	13.25
55.01 to 55.50	11.50	73.01 to 73.50	13.30
55.51 to 56.00	11.55	73.51 to 74.00	13.35
56.01 to 56.50	11.60	74.01 to 74.50	13.40
56.51 to 57.00	11.65	74.51 to 75.00	13.45
57.01 to 57.50	11.70	75.01 to 75.50	13.50
57.51 to 58.00	11.75	75.51 to 76.00	13.55
58.01 to 58.50	11.80	76.01 to 76.50	13.60
58.51 to 59.00	11.85	76.51 to 77.00	13.65
59.01 to 59.50	11.90	77.01 to 77.50	13.70
59.51 to 60.00	11.95	77.51 to 78.00	13.75
60.01 to 60.50	12.00	78.01 to 78.50	13.80
60.51 to 61.00	12.05	78.51 to 79.00	13.85
61.01 to 61.50	12.10	79.01 to 79.50	13.90
61.51 to 62.00	12.15	79.51 to 80.00	13.95
62.01 to 62.50	12.20	80.01 to 80.50	14.00
62.51 to 63.00	12.25	80.51 to 81.00	14.05

EXHIBIT C

Rent Adjustment Table (cont.)

COLUMN 1 Medium Frame No. 1 Muscling Steers & Heifers (500 - 800 lbs.) Average Selling Price per cwt. for June of License Year	COLUMN 2 Rental Per Animal Unit Month	COLUMN 1 Medium Frame No. 1 Muscling Steers & Heifers (500 - 800 lbs.) Average Selling Price per cwt. for June of License Year	COLUMN 2 Rental Per Animal Unit Month
81.01 to 81.50	$14.10	101.01 to 101.50	$16.10
81.51 to 82.00	14.15	101.51 to 102.00	16.15
82.01 to 82.50	14.20	102.01 to 102.50	16.20
82.51 to 83.00	14.25	102.51 to 103.00	16.25
83.01 to 83.50	14.30	103.01 to 103.50	16.30
83.51 to 84.00	14.35	103.51 to 104.00	16.35
84.01 to 84.50	14.40	104.01 to 104.50	16.40
84.51 to 85.00	14.45	104.51 to 105.00	16.45
85.01 to 85.50	14.50	105.01 to 105.50	16.50
85.51 to 86.00	14.55	105.51 to 106.00	16.55
86.01 to 86.50	14.60	106.01 to 106.50	16.60
86.51 to 87.00	14.65	106.51 to 107.00	16.65
87.01 to 87.50	14.70	107.01 to 107.50	16.70
87.51 to 88.00	14.75	107.51 to 108.00	16.75
88.01 to 88.50	14.80	108.01 to 108.50	16.80
88.51 to 89.00	14.85	108.51 to 109.00	16.85
89.01 to 89.50	14.90	109.01 to 109.50	16.90
89.51 to 90.00	14.95	109.51 to 110.00	16.95
90.01 to 90.50	15.00	110.01 to 110.50	17.00
90.51 to 91.00	15.05	110.51 to 111.00	17.05
91.01 to 91.50	15.10	111.01 to 111.50	17.10
91.51 to 92.00	15.15	111.51 to 112.00	17.15
92.01 to 92.50	15.20	112.01 to 112.50	17.20
92.51 to 93.00	15.25	112.51 to 113.00	17.25
93.01 to 93.50	15.30	113.01 to 113.50	17.30
93.51 to 94.00	15.35	113.51 to 114.00	17.35
94.01 to 94.50	15.40	114.01 to 114.50	17.40
94.51 to 95.00	15.45	114.51 to 115.00	17.45
95.01 to 95.50	15.50	115.01 to 115.50	17.50
95.51 to 96.00	15.55	115.51 to 116.00	17.55
96.01 to 96.50	15.60	116.01 to 116.50	17.60
96.51 to 97.00	15.65	116.51 to 117.00	17.65
97.01 to 97.50	15.70	117.01 to 117.50	17.70
97.51 to 98.00	15.75	117.51 to 118.00	17.75
98.01 to 98.50	15.80	118.01 to 118.50	17.80
98.51 to 99.00	15.85	118.51 to 119.00	17.85
99.01 to 99.50	15.90	119.01 to 119.50	17.90
99.51 to 100.00	15.95	119.51 to 120.00	17.95
100.01 to 100.50	16.00	120.01 to 120.50	18.00
100.51 to 101.00	16.05	120.51 to 121.00	18.05

EXHIBIT C

EXAMPLE
STOCKING REPORT

PARK: East Bay Park **TENANT:** Joe Cattleman

SEASON: 2005-06 **PASTURE:** Pond Pasture

ACRES: 2147 **ALLOTED AUMS:** 1695

For each month enter the date the livestock were moved in or out. To calculate the AUMs, multiply the number of livestock X portion (%) of month X Animal Unit Conversion to derive the AUMs. More than one line can be filled out during a month, especially when livestock are being moved in or out. Carry over the livestock numbers of the previous month to the next month. Any livestock moves in or out during that month can be entered on the following lines. Note: One day is credited for the day livestock are hauled in. Utilize the AUM Calculation Table to calculate the portion of the month.

Month Date	**In/Out**	**Number X**	**Portion (%) of Month X** (AUM Calculation Table)	**AU Conversion =** (1, 0.75, or 0.5, etc.)	**AUM**
NOV. 16	IN	86	0.43	.5	18.5
DEC.		86	1.00	.5	43.0
DEC. 8	IN	84	0.71	.5	28.6
DEC. 9	IN	86	0.68	.5	31.8
DEC. 11	IN	82	0.61	.5	24.7
JAN.		338	1.00	.5	169.0
JAN. 16	IN	58	.45	.5	13.1
JAN. 19	IN	48	.35	.5	8.4
FEB.		494	1.00	.5	247
MARCH		494	1.00	.5	247
APRIL		494	1.00	.5	247
				First Half Total	1078.1
MAY		494	1.00	.5	247
JUNE 11	OUT	(258)	494 X .35	.5	172.90
JUNE 12	OUT	236	236 X .03	.5	3.5
				Second Half Total	423.4
				TOTAL AUMS	1501.5

EXHIBIT C

Animal Unit Month (AUM) Calculation Table

31 Day Month

Livestock Intro Date	Days Remaining	Percent of Month	Livestock Removal Date	Days In	Percent of Month
1	30	0.97	1	1	0.00
2	29	0.94	2	2	0.03
3	28	0.90	3	3	0.06
4	27	0.87	4	4	0.10
5	26	0.84	5	5	0.13
6	25	0.81	6	6	0.16
7	24	0.77	7	7	0.19
8	23	0.74	8	8	0.23
9	22	0.71	9	9	0.26
10	21	0.68	10	10	0.29
11	20	0.65	11	11	0.32
12	19	0.61	12	12	0.39
13	18	0.58	13	13	0.35
14	17	0.55	14	14	0.45
15	16	0.52	15	15	0.48
16	15	0.48	16	16	0.52
17	14	0.45	17	17	0.55
18	13	0.42	18	18	0.58
19	12	0.39	19	19	0.61
20	11	0.35	20	20	0.65
21	10	0.32	21	21	0.68
22	9	0.29	22	22	0.71
23	8	0.26	23	23	0.74
24	7	0.23	24	24	0.77
25	6	0.19	25	25	0.81
26	5	0.16	26	26	0.84
27	4	0.13	27	27	0.87
28	3	0.10	28	28	0.90
29	2	0.06	29	29	0.94
30	1	0.03	30	30	0.97
31	0	0.00	31	31	1.00

30 Day Month

Livestock Intro Date	Days Remaining	Percent of Month	Livestock Removal Date	Days In	Percent of Month
1	29	0.97	1	1	0.03
2	28	0.93	2	2	0.07
3	27	0.90	3	3	0.10
4	26	0.87	4	4	0.13
5	25	0.83	5	5	0.17
6	24	0.80	6	6	0.20
7	23	0.77	7	7	0.23
8	22	0.73	8	8	0.27
9	21	0.70	9	9	0.30
10	20	0.67	10	10	0.33
11	19	0.63	11	11	0.37
12	18	0.60	12	12	0.40
13	17	0.57	13	13	0.43
14	16	0.53	14	14	0.47
15	15	0.50	15	15	0.50
16	14	0.47	16	16	0.53
17	13	0.43	17	17	0.57
18	12	0.40	18	18	0.60
19	11	0.37	19	19	0.63
20	10	0.33	20	20	0.67
21	9	0.30	21	21	0.70
22	8	0.27	22	22	0.73
23	7	0.23	23	23	0.77
24	6	0.20	24	24	0.80
25	5	0.17	25	25	0.83
26	4	0.13	26	26	0.87
27	3	0.10	27	27	0.90
28	2	0.07	28	28	0.93
29	1	0.03	29	29	0.97
30	0	0.00	30	30	1.00

EXHIBIT C

Animal Unit Month (AUM) Calculation Table

28 Day Month

Livestock Intro Date	Days Remaining	Percent of Month	Livestock Removal Date	Days In	Percent of Month
1	30	0.96	1	1	0.04
2	29	0.93	2	2	0.07
3	28	0.89	3	3	0.11
4	27	0.86	4	4	0.14
5	26	0.82	5	5	0.18
6	25	0.79	6	6	0.21
7	24	0.75	7	7	0.25
8	23	0.71	8	8	0.29
9	22	0.68	9	9	0.32
10	21	0.64	10	10	0.36
11	20	0.61	11	11	0.39
12	19	0.57	12	12	0.43
13	18	0.54	13	13	0.46
14	17	0.50	14	14	0.50
15	16	0.46	15	15	0.54
16	15	0.43	16	16	0.57
17	14	0.39	17	17	0.61
18	13	0.36	18	18	0.64
19	12	0.32	19	19	0.68
20	11	0.29	20	20	0.71
21	10	0.25	21	21	0.75
22	9	0.21	22	22	0.79
23	8	0.18	23	23	0.82
24	7	0.14	24	24	0.86
25	6	0.11	25	25	0.89
26	5	0.07	26	26	0.93
27	4	0.04	27	27	0.96
28	3	0.00	28	28	1.00

29 Day Month

Livestock Intro Date	Days Remaining	Percent of Month	Livestock Removal Date	Days In	Percent of Month
1	28	0.97	1	1	0.03
2	27	0.93	2	2	0.07
3	26	0.90	3	3	0.10
4	25	0.86	4	4	0.14
5	24	0.83	5	5	0.17
6	23	0.79	6	6	0.21
7	22	0.76	7	7	0.24
8	21	0.72	8	8	0.28
9	20	0.69	9	9	0.31
10	19	0.66	10	10	0.34
11	18	0.62	11	11	0.38
12	17	0.59	12	12	0.41
13	16	0.55	13	13	0.45
14	15	0.52	14	14	0.47
15	14	0.48	15	15	0.48
16	13	0.45	16	16	0.55
17	12	0.41	17	17	0.59
18	11	0.38	18	18	0.62
19	10	0.34	19	19	0.66
20	9	0.31	20	20	0.69
21	8	0.28	21	21	0.72
22	7	0.24	22	22	0.76
23	6	0.21	23	23	0.79
24	5	0.17	24	24	0.83
25	4	0.14	25	25	0.86
26	3	0.10	26	26	0.90
27	2	0.07	27	27	0.93
28	1	0.03	28	28	0.97
29	0	0.00	29	29	1.00

EXHIBIT D

BRITTON AND BRITTON ADJACENT PROPERTY
GRAZING PLAN

1. **Licensee:** West Coast Home Builders, Inc. ("**WCHB**") and its affiliate Eden Valley Ranch, LLC ("**EVR**").

2. **Experience and Operations:** EVR's namesake ranch is located in Willits, California, and includes twenty thousand (20,000) acres for livestock grazing, private recreational activity, and a Private Lands Wildlife Habitat Enhancement and Management Plan with the California Department of Fish and Wildlife. As a livestock operator with more than twenty (20) years of experience, EVR utilizes conventional livestock management practices with an adaptive approach. As the industry began to evolve as a tool to manage livestock for resource conservation and enhancement, EVR adopted core practices such as IPM, exclusionary fencing and solar pumps for use at its ranches. As management objectives may change due to unforeseen circumstances such as weather, fire, or any number of accidental or environmental conditions, EVR has the flexibility to alter stocking rates as needed and an ability to respond quickly.

3. **Livestock Operation.** EVR shall operate the property as a component to and in conjunction with our adjacent properties.

   We run a cow/calf rest-rotation grazing system within a five (5) to seven (7) month grazing period. The stocking rate for the Britton & Britton is set by the East Bay Regional Park District (EBRPD). The allowable AUM's are determined using the NRCS Web Soil Survey range production data for a normal year. Abundant or reduced forage conditions would prompt seasonal adjustments. The size and proximity of our adjacent private properties along Kirker Pass Road and elsewhere in east Contra Costa County allows for the flexibility to adjust both the number and the type of livestock that are present on the grazing unit throughout the grazing period. As EVR employs a field breeding method, bulls may be periodically introduced and removed.

   The late winter to early spring grazing period will be utilized to reduce undesirable/invasive species competition with native grasses, as well as reduce standing fuels prior to the typical summer fire season. If the need arises, we also have the potential to target grazing during the critical development times of weed species and/or defer grazing until after seed set of critical native species. The phenology of target weed species will be used in order to determine the exact timing and typically higher stocking rates with a shorter grazing period would be employed for this method.

   Supplements such as mineral licks, molasses, and other attractants will be strategically placed to passively encourage grazing in upland areas on the west side of the property.

   EVR utilizes UC Davis Veterinary Medicine Teaching Hospital Large Animal Clinic for livestock care, including vaccinations, worming, and any additional treatment to maintain animal health.

   All cattle will be branded with a recognizable brand and also have visible ear tags with a contact phone number. All cattle will also be vaccinated twice during their six (6) month

stay to help maintain the highest degree of health standards.

4. **Rangeland Infrastructure and Improvement Plans.**

   Maintenance and repair of the existing water system facilities, fencing, and all other infrastructure will be accomplished during our routine inspections of the property. EVR has extensive experience troubleshooting new systems and our employees keep repair supplies and tools in each vehicle. Routine trough maintenance includes checking for leaks at the trough and along the supply lines, making adjustments to gate and float valves, replacing floats and valves as needed, removing algae/debris as necessary, and utilizing fish or barley to keep water clean. Any substantial fixes or new installations of water infrastructure or cleaning of stock ponds will be completed in consultation and approval of EBRPD. Prior to unloading any livestock, the entire perimeter fence line will be inspected for breaks and/or areas where fence integrity may become an issue and repairs are completed. The inspection of fencing is also conducted on a regular basis while livestock remain in the grazing unit. Particular attention will be made to the fencing along the south portion of the grazing unit which borders Kirker Pass Road.

5. **Integrated Pest Management Practices.** We use a couple of different approaches to weed abatement. Herbicides may be used around barns or corrals. Any weed abatement (in particular the use of herbicide) will need to be discussed and approved by the Park Supervisor before any treatment is applied. A strategic Rotational Grazing Schedule will be implemented to help reduce and eliminate Black Mustard, Yellow Star Thistle, and other noxious plants.

6. **Range Monitoring Practices.** Cattle and range conditions are checked very regularly. This is a key practice in rangeland management and sustainability. Knowing where your cattle are grazing and the condition of the rangeland is imperative to the perception of the public. Over grazing is a very sensitive issue and will be monitored and actively managed to increase the sustainability of the land and the opportunities provided. RDM monitoring will be collected by EBRPD staff and used to assess range condition and license compliance. RDM levels will be maintained to the fullest extent possible.

7. **General Availability.** Our experienced ranching operators have twenty-four (24) hour availability only a few miles away, which allows response to both emergency and non-emergency situations within ten (10) minutes.

8. **Coordination with Park Supervisor.** We will:

   - Coordinate and mutually agree with the Park Supervisor on introduction and removal dates of cattle from the park, as well as on all infrastructure projects.
   - Coordinate cattle activities on weekdays (as often as possible) to minimize potential conflicts with the public.
   - Regularly communicate with the Park Supervisor regarding range conditions and seek input and guidance on matters concerning our grazing program with EPRPD Rangeland Specialist.

Exhibit L – Britton Permanent Monument

UKRAINA
"UKRAINA" IS THE SITE OF THE FARM AND BURIAL PLACE OF THE UKRAINIAN PATRIOT AND EXILE ORTHODOX PRIEST AGAPIUS HONCHARENKO (1832-1916) AND HIS WIFE ALBINA. HONCHARENKO WAS THE FIRST NATIONALLY CONSCIOUS UKRAINIAN TO ARRIVE IN THE UNITED STATES. HE PUBLISHED THE FIRST AMERICAN NEWSPAPER IN RUSSIAN AND UKRAINIAN LANGUAGES, THE ALASKA HERALD, FROM 1868-1872. HE WROTE THE FIRST BOOK FOR THE EDUCATIONAL USE OF NATIVE ALASKANS. AFTER MOVING HERE FROM SAN FRANCISCO IN 1873, HE CONTINUED TO PUBLISH POLITICAL LITERATURE, WHICH WAS SMUGGLED INTO CZARIST RUSSIA. HONCHARENKO WAS A PROMINENT SCHOLAR, HUMANITARIAN, AND EARLY CHAMPION FOR HUMAN RIGHTS.
CALIFORNIA REGISTERED HISTORICAL LANDMARK NO. 1025
PLAQUE PLACED BY THE STATE DEPARTMENT OF PARKS AND RECREATION IN COOPERATION WITH THE EAST BAY REGIONAL PARK DISTRICT AND THE UKRAINIAN COMMUNITY OF CALIFORNIA, MAY 15, 1999.

Exhibit M – Britton Adjacent Property Title Report

OLD REPUBLIC TITLE COMPANY

1000 Burnett Ave, Suite 400
Concord, CA 94520
(925) 687-7880 Fax: (925) 687-4836

PRELIMINARY REPORT

Our Order Number 0147022876-DJ

THE SEENO COMPANIES
4021 Port Chicago Highway
Concord, CA 94520

Attention: JEANNE C. PAVO

When Replying Please Contact:

Donna Jones
DonnaJ@ortc.com
(925) 687-7880

Property Address:

APN 117-370-001 , Concord, CA 94521

In response to the above referenced application for a policy of title insurance, OLD REPUBLIC TITLE COMPANY, as issuing Agent of Old Republic National Title Insurance Company, hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said Policy or Policies are set forth in Exhibit I attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the Homeowner's Policy of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit I. Copies of the Policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit I of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.
It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of March 11, 2019, at 7:30 AM

OLD REPUBLIC TITLE COMPANY
For Exceptions Shown or Referred to, See Attached

The form of policy of title insurance contemplated by this report is:

CLTA Standard Coverage Policy -1990. A specific request should be made if another form or additional coverage is desired.

The estate or interest in the land hereinafter described or referred or covered by this Report is:

Fee

Title to said estate or interest at the date hereof is vested in:

West Coast Home Builders, Inc., a California Corporation

The land referred to in this Report is situated in the County of Contra Costa, City of Concord, State of California, and is described as follows:

Parcel A, as shown on the map of Subdivision 7043, filed November 7, 1990, in Map Book 353, Page 25, Contra Costa County Records.

EXCEPTING THEREFROM:

An undivided one-half (1/2/) interest in all oil, gas, hydro-carbons, and other minerals located more than five hundred (500) feet in vertical depth below the surface of the land, together with the right to drill or otherwise explore for development, extraction and production of the same, without any right whatsoever to enter upon the surface of the land for such purposes, as excepted in the deed from Joseph Chaves, Jr., et al, recorded Amy 21, 1968, Book 5629, Page 202, Official Records.

APN 117-370-001

At the date hereof exceptions to coverage in addition to the Exceptions and Exclusions in said policy form would be as follows:

1. Taxes and assessments, general and special, for the fiscal year 2019 - 2020, a lien, but not yet due or payable.

2. Taxes and assessments, general and special, for the fiscal year 2018 - 2019, as follows:

Assessor's Parcel No	:	117-370-001	
Code No.	:	02-106	
1st Installment	:	$160.41	Marked Paid
2nd Installment	:	$160.41	NOT Marked Paid
Land	:	$26,256.00	
Imp. Value	:	$0.00	
Exemption	:	$0.00	

3. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Section 75, et seq., of the Revenue and Taxation Code of the State of California.

4. Any special tax which is now a lien and that may be levied within the Mt. Diablo Unified School District Community Facilities District No. 1, notice(s) for which having been recorded.

   NOTE: Among other things, there are provisions in said notice(s) for a special tax to be levied annually, the amounts of which are to be added to and collected with the property taxes.

   NOTE: The current annual amount levied against this land is $0.00.

   NOTE: Further information on said assessment or special tax can be obtained by contacting:

   Name : Associate Superintendent – Administrative Service of the Mt. Diablo Unified School District
   Telephone No. : (925) 682-8000

5. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

   Instrument : Deed
   Granted to : Great Western Power Company, a corporation
   For : Towers, poles, transmission lines and pipelines
   Recorded : November 18th, 1907 in Book 131 of Deeds, Page 289
   Affects : A portion

   Modified by Agreement recorded September 18, 1958, in Book 3232, Page 114 Official Records.

6. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

   Granted To : Union Oil Company of California, a corporation
   For : Pipe line
   Recorded : October 31, 1956 in Book 2872 of Official Records, Page 458
   Affects : A portion

Description of Route Selected, recorded May 29, 1957, Book 2989, Page 566, Official Records.

7. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Deed
Granted to	:	Occidental Petroleum Corporation, a corporation
For	:	Pipelines
Recorded	:	October 25th, 1965 in Book 4979 of Official Records, Page 23
Affects	:	A portion

8. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Easement
Granted to	:	Southern Pacific Pipe Lines, Inc., a Delaware Corporation
For	:	A pipe line
Recorded	:	February 21st, 1984 in Book 11661 of Official Records, Page 882, under Recorder's Serial Number 84-23013
Affects	:	A portion

A Common Use Agreement pertaining thereto, executed by and between North State Development Co. and SFPP, L.P., was recorded February 18, 1992 in Book 17231, Official Records, Page 597 and an Amendment and Clarification of Easement between said parties was recorded February 18, 1992, in Book 17231, Official Records, Page 601.

9. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Southern Pacific Pipe Lines Easement
Granted to	:	Southern Pacific Pipe Lines, Inc., a Delaware Corporation
For	:	A pipe line
Recorded	:	March 30th, 1984 in Book 11721 of Official Records, Page 808, under Recorder's Serial Number 84-44028
Affects	:	A portion

A Common Use Agreement pertaining thereto, executed by and between North State Development Co. and SFPP, L.P., was recorded February 18, 1992 in Book 17231, Official Records, Page 597 and an Amendment and Clarification of Easement between said parties was recorded February 18, 1992, in Book 17231, Official Records, Page 601.

10. Recitals shown or noted upon a map as follows:

Map Entitled	:	Subdivision 7043
Filed On	:	November 7, 1990 in Book 353 of Maps, at Page 25
Which Says	:	25' wide ingress & egress easement & P.S.D.E. (private storm drain easement) for Parcel A; as noted on Parcels E and G on Sheets 4 and 6

11. Agreement for : Density transfer and landscape maintenance
Executed By : North State Development Company and A.D. Seeno Construction Company
and Between : City of Concord

On the terms, covenants and conditions contained therein,

Recorded : January 10, 1991 in Book 16345 of Official Records, Page 300

12. Any unrecorded and subsisting leases.

13. Rights and claims of parties in possession.

---------- Informational Notes ----------

A. The applicable rate(s) for the policy(s) being offered by this report or commitment appears to be section(s) to be determined.

B. NOTE: The last recorded transfer or agreement to transfer the land described herein is as follows:

Instrument Entitled	:	Grant Deed
By/From	:	North State Development Co.
To	:	WEST COAST HOME BUILDERS , INC., a California Corporation
Recorded	:	February 1, 1996 in Official Records under Recorder's Serial Number 96-18765

Exhibit I

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY - 1990
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or {iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.-

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;.

   (c) resulting in no loss or damage to the insured claimant;

   (d) attaching or created subsequent to Date of Policy; or

   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land Is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments Which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims Which are not shown by the public records but which could be ascertained by an inspection of the land which may be asserted by persons in possession thereof,

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

OLD REPUBLIC TITLE

rev. 07/2016

FACTS

WHAT DOES OLD REPUBLIC TITLE DO WITH YOUR PERSONAL INFORMATION?

Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and employment information • Mortgage rates and payments and account balances • Checking account information and wire transfer instructions When you are *no longer* our customer, we continue to share your information as described in this notice.
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Old Republic Title chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does Old Republic Title share?	Can you limit this sharing?
For our everyday business purposes — such as to process your transactions, maintain your account(s), or respond to court orders and legal investigations, or report to credit bureaus	**Yes**	**No**
For our marketing purposes — to offer our products and services to you	**No**	**We don't share**
For joint marketing with other financial companies	**No**	**We don't share**
For our affiliates' everyday business purposes — information about your transactions and experiences	**Yes**	**No**
For our affiliates' everyday business purposes — information about your creditworthiness	**No**	**We don't share**
For our affiliates to market to you	**No**	**We don't share**
For non-affiliates to market to you	**No**	**We don't share**

Questions	**Go to** www.oldrepublictitle.com (*Contact Us*)

Who we are	
Who is providing this notice?	Companies with an Old Republic Title name and other affiliates. Please see below for a list of affiliates.

What we do	
How does Old Republic Title protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. For more information, visit http://www.OldRepublicTitle.com/newnational/Contact/privacy.
How does Old Republic Title collect my personal information?	We collect your personal information, for example, when you: • Give us your contact information or show your driver's license • Show your government-issued ID or provide your mortgage information • Make a wire transfer We also collect your personal information from others, such as credit bureaus, affiliates, or other companies.
Why can't I limit all sharing?	Federal law gives you the right to limit only: • Sharing for affiliates' everyday business purposes - information about your creditworthiness • Affiliates from using your information to market to you • Sharing for non-affiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See the "Other important information" section below for your rights under state law.

Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. • *Our affiliates include companies with an Old Republic Title name, and financial companies such as Attorneys' Title Fund Services, LLC, Lex Terrae National Title Services, Inc., Mississippi Valley Title Services Company, and The Title Company of North Carolina.*
Non-affiliates	Companies not related by common ownership or control. They can be financial and non-financial companies. • *Old Republic Title does not share with non-affiliates so they can market to you*
Joint marketing	A formal agreement between non-affiliated financial companies that together market financial products or services to you. • *Old Republic Title doesn't jointly market.*

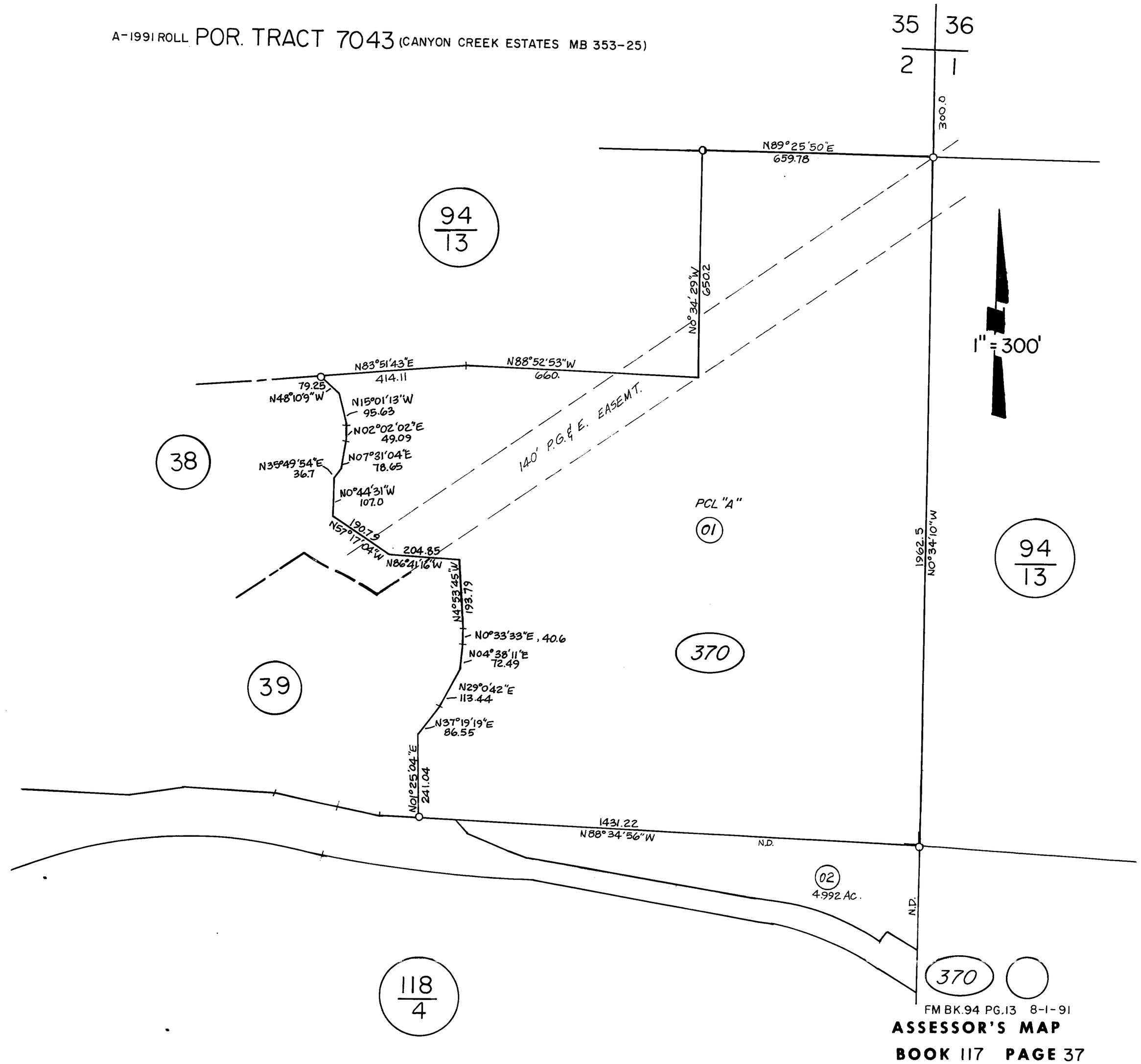
Other Important Information

Oregon residents only: We are providing you this notice under state law. We may share your personal information (described on page one) obtained from you or others with non-affiliate service providers with whom we contract, such as notaries and delivery services, in order to process your transactions. You may see what personal information we have collected about you in connection with your transaction (other than personal information related to a claim or legal proceeding). To see your information, please click on "Contact Us" at www.oldrepublictitle.com and submit your written request to the Legal Department. You may see and copy the information at our office or ask us to mail you a copy for a reasonable fee. If you think any information is wrong, you may submit a written request online to correct or delete it. We will let you know what actions we take. If you do not agree with our actions, you may send us a statement.

Affiliates Who May be Delivering This Notice

American First Abstract, LLC	**American First Title & Trust Company**	**American Guaranty Title Insurance Company**	**Attorneys' Title Fund Services, LLC**	**Compass Abstract, Inc.**
eRecording Partners Network, LLC	**Genesis Abstract, LLC**	**Kansas City Management Group, LLC**	**L.T. Service Corp.**	**Lenders Inspection Company**
Lex Terrae National Title Services, Inc.	**Lex Terrae, Ltd.**	**Mara Escrow Company**	**Mississippi Valley Title Services Company**	**National Title Agent's Services Company**
Old Republic Branch Information Services, Inc.	**Old Republic Diversified Services, Inc.**	**Old Republic Exchange Company**	**Old Republic National Title Insurance Company**	**Old Republic Title and Escrow of Hawaii, Ltd.**
Old Republic Title Co.	**Old Republic Title Company of Conroe**	**Old Republic Title Company of Indiana**	**Old Republic Title Company of Nevada**	**Old Republic Title Company of Oklahoma**
Old Republic Title Company of Oregon	**Old Republic Title Company of St. Louis**	**Old Republic Title Company of Tennessee**	**Old Republic Title Information Concepts**	**Old Republic Title Insurance Agency, Inc.**
Old Republic Title, Ltd.	**Republic Abstract & Settlement , LLC**	**Sentry Abstract Company**	**The Title Company of North Carolina**	**Title Services, LLC**
Trident Land Transfer Company, LLC				

A-1991 ROLL POR. TRACT 7043 (CANYON CREEK ESTATES MB 353-25)



FM BK.94 PG.13 8-1-91

ASSESSOR'S MAP

BOOK 117 PAGE 37

CONTRA COSTA COUNTY, CALIF.

8-6-91 MJ

619

EXHIBIT A

The land referred to is situated in the County of Contra Costa, City of Concord, State of California, and is described as follows:

Parcel A, as shown on the map of Subdivision 7043, filed November 7, 1990, in Map Book 353, Page 25, Contra Costa County Records.

EXCEPTING THEREFROM:

An undivided one-half (1/2/) interest in all oil, gas, hydro-carbons, and other minerals located more than five hundred (500) feet in vertical depth below the surface of the land, together with the right to drill or otherwise explore for development, extraction and production of the same, without any right whatsoever to enter upon the surface of the land for such purposes, as excepted in the deed from Joseph Chaves, Jr., et al, recorded Amy 21, 1968, Book 5629, Page 202, Official Records.

APN 117-370-001

Exhibit N – Britton Adjacent Grant Deed

RECORDING REQUESTED BY AND WHEN RECORDED MAIL DOCUMENT AND TAX STATEMENTS TO:

Attn:
Port Chicago Hwy.
Concord, CA 94520

(SPACE ABOVE THIS LINE IS FOR RECORDER'S USE ONLY)

GRANT DEED

The undersigned Grantor(s) declare(s):
Documentary Transfer Tax is $
☐ computed on full value of property conveyed, or
☐ computed on full value less of liens and encumbrances remaining at time of sale.
☐ Unincorporated area: ☒ City of Concord

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

WEST COAST HOME BUILDERS, INC., a California corporation,

hereby GRANT(S) to

, a ,

that property in the City of , County of , State of California, described as:

See ***Exhibit A*** attached hereto and made a part hereof.

Date: , 20

,
a

By:_____
Name:_____
Its:_____

MAIL TAX STATEMENTS AS DIRECTED ABOVE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

(Civil Code §1189)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) **ss.**
COUNTY OF _____)

On _____, 20____, before me, _____,
a Notary Public, personally appeared _____
_____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
SIGNATURE OF NOTARY PUBLIC

Exhibit O – Britton Adjacent Baseline Report

BASELINE DOCUMENTATION REPORT

BRITTON ADJACENT PROPERTY
(APN# 117-370-001)
CITY OF CONCORD, CONTRA COSTA COUNTY, CALIFORNIA

MAY 13, 2019

Prepared for

East Contra Costa County Habitat Conservancy
30 Muir Road
Martinez, CA 94553

Prepared by

Heath Bartosh

NOMAD ECOLOGY
(925) 228-1027
822 MAIN STREET
MARTINEZ, CA 94553

TABLE OF CONTENTS

Section 1. Introduction 1
1.1. Purpose of the Property Acquisition 1
1.2. Purpose of the Baseline Documentation Report 1
Section 2. Documentation Methods 3
2.1. Data Resources 3
2.2. Personnel and Field Investigation 3
2.3. Resource Documentation and Mapping 3
2.4. Limitations 4
Section 3. Property Description 6
3.1. Regional Setting 6
3.2. Local Setting 6
3.3. Hydrology Characteristics 7
3.4. Land Use 8
3.5. Anthropogenic Features 9
3.6. Land Cover and Environmental Conditions 15
3.7. Invasive Species and Noxious Weeds 19
Section 4. References 22

LIST OF TABLES

Table 1. HCP Land Cover Types in the Britton Adjacent Property 15
Table 2. Vegetation Community Classification Systems Comparisons 16
Table 3. Invasive Weeds Observed in the Study area 20

LIST OF FIGURES

Figure 1. Location of the Britton Adjacent Conservation Property 2
Figure 2. Regional Map 25
Figure 3. Aerial Photograph 26
Figure 4. Anthropogenic Features 27
Figure 5. Land Cover Types 28
Figure 6. Photo Point Locations 29
Figure 7. Invasive Plants 30

LIST OF APPENDICES

APPENDIX A Figures 24
APPENDIX B Property Acquisition 31
APPENDIX C Photographs 33

Section 1. INTRODUCTION

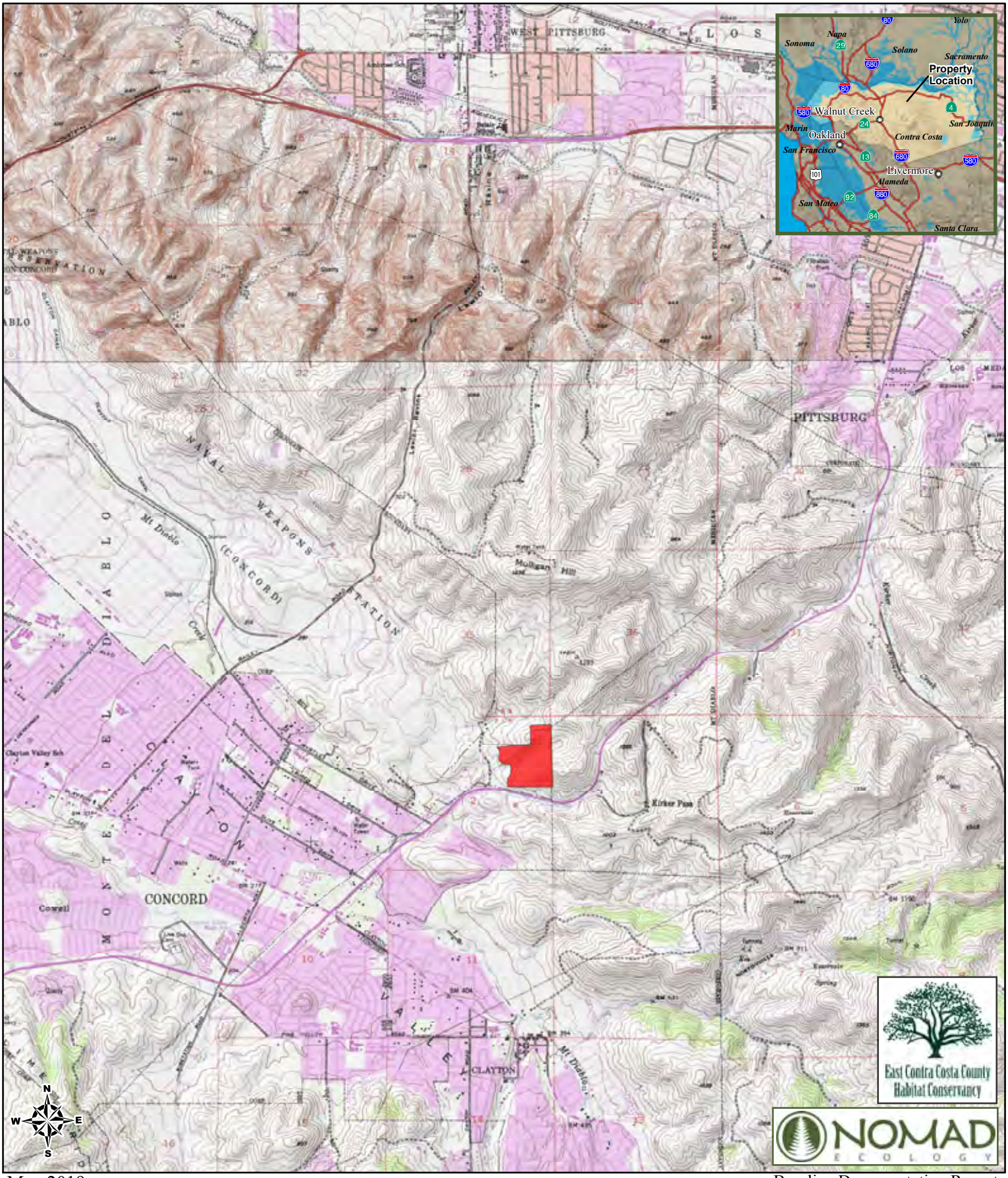
As requested by East Contra Costa County Habitat Conservancy (Conservancy), Nomad Ecology (Nomad) prepared this Baseline Documentation Report (BDR) for the 53.96-acre Britton Adjacent Property (APN 117-370-001), located in the City of Concord, Contra Costa County, California (Figure 1). The property is within the Pittsburg Hills, near the northern terminus of the Diablo Range. This property is located immediately outside the western boundary of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP or Plan) Inventory Area (Jones and Stokes, 2006) and immediately south of the Conservancy's Britton Property.

1.1. PURPOSE OF THE PROPERTY ACQUISITION

The purpose of the acquisition is to ensure that existing and future natural values and associated wildlife and habitat values of the acquisition area will be forever protected by preventing any use of the acquisition area that would impair or interfere with the conservation values. The acquisition will confine the use of the parcels to such activities that are consistent with this purpose, including, without limitation, those involving the preservation, restoration, and enhancement of the acquisition area's wildlife species and their habitats.

1.2. PURPOSE OF THE BASELINE DOCUMENTATION REPORT

The purpose of the BDR is to establish and document the condition of the property to provide a baseline against which to determine whether such condition has changed significantly and, if such condition has changed significantly, to determine the nature and extent of the change, including whether the change is the result of natural phenomena, such as fire, drought, landslide, or climate change.



Legend
Britton Adjacent Property

Figure 1
Britton Adjacent Property
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:48,000
0 0.25 0.5
Miles

Sources: USGS, Contra Costa County. Projection: NAD 83 UTM 10 North.

Section 2. DOCUMENTATION METHODS

2.1. DATA RESOURCES

Botanical taxonomy and nomenclature conforms to *The Jepson Manual* (Baldwin et al. 2012) with the exception of recent circumscriptions posted on the Jepson eFlora (Jepson Flora Project 2019) website. Common names of plant species are derived from *The Calflora Database* (Calflora 2019).

2.2. PERSONNEL AND FIELD INVESTIGATION

Nomad senior botanist Heath Bartosh and senior wildlife biologist Dana Terry visited the Britton Adjacent Property on May 3, 2019 to conduct a reconnaissance-level survey. Per the Conservancy's instructions, the primary focus of the survey was to document human-made features and infrastructure as well as scenic features. Nomad accessed the property by vehicle and on foot in order to inspect and photograph all agricultural, grazing, and landscaping infrastructure present on site. While completing that task, Nomad made efforts to document the biological resources present on the property. Those efforts included documenting baseline environmental conditions, land cover types, observed species, and the presence and extent of any large infestations of invasive species.

Protocol-level surveys for special-status plants and wildlife were not conducted as part of this assessment.

2.3. RESOURCE DOCUMENTATION AND MAPPING

Field data including the locations of photo points, invasive species, and human-made features were collected using a handheld Global Positioning System (GPS) device. A data point was collected for each aforementioned feature. These data points were then transferred to a desktop computer Geographic Information System (GIS) platform operating ESRI ArcGIS for creating polygons, where necessary, and populating attribute tables.

2.3.1 PHOTOPOINTS

Photographs were taken during the course of the survey to document observations or locations where data was collected. GPS data points were recorded for all photo points and converted into a GIS shapefile. Photo point locations are shown in Figure 6 of Appendix A, and the accompanying photos are shown in Appendix C.

2.3.2 VEGETATION COMMUNITY DATA

Vegetation communities in this report are described using HCP/NCCP Land Cover Types (Jones and Stokes 2006). Representative photographs were taken for each Land Cover Type observed within the acquisition.

2.3.3 INVASIVE SPECIES

Significant observations of invasive plant and/or animal species encountered within the property were recorded as GPS data points. Invasive species were evaluated to determine their status within the property, and their potential effect on native species, special-status species, and other natural resources.

2.3.4 ANTHROPOGENIC FEATURES

Spatial and description data were collected for all human-made features within the property including access roads, power lines, and fence lines, among others. All features recorded are depicted in Figure 4 of Appendix A.

2.4. LIMITATIONS

Nomad was directed by Conservancy staff to focus documentation efforts on human-made features. Therefore, survey coverage was generally limited to areas where these types of features were located. Due to these constraints, information on biological resources should be considered preliminary and non-comprehensive.

Based on the timing of the assessment and the sampling intensity, it was not possible to rule out the presence of any potentially occurring special-status plant or wildlife species. However, inferences on presence or absence were possible for specific special-status plant species with blooming periods corresponding to the May 2019 site visit, and for wildlife species with restricted ranges and habitat requirements. Negative findings during site assessments or focused surveys may not indicate absence unless field surveys conform to agency approved protocols. Moreover, for many species it is virtually impossible to prove absence even if surveys conform to approved protocols.

Plants

Because only one site visit was conducted in early May, all plant species growing within the study area may not have been observed due to varying flowering phenologies and life forms, such as bulbs, biennials, and annuals. Other potentially dominant species within vegetation communities on site may be present during other times of the year. Therefore, the present study is not floristic in nature. A floristic study not only requires every plant observed to be identified to a level necessary to determine their regulatory status, it also necessitates a sufficient number of site visits spaced throughout the growing season within the blooming periods of all plant species, including common taxa, to ensure a complete inventory is obtained (CNPS 2001, CDFW 2018, USFWS 2000). Some of the plant species identified in this report are tentative due to the absence of morphological characters, resulting from immature reproductive structures or seasonal desiccation, which is required to make species-level determinations. In these cases, *cf* (compares to) is used to indicate provisional species identification based on gestalt, vegetative morphology and/or a species' known range.

Species dominance, particularly with regard to annuals, may change depending on the sampling season. In addition, certain plant species, especially annuals, may be absent in some years due to annual variations in temperature and rainfall, which influence germination and plant phenology. Finally, colonization of new populations within an area may occur from year to year. Our descriptions of the vegetation communities and species occurring on the property are based on the sampling we conducted during mid-Spring of 2019. Those descriptions may be subject to change in the event that multiple seasons or years of data are collected. The phrase "in part" is used to signify that vegetation descriptions may include additional annual species if surveys are conducted during other seasons.

Wildlife

No formal surveys for wildlife species were conducted. All wildlife species observed during the reconnaissance-level site visit were recorded. Because the site visit occurred during the daytime on a single day in mid-spring, species that are nocturnal or that may be present at other times of year (such as during migratory movements) would not be detectable. Songbirds are most easily detected in the early morning or late evening, rather than during other times of the day (Grue et al. 1981, Skirvin 1981). Due to the limits of the scope of work, we could not survey all habitat types during the optimal time for bird

detection. Also, because the site visit was restricted to visual surveys conducted on foot and by vehicle, animals that are fossorial or that primarily occur on the ground under vegetation or other cover (such as amphibians and small mammals) would not be observable, as these species typically require methodical trapping surveys to be detected.

Section 3. PROPERTY DESCRIPTION

3.1. REGIONAL SETTING

The 53.96-acre Britton Adjacent Property is located in Township 1 North, Range 1 West, Section 2 of the Mount Diablo Baseline and Meridian. It is situated near the boundary of the San Francisco Bay Area and San Joaquin Valley subregions of the California Floristic Province. It falls within the Mount Diablo Creek watershed (CCWF 2003) and appears on the Clayton (37121h8) 7.5-minute USGS topographic quadrangle.

As described in the *Ecological Subregions of California* (USDA 1997), the property is located within the Suisun Hills and Valleys subsection of the Central California Coast Section. The *Ecological Subregions of California* form the basis for describing regional variation in California alliance descriptions in *A Manual of California Vegetation* (Sawyer et al. 2009).

3.1.1 SUISUN HILLS AND VALLEYS

The Suisun Hills and Valleys are characterized by low hills north and south of the Carquinez Strait, and include valleys between the hills, and plains at the west end of the Sacramento-San Joaquin River Delta. The climate is hot and sub-humid and is very windy on the hills adjacent to and north of the Strait (USDA 1997).

This is a subsection of steep to moderately steep northwesterly aligned hills, valleys between the hills, and the edge of a plain that is the floor of the Great Valley. Elevations range from sea-level to 1,428 feet (435 meters) in the Briones Hills. Mass wasting and fluvial erosion are the main geomorphic processes. The Suisun Hills and Valleys are mainly comprised of Cretaceous, Eocene, and Miocene marine sedimentary rocks and late Quaternary alluvium, and minor amounts of Pliocene nonmarine sediments and volcanic rocks (USDA 1997). Most of the soils are leached free of carbonates, but calcium carbonates have accumulated in some soils on alluvial plains and more soluble salts accumulated in somewhat poorly drained soil (USDA 1997).

For this region the mean annual precipitation ranges from 15 to 20 inches and nearly all of the precipitation is rainfall. The mean annual temperature is generally between 56° to 60°F and the mean freeze-free period is from 250 to 275 days. Hydrologically, runoff is rapid from the hills, but slow from the alluvial plains. All but the larger streams are dry throughout the summer (USDA 1997).

3.2. LOCAL SETTING

The Britton Adjacent Property is located in the north-central portion of Contra Costa County within the City of Concord, California (Figures 2 and 3, Appendix A). The central point of the Britton Adjacent Property is approximately 5.3 air-miles southeast of downtown Concord and 5.9 air-miles north of the summit of Mount Diablo (Figure 2). The Britton Adjacent Property, which is also being considered for acquisition by Conservancy, is located immediately to the north. The property borders the Canyon Creek residential subdivision to the west, a narrow strip of grassland beyond which is Kirker Pass Road to the south, and unincorporated County land to the east. The primary access to the property is from a dirt road originating off of Clearbrook Drive in the Canyon Creek subdivision.

To the west and south the property generally borders residential and commercial development of the city of Concord. To the east and north, the property is contiguous with a system of undeveloped northwest-to-southeast trending ridgetops. The Britton Adjacent Property itself is predominantly located on the

southern and western slopes of these ridges. A small network of dirt roads has been graded into the slopes on the property, though they were largely overgrown with vegetation at the time of the site visit. These roads appear to be maintained periodically by blading. The diversity of vegetation types is low because the majority of the property is dominated by grasslands. There is one ephemeral hydrologic feature present. No part of the property has had a fire greater than 10 acres recorded since at least 1878 (beginning of record keeping), based on CalFire (2019) fire perimeter data. No evidence of recent fire was observed during the 2019 site visit.

A small portion of the property along the western border is located within a landscaped area bordering a public fire road associated with the Canyon Creek residential subdivision. This section includes landscape plantings and hardscaping just upslope from a concrete V-ditch that is immediately outside of the property boundary.

3.2.1 Topography and Prominent Geographic Features

Topography is steeply sloping throughout the Britton Adjacent Property. The site is dominated by a steep-walled valley running generally east-west through the center of the site, and associated steep slopes and ridges on either side. This complex of ridges and valleys is part of the Pittsburg Hills which separate the cities of Pittsburg and Concord (Figure 2, Appendix A). The center of the property slopes generally westward toward the Canyon Creek subdivision, while the southern section slopes southward toward Kirker Pass Road. The highest point of the property is approximately 1,000 feet (305 meters) in elevation, at a point on the ridgeline located along the south-central portion of the eastern border. The lowest point is approximately 520 feet (158 meters) in elevation, at the extreme southwest corner of the property near Kirker Pass Road.

3.2.2 Climate

Locally the climate of the study area is characterized as Mediterranean with cool, wet winters and warm to hot, dry summers. It is presumed that the Britton Adjacent Property is near the edge of the coastal fog incursion zone and therefore occasionally receives moisture other than direct precipitation. Tule fog generated from the Central Valley can also influence the climate and sun exposure of the site from the fall to spring. Annual precipitation ranges from 19 to 21 inches annually (PRISM 2018).

3.2.3 Geology and Soils

The underlying geology of the Britton Adjacent Property is primarily Eocene sedimentary rock types of the Markley Formation, including sandstone, siltstone, and mudstone. A small area in the northern portion of the property is mapped as Quaternary surficial deposits (Graymer et al. 1994).

The entire Britton Adjacent Property is mapped as Altamont-Fontana complex soil series. Altamont-Fontana complex comprise clay soils, which on the property are found on 30 to 50 percent slopes (USDA 1977). This soil type is categorized only for grazing and is not considered prime, unique, or a soil of statewide interest (FMMP 2016).

3.3. Hydrology Characteristics

Hydrology onsite is influenced by precipitation, surface water runoff, geologic stratigraphy, topography, soil permeability, and plant cover. There are no perennial or intermittent hydrologic features on the Britton Adjacent Property. Due to the steeply sloping nature of the topography, any water flow on site is ephemeral in nature, contributing via sheet flow to the Mount Diablo Creek Watershed and ultimately into Suisun Bay. There are no permanent or seasonal wetlands on the property.

3.3.1 PONDS

There are no ponds located on the Britton Adjacent Property.

3.3.2 SPRINGS

There are no springs located on the Britton Adjacent Property.

3.4. LAND USE

Land use on site is primarily agricultural in the form of cattle grazing. No information was available on historical land use of the Britton Adjacent Property. The surrounding land is either other habitat conservancy holdings, grazing land, or residential subdivisions.

3.4.1 GRAZING

As far as is known, the historical and current use of the property is livestock (cattle) grazing. The site has open and rolling grasslands, and evidence of past cattle usage (hoof prints) was observed during the site visit. It is unknown what type of grazing operation the property can support. The average seasonal carrying capacity of the Britton Adjacent Property is approximately 60 to 80 head for 8-10 months of the year. The type of operation, e.g. cow-calf or stocker, is not documented by the property owners. Since there is no fence line between this property and the adjacent Britton parcel it is assumed that the same stocking rates apply.

3.4.2 SCENIC FEATURES

The steeply sloping grassy hills on the Britton Adjacent Property are visible from Kirker Pass Road, Bailey Road, the Concord Pavilion, the Concord Naval Weapons Station, Mount Diablo, residential areas of the City of Concord and the City of Clayton, as well as the Britton and Land Waste Management Properties.

Southern portion of the Britton Adjacent Property viewed from the Concord Pavilion entrance on Kirker Pass Road.

3.4.3 RECREATIONAL USE

No public recreational use of the property is known to occur historically or currently.

3.5. ANTHROPOGENIC FEATURES

While a majority of the Britton Adjacent Property has been left undeveloped, there are several anthropogenic features mainly associated with vehicle access, cattle ranching, and power transmission. Human-made features include roads, fences, utility rights-of-way, and landscaping. All anthropogenic features are depicted in Figure 4 (Appendix A).

3.5.1 FENCES

The western, southern, and eastern boundaries of the Britton Adjacent Property are delineated with 3-strand or 5-strand barbed wire fences supported by a combination of wood posts and metal t-posts. The northern site boundary is unfenced, and there are no fences in the interior of the property. Because vehicle access to the site is from the north, there are no gates on site. Based on fence line mapping during the site visit, a total of 0.90 mile of barbed wire fencing exists on the property. Two substantial gaps in the fencing were observed on the southern site boundary, one approximately 50 feet in length and the other approximately 150 feet in length (Figure 4, Appendix A).

Five-strand barbed wire fence along eastern boundary, viewed from southeast corner of property.

Three-strand barbed wire fence on southern boundary, with Kirker Pass Road in the background, viewed from southeast corner of property.

Approximately 50-foot gap in southern boundary fence.

Five-strand barbed wire fence along western property boundary.

3.5.2 ROADS

A small network of dirt roads provides vehicle access to and within the Britton Adjacent Property. These roads are created by grading (blading) the road surface, and appear to receive infrequent use and maintenance and may require a four-wheel drive vehicle, especially during wet weather. At the time of the site reconnaissance visit, the roads were overgrown with vegetation, although they do appear to be maintained by periodic blading. No developed or formally designated trails are known to occur on the property. The total length of roads within the property is estimated to be 1.17 miles (Figure 4, Appendix A).

Graded access road along western property boundary.

3.5.3 CULVERTS

No culverts were observed on the property. Three small plastic drainage inlets were observed associated with the landscaped area on the western boundary.

Plastic drainage inlets associated with landscaping on western property boundary.

3.5.4 DEBRIS

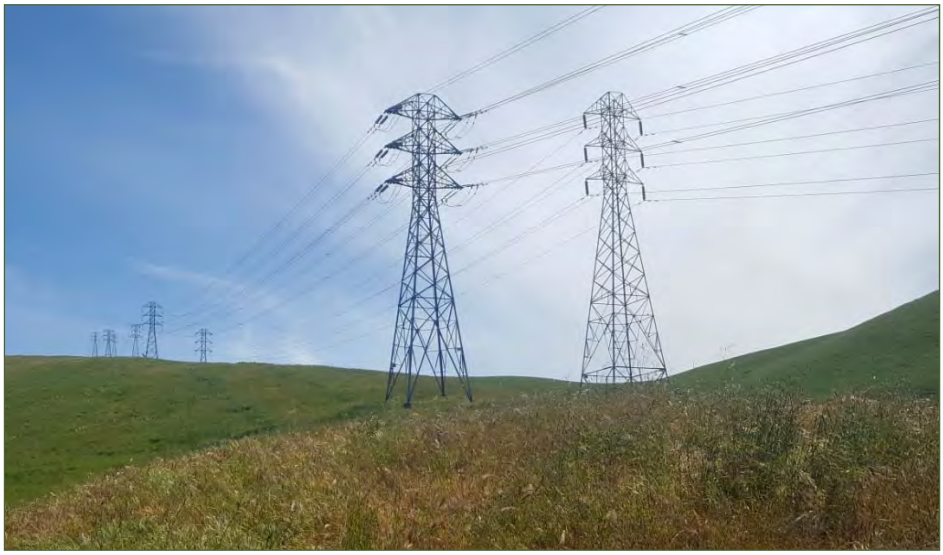
No accumulations of trash or piles of debris were observed during the site visit. One old wooden fence post and metal t-post unaffiliated with the boundary fencing were observed in the western portion of the site. Degrading monofilament erosion control wattles associated with the landscaped area along the western border of the site were also observed.

Wooden post and metal t-post unattached to fencing in western part of property.

Monofilament erosion control wattle in landscaped area on western property boundary.

3.5.5 UTILITIES

There is a shared approximately 140-foot wide electrical transmission, gas transmission, and petroleum pipeline right-of-way running in a roughly northeast-southwest direction along a ridgeline in the northern portion of the Britton Adjacent Property. The right-of-way briefly exits and re-enters the property at a 90-degree corner of the boundary. On the property, this right-of-way contains four steel lattice towers supporting two above-ground 230kV electrical transmission lines. Below ground, surface markers indicate that a gas transmission pipeline (PG&E Line 191-1) and a petroleum pipeline run along the same alignment underneath the electrical lines. Gas pipeline marker paddles and petroleum pipeline marker signs are present along the utility right-of-way.



Steel lattice towers and electrical transmission lines in utility right-of-way on site.

Gas and petroleum pipeline markers in utility right-of-way on site.

3.6. LAND COVER AND ENVIRONMENTAL CONDITIONS

This subsection describes vegetation communities following the Land Cover Types described in the HCP/NCCP (Jones & Stokes 2006). HCP/NCCP Land Cover Types observed within the Britton Adjacent Property include Annual Grassland, Ruderal, and Urban (Table 1). The location of each Land Cover Type on the property is shown in Figure 5 (Appendix A).

Table 1. HCP Land Cover Types in the Britton Adjacent Property

LAND COVER	ACREAGE
Annual Grassland	51.44
Ruderal	2.25
Urban	0.27
Total:	**53.96**

Land cover types are further cross referenced using three commonly used vegetation classification systems including *California Vegetation* (Holland and Keil 1995), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *Manual of California Vegetation, Second edition* (Sawyer et al. 2009)[1]. In addition, habitat types from the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2019) are included to reference habitat types listed in the CNPS Inventory to HCP/NCCP Land Cover Types found on site.

Holland (1986) provides a generalized community-level description for natural vegetation communities present within the project area. Vegetation that interfaces with urban or developed landscapes, *i.e.* Ruderal, is treated using Holland and Keil (1995). Beneath the natural community-level more detail is accomplished using *Manual of California Vegetation, Second edition* which identifies vegetation communities as alliances[2]. Non-vegetated types, including Urban, are not treated in these vegetation classification systems.

Table 2 relates HCP/NCCP Land Cover Types to the commonly used vegetation classification systems described above. The codes used in Table 2 reflect those associated with Holland (1986) types and the *California Natural Communities List* (CDFW 2018).

[1] This is due to the fact that the HCP Land Cover Types, in many cases, do not refer to standard vegetation community treatments and is therefore an effort to relate HCP Land Cover Types to these commonly used classification systems for regional context and regulatory continuity.

[2] An alliance is a classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or layer with the highest canopy cover. Alliances reflect regional to subregional climates, substrates, hydrology, and disturbance regimes.

Table 2. Vegetation Community Classification Systems Comparisons

HCP/NCCP Land Cover Types[3]	Vegetation Community and Wetland Classification Systems			
	Terrestrial Communities[4]	California & National Vegetation[5]	CNPS Inventory[6]	Wetlands & Deepwater Habitats[7]
Annual Grassland	Non-Native Grassland (42200) (*Holland 1986*)	*Avena fatua* Semi-Natural Herbaceous Alliance (Wild Oats Grassland) (44.150.01) *Bromus hordeaceus* Semi-Natural Herbaceous Alliance (Annual Brome Grassland) (42.026.00)	Valley and Foothill Grassland	Upland
Ruderal	Ruderal (*Holland & Keil 1995*)	Not Described	Not Described	Upland
Urban	Not Described	Not Described	Not Described	Upland

3.6.1 Grasslands

A total of two Land Cover Types found on site are grasslands as described in the HCP/NCCP: Ruderal and Annual Grassland. Characteristic taxa of each of these Land Cover Types are described below.

Ruderal

As described in the HCP/NCCP ruderal vegetation is characterized by sparse nonnative, typically weedy vegetation, occupying vacant parcels surrounded by developed areas. Based on the description by Holland and Keil (1995) ruderal vegetation is an assemblage of plants, often a mixture of both native and non-native weed species that thrive in waste areas, heavily grazed pastures, cultivated and fallow fields, roadsides, parking lots, footpaths, around residences and similar disturbed sites in towns and cities and along rural roadways. Ruderal communities are difficult to characterize and are often temporary assemblages. In areas of frequent human disturbance, the majority of wild plants are often introduced weeds rather than natives. Some urban weeds are ornamentals that have escaped from cultivation. Ruderal species may at times be integrated into various other communities (Holland and Keil 1995).

Within the Britton Adjacent Property, ruderal vegetation is present along bladed roadways only. Plant species typical of ruderal vegetation on site include Italian thistle (*Carduus pycnocephalus* subsp. *pycnocephalus**), and milk thistle (*Silybum marianum*∗). At the time of the site visit, the roadways were thickly vegetated with ruderal plants.

[3] East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (Jones & Stokes 2006)
[4] Terrestrial Natural Communities of California (Holland 1986) or (Holland & Keil 1995)
[5] List of Vegetation Alliances and Associations (CDFW 2018)
[6] CNPS Inventory of Rare and Endangered Plants of California Habitat Types (CNPS 2018)
[7] Classification of Wetlands & Deepwater Habitats of the U.S. (Cowardin et al. 1979)
* Denotes a non-native species that has an origin outside of California

Ruderal vegetation on access road near center of property.

Annual Grassland

As described in the HCP/NCCP, annual grassland is characterized by grass and forb species dominating the land cover and where trees and shrubs comprise less than 5 percent canopy cover. The dominant grass species are non-native annuals. Based on the description by Holland (1986) non-native grassland is a dense to sparse cover of annual grasses with flowering culms up to 3 feet (one meter) tall. Associates often include "showy-flowered" native annual forbs. This community occurs on fine-textured, usually clay soils, moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Germination occurs with the onset of the late fall rains while growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer and fall dry season, persisting as seeds. This community usually occurs below 3,000 feet but reaches 4,000 feet in the Tehachapi Mountains and interior San Diego County, and intergrades with coastal prairie along the Central Coast.

The majority of the Britton Adjacent Property is characterized by annual grassland. This plant community is dominated by non-native annual grasses including oats (*Avena barbata**), soft chess (*Bromus hordeaceus**), Italian ryegrass (*Festuca perennis**), hare barley (*Hordeum murinum* subsp. *leporinum**), and ripgut brome (*Bromus diandrus**). Native creeping wildrye (*Elymus triticoides*) and purple needlegrass (*Stipa pulchra**) are also present but not of the size or composition to comprise their own vegetation communities. Native and non-native herbaceous species also present in this community included Great Valley gumweed (*Grindelia camporum*), field bindweed (*Convolvulus arvensis**), rose clover (*trifloium hirtum**), fiddle dock (*Rumex pulcher**), and cardoon (*Cynara cardunculus* subsp. *flavescens**). A few individual valley oaks (*Quercus lobata*) and shrubs like poison oak (*Toxicodendron diversilobum*) are present scattered in the grassland. It should be noted that the invasive plant cardoon is also scattered throughout the grassland in the upper half of the property. Although it is present, though infrequent, it does not form a mappable community of its own, such as ruderal. Small unmappable infestations of weeds are also present within the annual grassland matrix and include milk thistle* and Italian thistle*.

Typical Annual Grassland on the property.

3.6.2 DEVELOPED

One Land Cover Type found on site is developed as described in the HCP/NCCP: Urban. Characteristics of the urban Land Cover Type are described below.

Urban

Urban sites are those areas where the native vegetation has been cleared for residential, commercial, industrial, transportation, or recreational structures. Developed areas include areas that have structures, paved surfaces, horticultural plantings, and lawns smaller than 10 acres.

The property line of the Britton Adjacent Property, as currently drawn, includes a landscaped area bordering a publicly accessible fire road associated with the Canyon Creek residential subdivision. This section includes landscape plantings and hardscaping immediately upslope from a concrete V-ditch and gravel road that are just outside the property boundary. The property boundary had been staked at the time of the site reconnaissance visit.

Hardscaping and landscape plantings onsite (right) immediately upslope from offsite V-ditch and gravel fire road (left). Orange-tipped wooden stake on slope near center of photo indicates property boundary.

3.7. INVASIVE SPECIES AND NOXIOUS WEEDS

During the course of the surveys, no invasive wildlife species were observed. However, a few noxious weeds that have the potential to change the quality of grasslands or that could be a management concern were observed on the Britton Adjacent Property.

3.7.1 NOXIOUS WEEDS

Some of the non-indigenous plant species encountered on-site are tracked by the California Department of Food and Agriculture (CDFA 2018) and the California Invasive Plant Council (Cal-IPC 2018) due to their noxious or invasive behavior. Species tracked by these organizations are given a certain rating based on criteria such as ecological impacts, treatment or eradication priority, and threats they pose to agricultural economics. Rating classifications given by Cal-IPC and CDFA are shown in Table 3 and Figure 7 (Appendix A).

There are two noxious weeds currently on site that could be of concern, milk thistle* and cardoon*. Much of the milk thistle* onsite is associated with the bladed roads and drainages. There are areas of dense infestations of milk thistle* that have already type converted grasslands into weed patches and should be managed as soon as possible to avoid these patches expanding or colonizing other areas. Although cardoon* occurs as scattered individuals and in diffuse patches that currently do not threaten the integrity of the annual grasslands on site it should be monitored to ensure it does not become a management concern. Summary information on these two species is included below. Information appearing under the headings General Information and Relevant Life History Traits was primarily excerpted from DiTomaso, J.M. and E.A. Healy. 2007. *Weeds of California and Other Western States*. University of California Agriculture and Natural Resources Publication 3488.

Table 3. Invasive Weeds Observed in the Study area

SPECIES NAME	COMMON NAME	CAL-IPC	CDFA
Cynara cardunculus subsp. *flavescens*	cardoon	Moderate	On List
Silybum marinum	milk thistle	Limited	---

Cal-IPC Weed Ranking Definitions:

High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate: These species have substantial and apparent - but generally not severe - ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic (Cal-IPC 2019).

CDFA Species Definition

Species considered a noxious weed by CDFA are listed on the California Noxious Weed List (CDFA 2019).

Cardoon (*Cynara cardunculus* subsp. *cardunculus*)

General Information

Artichoke thistle is a large perennial in the sunflower family (Asteraceae) that usually invades disturbed grassland primarily in coastal regions. Dense colonies displace desirable vegetation and wildlife and can exclude livestock. Artichoke thistle is native to the Mediterranean region and inhabits disturbed, open sites in grassland, pasture, chaparral, coastal sage scrub, riparian areas, and abandoned agricultural fields (DiTomaso and Healy 2007).

Relevant Life History Traits

Artichoke thistle reproduces primarily by seed and less frequently by root fragments usually resulting from mechanical disturbance. Most seeds fall near the parent plant or are dispersed short distances with wind and to greater distances with human activities, water, mud, soil movement, and animals. Most seeds germinate after the first fall rains and can survive about five years in the soil under field conditions. Individual plants often live for many years (DiTomaso and Healy 2007).

Threats to Sensitive Habitats or Rare Plants

No immediate threats to rare plants, wildlife, or sensitive natural communities are known at this time.

Milk Thistle (*Silybum marianum*)

General Information

Milk thistle is an erect winter or summer annual or biennial in the sunflower family (Asteraceae). Milk thistle often occurs in dense, competitive stands. Depending on the amount of soil moisture plants can range from very small to very tall. It inhabits disturbed sites, roadsides, pastures, fields, agronomic crops, waste places, orchards, and trail margins in chaparral and woodlands. Milk thistle grows best on fertile soils. It is native to the Mediterranean region. (DiTomaso and Healy 2007).

Relevant Life History Traits

Milk thistle flowers from April to July. Milk thistle reproduces by seed. Seeds probably disperse only short distances with wind but they can disperse to greater distances with human activities, water, soil movement, animals and as a crop seed or feed contaminant. Most seeds germinate after the first fall rain,

but some can germinate throughout winter and early spring. Seeds can survive at least nine years under field conditions (DiTomaso and Healy 2007).

Threats to Sensitive Habitats or Rare Plants

No immediate threats to rare plants, wildlife, or sensitive natural communities are known at this time. However, the patches on site are dense and large enough to warrant abatement efforts to prevent expansion and spread.

Section 4. REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. *The Jepson manual: vascular plants of California, second edition*. University of California Press, Berkeley.

The Calflora Database. 2019. *Information on Wild California Plants for Conservation, Education, and Appreciation*. Accessed May 2019. https://www.calflora.org/

California Department of Food and Agriculture. 2019. *Noxious Weed Encycloweedia*. Accessed May 2019. https://www.cdfa.ca.gov/plant/ipc/encycloweedia/encycloweedia_hp.html

_____. 2018. *California Natural Communities List.* The Vegetation Classification and Mapping Program. Wildlife and Habitat Data Analysis Branch. January.

CalFire. 2019. *Fire Perimeter Data to 2018.* California Department of Forestry and Fire Protection. Accessed May 2019. https://frap.fire.ca.gov/data/frapgisdata-sw-fireperimeters_download

California Invasive Plant Council (Cal-IPC). 2019. *California Invasive Plant Inventory*, online. Accessed May 2019. https://www.cal-ipc.org/plants/inventory

California Native Plant Society (CNPS). 2001. *CNPS Botanical Survey Guidelines*, CNPS Inventory, 6th Ed. Revised June 2.

_____. 2018. *Inventory of Rare and Endangered Plants* (online edition). California Native Plant Society. Sacramento, CA. Accessed from http://rareplants.cnps.org/

Contra Costa Watershed Forum (CCWF). 2003. *Contra Costa County Watershed Atlas.* November.

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131 pp.

DiTomaso, J.M. and E.A. Healy. 2007. *Weeds of California and Other Western States*. University of California Agriculture and Natural Resources Publication 3488.

Farmland Mapping and Monitoring Program (FMMP). 2016. Field Report Contra Costa County. California Department of Conservation.

Graymer, R.W., D.L. Jones, and E.E. Brabb. 1994. *Preliminary geologic map emphasizing bedrock formations in Contra Costa County, California: A digital database*. Open-File Report 94-622. U.S. Geological Survey.

Grue, C.E., R.P. Balda, and C.D. Johnson. 1981. Diurnal activity patterns and population estimates of breeding birds within a disturbed and undisturbed desert community. Studies in Avian Biology 6:292-296.

Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. 156 pp.

Holland, V.L. and D.J. Keil. 1995. *California Vegetation.* Kendall/Hunt Pub. Co. Dubuque, Iowa. 516 pp.

Jepson Flora Project (JFP). 2019 (v. 5.0). *Jepson eFlora.* http://ucjeps.berkeley.edu/IJM.html

Jones & Stokes. 2006. *East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan.* October. (J&S 01478.01.) San Jose, CA.

PRISM. 2018. *103-Year High-Resolution Precipitation Climate Data Set for the Conterminous United States.* Oregon State University. http://prism.oregonstate.edu

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation.* Second edition. California Native Plant Society, Sacramento. 1300 pp.

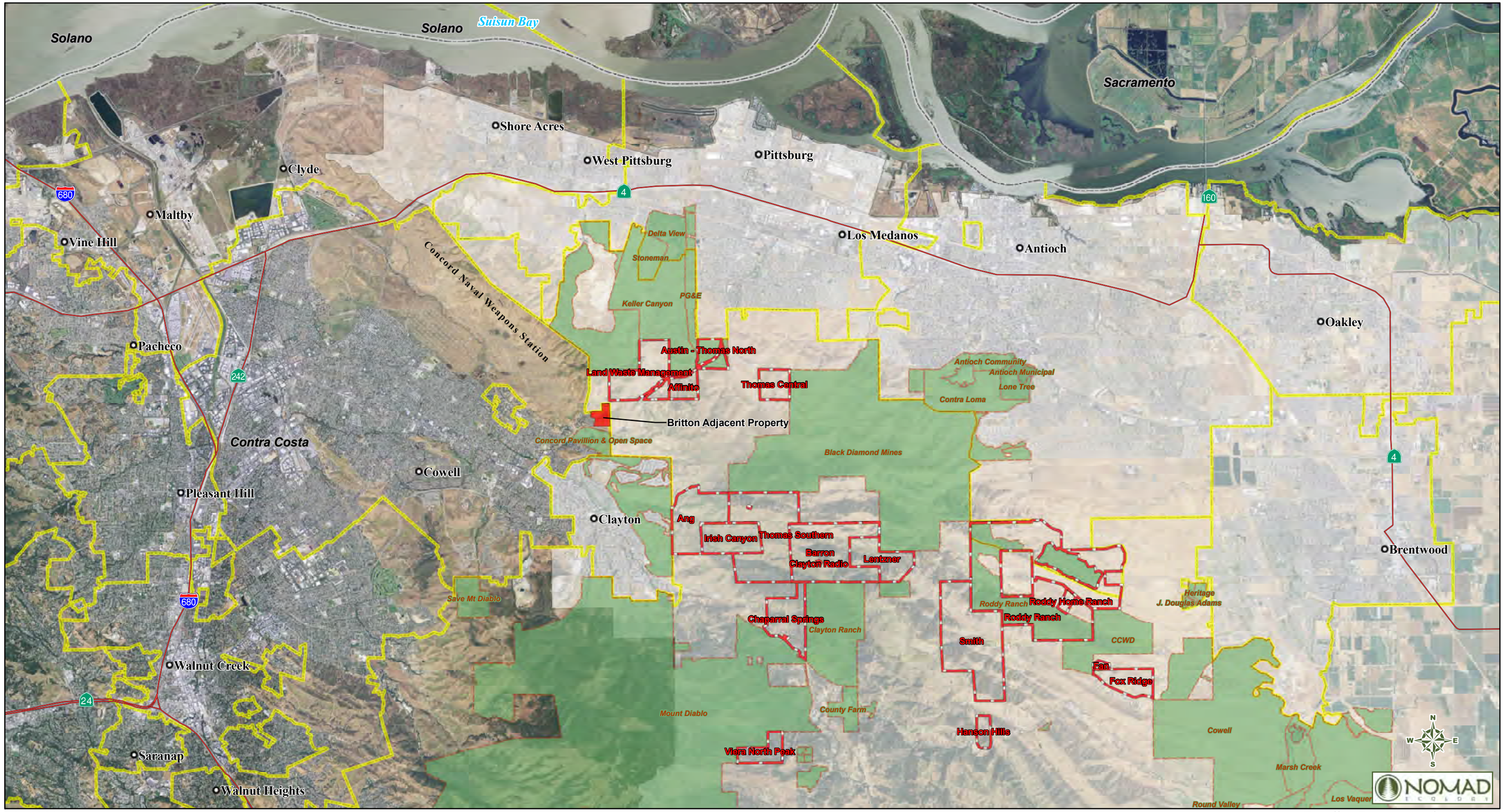
Skirvin, A.A. 1981. *Effect of time of day and time of season on the number of observations and density estimates of breeding birds*. Studies in Avian Biology. 6:271-274.

U.S. Department of Agriculture (USDA). 1977. Soil Survey of Contra Costa County. Natural Resources Conservation Service.

_____. 1997. *Ecological Subregions of California, Section and Subsection Descriptions*. USDA, Forest Service Pacific Southwest Region. R5-EM-TP-005. September.

U.S. Fish and Wildlife Service (USFWS). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. Ventura Fish & Wildlife Office. January.

APPENDIX A FIGURES



May 2019

Baseline Documentation Report

Legend

- Britton Adjacent Property
- HCP Acquisition Parcels
- Public Land and Easements
- City Limit Boundaries
- HCP Inventory Area
- County Boundaries

Figure 2

Regional Context of the Britton Adjacent Property

Settlement Agreement

East Contra Costa County Habitat Conservancy

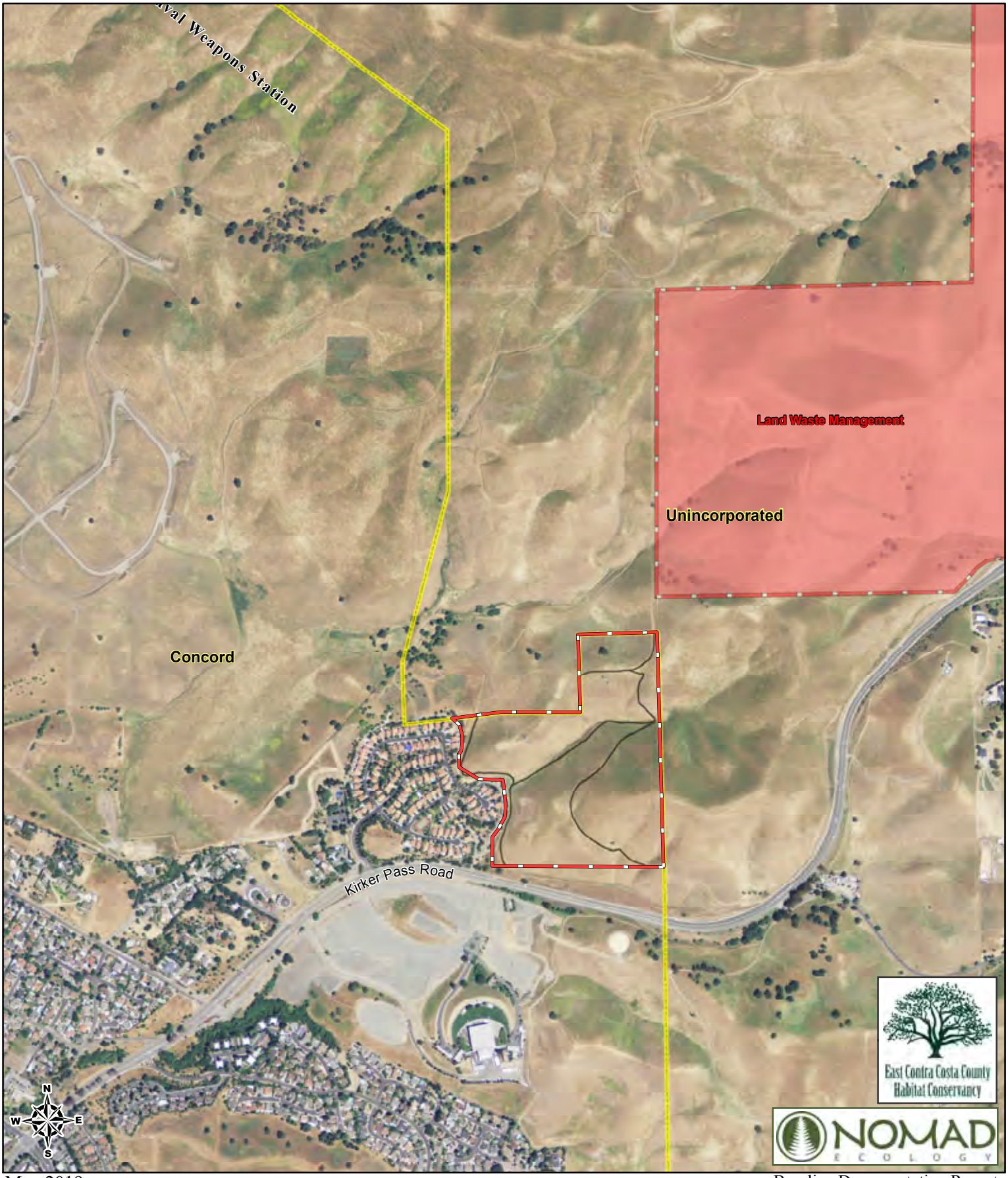
East Contra Costa County Habitat Conservancy

1:95,040

0 0.75 1.5 Miles

Sources: NAIP 2012; Contra Costa County. Projection: NAD 83 UTM Zone 10 North.

Contra Costa County, California



Legend
- Britton Adjacent Property
- Roads
- HCP Acquisition Parcels
- City Limit Boundaries

Figure 3
Aerial Photo of the Britton Adjacent Property
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:12,672
0 0.125 0.25 Miles

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

Legend

- Britton Adjacent Property
- Roads
- Barbed Wire
- Power Lines
  - Electric Line
  - Gas Lines
- Landscaping Drainage Inlets

Figure 4

Anthropogenic Features

Settlement Agreement
East Contra Costa County
Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: Contra Costa County; NAIP. Projection: NAD 83 UTM 10 North.

Legend
Britton Adjacent Property
Land Cover Types
Annual Grassland
Ruderal
Urban

Figure 5
Land Cover Types of the Britton Adjacent Property
Settlement Agreement
East Contra Costa County Habitat Conservancy

1:6,000
0 250 500
Feet

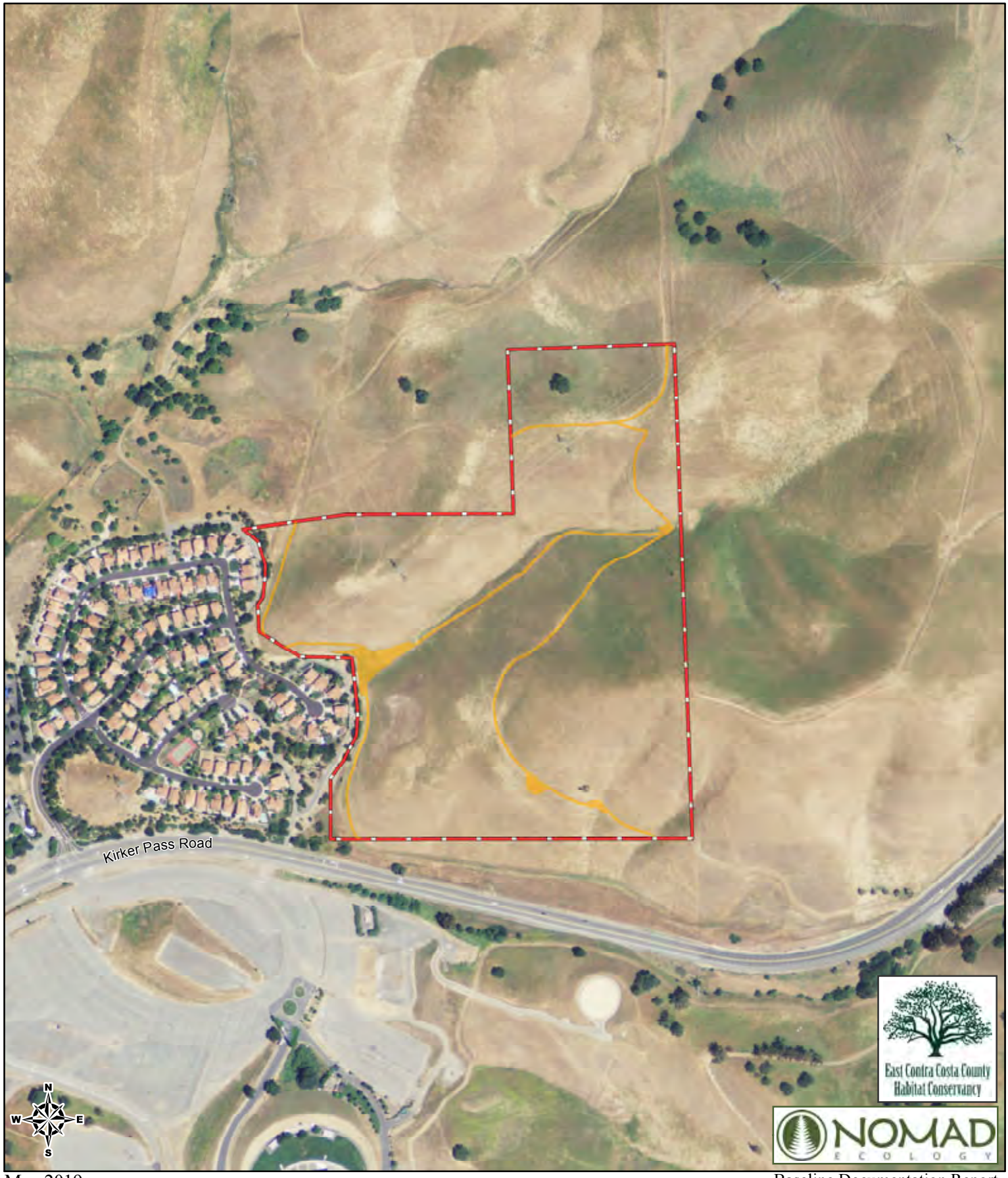
Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

Legend
- Britton Adjacent Property
- Roads
- Photo Points

Figure 6
Photo Points
Settlement Agreement
East Contra Costa County
Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.



Legend
- Britton Adjacent Property
- Milk Thistle

Figure 7
Invasive Plants
Settlement Agreement
East Contra Costa County
Habitat Conservancy

1:6,000
0 250 500
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

APPENDIX B PROPERTY ACQUISITION

APPENDIX C PHOTOGRAPHS

Photopoint: 1
File Number: 105829
Overview of southwestern section of property.

Northing (m): 4202506 **Easting (m):** 593327 **Date:** 5/3/2019

Photopoint: 2
File Number: 084545
Northwest-facing slope on south side of drainage in center of property.

Northing (m): 4202677 **Easting (m):** 593471 **Date:** 5/3/2019

Photopoint: 3
File Number: 084942
View of northwest-facing slope in western section of property.

Northing (m): 4202601 **Easting (m):** 593405 **Date:** 5/3/2019

Photopoint: 4
File Number: 093204
Overview of southeast-facing slope and utility right-of-way in western section of property.

Northing (m): 4202429 **Easting (m):** 593504 **Date:** 5/3/2019

Photopoint: 5
File Number: 093216

Overview of slopes in central and northern sections of property.
Northing (m): 4202429 **Easting (m):** 593504 **Date:** 5/3/2019

Photopoint: 6
File Number: 102543

Northwest-facing slope in southwestern section of property.
Northing (m): 4202316 **Easting (m):** 593369 **Date:** 5/3/2019

Photopoint: 7
File Number: 095116

Southeastern section of property, showing Kirker Pass Road (left).
Northing (m): 4202245 **Easting (m):** 593733 **Date:** 5/3/2019

Photopoint: 8
File Number: 104919

Central drainage on property.
Northing (m): 4202429 **Easting (m):** 593338 **Date:** 5/3/2019

Photopoint: 9
File Number: 104933

Thick patch of milk thistle at bottom of central drainage.
Northing (m): 4202429 **Easting (m):** 593338 **Date:** 5/3/2019

Photopoint: 10
File Number: 104317

Five-strand barbed wire fence on western property boundary.
Northing (m): 4202381 **Easting (m):** 593339 **Date:** 5/3/2019

Photopoint: 11
File Number: 112529

Landscaping and hardscaping (right) immediately upslope from offsite V-ditch and gravel road (left) along western property boundary.
Northing (m): 4202592 **Easting (m):** 593211 **Date:** 5/3/2019

Photopoint: 12
File Number: 084539

Steel lattice electrical transmission towers in utility right-of-way in northern section of property.
Northing (m): 4202677 **Easting (m):** 593471 **Date:** 5/3/2019

Photopoint: 13
File Number: 114310

View of southern section of property from the Concord Pavilion entrance on Kirker Pass Road.
Northing (m): 4202190 **Easting (m):** 593028 **Date:** 5/3/2019

Photopoint: 14
File Number: 084811

Steel lattice electrical transmission towers on lower part of ridge in western section of property.
Northing (m): 4202588 **Easting (m):** 593403 **Date:** 5/3/2019

Photopoint: 15
File Number: 084622

Gas pipeline marker paddle in utility right-of-way in northern section of property.
Northing (m): 4202747 **Easting (m):** 593645 **Date:** 5/3/2019

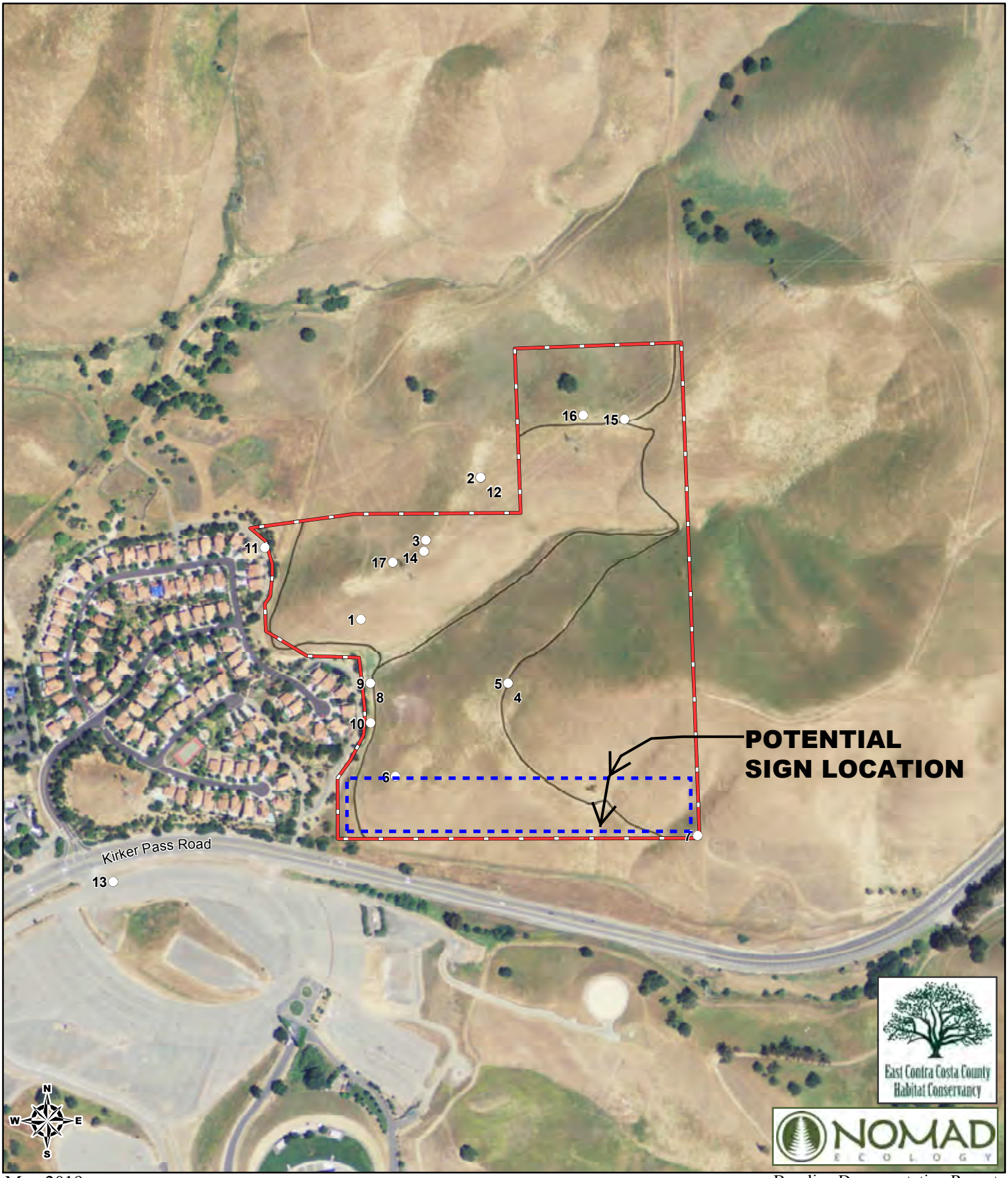
Photopoint: 16
File Number: 083906

Gas pipeline marker paddle and petroleum pipeline marker sign in northern section of property.
Northing (m): 4202752 **Easting (m):** 593595 **Date:** 5/3/2019

Photopoint: 17
File Number: 085244

Gas pipeline marker paddles in utility right-of-way in western section of property.
Northing (m): 4202575 **Easting (m):** 593365 **Date:** 5/3/2019

Exhibit P – Britton Adjacent Sign Location



Legend
- Britton Adjacent Property
- Roads
- Photo Points

Figure 6
Photo Points
Settlement Agreement
East Contra Costa County
Habitat Conservancy

POTENTIAL SIGN LOCATION

1:6,000
0 250 500
Feet

Sources: NAIP, Contra Costa County. Projection: NAD 83 UTM 10 North.

Exhibit Q – Memorandum of Take Authorization

RECORDING REQUESTED BY AND WHEN RECORDED MAIL TO:

_____

Attn: _____

_____

_____

(SPACE ABOVE THIS LINE IS FOR RECORDER'S USE ONLY)

MEMORANDUM OF UNRECORDED TAKE AUTHORIZATION PERMITS

This Memorandum of Unrecorded Take Authorization Permits (Memorandum), dated as of _____, 20__, is recorded to provide notice of take authorization permits that have been issued by the California Department of Fish and Wildlife (CDFW) pursuant to the California Natural Community Conservation Planning Act, and by the United States Fish & Wildlife Service (USFWS) pursuant to the federal Endangered Species Act.

RECITALS

I. In December, 2006, the East Contra Costa County Habitat Conservation Plan Association completed preparation of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). The HCP/NCCP, among other things, provides a framework to protect natural resources in eastern Contra Costa County, provides the USFWS with a basis to issue an incidental take permit under Section 10(a)(1)(B) of the Endangered Species Act, and provides the CDFW with a basis to issue a Natural Community Conservation Plan permit under Section 2835 of the California Fish and Game Code.

II. Based on the HCP/NCCP, on July 25, 2007, the USFWS issued an incidental take permit under Section 10(a)(1)(B) of the Endangered Species Act, and on August 6, 2007, CDFW issued a Natural Community Conservation Plan Permit under Section 2835 of the California Fish and Game Code, for the Plan Area to the County of Contra Costa, the Cities of Pittsburg, Brentwood, Oakley, and Clayton, the Contra Costa County Flood Control and Water Conservation District, and the East Bay Regional Park District (the Permits).

III. Under certain terms and conditions, the Permits allow the City of Pittsburg to extend authorization to take certain species protected pursuant to the California Endangered Species Act or the federal Endangered Species Act resulting from certain development activities within the City of Pittsburg. Such Permit terms and conditions include restrictions on the nature and extent of the development activities covered by the take authorization and on the use of the properties on which the development activities are located.

IV. The City of Pittsburg has extended a take authorization pursuant to the Permits, [*reference to agreement or formal action by City extending take authorization*] (Take Authorization), to cover certain development activities located on certain real property, more particularly described in attached **Exhibit A** and incorporated by reference herein, and bearing the following Assessor Parcel Numbers: _____, _____, _____ (the Covered Property). The Covered Property is owned by _____ (Property Owner). Under the terms of the Take Authorization, Property Owner has accepted certain restrictions on the uses and activities that may occur on the Covered Property.

V. The Property Owner desires to execute this Memorandum to provide notice to all third parties of the Take Authorization's restrictions that apply to the Covered Property and to ensure that the terms and conditions of the Take Authorization run with the land.

NOTICE

1. Use of the Covered Property is restricted by the terms and conditions of the Take Authorization.

2. Property Owner shall not use or allow the use of the Covered Property in a manner inconsistent with the terms and conditions of the Take Authorization.

3. The terms and conditions of the Take Authorization shall apply to any and all third parties that acquire an interest or estate in the Covered Property.

4. For the terms and conditions of the Take Authorization, reference should be made to the Take Authorization, which is on file with the City of Pittsburg, [*location and address*].

5. This Memorandum does not apply to any single family home site contained within the Covered Property once it has been transferred to a third party single family home buyer.

PROPERTY OWNER: [name]

By: _____

Name:

Title:

Exhibit A
Property Description

Exhibit R – Other Development Properties

EXHIBIT R

Other Development Properties

Property	Current HCP Zone Designation
West Coast Transit Village, Pittsburg APN 097-160-043	Zone II
Oak Creek Canyon, Clayton APN 119-070-008	Zone II
Ridge Farms, Pittsburg APN 097-140-013	Zone II
Century Plaza III & IV, Pittsburg APNS: 074-090-019, 074-090-025, 074-090-027, 074-460-037	Zone I