

Contra Costa Water District

SHORTCUT PIPELINE IMPROVEMENT PROJECT - PHASE 3

MITIGATED NEGATIVE DECLARATION SUPPLEMENT

March 11, 2022



SCH No. 2011092059

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**CONTRA COSTA WATER DISTRICT (CCWD)
SHORTCUT PIPELINE IMPROVEMENT PROJECT, PHASE 3
MITIGATED NEGATIVE DECLARATION SUPPLEMENT (MND)**

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LIST OF ACRONYMS AND ABBREVIATIONS

AB 32	Assembly Bill 32
AB 1493	Assembly Bill 1493
ARB	Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
BMPs	Best Management Practices
BiOp	Biological Opinion
BRA	Biological Resources Analysis
California Register	California Register of Historical Resources
CAP	Clean Air Plan
CCC-CAP	Contra Costa County Climate Action Plan
CCCFPD	Contra Costa County Fire Protection District
CCR	California Code of Regulations
CCWD	Contra Costa Water District
CCCFCD&WCD	Contra Costa County Flood Control District and Water Conservation District
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CGP	Construction General Permit
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalents
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
District	Contra Costa Water District
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EBMUD	East Bay Municipal Utility District
EIR	environmental impact report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ft	feet
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GHG	greenhouse gases
HDD	horizontal directional drilling

HDPE	High-Density Polyethylene
IRPCP	Inadvertent Returns Prevention and Contingency Plan
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
ITA	Indian Trust Assets
km	kilometer
lbs.	pounds
LWCR	Lower Walnut Creek Restoration
mg/L	milligrams per liter
MND	Mitigated Negative Declaration
MMT	million metric tons
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
OSHA	Occupational Safety and Health Administration
O&M	operations and maintenance
PAHs	polyaromatic hydrocarbons
PM	particulate matter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
ppm	parts per million
ppmv	parts per million by volume
PRC	Public Resources Code
Proposed Project	Shortcut Pipeline Improvement Project
O ₃	ozone
Qybm	Younger Bay Mud
Qobm	Older Bay Mud
RCEM	Road Construction Emission Model
Reclamation	U.S. Dept. of the Interior, Bureau of Reclamation
Recovery Act	American Recovery and Reinvestment Act of 2009
ROG	reactive organic gases
SCPL	Shortcut Pipeline
SFBA	San Francisco Bay Area
SFRWQCB	San Francisco Regional Water Quality Control Board
SHPO	State Historic Preservation Officer

SMHM	Salt Marsh Harvest Mouse
SSTs	surface sea temperatures
State	State of California
SWCP	stormwater control plan
SWPPP	Stormwater Pollution Prevention Plan
TACs	toxic air contaminants
TPH	Total Petroleum Hydrocarbons
U.S. (or US)	United States of America
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOCs	volatile organic compounds
WMU	Waste Management Unit
°F	Fahrenheit
µg/L	micrograms per Liter

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SHORTCUT PIPELINE IMPROVEMENT PROJECT – PHASE 3 MITIGATED NEGATIVE DECLARATION SUPPLEMENT (MND)

SECTION 1 BACKGROUND AND PURPOSE OF THIS SUPPLEMENTAL MND

Contra Costa Water District (CCWD or District) is proposing modifications to Phase 3 (modified Phase 3) of the Shortcut Pipeline Improvement Project (SCPL or Proposed Project), which was analyzed in the 2011 Initial Study/Mitigated Negative Declaration (IS/MND). As described in Section 3, Environmental Checklist, this document provides a comprehensive analysis for key environmental resource topics to demonstrate that the modified Phase 3 will not result in new significant impacts or a substantial increase in the severity of impacts from the 2011 IS/MND, as further described below.

The analysis incorporates by reference the information contained in the adopted 2011 IS/MND.¹ The mitigation measures identified in the 2011 IS/MND would apply to Phase 3, and are incorporated by reference in this supplemental MND, except as changed and/or supplemented in this document.

1. BACKGROUND

CCWD and the U.S. Bureau of Reclamation (Reclamation) were lead agencies in developing the 2011 SCPL IS/MND (SCH No. 2011092059) and National Environmental Policy Act (NEPA) Environmental Assessment/Finding of No Significant Impact (FONSI No.09-098-MP), respectively. The Draft 2011 IS/MND was published in September 2011. The CCWD Board of Directors adopted the 2011 IS/MND as complete and adequate under the California Environmental Quality Act (CEQA) and approved the Project on December 21, 2011. Reclamation approved the NEPA Environmental Assessment/Finding of No Significant Impact on February 2, 2017.

CCWD's 2011 IS/MND for the SCPL concluded that "all significant impacts could be avoided or reduced to a less-than-significant level through the implementation of mitigation measures identified in the document" (IS/ MND, Determination Page, dated September 11, 2011). The mitigation measures required permits to be issued from the San Francisco Army Corps of Engineers (Corps or 404 permit) and the San Francisco Regional Water Quality Control Board (SFRWQCB or 401 permit).

Prior to the adoption of the IS/MND, comments on the Draft IS/MND were received from various agencies, including the Native American Heritage Commission, California Department of Fish and Wildlife (CDFW), East Bay Municipal Utility District (EBMUD), Caltrans and the Mountain View Sanitary District. The comments received did not require any changes to the Proposed Project.

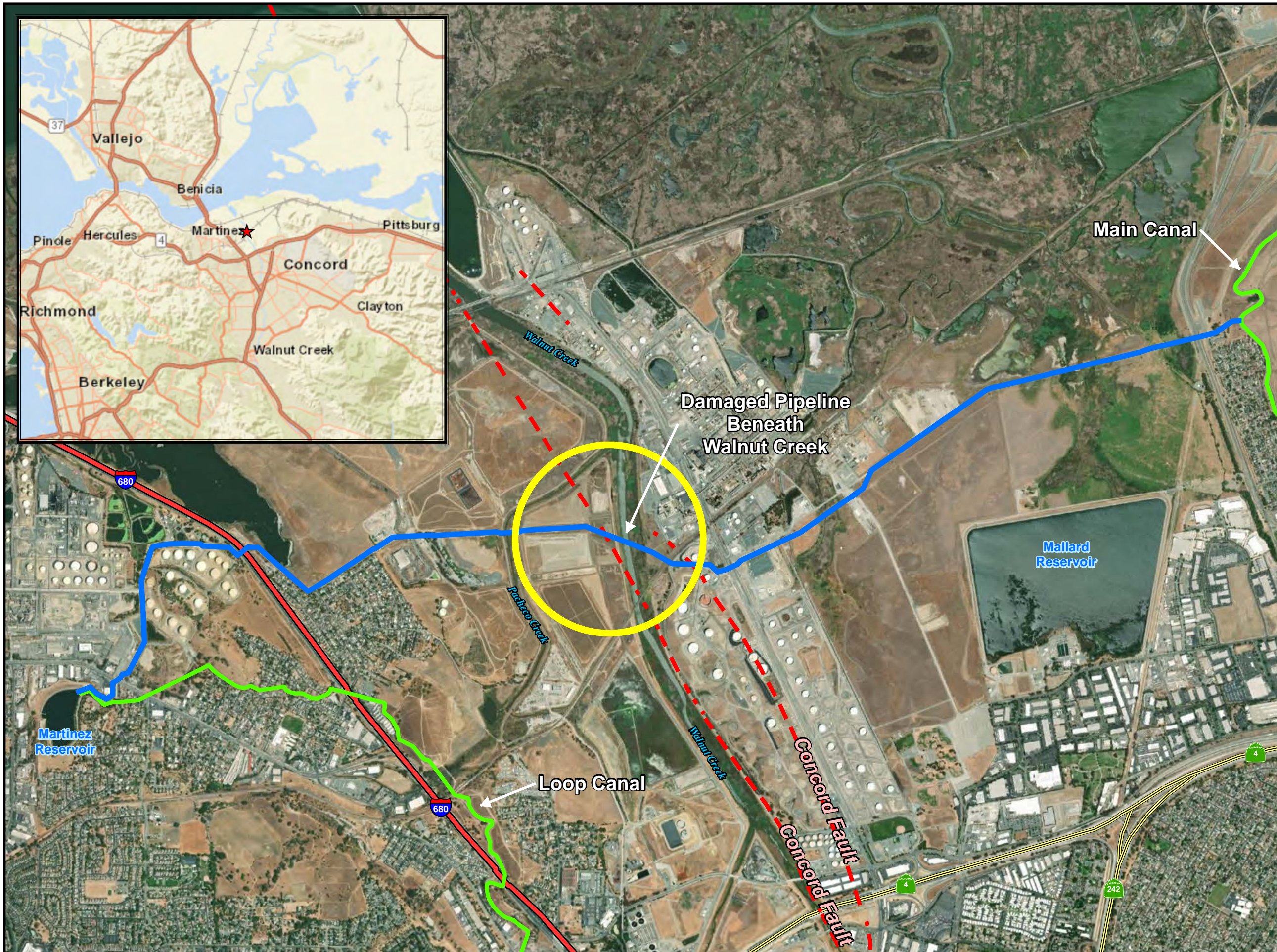
¹ The 2011 IS/MND is available for review online at <https://ceqanet.opr.ca.gov/Project/2011092059> and a printed copy is available by contacting mseedall@ccwater.com.

Reclamation and CCWD submitted several environmental documents to the United States Fish and Wildlife Service (USFWS) that described the Project and its potential effects to listed and special-status species. Final Endangered Species Act authorization for the Project was approved through issuance of a USFWS Biological Opinion (BiOp) in December 2016 that included conservation measures.

The District is now preparing this supplemental MND to analyze the modified Phase 3 relative to the adopted 2011 IS/MND and subsequent 2017 Reclamation approved NEPA authorization. The District will be requesting permit modifications from the USFWS and the SFRWQCB for the modified Phase 3 to support construction work to repair the pipeline. The District will also be requesting permit authorization from a number of state and federal agencies in support of the modified Phase 3.




This supplemental MND evaluates proposed changes in the construction methods that are needed for Phase 3 repairs to the SCPL. Approximately 2,000 feet of twin 36-inch High-Density Polyethylene (HDPE) pipelines would be installed under Walnut Creek between Site 5 (Marathon) and Site 4 (Conco) utilizing horizontal directional drilling (HDD) construction methods. The twin 36-inch HDPE pipelines would be 60 to 80 feet below the ground surface to ensure that the new pipelines are in a layer of subsurface soil conditions that are more stable in the event of a potential seismic event.

Installation of the HDPE under Walnut Creek would minimize environmental impacts compared to the prior construction methods evaluated in the 2011 IS/MND by avoiding the need to open trench through wetlands and open water. The existing 48-inch SCPL in this location would be disconnected and blind flanged between the two tie-in locations and retained until the materials and workmanship warranty period has passed and then abandoned. Figure 1 below provides an overview map of the Regional Project Location of the SCPL and the Phase 3 Project area in relationship to the Contra Costa Canal.



193 Blue Ravine Road, Ste. 160
 Folsom, California, 95630
 Phone: (916) 985-1188

Figure 1:
Regional Project Location
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA

	Shortcut Pipeline
	Canals
	Fault Lines



0 900 1,800 3,600
 Feet

Scale: 1:21,805 1 inch = 1,817 feet
 Print at 11" x 17"

Coordinate System:
 NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
 Projection: Lambert Conformal Conic
 Datum: NAD 1983 2011
 Units: Foot US

March 2022

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1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

This document has been prepared in accordance with CEQA, Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, California Code of Regulations (CCR) Section 15000 et seq. CCWD has the primary responsibility for carrying out and approving the modified Phase 3 project and thus is the lead agency responsible for implementing the requirements of CEQA. SPCL is owned by Reclamation and will prepare a NEPA document at a future date.

The Section 15163 of the CEQA Guidelines requires that a lead agency prepare a supplement to a previously certified Environmental Impact Report (EIR) or Negative Declaration if:²

1. Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR (in this case a subsequent MND); and
2. Only minor additions or changes would be necessary to make the previous EIR or Negative Declaration adequately apply to the project in the changed situation.

As specified in Section 15162, when an EIR has been certified or a Negative Declaration adopted for a project, no subsequent EIR or Negative Declaration shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR or Negative Declaration was adopted shows any of the following:
 - a. The project will have one or more significant effects not discussed in the previous EIR or Negative Declaration.
 - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR or Negative Declaration.
 - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR or Negative Declaration would substantially reduce

² The provisions noted in CEQA Guidelines Sections 15162 and 15163 also apply to MNDs.

one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The requirements for a supplemental EIR or Negative Declaration, described in Section 15163 include:

1. The supplement to the EIR or Negative Declaration need contain only the information necessary to make the previous document adequate for the project as revised.
2. A supplement to an EIR or Negative Declaration shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
3. A supplement to an EIR or Negative Declaration may be circulated by itself without recirculating the previous document.
4. When the agency decides whether to approve the project, the decision-making body shall consider the previous document as revised by the supplemental document. A finding under Section 15091 shall be made for each significant effect shown in the previous document as revised.

The Proposed Project as described in the IS/MND adopted by the CCWD Board in December 2011 has not changed, however, Phase 3 implementation methods are different than what was anticipated in the December 2011 document. As described in this Supplemental IS/MND, Phase 3 would result in additional impacts to wetlands and habitat that were not specifically estimated in the December 2011 document. This supplemental IS/MND addresses these changed conditions and finds that with implementation of additional mitigation measures identified herein, all impacts would be minimized and avoided without significant impacts.

1.2 PROJECT OBJECTIVES: PHASES 1 THROUGH 3

The phased Project objective is to make critical repairs and improvements to ensure reliable long-term water supply using the SCPL. The Project also addresses long term maintenance for the pipeline and the right-of-way. Construction repairs were originally planned in three distinct phases and also defined the long-term maintenance for the pipeline and the right-of-way. See Table 1 below for a summary of the Phase 1, Phase 2, and the previously approved Phase 3.

The modified Phase 3 repairs are proposed to address a damaged section of pipeline beneath Walnut Creek resulting from differential settlement of the pipeline. This differential settling is placing strain along the pipeline that may, at some point, cause a failure to the main conveyance of water to the City of Martinez and the PBF Refinery (formally the Shell Refinery). Failure of the existing pipeline prior to Phase 3 implementation would result in substantial consequences in terms of loss of service and would require emergency repair within Walnut Creek.

Table 1. Summary of Phase 1, Phase 2, and the Previously Approved Phase 3

Phase	Project Activity	Construction or Maintenance Timeframe
Pipeline Assessment Phase	<ol style="list-style-type: none"> 1. Inspect pipeline valves. 2. Obtain agreements for access to the pipeline at all locations. 	Completed
Phase 1	<ol style="list-style-type: none"> 1. Refurbish 3 existing Air Valves and 1 Blow-off Valve. 2. Replace 3 Butterfly Valves and construct 4 new Air Valves. 3. Construct 500-foot gravel haul road on Marathon Refinery property. 4. At Contra Costa Canal construct 18-inch air vent adjacent to SCPL slide gate. 5. Maintain valves that have been repaired or newly installed. Maintain new access road on Marathon (formally Tesoro) property. 	Completed
Phase 2	<ol style="list-style-type: none"> 1. Construct 5 new gravel at-grade access roads. <ol style="list-style-type: none"> a. Approximately 1,900 feet along the easternmost segment of the pipeline (to access 1 Butterfly Valve, 1 existing Air Valve, 1 new Air Valve and 2 Blow-off Valves). Site 10. b. 650 feet of access road at Site 7 within the Tesoro Refinery. Site 7 is east of WMU4; the road provides access to a Blow-off Valve. c. Approximately 450 feet of road west of the Foster Wheeler power plant (to access a Blow-off Valve adjacent to Walnut Creek and for installation of a new Butterfly Valve). Site 5. d. Approximately 1,800 feet adjacent to Conco property (the area where the pipeline failed during the 1989 Loma Prieta earthquake) with access to 1 Air Valve and numerous settlement monitors. Site 4. No road construction on the CCCFCD&WCD property. e. Construction of minor gravel, paved, or concrete access to 2 Air Valves, both along Monsanto Way east of WMU4 site (Sites 8 and 9). Re-graveling of approximately 480 feet of existing Monsanto Way Road, Site 9. 2. Refurbish 3 existing Air Valves (Sites 4, 8, 9, and 10) and 6 Blow-off Valves (Sites 2, 5, 7, 9, and 2 valves at 10). 3. Replace 1 Butterfly Valve and construct 1 new Air Valve. Site 10. 4. Construct new Butterfly Valve. Site 5. 5. Install or replace up to 40 settlement monitors. 6. Work within WMU4 site on Marathon Refinery property. 130 feet of access road construction, refurbish Blow-off Valve, replace Air Valve, replace Butterfly Valve construct new Air Valve, install settlement monitors. Site 6. 7. Refurbish 1 Blow-off Valve east of the Martinez Gun Club (Site 3). 8. Establish regulatory approval/authorization for maintenance along the SCPL as required. 	Completed
Previously Approved Phase 3	<ol style="list-style-type: none"> 1. Inspect pipeline in the area where prior break occurred in 1989. Site 4. 2. Based on the inspection, if necessary, repair pipeline section either through slip lining existing pipeline, spot repairs with excavation or via trenching and installation of replacement pipeline. 	Previously Approved Phase 3 to be modified as described in Section 2.

1.3 PUBLIC REVIEW PROCESS

Per State CEQA Guidelines Sections 15072 and 15073, CCWD determined that a supplemental MND would be required for the modifications to Phase 3 of the SCPL and issued a Notice of Intent (NOI) to adopt a supplemental MND on March 11, 2022. CCWD mailed the NOI to residents and property owners located within an approximately 300-foot radius of the Project site; e-mailed or mailed directly to interested parties, including but not limited to those who expressed interest during the preliminary planning and community design phase; and posted notices at the project site.

The IS/MND is available to view or download at <https://ceqanet.opr.ca.gov/Project/2011092059>. Paper copies are also available by contacting mseedall@ccwater.com.

The public review period extends from March 11, 2022, through April 11, 2022, during which time the public and interested parties have an opportunity to provide comments.

**SHORTCUT PIPELINE IMPROVEMENT PROJECT – PHASE 3
MITIGATED NEGATIVE DECLARATION SUPPLEMENT (MND)**

SECTION 2

DESCRIPTION OF THE SHORTCUT PIPELINE - PHASE 3

2. PROJECT DESCRIPTION

2.1 INTRODUCTION

Within the SCPL initial planning for Phase 2 improvements, environmental documentation and permitting, it was presumed that spot repairs would potentially be required between Walnut Creek and Pacheco Creek in the vicinity of where the pipeline failed following the 1989 Loma Prieta earthquake.

Under a worst-case scenario, an approximately 2,000-foot-long SCPL section between Walnut Creek and Pacheco Creek would be replaced. A 10-foot-wide trench would be excavated by backhoe and excavator following dewatering of the pipeline. Replacement pipe would be laid in a crushed stone foundation, then the trench would be backfilled with compacted soil.

The repair in 1989 involved open trenching and sealing a crack in the pipeline and then filling the trench. The original Phase 3 plan presumed that the repair activities along the pipeline would be performed using similar open trench methods as was done in 1989. Following Phase 2 implementation, pipeline inspections were completed, and pipe sag and cracked mortar lining was identified under Walnut Creek.

The District completed an alternatives analysis to evaluate construction methods to address the pipe sag and cracked mortar lining under Walnut Creek. The alternatives analysis evaluated installing new pipelines under Walnut Creek using open cut construction, trenchless installation, and completing spot repairs to the existing pipeline. Repair alternatives were evaluated based on cost, schedule, environmental impacts, permits, seismic resiliency, and long-term performance. The recommended alternative is installation of new HDPE pipelines under Walnut Creek utilizing HDD.

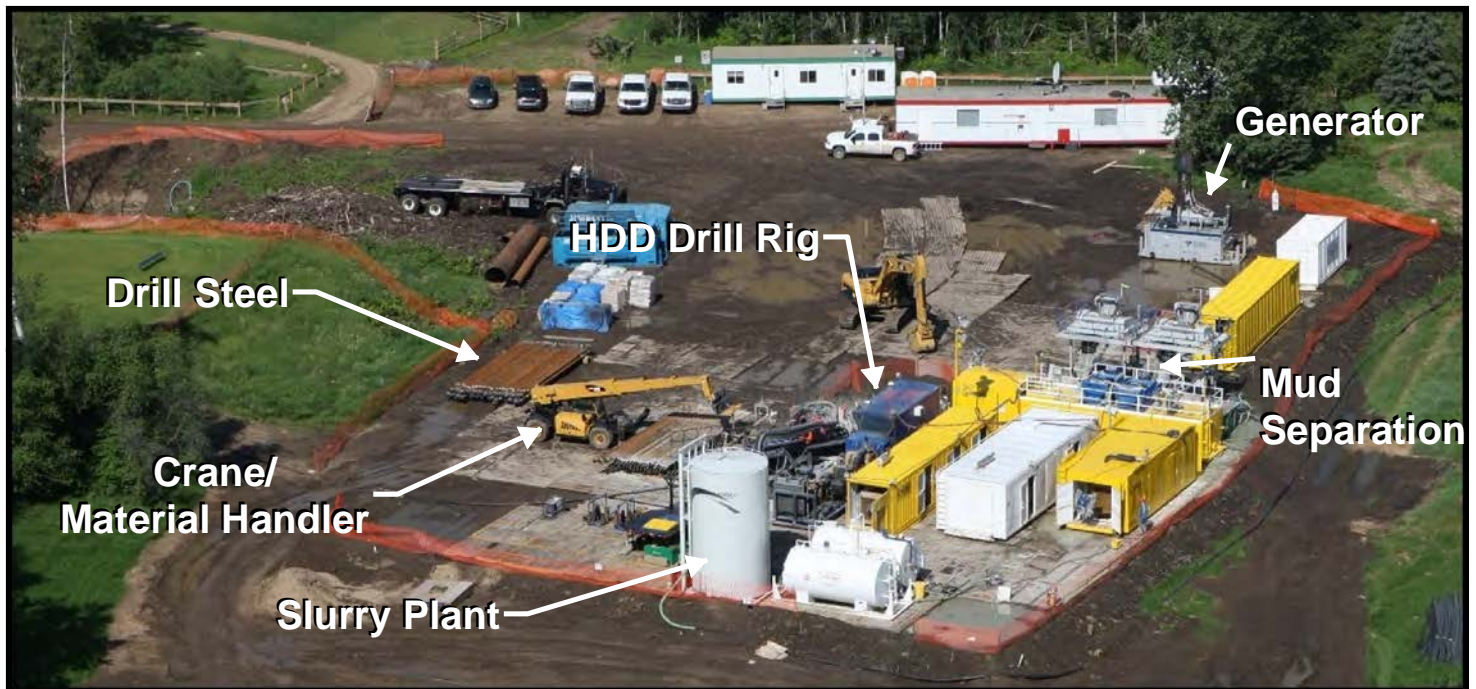
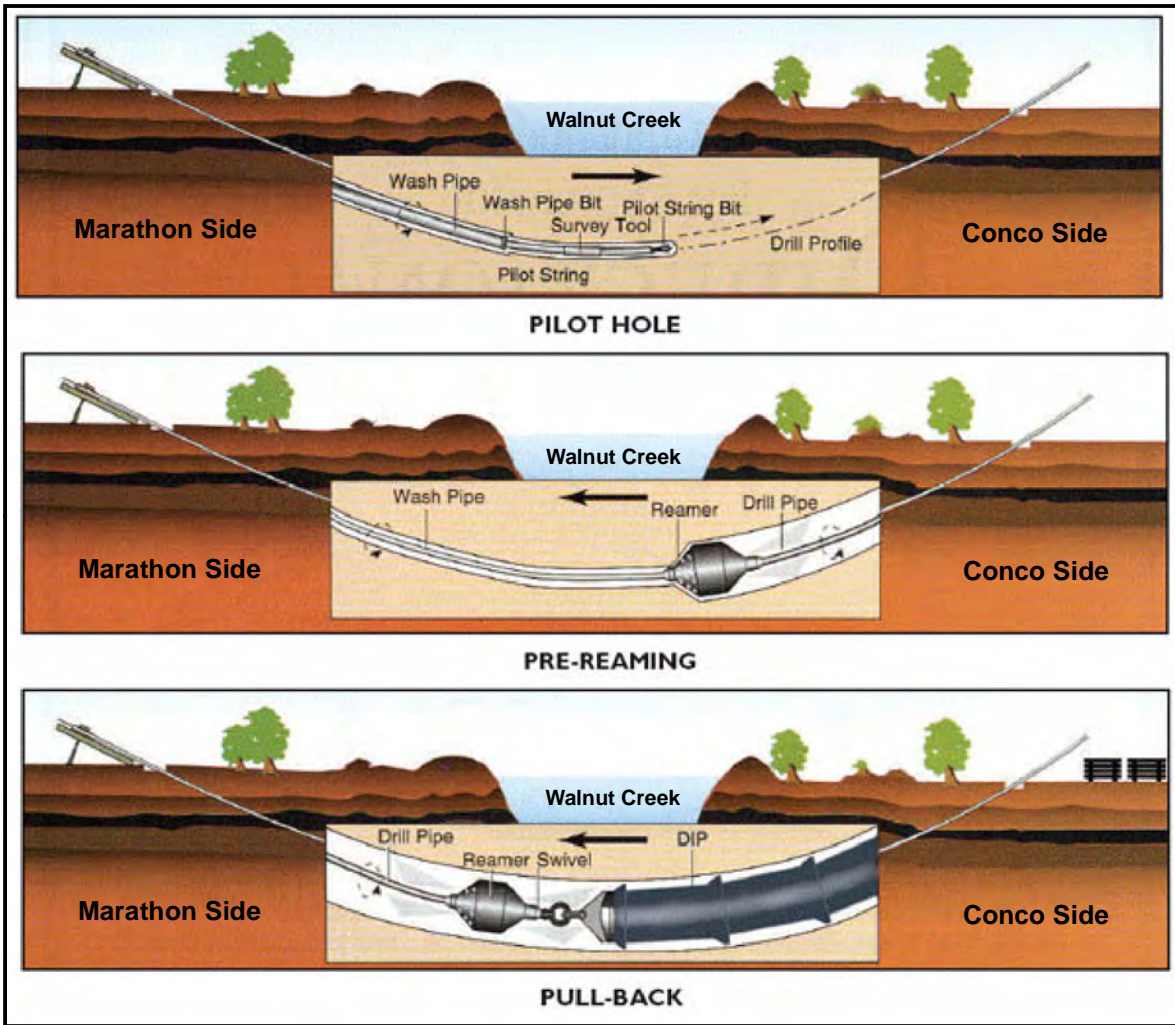
Simple spot repairs are not practical, nor the preferred environmental approach given the location of the damaged pipeline.

The open trench alternative would have significantly greater environmental impacts as it would include putting in a dewatering structure through Walnut Creek to allow for excavation of the creek bed. Water quality could be significantly impacted due to the amount of in-channel work and the large construction equipment could have a significant impact on water quality through increased turbidity and sedimentation. Aquatic life within Walnut Creek would be disrupted in association with sheet pile driving and other heavy equipment use. Therefore, the open trench alternative has greater environmental impacts and is not a preferred alternative. Furthermore, the

long-term performance of the SCPL following this type of repair is still prone to potential damage or failure given the shallow depth of the pipeline within bay muds and the proximity of the Concord fault direction below the pipeline in the vicinity of Walnut Creek. The Proposed Project includes HDD to be used to drill from Site 5 to Site 4. This approach places the pipeline in still alluvium soils and should ensure more reliable long-term service with less vulnerability from shifting bay muds and seismic events. Figure 2 provides a visual illustration of HDD drilling. The pictured demonstration is not on the SCPL Project site.

As described further below, current plans are to implement the preferred project in 2023. In the event there is a failure of the pipeline before project implementation, then an emergency repair using open trench construction method will be required for a short-term repair of the SCPL.

The SCPL Phase 3 implementation plan update is summarized in Table 2.



**Figure 2:
Demonstration of
Horizontal Directional Drilling
(HDD)**



193 Blue Ravine Road, Ste. 160
Folsom, California, 95630
Phone: (916) 985-1188

Table 2. SCPL Phase 3 Implementation Plan

2021 Phase 3 Project Activity	2011 IS/ MND	Project Changes	Impact Assessment	Proposed Conditions
Installation of HDPE Pipes Using HDD	Assumed open trench methods for repairs.	Use of horizontal directional drilling (HDD) for installing two new high-density polyethylene (HDPE) pipelines.	Requires new easements, larger temporary staging area.	Update permits to reflect project footprint and compensate as required.
Abandonment of the Existing 48-Inch SCPL in the Area of Repair	Not Considered .	2,000 feet of existing pipeline will be abandoned in place.	Minimal.	Slurry fill 20 feet on each side of the abandoned pipeline.
Creation of permanent maintenance areas around the new facilities	Not Considered.	Pads around new pipelines expanded to support maintenance.	Impacts to wetlands and habitat.	Compensate for wetlands and habitat consistent with Phase 2.
Elimination of a Portion of the Site 4 Access Road	Assumed that the Site 4 access road would be constructed across the full length of Site 4.	District will not construct the approximately 400 feet of the Site 4 access road on the CCCFC&WCD property.	Impacts to wetland and habitat reduced.	Will access pipeline during construction until abandoned using Pacheco Creek and new Walnut Creek Restoration levee roads.
Acquisition of permanent easement rights for the new HDPE pipelines	Considered potential need for new right-of-way from CCCFC&WCD and Tesoro (now Marathon).	New easement rights from Marathon, CCCFC&WCD and Conco.	The District will be seeking an additional 20 feet on either side of the existing right-of-way easement from the three property owners where the new pipelines will be installed.	Obtain needed land rights/agreements prior to installation of the HDPE pipelines. Follow CCCFC&WCD Encroachment Permit Conditions .
Acquisition of short-term construction easement rights	Assumed potential new temporary access from CCCFC&WCD, EBMUD and the CNWS.	Will need temporary construction easement rights from Marathon, CCCFC&WCD, Reclamation, and Conco.	Marathon: 2.556 acres on Site 5; CCCFC&WCD: 0.111 acres on Site 5; Reclamation: 0.802 acres on Site 5; Conco: 10.415 acres on site 4.	Obtain needed temporary construction rights/agreements before the start of construction. Follow CCCFC&WCD Encroachment Permit Conditions.
New Access Routes: Access to Site 4 eastern portion on new CCCFC&WCD Levees Access to Site 4 western portion using the new Conco Industrial property road	Access route to Site 4 along the Pacheco Creek and Walnut Creek Levee was obtained from the CCCFC&WCD prior to the start of Phase 2 construction.	New CCCFC&WCD levee on Conco and CCCFC&WCD property to access SCPL Phase 3 construction areas and long-term access following completion of construction. Access Site 4 along new Conco Industrial property road.	Minimal impacts on Conco and CCCFC&WCD Access Roads.	Follow CCCFC&WCD Encroachment Permit Conditions during construction and for long-term maintenance. Follow Conco agreements when using Conco property and roads.
Installation of settlement monitors	Included installation of up to 70 monitoring points.	Adding short term settlement monitors during project construction within the new easement areas.	Approximately 6 soil deformation monitors (0.35 sqft each), 10 surface monitors (0.2 sqft each), and 8 inadvertent drilling fluid return relief well (0.2 sqft each) on the CCCFC&WCD Property. Approximately 4 utility monitors (1.07 sqft each), 12 surface monitors (0.2 sqft each), and 6 inadvertent drilling fluid return relief well (0.2 sqft each) on Marathon Property (Site 5).	Obtain needed temporary construction rights before the start of construction. Follow CCCFC&WCD Encroachment Permit Conditions.

2021 Phase 3 Project Activity	2011 IS/MND	Project Changes	Impact Assessment	Proposed Conditions
Consideration of cumulative projects	Not considered.	a. Marathon Refinery Project, b. Conco Development, c. Lower Walnut Creek Restoration Project.	a. Marathon Refinery Project will not conflict, b. CCCFC&WCD LWCRP Project Construction completed before SCPL Phase 3. c. Conco project construction expected to be completed before SCPL Phase 3.	CCWD will coordinate with Marathon and Conco to minimize conflicting construction timeframes. Follow CCCFC&WCD Encroachment Permit Conditions.
Utilities and CCWD pipelines in the vicinity of Phase 3	Not considered.	a. Reclaimed, b. Foster Wheeler Treated, c. Foster Wheeler Untreated.	Avoid pipeline right-of-way. If necessary, armor the areas above the pipelines.	Protect pipelines during construction.
Environmental Conditions	Ground Water Disposal / Dewatering Plan.	Disposal of ground water.	Test ground water for potential hydrocarbons.	Dispose of groundwater at the Marathon refinery and or at Contra Costa County Sanitation District (CCCSD). Off-haul if Marathon and CCCSD not available.
	Construction limited in any areas where there is standing water.	Unwater standing water in wetland staging areas if needed.	Unwater to adjacent property or other approved location.	Obtain USFWS and SFRWQCB approval and any required conditions. Follow CCCFC&WCD Encroachment Permit Conditions if unwatering occurs on CCCFC&WCD property or within Walnut Creek.
	No night lighting was needed for Phase 2.	Night lighting during construction.	Night lighting may be needed during construction of the pipelines.	Have a biological monitor on site when using night lighting.
	Wetland impacts, assumed HCP, or in-lieu fees. Permits required use of Rheem Creek.	Additional Wetland Compensation.	Approximately 0.552 acres of permanent impacts and 2.882 acres of temporary impacts to State and Federal jurisdictional wetlands/waters.	Compensate for wetland at 1:1 permanent and 0.1:1 temporary using the Rheem Creek Preserve. 0.8402 acres of Rheem Creek Preserve wetlands. s.
	Habitat Impacts. Considered in the USFWS BiOp - Compensation for both wetland and uplands provided at the Cordelia Slough Preserve.	Additional habitat compensation.	Approximately 0.973 acres of permanent impacts and 3.986 acres of temporary impacts.	Compensate for habitat impacts at 1:1 for temporary and 3:1 for permanent at the Cordelia Slough Preserve SMHM mitigation site resulting in a total of 6.905 acres of SMHM mitigation.
	Inadvertent Returns Prevention and Contingency Plan for Construction of the New Pipelines.	Planning in the event of inadvertent returns of drilling fluids.	Low probability of any inadvertent drilling fluid return impacting the surface since the drilling is deep at 60 to 80 feet.	Instrumentation will determine if the drilling is not working according to plans. Drilling will be stopped as soon as any issues arise that suggest that inadvertent drilling fluid return could occur.

2.2 PROJECT ACTIVITIES

2.2.1 Installation of HDPE Pipes Using HDD

Construction of the Proposed Project (Phase 3) consists of the installation of two 36-inch DR11³ HDPE pipes 60 to 80 feet below ground surface. The new HDPE pipes will be fused on-site at a pre-determined lay down area with each fused joint inspected and approved by a certified inspector. HDD will be used to drill from Site 5 to Site 4 for a distance of approximately 2,000 feet. HDD is a minimal impact trenchless method of installing underground utilities along a prescribed underground path using a surface-launched drilling rig.

The HDD installation process requires a number of installation phases. HDD is performed from the ground surface by installing the pipeline in an arch from an entry point to an exit point. The drill profile has straight sections near the entry and exit points and the alignment is curved to reach the desired depth. After the drilling equipment has been mobilized to the site, shallow pits to contain drilling mud at both the entry and exit points will be excavated. Following the excavation of these pits, a pilot bore will be drilled from entry to exit. This is completed with a small diameter steel drill rod and drill bit to define the drill path. Once the pilot bore is complete, a reamer is attached at the exit side to the pilot bore drill rod to increase the hole diameter. For large diameter installations such as this, multiple reaming passes are required with progressively larger reamer sizes to reach the final hole diameter.

Once the drill has created a borehole large enough to fit the new pipe and has surfaced on Site 4, the product pipe is attached to the drill rod which will then pull the full length of the already fused HDPE pipeline back through the boreholes. This process will be repeated for the second pipeline and then both new pipes will be connected to the existing pipe.

The two new HDPE pipelines will tie-into the existing SCPL on both Sites 4 and 5. Prior to connecting the new HDPE pipelines to the existing pipeline and bringing the new pipelines into service, each pipeline will be pressure tested to ensure there are no new leaks in the pipelines. Portions of the 48-inch SCPL in the vicinity of the HDPE tie-in locations for Phase 3 will be replaced. The tie-in locations will include valves to control the water flow through the two HDPE pipelines. Figure 3 provides a cross section illustration of the installation of the HDPE pipes and the approximate depth.

During HDD, drilling mud, consisting of a bentonite and water, will be injected through the drill pipe and circulated back to the entry and exit pits along with soil cuttings. A mud separation plant will remove solids and recirculate drilling mud back into the drilling process. The HDD entry pits, drilling equipment, mud handling area, mud separation plant, and soil drying area will be located at Site 5. The drilling exit pits, HDPE laydown area, and additional construction staging area will be located at Site 4.

³ DR stands for Dimension Ratio which is the average outside diameter of a Polyethylene (PE) pipe divided by its minimum wall thickness.

Soil cuttings will be dried on-site, sampled, and tested at a state certified laboratory. Depending on analytical results, soil cuttings may be transported and disposed at an appropriately permitted facility consistent with all local, state, and federal laws and regulations.

Portions of the construction are located in low lying areas. If significant precipitation occurs prior to or during construction activities, surface water will be un-watered (pumped) from the construction areas. Additionally, during tie-in activities, groundwater will likely be encountered that will also require dewatering. Before surface and groundwater is removed it will be tested for constituents of concern, as required by permits, and discharged to the appropriate locations consistent with all local, state, and federal requirements.

Figure 4 below provides an overview of the Proposed Project construction area.

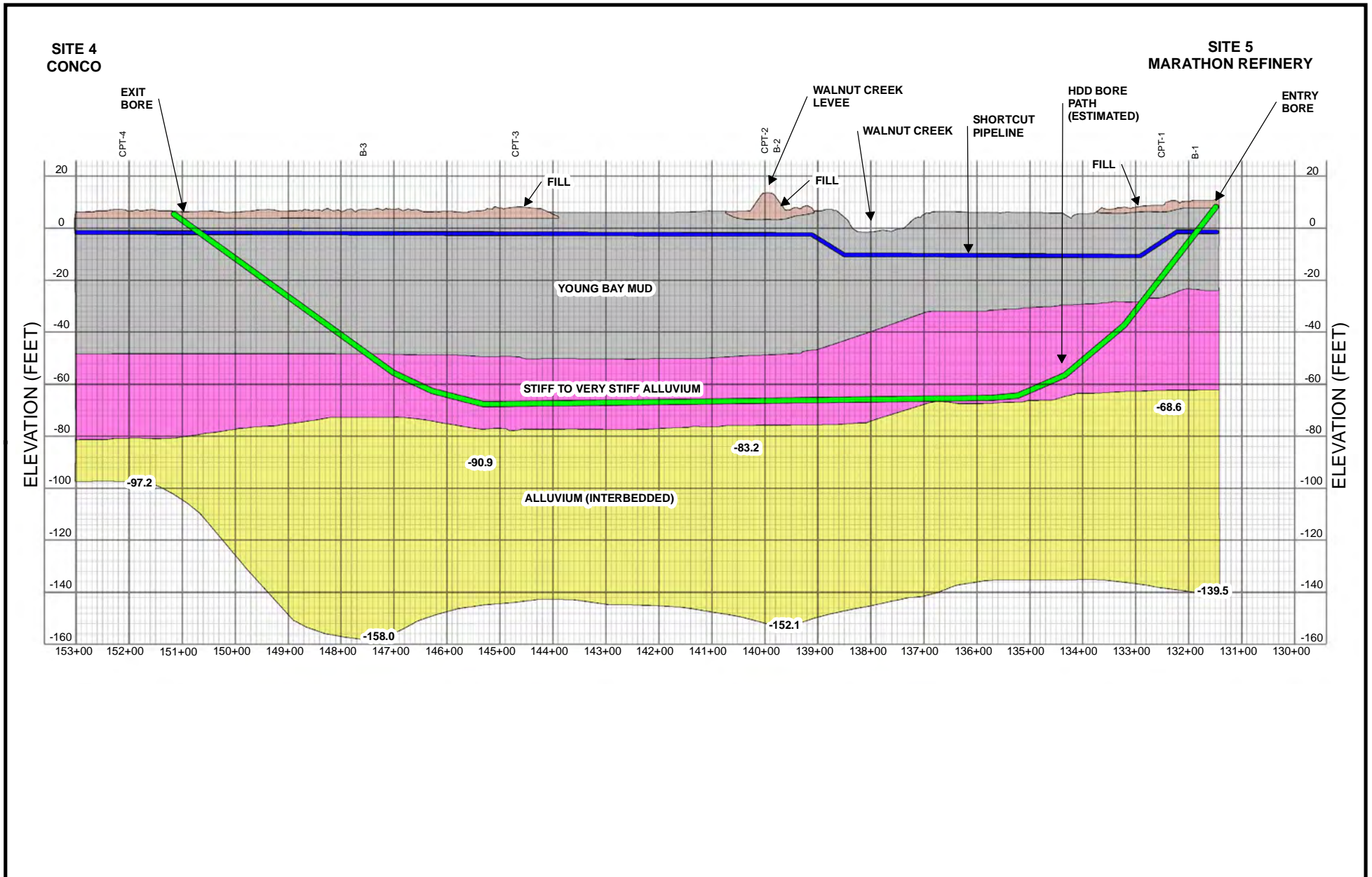
2.2.2 Abandonment of the Existing 48-Inch SCPL in the Area of Repair

Following successful construction of the two new 36-inch HDPE pipelines, the District will disconnect and blind flange the section of existing SCPL between the two tie-in locations until the warranty period for materials and workmanship (typically 1 year) has passed and the new 36-inch HDPE pipelines are operating as designed. Upon successful completion of the warranty period, the District will then permanently abandon the section of existing SCPL between the tie-in locations by installing 20 feet of grout plugs on either end of the pipeline. Abandonment of the existing SCPL underneath the Walnut Creek flood control levee will be completed consistent with the requirements of the CCCFC&WCD.

2.2.3 Creation of Permanent Maintenance Areas Around the New Facilities

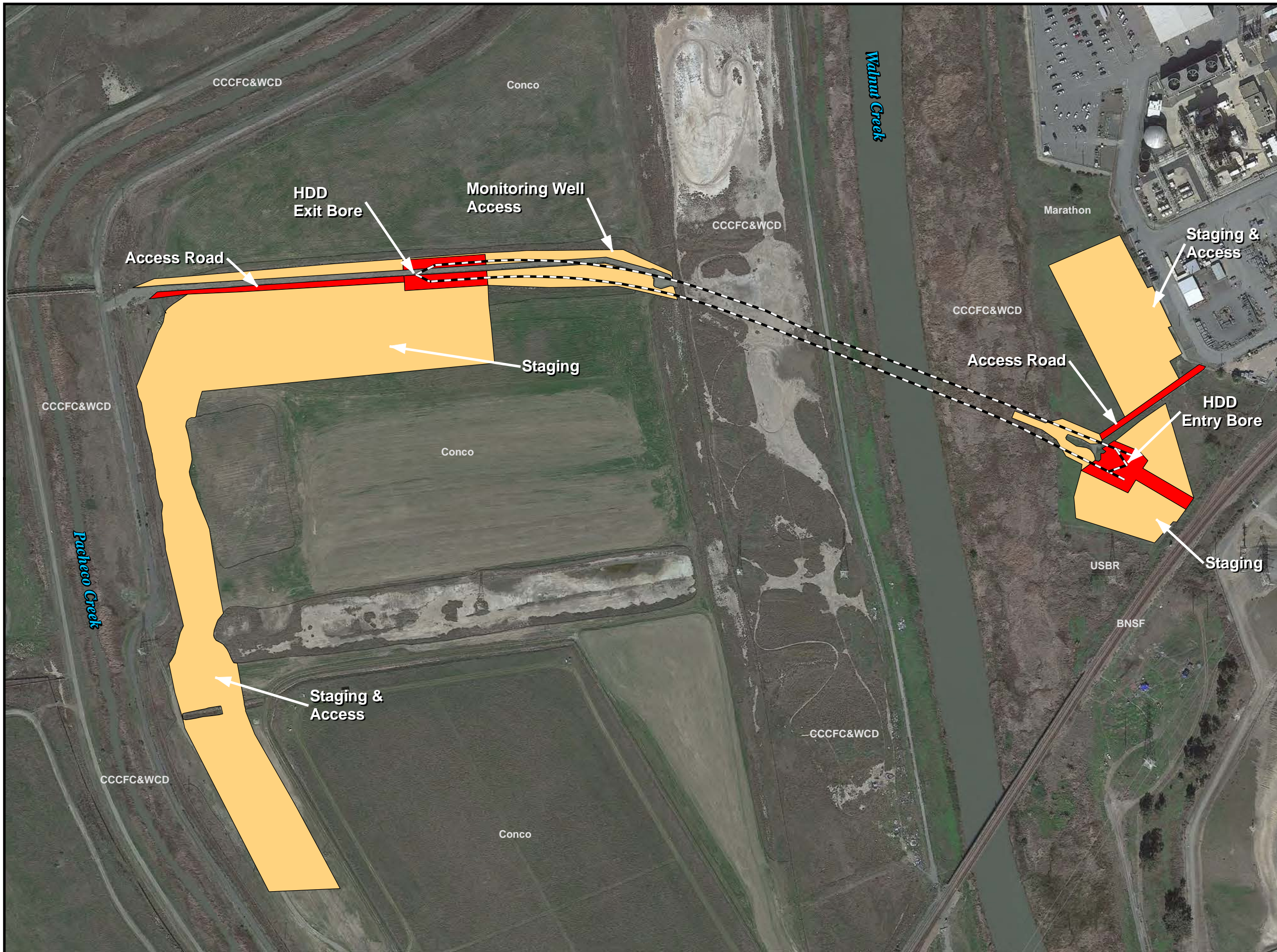
The pad around the new pipeline tie-in on Site 4 will be widened to allow access to the valves where the two new pipelines will tie into the existing SCPL and the access road west of the pad will be widened to improve access (approximately 0.552 acres of permanent impacts to isolated wetlands).

The Site 5 access road from the Marathon Refinery will be expanded to 30 feet wide to improve access to the construction site (approximately 0.126 acres of impacts to ruderal upland habitat). The larger gravel road will remain once construction is completed. The District will also widen the pad around the pipeline tie-in on Site 5 by approximately 0.294 acres (annual grassland habitat) to allow access to the valves where the two new pipelines tie into the existing SCPL. A gravel access road will be constructed from the new pipeline tie-in area to the Burlington Northern Santa Fe (BNSF) rail lines (approximately 0.127 acres of annual grassland habitat).



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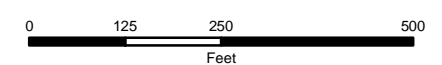
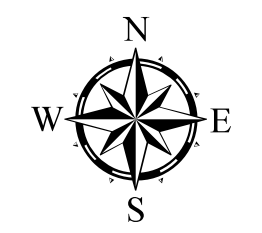
Figure 3:
HDD Cross Section Illustration
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA



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Figure 4:
Proposed Project Construction Areas
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA

- Proposed 36" HDPE Pipeline Alignment
- Temporary Staging Areas (13.90 ac)
- Permanent New Facilities, Pads, & Access Roads (1.10 ac)



Scale: 1:3,000 1 inch = 250 feet

Print at 11" x 17"

Coordinate System:
 NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
 Projection: Lambert Conformal Conic
 Datum: NAD 1983 2011
 Units: Foot US

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2.2.4 Elimination of a Portion of the Site 4 Access Road

The Phase 2 Project CEQA, NEPA, and permitting documents included construction of the Site 4 access road to extend from the levee on Pacheco Creek to the west side of the levee along Walnut Creek, approximately 2,000 feet. The District elected not to pursue construction of eastern 400-feet of the Site 4 access road during Phase 2 construction on the CCCFC&WCD property. Given that the District is pursuing twin underground pipelines for Phase 3 to repair the settling pipeline under Walnut Creek, the District has elected not to construct the access road on the CCCFC&WCD property during Phase 3. Based on the number of mitigation wetlands obtained for Phase 2 and the approved mitigation ratio, this means that there are approximately 0.17 acres of wetland mitigation that were not used for Phase 2.

Since the District will not be constructing the gravel access road within the pipeline easement area on the CCCFC&WCD (Figure 5), the District will be seeking approval to use portions of the Pacheco Creek levee road property and the new CCCFC&WCD Restoration Project levee for Walnut Creek on the Conco and CCCFC&WCD properties to access a small portion of the SCPL right-of-way.

2.2.5 Acquisition of Permanent Easement Rights

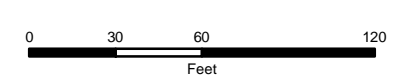
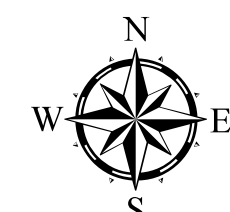
The Phase 3 project uses HDD for the installation of two 36-inch HDPE pipelines. To safely ensure that the new pipelines do not conflict with the existing SCPL, a widened long-term easement is required. The HDPE pipelines will be placed along the boundary of the existing 40 to 50-foot SCPL easement right-of-way and the District will be seeking 20 extra feet on both sides of the existing permanent easement areas from the three property owners (Conco, Marathon, and CCCFW&WCD) where the new pipelines will be installed. Hence the new SCPL easement rights-of-way will cumulatively be approximately 80 to 90 feet in width. The District will obtain the new permanent easement rights directly from the property owners and will include a provision within the easements that allow the easements to be assignable to Reclamation. See Figure 6 for an illustration of the new permanent easement area for the Project.



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Figure 5:
Elimination of Site 4
Access Road
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA

- Unimpacted Area (0.39 ac)
- Existing SCPL Right-of-Way
- Parcels



Scale: 1:800 1 inch = 67 feet
Print at 11" x 17"

Coordinate System:
NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

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2.2.6 Acquisition of Construction Easement Rights

Phase 3 construction requires approximately 13.884 acres of temporary staging areas to facilitate construction of the improvements. The breakdown of the temporary staging area acreage by site and property owner is shown below in Table 3.

Table 3. Temporary Staging Area Acreage By Site and Property Owner

Site	Property Owner	Acreage
5	Marathon	2.556
5	CCCFC&WCD	0.111
5	Reclamation	0.802
4	Conco	10.415
4	CCCFC&WCD	0.00
Total		13.884

Site 5 includes the Marathon, Reclamation, and CCCFC&WCD properties that will be used to drill the boreholes under Walnut Creek, provide temporary staging areas, and provide access to monitoring sites. Only a small portion of the CCCFC&WCD property will be used for ground monitoring during construction. Site 4 includes the Conco property that will be used to stage construction of the HDPE pipes above ground prior to completion of the boreholes, as well as a small portion of CCCFC&WCD property that will be used for ground monitoring during construction. These pipes will be pulled as quickly as possible back through the boreholes once they are completed. This construction method ensures the best possible success for the new pipelines since the boreholes are filled with the pipeline before they can collapse.

2.2.7 New Access Routes

SCPL Phase 3 access to the Marathon side of the Project (Site 5) will remain the same as it was for Phase 2⁴. Access during construction and long-term access following completion of construction will use access routes through the Marathon refinery to reach the SCPL Site 5 access road.

SCPL Phase 3 access on the Conco side of the Project (Site 4) will be modified from Phase 2. The District will obtain construction and long-term access agreements from Conco to use existing roads and new roads that Conco is constructing for their industrial facility; these roads will collectively be used by the District to access Site 4.

Once at Site 4, the District will use its Phase 2 gravel road (located within the existing SCPL easement at Conco) to drive out to the new pipeline connection area on Site 4.

The District has ingress and egress rights along CCCFC&WCD's Pacheco Creek Levee and Walnut Creek Levee pursuant to a license agreement with the CCCFC&WCD. The license

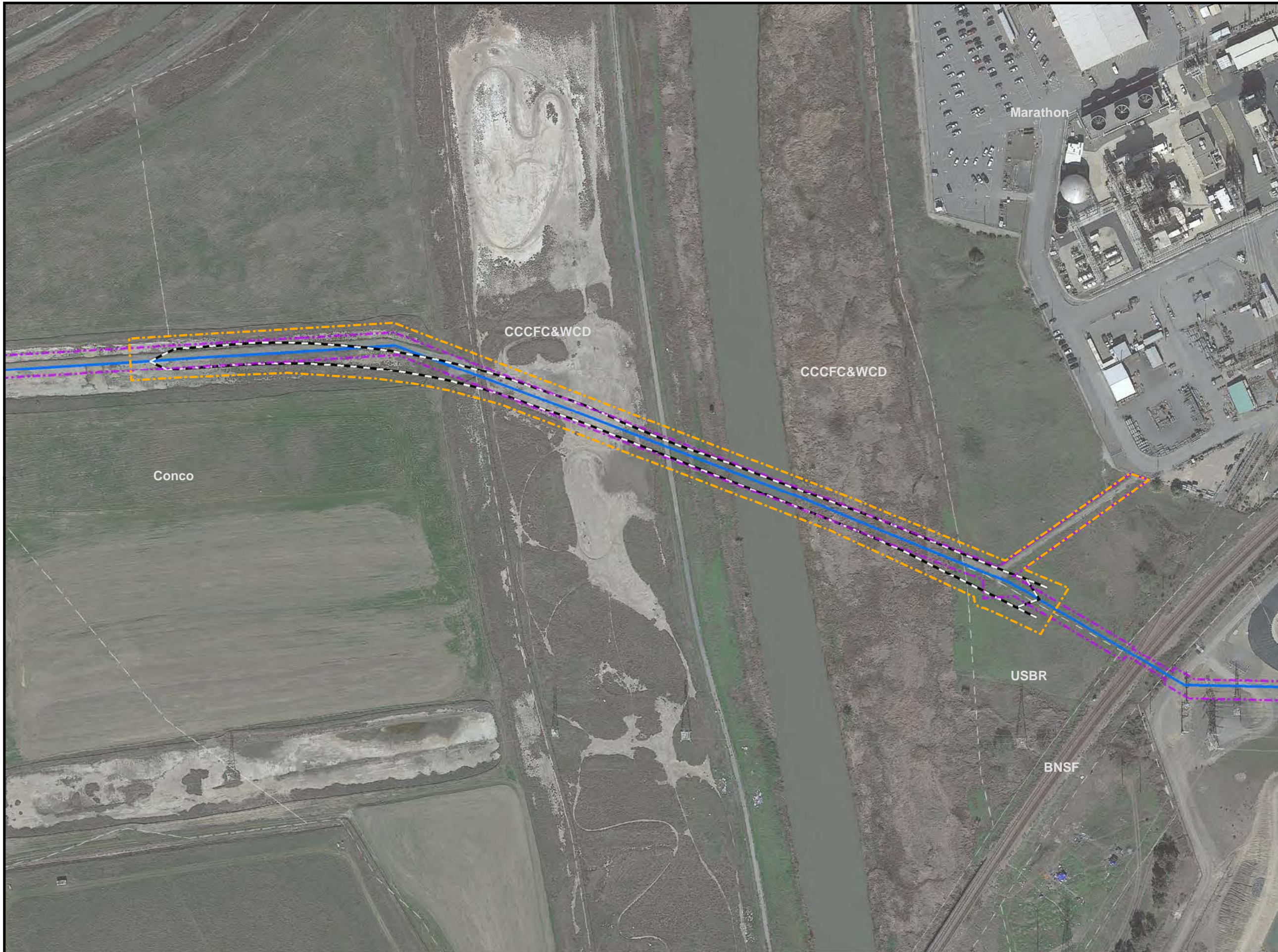
⁴ Phase 2 access for Marathon was as follows: Imhoff Drive/Arnold Industrial Drive, Solano Avenue and into Marathon Refinery.

agreement will need to be modified and renewed on or before December 31, 2025, when the current agreement expires. These access rights currently extend from the Conco property, along Pacheco Creek Levee to the existing Walnut Creek CCCFC&WCD Levee. The existing Walnut Creek Levee is currently being modified by CCCFC&WCD and a new levee alignment is being constructed. The new levee alignment will include a segment located within an easterly portion of the Conco property.

The District will need joint-use rights and access rights along the aforementioned new Walnut Creek levee alignments, including that portion that will be located on the Conco property. These rights are necessary for the construction, operation, and maintenance of the new pipelines, and the existing 48-inch SCPL, and for the installation of settlement monitors. As noted above, the District will also need to retain long term access along the Pacheco Creek levee from the Site 4 right-of-way on the Conco property. Figure 7 below presents the access routes for Sites 4 and 5.

2.2.8 Installation of Settling Monitors

Utility and soil monitors will be established to measure movement of the existing 48-inch pipeline, as well as the soil at the existing Walnut Creek levee. Installation of these devices may be completed using a drill rig, vacuum excavation, or hand auger. The depth of the soil monitors will be 5-feet and the depth of the utility monitors will be roughly 10-feet. Once the monitors are constructed, these stations will be monitored at least once per day during construction when HDD activities are occurring to evaluate drilling activity impacts. If there is any indication that construction of the new HDPE pipelines is affecting the SCPL or the Walnut Creek CCCFC&WCD levees, then monitoring may be more frequent than once per day. Monitoring may continue following construction. Figure 8 below provides a detail of the instrumentation and monitoring wells.

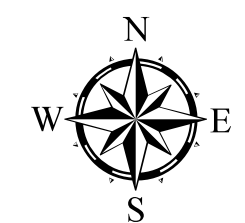


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Figure 6:
New Permanent Easement Area
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA

	Proposed CCWD Easement
	Existing CCWD Easement
	HDPE Pipeline Alignment
	Existing 48" Shortcut Pipeline
	Parcels



Scale: 1:2,400 1 inch = 200 feet

Print at 11" x 17"

Coordinate System:
NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

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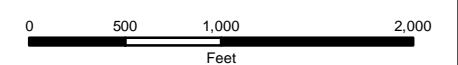
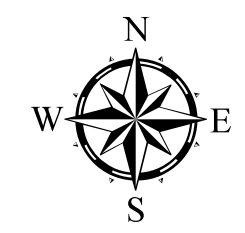
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**Figure 7:
Access Routes for Sites
4 and 5
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA**

SITE ACCESS ROUTES

- SCPL West Side Access
- SCPL East Side Access
- - - CCCFC&WCD Levee Monitoring Wells Access (to be abandoned)



Scale: 1:12,000 1 inch = 1,000 feet

Print at 11" x 17"

Coordinate System:
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Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

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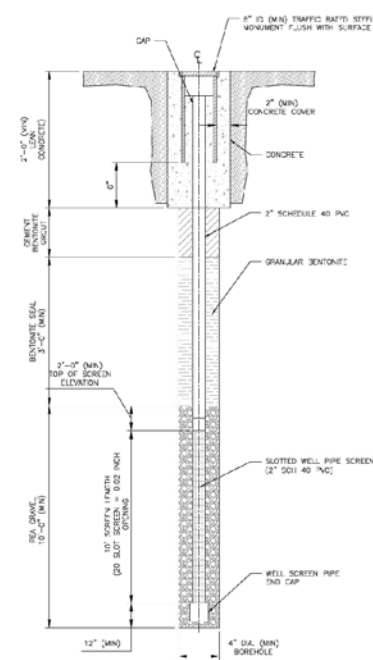


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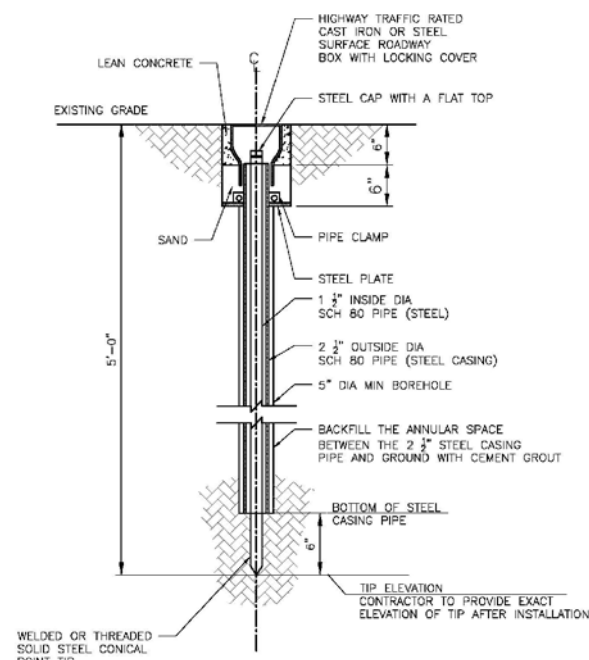
Figure 8:
Monitoring Points and
Inadvertent Return Wells
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA

Monitoring Points (Total Area:
23.47 sqft - <0.001 ac)

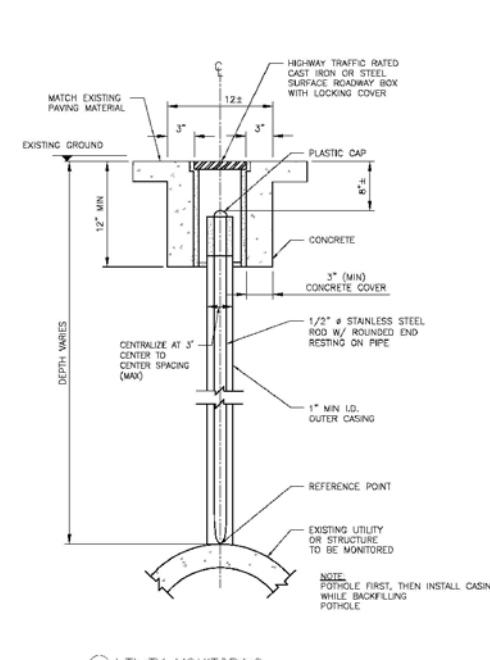
- Soil Deformation Monitoring Point x6 (0.35 sqft each)
- Utility Monitoring Point x11 (1.07 sqft each)
- ⊗ Surface Monitoring Point x34 (0.2 sqft each)
- △ Inadvertent Drilling Fluid Relief Well x14 (0.2 sqft each)
- Existing 48" Shortcut Pipeline
- - - Proposed 36" HDPE Pipeline Alignment
- ▭ Parcels



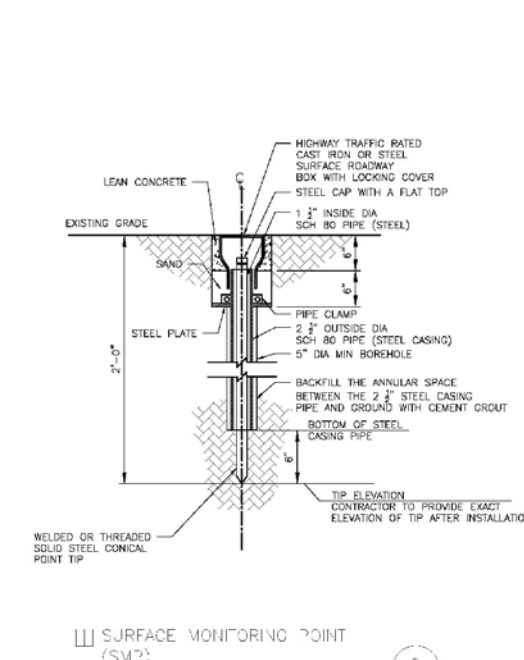
△ INADVERTENT DRILLING FLUID RELIEF WELL
 DETAIL
 N.T.S.



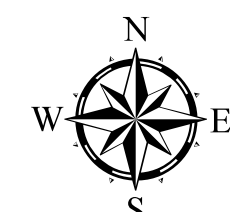
□ SCL DEFORMATION MONITORING POINT (SDMP) DETAIL
 N.T.S.



○ UTILITY MONITORING POINT (UMP) DETAIL
 N.T.S.



⊗ SURFACE MONITORING POINT (SMP) DETAIL
 N.T.S.



Scale: 1:1,700 1 inch = 142 feet
 Print at 11" x 17"

Coordinate System:
 NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
 Projection: Lambert Conformal Conic
 Datum: NAD 1983 2011
 Units: Foot US

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2.2.9 Consideration of Adjacent Projects

Marathon Refinery Renewable Diesel Project

Marathon Martinez Refinery is proposing to modify the refinery to support the production of renewable fuels. The Martinez Renewable Fuels Project is anticipated to begin construction in 2022 and is not expected to conflict with the SCPL Phase 3. See Figure 9 for the Marathon Refinery near Shortcut Pipeline Phase 3 Improvement Project construction area boundary.

Conco Industrial Development Project

Conco has proposed an industrial development project adjacent to the existing and expanded SCPL right-of-way Phase 3 Project boundary consisting of building pads and new roadways. As of December 2021, the Conco Industrial complex has been graded and a new access road from the existing Conco yard to the new Industrial development is under construction. The new access road will cross the SCPL right-of-way to allow access to the pad located north of the SCPL right-of-way. The District is working with Conco to use the new access road for the Industrial development to access SCPL Site 4 during SCPL construction and following SCPL construction (short- and long-term access). CCWD is also seeking construction staging areas largely south of the SCPL pipeline right-of-way and west of the Conco Industrial project. Part of the temporary construction staging area will include an approximate 2,500 linear foot area (and approximately 50 to 100 feet wide) for construction/fusing of the HDPE pipelines before they are pulled through the bore hole from Site 4 to Site 5. CCWD will work with Conco to ensure that SCPL temporary construction activities and HDPE pipeline staging locations minimize disruption to the ongoing Conco Industrial development. Figure 10 provides an illustration of the Conco Industrial Development site in relation to the Proposed Project.

Contra Costa Flood Control and Water Conservation District Restoration Project

CCCFC&WCD is currently constructing new levees and facilities in support of the Lower Walnut Creek Restoration project north and south of the existing 48-inch SCPL right-of-way and the District's existing 20-foot recycled water line easement. To avoid impacting these critical water facilities, the CCCFC&WCD has not be constructed new levees where CCWD water lines are located. .

The CCCFC&WCD levees and restoration project will be fully constructed in 2022 before CCWD commences any construction of the SCPL Phase 3 Project. The HDPE pipelines will not impact the CCCFC&WCD property once completed. As described above, the District will conduct monitoring of the CCCFC&WCD levees and the SCPL on CCCFC&WCD property during and potentially following construction. See Figure 11 below for the development plans of the LWCRP in the vicinity of the Proposed Project.

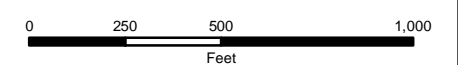
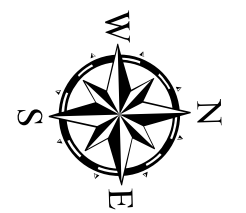


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**Figure 9:
Marathon Refinery Near
Shortcut Pipeline Phase 3
Contra Costa County, CA**

- Shortcut Pipeline (existing)
- HDPE Pipeline Alignment
- Phase 3 Boundary
- Marathon Refinery



Scale: 1:6,000 1 inch = 500 feet

Print at 11" x 17"

Coordinate System:
NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

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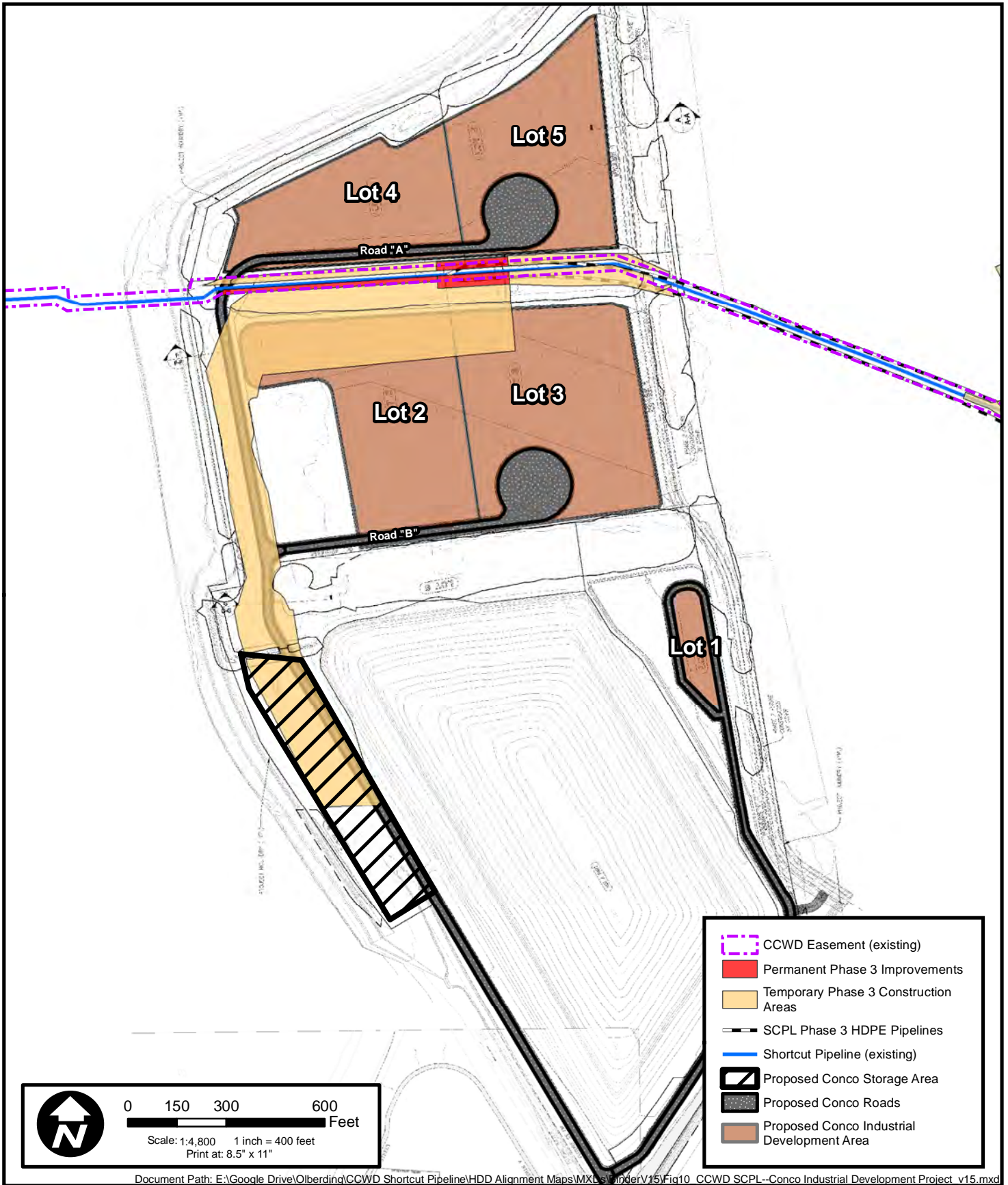


Figure 10:
Proposed Conco Industrial Development Project
CCWD Shortcut Pipeline Phase 3
Contra Costa County, CA



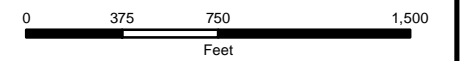
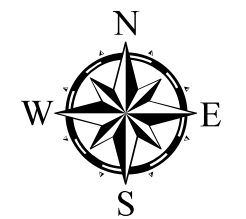
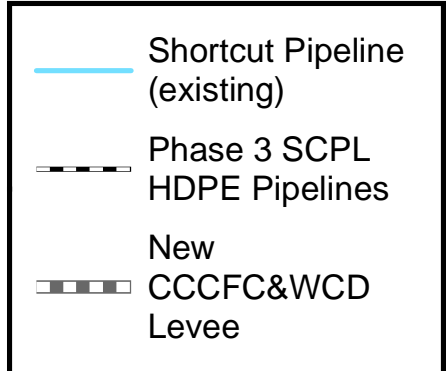
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Figure 11:
CCCFC&WCD
Restoration Project
Contra Costa County, CA



Scale: 1:9,000 1 inch = 750 feet

Print at 11" x 17"

Coordinate System:
NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

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2.2.10 Utilities and CCWD Pipelines in The Vicinity of Phase 3

The Project will evaluate any potential safeguards that are required due to electric power lines, natural gas and petroleum lines and Contra Costa Sanitary Sewer lines that are within the project footprint.

Reclaimed Water Pipeline

The CCWD Reclaimed Water Pipeline originates at the Contra Costa County Central Sanitation District and ends at the Marathon Refinery. The District will need to protect the Reclaimed Water Line on the Conco property and at the Marathon Refinery (see Figure 12).

14-Inch Water Pipeline

The 14 Inch Water Pipeline supplies high quality water to the power plant within the Marathon Refinery. The District will need to armor the pipeline where construction equipment will pass over it with frequency during construction of the SCPL Phase 3 (see Figure 12).

8-Inch Water Line

The 8-Inch Water Line turn out from the SCPL on Site 5 (Marathon Property) is in the area where the drilling for the new HDPE pipelines will be performed. The 8-Inch Water Line provides untreated water to a cooling tower associated with the power plant within the Marathon Refinery. The 8-Inch water lines turnout will be reconstructed since this facility is within the area where the two new HDPE pipelines will tie into the existing 48-inch SCPL. The existing turnout will need to be armored to ensure it is not damaged during construction (see Figure 12).

2.2.11 Environmental Conditions

The conditions described below are required for Phase 3 construction and were not required for Phase 2 construction.

Groundwater Disposal/Dewatering Plan

Ground water will be removed and/or treated by Marathon Refinery or the Contra Costa County Central Sanitary District. If this is not feasible, then the water will be hauled off site. Horizontal directional drilling will result in boreholes underneath Walnut Creek. The initial open trenching and drilling will likely encounter groundwater seepage that will need to be collected and removed from the Project site. The District would dispose of any groundwater containing hazardous materials at an appropriate location for such materials. Excavated earthen material not used to fill open trenches is expected to be hauled off-site. If excavated earthen materials are found to be free of contamination after testing, they may be disposed of or be left at the site without special measures being required.

Groundwater removal will occur within parcels owned or managed by Conco, Reclamation, and the Marathon Refinery. CCWD expects minimal surface disturbance on the CCCFC&WCD property and does not expect to remove groundwater since the pipelines will be drilled deep beneath this property. Construction on the CCCFC&WCD are limited to installation of settling monitors (Section 2.2.8).



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Figure 12:
Water Pipelines in the
Vicinity of SCPL
Phase 3
Contra Costa County, CA

- Marathon Refinery
- Shortcut Pipeline
- New HDPE Pipeline
- 8" Water Pipeline
- 14" Water Pipeline
- Reclaimed Water Pipeline
- Shortcut Pipeline Interie
- Lateral 25.6
- Tesoro Lateral
- Canals



0 1,000 2,000 4,000
 Feet

Scale: 1:24,000 1 inch = 2,000 feet

Print at 11" x 17"

Coordinate System:
 NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
 Projection: Lambert Conformal Conic
 Datum: NAD 1983 2011
 Units: Foot US

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Working in Wetlands When There is Still Standing Water

SCPL Phase 2 permits from the SFRWQCB restricted construction work within wetlands due to standing or flowing water. During Phase 2 construction, Site 4 work was delayed until later in the summer to allow standing water to recede over time. For SCPL Phase 3, there is a need to create temporary construction pads within Site 4 starting as early as April. It is possible that there may be standing water within areas of temporary fill and the District would obtain permission to remove the water and temporarily fill these areas. Since any standing water is expected to be from rainfall, such water is not expected to have any hazardous contaminants. With permission from the CCCFC&WCD and/or the SFRWQCB this water may be pumped to the Walnut Creek restoration area. If the CCCFC&WCD will not authorize the use of the Walnut Creek restoration area, then the District will need to seek another location to take the standing water. Any pumped standing water will first use a Baker Tank⁵ to ensure that any sediment has time to settle before the water is discharge to another water body. Water will be tested prior to disposal at the appropriate discharge point.

Once standing water is removed from the wetland features, the Proposed Project will employ fabric or mats to help protect the wetland habitat before adding fill to create the staging area. The staging area where large equipment will be located may need to have aggregate base rock installed. Once construction is done, the rock cover and any fill material as well as the fabric or mats will be carefully removed. This should allow these areas to quickly restore once winter rains inundate these locations.

Additional Wetland Compensation

CCWD created and has subsequently received Corps verification of 3.5 acres of jurisdictional wetlands at the Rheem Creek Preserve. During Phase 2 construction CCWD used 3 acres of the wetlands. The SF Corps and SFRWQCB authorized the use of 3.17 acres of the wetlands for Phase 2 construction. The Rheem Creek Preserve has also created and received Corps verification of 0.94 acres of wetlands on the parcel adjacent to where the 3.5 acres of wetlands are located. The SFRWQCB 401 permit for Phase 2 construction authorized 0.63 acres of wetlands or an additional amount for future CCWD utilization.

State and Federal wetlands and waters were mapped for both Site 4 and Site 5 (Figure 13 and Figure 14). Site 4 contains a total of 9.50 acres of isolated wetlands, 0.32 acres of riverine, 0.43 acres of seasonal wetlands, 2.01 acres of tidal marsh, and 2.01 acres of scald/playa. Site 5 contains a total of 2.06 acres of seasonal wetlands, 0.004 acres (46 Inft) of ephemeral drainage, and 1.10 acres of tidal marsh.

Permanent impacts resulting from Project activities are estimated to be approximately 0.552 acres to State jurisdictional wetlands. Temporary impacts resulting from Project activities on Site 4 and Site 5 are estimated at 2.882 acres to State and Federal jurisdictional wetlands combined. Table 4

⁵ The Baker Tank is ideal for projects that require storage of liquids in large volumes with a small footprint and maximum flexibility.

below illustrates the breakdown of wetland impacts by property owner. Impacts to jurisdictional wetlands and waters will be mitigated for at Rheem Creek Preserve in Contra Costa County, California. Impacts will be mitigated at a 1:1 for permanent impacts and 0.1:1 for temporary impacts. Total mitigation required for Project impacts to State and Federal jurisdictional wetlands will be approximately 0.8402 acres. Table 5 below provides a summary of impacts and mitigation associated with the State and Federal jurisdictional wetlands.

Table 4. Jurisdictional Wetlands & Waters Impact Breakdown by Property Owner

Property	Wetland/Water Type	Temporary Impacts	Permanent Impacts
Site 4 – Conco	Seasonal Wetland	2.417 acres	0.552 acres
Site 5 – Reclamation	Seasonal Wetland	0.034 acres	0.00 acres
Site 5 – Marathon	Seasonal Wetland	0.317 acres	0.00 acres
Site 5 – CCCFC&WCD	Seasonal Wetland	0.052 acres	0.00 acres
Site 5 – CCCFC&WCD	Tidal Marsh	0.061 acres	0.00 acres
Total		2.881 acres	0.552 acres

Table 5. Wetlands/Waters Impacted & Associated Mitigation

Wetland/Waters (Type)	Existing (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Mitigation Required (acres)
Site 4 Isolated Wetland	9.50	0.552	2.417	0.7937
Site 4 Riverine	0.32	0	0	0
Site 4 Seasonal Wetlands	0.43	0	0	0
Site 4 Tidal Marsh	2.01	0	0	0
Site 4 Scald/Playa	2.01	0	0	0
Site 5 Seasonal Wetlands	2.06	0	0.403	0.0403
Site 5 Tidal Marsh	1.10	0	0.061	0.0061
Site 5 Ephemeral Drainage	0.004 (46 Inft)	0	0	0
Total	17.434 (46 Inft)	0.552 acres	2.881 acres	0.8402 acres

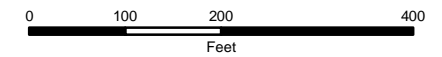
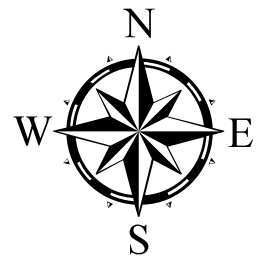


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Figure 14:
Jurisdictional Delineation -
Site 5
Contra Costa County, CA

- Map Reference Points
- Upland Sample Point
- Wetland Sample Point
- Culverts
- Study Area (10.36 ac)
- Aquatic Features (3.164 ac)**
- Seasonal Wetland (2.06 ac)
- Swale (0.004 ac)
- Tidal Marsh (1.10 ac)



Scale: 1:2,400 1 inch = 200 feet

Print at 11" x 17"

Coordinate System:
NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

March 2022

Made in accordance with the
Updated Map and Drawing Standards for the
South Pacific Division Regulatory Program,
as amended on February 10, 2016, by:

Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Additional Salt Marsh Harvest Mouse Compensation

During Phase 2 construction consistent with USFWS BiOp requirements, CCWD obtained 14 acres of Salt Marsh Harvest Mouse (SMHM) habitat at the Cordelia Slough Preserve. CCWD provided SMHM habitat for the full width of the right-of-way at both Site 4 and 5 during phase 2 construction. These areas will not require further SMHM compensation.

Habitat for the SMHM was mapped for both Site 4 study area and Site 5 study area (Figure 15). The Project boundary around Site 4 contains a total of 16.28 acres of SMHM habitat and the Project boundary around Site 5 contains a total of 3.164 acres of SMHM habitat.

Permanent impacts resulting from Project activities within Sites 4 & 5 construction areas are estimated to be approximately 0.973 acres to upland habitat. Temporary impacts resulting from Project activities within the Sites 4 & 5 construction areas are estimated at 3.986 acres to upland habitat. Impacts to SMHM habitat will be mitigated through the purchase of credits from a Wildlands’ Cordelia Slough Preserve mitigation bank. Temporary Impacts to SMHM habitat are compensated at a 1:1 ratio while permanent impacts use a 3:1 ratio. Table 6 below provides a summary of impacts and mitigation associated with SMHM habitat.

Table 6. Salt Marsh Harvest Mouse Habitat Impacted & Associated Mitigation

Wetland/Waters (Type)	Existing Project Boundary (acres)	Permanent Impacts within the Construction Area (acres)	Temporary Impacts within the Construction Area (acres)	Mitigation Required (acres)
Site 4 SMHM Habitat	16.28 acres	0.552 acres	2.529 acres	4.185 acres
Site 5 SMHM Habitat	5.924 acres	0.421 acres	1.457 acres	2.72 acres
Total	22.204 acres	0.973 acres	3.986 acres	6.905 acres

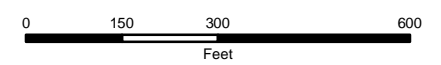
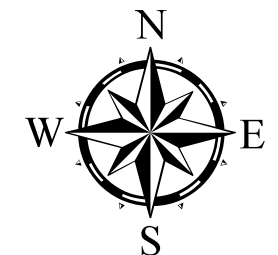


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**Figure 15:
Habitat Map
CCWD Shortcut Pipeline
Phase 3
Contra Costa County, CA**

	CCWD SCPL - Phase 3 Boundary (46.83 ac)
Site 4 Habitats	
	Annual Grassland (2.01 ac)
	Developed (1.16 ac)
	Isolated Wetland (9.50 ac)
	Riverine (0.32 ac)
	Ruderal Grassland (19.02 ac)
	Seasonal Wetland (0.43 ac)
	Tidal Marsh (2.01 ac)
	Scald/Playa (2.01 ac)
Site 5 Habitats	
	Annual Grassland (2.76 ac)
	Developed (1.30 ac)
	Ruderal Grassland (3.14 ac)
	Seasonal Wetland (2.06 ac)
	Swale (0.004 ac)
	Tidal Marsh (1.10 ac)



Scale: 1:3,600 1 inch = 300 feet

Print at 11" x 17"

Coordinate System:
NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Units: Foot US

March 2022

Use of Night Lighting for Construction of the New Pipelines

Project activities will require night work with lights within the construction area. Up to 4 months of night work may be needed, primarily during drilling of the tunnels and the pipe pullback procedure. Light sources associated with Project construction shall be shielded as much as possible with the goal of ensuring that no direct beam illumination is provided outside of the construction area, furthermore, special status species exclusion fencing will be used around construction areas that require night lighting. Construction lighting shall not be so limited as to compromise the safety of construction workers. A biological monitor will be on site during all night work.

Inadvertent Returns Prevention and Contingency Plan for Construction of the New Pipelines

The District will be installing a series of relief wells west of the Site 4 tie-in location. The purpose of the relief wells is to control any potential surfacing of drilling muds to an area where no damages would occur to Walnut Creek. Instrumentation on the drilling equipment as well as visual inspections will advise whether there is any unplanned surface of drilling mud issues.

An Inadvertent Returns Prevention and Contingency Plan (IRPCP) will be developed as part of the Project design detailing minimum requirements for preventing an inadvertent return (such as using appropriate mud properties and drilling pressures), detection of an inadvertent return (such as continuous visual monitoring of the site and monitoring of drilling parameters such as downhole pressure), and addressing an inadvertent return if it occurs (such as use of a vac truck and best management practices (BMPs) to isolate and clean a spill if it occurs). The contractor will also be required to create their own plan meeting the minimum requirements set forth in the IRPCP developed during design.

To minimize inadvertent return of drilling fluids to the surface, the pipeline will be installed 60 to 80 feet below ground surface. Inadvertent returns have the highest likelihood of occurring on Site 4, where drilling fluid pressures will be the highest and boreholes begin to decrease in depth. To control any potential inadvertent drilling fluid returns, relief wells will be installed on Site 4 to provide a preferential pathway for drilling returns to the surface. Containment berms will be installed around each relief well to return, and drilling mud return, and the drilling mud will be removed and properly contained.

Environmental Review and Permit Summary

Table 7 below provides a summary of environmental review and permit status for SCPL Phase 2 and Phase 3. CCWD will follow all of the required environmental conditions within the newly obtained permits.

Table 7. Environmental Review and Permit Status for SCPL Phase 2 and Phase 3

Agency	Date Approved / Conditions / Comments	Status
U.S. Army Corps of Engineers 404 Permit (2010-00293S)	Original permit approved October 2016; New permit to be obtained for Phase 3.	Pending Completion of CEQA
Bureau of Reclamation NEPA EA/FONSI 09-098	Approved in February 2017. Supplemental EA/FONSI for Phase 3.	Pending Completion of CEQA
US Fish and Wildlife Biological Opinion	Biological Opinion (O8ESMF00-2015_F-0008-ROO1) Issued in December 2016. Reinitiating Consultation for Phase 3. Lead Agency Bureau of Reclamation.	Pending informal consultation
San Francisco Regional Water Quality Control Board 401 Water Quality Certification	Original Permit (CIWQS Place ID No. 819511) Approved in March 2016. New Permit Application Required for Phase 3.	Pending Completion of CEQA
San Francisco Regional Water Quality Control Board Groundwater Dewatering Permit	No groundwater discharge permit was expected for Phase 2 work. Phase 3 groundwater discharge to be managed by Permits held by Marathon and Contra Costa County Sanitation District.	Prior to the start of construction
California Department of Fish and Wildlife Streambed Alteration Agreement	Not required for Phase 2. New permit needed for Phase 3.	Pending Completion of CEQA
San Francisco Bay Conservation & Development Commissions Administrative Permit	Not required for Phase 2. Regionwide Permit No. 2 Application for Phase 3.	Pending Completion of CEQA
State Historic Preservation Office	Approved in October 2007. Phase 3 Consultation, Lead Agency Bureau of Reclamation.	Pending Reclamation submission to SHPO
Contra Costa County Flood Control and Water Conservation District Encroachment Permit	Phase 2: Permission to construct new access road from Pacheco Creek levee to Site 4. Site 3 Valve Replacement. Phase 3: 1) Construction easement on CCCFC&WCD property from Site 5 to Site 4, 2) New long-term easement on CCCFC&WCD property (from Site 5 to Site 4), 3) Temporary construction access easement on the Conco property/ CCCFC&WCD easement for construction monitoring, 4) Long term access on Conco property/ CCCFC&WCD easement, 5) Permission to dispose of standing water to LWRP property or Walnut Creek (if required).	Pending Completion of CEQA

2.3 WORK SCHEDULE AND ENVIRONMENTAL WORK WINDOWS

There are site-specific scheduling restrictions based on environmental factors considered in Section 3 – Environmental Checklist. Temporary staging and maintenance area road improvements around the new HDPE pipeline tie-ins will require the greatest disturbance of wetlands and habitat. Construction of these temporary staging areas must be done at the start of construction. Table 9 below provides a tentative construction schedule for Project activities.

Typical equipment for the site preparation, HDD work, connections, and site restoration would be a maxi-HDD rig, excavators, front-end loaders, drilling mud reclaimer unit, cranes, generators, pile driving rig, drill rig for geotechnical instrumentation, HDPE fusing machine, pump for dewatering, and hauling trucks.

Table 8 below presents the possible schedule for construction of the new HDPE pipelines and Table 9 below presents environmentally based calendar constraints. Some preliminary work to clear heavy vegetation on the Marathon staging areas could occur starting in January before the onset of full project construction should work commence in April. Pipeline drilling and construction is expected to take 6 months to one year. Shutdown of the Shortcut Pipeline is expected to last 4 weeks. Pipeline tie-in will likely be in October 2024. The Project area will be hydroseeded with a native seed mix following the completion of construction.

Table 8. Illustrative Construction Schedule

Activity Window	Activity Type	Construction Duration (within Activity Window)
August 2023 to Fall 2024	Staging, Drilling and Construction of the new HDPE Pipelines.	6 months – 1 year
April-October 2024	Shut down of the SCPL and tie-in of the new HDPE Pipelines.	4 weeks
May 2024 to April 2025	Surface Restoration, Perimeter Fencing, Restore Staging Areas.	2 months

Table 9. Biological Constraints Construction Calendar

Site No.	Nesting Birds Present (Avoidance Window Feb 1-Aug 31)	Work Within Wetlands (Avoidance Window Oct 15-Apr 15)	Pickleweed Present (No Calendar Constraint)
4	X	X	X
5	X	X	X

**SHORTCUT PIPELINE IMPROVEMENT PROJECT – PHASE 3
MITIGATED NEGATIVE DECLARATION SUPPLEMENT (MND)**

**SECTION 3
ENVIRONMENTAL CHECKLIST FOR THE
SHORTCUT PIPELINE IMPROVEMENT PROJECT- PHASE 3**

3. ENVIRONMENTAL CHECKLIST

1. Project title:

Shortcut Pipeline Improvement Project – Phase 3

2. Lead agency name and address:

Mailing

Contra Costa Water District

P.O. Box H20

Concord, CA 94524

Physical Address

2411 Bisso Lane

Concord, CA 94520

3. Contact person and phone number:

Mark A. Seedall

Principal Planner

925 688 8119 (office)

510 388 5282 (mobile)

4. Project location:

Contra Costa County Between the Marathon Refinery and Pacheco Creek.

5. Project sponsor's name and address:

Contra Costa Water District, See 2 above

6. General Plan/Zoning:

Heavy Industry (Marathon and Conco) and Open Space (Walnut and Pacheco Creeks)

The 2011 IS/MND for the Shortcut Pipeline Improvement Project focused on critical repairs and improvements needed to ensure SCPL provides a reliable long-term water supply. The 2011 IS/MND evaluated environmental effects for the following topics: aesthetics, agricultural resources, air quality, biological resources, cultural resources, environmental justice, geology and soils, global climate change, hazards and hazardous materials, hydrology and water quality, Indian trust assets (ITA), land use and planning, mineral resources, noise, population and housing, public services, recreation, socioeconomic resources, transportation/traffic, and utilities and service systems. The Mandatory Findings of Significance within the 2011 IS/MND found that the Project would have a less than significant effect on the environment

This supplemental IS/MND addresses proposed modifications to Phase 3 and hereby incorporates by reference the 2011 IS/MND discussion and analysis of all environmental topics.⁶ Only those environmental topics for which the proposed modifications to Phase 3 or changed circumstances are further analyzed in the checklist below, consistent with CEQA Guidelines Sections 15162 and 15163. Modified Phase 3 is required to comply with all applicable mitigation measures identified in the 2011 IS/MND in addition to new or modified mitigation measures identified in this document. A summary of the additional applicable mitigation measures is provided in Section 4.

The modifications to Phase 3 would not result in changes to the analysis presented in the 2011 IS/MND for the following environmental topics:

- Agricultural Resources
- Geology and Soils
- Land Use Planning
- Mineral Resources
- Population & Housing
- Public Services
- Recreation
- Utilities & Service Systems
- Mandatory Findings of Significance

In addition to the topics above, the 2021 CEQA checklist has been expanded to include Energy, Forestry through additional questions within Agricultural Resources and Wildfire. The modified Phase 3 results in “no impacts” for all of these new 2021 CEQA checklist areas.

The following environmental topics are analyzed for the modified Phase 3 and further analysis is provided herein:

- Air Quality- The estimated construction emissions need to be reanalyzed and new Bay Area Air Quality management permit conditions are now required.
- Biological Resources – Additional wetlands areas and Salt Marsh Harvest Mouse habitat

⁶ The 2011 IS/MND is available for review online at <https://ceqanet.opr.ca.gov/Project/2011092059> and a printed copy is available by contacting mseedall@ccwater.com.

are impacted and requests to modify prior approved permit conditions from the USFWS and SFRWQCB are required.

- Cultural Resources – A comprehensive analysis of cultural resources for the larger modified Phase 3 construction area has been conducted.
- Greenhouse Gas Emissions – The estimated construction emissions are expected to increase.
- Hazards and Hazardous Materials – The larger site footprint requires a more extensive review of nearby hazards.
- Hydrology and Water Quality – Groundwater extraction will be required and there are known hydrocarbons that exceed SFRWQCB permit thresholds.

3.1 AIR QUALITY

Would the Project:

ISSUES:		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a.	Conflict with or obstruct implementation of the applicable air quality plan?		X		
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c.	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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)		X		
d.	Expose sensitive receptors to substantial pollutant concentrations?		X		

BACKGROUND

ATTAINMENT PLANNING STATUS

The San Francisco Bay Area (SFBA) currently has attainment designations listed in Table 10. Listed designations are for ambient air quality standards known as the National Ambient Air Quality Standards (NAAQS). SFBA attainment/non-attainment designations are summarized below:

- a marginal non-attainment area for both 1997 and 2008 8-hour ozone NAAQS;
- a maintenance area for the carbon monoxide (CO) 8-hour NAAQS; and,
- an attainment area for the 24-hour 2006 PM_{2.5} NAAQS.

In 2015, the 2008 8-hour ozone standard was made stricter, being lowered by U.S. EPA to 0.070 ppm from 0.075 ppm. Recent ozone design values for the SFBA are 0.069 (2018-2020) and 0.073 ppm (2017-2019), which bracket the stricter 8-hour ozone NAAQS.

Primary state and federal ambient air quality standards listed in Table 11 are intended to reduce adverse health effects of air pollution.

Table 10. San Francisco Area Attainment Status December 2021

Criteria Pollutant	Federal Attainment Status
Ozone (O ₃), 8-hour (1997)	Non-attainment (marginal) ^{1,2}
Ozone (O ₃), 8-hour (2008)	Non-attainment (marginal) ³
Nitrogen Dioxide (NO ₂)	Attainment-Unclassified
Carbon Monoxide (CO), 8-hour	Attainment—Maintenance
Particulate Matter (PM ₁₀)	Attainment—Unclassified
Particulate Matter (PM _{2.5}), 24-hour (2006)	Non-Attainment (moderate) ^{4,5}

Notes:
 NAAQS National Ambient Air Quality Standard promulgated under the federal Clean Air Act.
¹ Previous 1-hour ozone NAAQS non-attainment areas are no longer subject to the revoked 1-hour NAAQS as of June 15, 2005.
² Effective June 2004 the San Francisco Bay Area (SFBA) was designated as a marginal non-attainment area for the 8-hour 1997 ozone NAAQS.
³ In 2008, U.S. EPA revised the 8-hour ozone standard to 0.075 parts per million (ppm) from 0.080 ppm. Non-attainment designations for the 8-hour 2008 ozone NAAQS were postponed. The SFBA’s design values of 0.081 (2006-2008) and 0.078 ppm (2007-2009) did not meet the 2008 ozone NAAQS. Effective April 2012, U.S. EPA designated most of the SFBA as marginal non-attainment of the standard. Recent ozone design values are 0.069 (2018-2020) and 0.073 ppm (2017-2019).
⁴ On December 14, 2009, U.S. EPA designated the SFBA as non-attainment for the 24-hour 2006 PM_{2.5} NAAQS based upon violations of the standard over the three years 2006-2008.
⁵ In final rule-making signed on December 18, 2012, U.S. EPA determined that the SFBA had attained the 2006 federal PM_{2.5} NAAQS based on the ambient air quality data for 2009-2011. The attainment determination became effective on February 8, 2013; however, the non-attainment area designation was not changed. Subsequent PM_{2.5} monitoring shows that the SFBA no longer meets the 24-hour PM_{2.5} standard. The current PM_{2.5} design value as of May 8, 2020, is 48 µg/m³ for the three years (2017-2019) of air quality data, which is well above 35 µg/m³.

HEALTH EFFECTS

Health Effects of Ozone

Depending on concentration and exposure duration, ozone can have the following health effects:

- induce coughing and sore or scratchy throat;
- cause pain when taking a deep breath;
- inflame and damage the airways;
- increase susceptibility to respiratory infection; and,
- aggravate asthma, emphysema, and chronic bronchitis.

These effects may affect even healthy adults; however, effects can be more severe in people with pre-existing conditions such as asthma.

Health Effects of Fine Particulate Matter (PM_{2.5})

Exposure to PM_{2.5} can have all of the following effects:

- exacerbate both respiratory effects (*e.g.*, asthma, bronchitis)
- exacerbate cardiovascular system effects (*e.g.*, cardiac arrhythmias and heart attacks)
- increase absences from school or work
- increase hospital admissions, emergency room visits,
- restrict activity on days having elevated levels of PM_{2.5}

Table 11. Partial List of Applicable & Relevant Ambient Air Quality Standards in the San Francisco Bay Area

Air Pollutant	California		Federal		Comments
	Standard	Status	Standard	Status	
Ozone (O₃)	0.070 ppm (8-hour)	N	0.070 ppm ¹ (8-hour)	N (2015) ²	Federal attainment or non-attainment refers to the designation of an area that has met or not met the NAAQS. Air quality plans are intended to meet first the NAAQS.
	0.09 ppm (1-hour)	N	revoked (1-hour)	A (2004)	
Carbon Monoxide	9.0 ppm (8-hour)	A	9 ppm (8-hour)	A (1998)	8-hour refers to the average concentration measured continuously during eight consecutive hours.
	20 ppm (1-hour)	A	35 ppm (1-hour)	A	
Particulate Matter (PM₁₀)	50 µg/m ³ (24-hour)	N	150 µg/m ³ (24-hour)	U	PM ₁₀ refers to particle sizes less than 10 microns in diameter. Ten microns equals 1 hundredth of one millimeter.
	20 µg/m ³ (annual) ³	N	revoked (annual)	---	
Fine Particulate Matter (PM_{2.5})	None (24-hour)	--	35 µg/m ³ (24-hour)	A (2013) ⁴	PM _{2.5} is the newest standard promulgated by the U.S. EPA. PM _{2.5} refers to smaller particle sizes, less than 2.5 microns in diameter. One micron equals 2.5 thousandths of one millimeter.
	12 µg/m ³ (annual) ³	N	12 µg/m ³ (annual)	U/A (2015) ⁵	
Sulfur Dioxide	0.25 ppm (1-hour)	A	0.075 ppm (1-hour)	A	U.S. EPA established a new 1-hour SO ₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum levels.
	---	---	0.030 ppm (annual)	A	

NOTES:

NAAQS National Ambient Air Quality Standard A attainment area N non-attainment area

() year of U.S. EPA rule-making or effective date U/A unclassifiable/attainment

1. On October 1, 2015, the national 8-hour ozone standard was lowered to 0.070 ppm from 0.075 ppm. The current air quality design value in Contra Costa County is 0.069 ppm (2014-2016).
2. The SFBA is designated a non-attainment area for 2008 8-hour ozone NAAQS, effective July 20, 2012.
3. California ARB established new annual standards for PM_{2.5} and PM₁₀ in June 2002.
4. U.S. EPA lowered the 24-hour PM_{2.5} standard to 35 µg/m³ from 65 µg/m³ effective December 2006. U.S. EPA initially designated the SFBA as non-attainment for the 24-hour 2006 PM_{2.5} standard effective December 14, 2009. But in final rule-making signed on December 18, 2012, U.S. EPA determined that the SFBA has attained the 2006 federal PM_{2.5} NAAQS based on ambient air quality data for 2009-2011. The attainment determination became effective on February 8, 2013. Technically, SFBA will continue to be designated as “non-attainment” for the national 24-hour PM_{2.5} standard until the BAAQMD submits a re-designation request and a maintenance plan to U.S. EPA and U.S. EPA approves the proposed re-designation.
5. Effective March 18, 2013, the new federal PM_{2.5} standard is 12 µg/m³ averaged during a year. Attainment status here refers to attainment of the previous 15 µg/m³ standard. The final attainment area designations for the federal standard are effective April 15, 2015, which is 90 days after their publication in the federal register.

SOURCES: BAAQMD, December 2021

<http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>

Health Effects of Diesel Particulate Matter (DPM)

DPM, which is part of PM_{2.5}, contains carcinogenic constituents. Construction equipment contributes approximately 30 percent of cancer risk-weighted Toxic Air Contaminant (TAC) emission. California ARB first classified DPM as a TAC in 1998. DPM emitted by diesel engines is believed to be the leading TAC in the SFBA, contributing 10–20 percent of PM-related illness and mortality (BAAQMD, 2017a; BAAQMD, 2012a).^{7,8}

AIR QUALITY PLAN

The Bay Area Air Quality Management District (BAAQMD) recently published and adopted the current 2017 Clean Air Plan (CAP) on April 19, 2017. The 2017 CAP seeks to identify and implement actions including regulations and rules necessary to meet or maintain the applicable air quality standards. For example, control measure SS36 is intended to reduce particulate matter (PM). Control measure SS36 was adopted as BAAQMD Regulation 6, Rule 6 on August 1, 2018, to eliminate PM track-out at bulk material sites and construction sites effective July 1, 2019. Stationary sources control measures SS1 through SS12 of the 2017 CAP aim to reduce refinery emissions of SO₂, which comprise approximately 25 percent of SO₂ emissions in the SFBA.⁹

Control strategies in the 2017 CAP are intended to:

- 1) reduce emissions of multiple pollutants including NO_x, Reactive Organic Gases (ROG), PM_{2.5}, and Diesel Particulate Matter (DPM), as well as carbon dioxide (CO₂) and black carbon;
- 2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities already affected by air pollution; and,
- 3) reduce GHG emissions to protect the climate.

The ozone standards will be attained by ROG emission reductions deriving from a combination of stationary source measures (SSMs), on-road vehicle exhaust controls, and required changes in consumer products.

AIR POLLUTANT SOURCES AND CONTROLS

Nitrogen Oxides (NO_x) and Reactive Organic Gases (ROG)—The 2017 CAP, and its predecessors, consider NO_x and ROG as ozone precursors. Regional emission budgets aim to reduce NO_x and ROG to attain the ozone standards. SSMs are summarized in the 2017 CAP (BAAQMD, 2017a). Of the 18 stationary source control strategies proposed in the 2010 CAP, eight have been adopted in regulations/rules, and ten others have been carried forward in the 2017 CAP. Table 5-1 of the adopted 2017 CAP lists 40 additional stationary source control measures

⁷ Figures 2-14 and 2-15 (pages 2/26 & 2/27) of the 2017 CAP illustrate the relative contributions made by DPM to cancer risk and chronic illness.

⁸ PM_{2.5} emitted directly from non-diesel sources (*e.g.*, wood smoke, cooking, combustion of non-diesel fossil fuels) and PM_{2.5} formed indirectly by precursors (*e.g.*, NO_x, SO₂, and ammonia) are responsible for most airborne PM_{2.5}. See Figure 16.

⁹ BAAQMD, 2017b. 2017 CAP, Chapter 5, Table 5-1, pages 5/4, 5/5, and 5/6.

included in the 2017 CAP. State and federal regulation of non-road diesel construction equipment also will be important for reducing ozone precursor emissions in the SFBA.

Particulate Matter Less Than 2.5 Micrometers in Diameter (PM_{2.5})

Ambient airborne PM_{2.5} derives from direct emissions and from secondary compounds created in the atmosphere. Ammonia is a key precursor to secondary PM. Ammonia combines with SO_x to form ammonium sulfate. As shown in Figure 16, on-road and non-road vehicles and equipment combined contribute 20 percent of ambient PM_{2.5} measured at ground level.¹⁰

Diesel Particulate Matter (DPM)

DPM originates from diesel exhaust and has a substantial fraction of particles less than 1.0 micrometer. These particles tend to stay airborne for days, while larger particles settle to the ground or adhere/deposit on surfaces. While construction's share of PM_{2.5} emission is unremarkable, its role specifically as a source of 30 percent of cancer risk weighted TACs is noteworthy. State and federal regulation of on-road diesel trucks and non-road diesel construction equipment will be important for reducing DPM emission in the SFBA. U.S. EPA's tiered emissions standards for non-road diesel engines and California ARB's in-use fleet and diesel fuel regulations are expected to assist in providing reductions for ROG, NO_x, and DPM emissions during 2015-2030.

Toxic Air Contaminants (TACs)

Within 1,000 feet of the SCPL Phase 3 Improvement Project site, there is one stationary source of TAC emission. This is the Martinez Cogeneration Limited Partnership Plant (ID 1820) as shown in Figure 17. The Martinez Cogen Limited Partnership electric power generating plant (BAAQMD ID 1820) is located approximately 400 feet northeast of the northeastern tip of Site 5. The Marathon Refinery (formerly, Tesoro Refining and Marketing, BAAQMD ID 14628) is located east of project site. Other stationary sources are present, but they are located farther than 1,000-feet from the project site. Shell (now PBF) (BAAQMD ID 11) is located 1.4 mile west of the project site.

COMMUNITY AIR RISK EVALUATION (CARE) COMMUNITIES

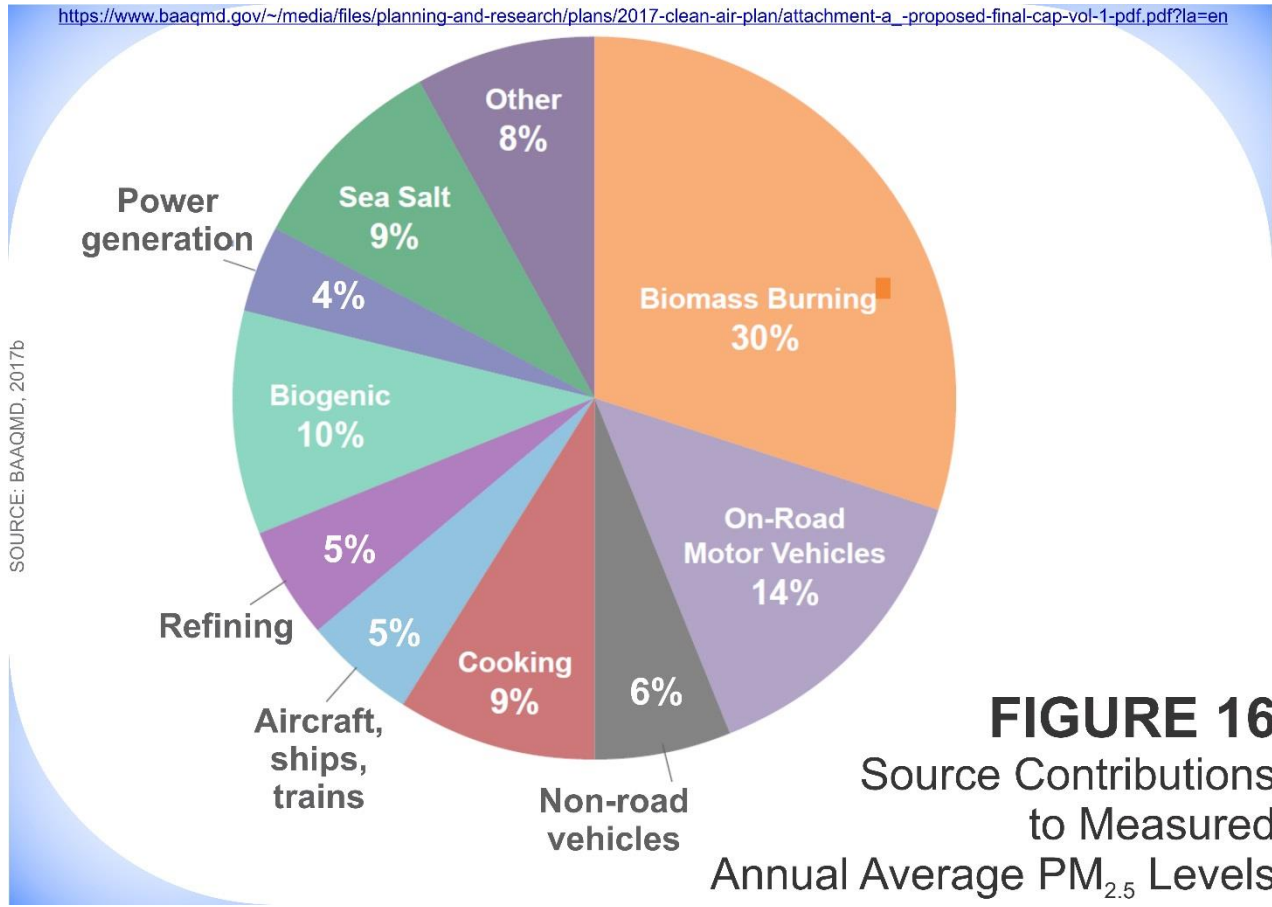
Seven priority CARE communities¹¹ have been identified based emissions of TACs and exposure of youth, seniors, and low-income populations to air pollution. The SCPL Phase 3 Improvement Project site is located within the Concord CARE area (see Figure 18).

Priority community areas shown in Figure 18 have high pollution vulnerability index, high emission index, or both. Figure 18 additionally shows coincidence between priority communities and areas known to have elevated levels of both ozone and PM_{2.5}.

¹⁰ BAAQMD, 2017b. 2017 CAP, Chapter 2, Figure 2-8, page 2/20.

¹¹ In the CARE program, a priority community is an area, designated by the BAAQMD, where levels of toxic air contaminants are higher than in other areas and where people may be particularly vulnerable and may bear disproportionately higher adverse health effects.

The project site is located at the northern end of the Concord priority community area. It is located within a zone of high emissions index but outside the mapped zone of high pollution vulnerability index.



KEY

-  Short-Cut Pipeline
-  Project Site
-  TAC Source
-  Waste Management Unit (WMU)
-  Lower Walnut Ck. Restoration Project Area
-  Concord Priority Community—portions of northern & western limits

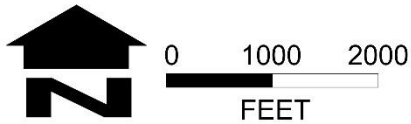
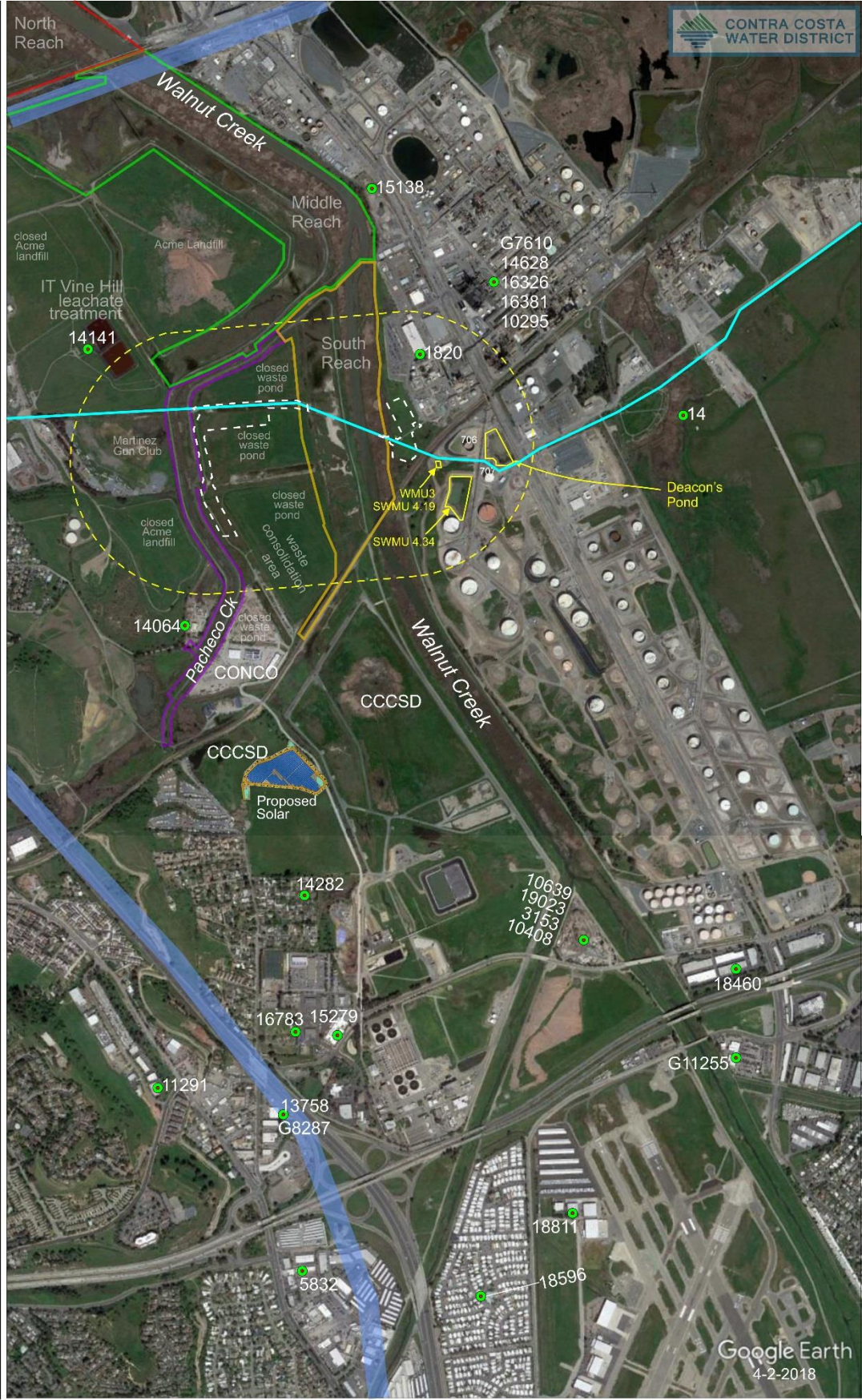


FIGURE 17
Stationary Sources
of Toxic Air Contaminants (TACs)

http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.aspx?la=en



FIGURE 18
Impaired Air Quality Areas and Priority Communities

SENSITIVE RECEPTORS

Sensitive receptors are defined as facilities where children, the elderly, the acutely ill and the chronically ill are likely to be present. Examples of land uses that can be expected to shelter sensitive receptors include housing, retirement homes, and convalescent homes; schools, childcare centers; and hospitals. Around the project site, sensitive receptors are not located within 1,000 feet of the outer limit of the construction footprint.

The SCPL Phase 3 Improvement Project site is located in the northwestern corner of the Concord priority community, which is one of the BAAQMD-designated Community Air Risk Evaluation (CARE) priority communities. The project site's western limit is 0.7 mile east of Interstate 680 (I-680), and the project site's southern limit is 1.4 mile north of Highway 4 (SR4). The nearest sensitive receptors are residences:

Irene Drive and Central Avenue residences: 0.40 to 0.55 mile west-northwest, west, or west-southwest of the project site;

Blum Road, Explorer Way, Emshee Lane, Clipper Lane, and Austen Way residences: 0.65 to 0.74 mile south of the project site; and,

Tesoro Sports Complex, 1743 Arnold Industrial Way: 1.3 miles southeast of the project site.

WIND

The project site is located along the Delta region east of Carquinez Strait and west of the Central Valley. Prevailing daytime winds year-round tend to carry air pollution toward the east. At the Concord Buchanan Field weather station, the annual wind rose shows that winds from the northwest through the south (that is, blowing toward the north through southeast) prevail during 60 percent of hourly observations on an annual basis. Morning winds from the south are influenced by downslope drainage from Mt. Diablo and the Ygnacio Valley. Construction fumes and dust during site preparation, drilling, and pipe installation would tend to be carried toward the north, northeast, east or southeast under typical conditions, which is away from the local residential receivers.

ENVIRONMENTAL CHECKLIST SUMMARY

A. Would the proposed project conflict with or obstruct implementation of any applicable air quality plan?

Less than Significant with Mitigation Incorporated – The proposed project would not conflict with the BAAQMD's adopted 2017 CAP or measures to reduce emissions of multiple pollutants (NO_x, ROG, PM_{2.5}, DPM, and CO₂) and safeguard public health by reducing exposures to TACs. The 2017 CAP includes a list of stationary source control measures, which include SS36 to minimize track-out of soil/mud from construction sites and bulk material storage sites. The 2017 CAP includes control strategy TR22 for early deployment of Tier 3 and Tier 4 off-road engines.

Tier 3 and Tier 4 are cleaner diesel engines, which emit pollutants at substantially lower rates than older Tier 1 and Tier 2.

These control measures are potentially applicable to the project construction as follows: Proposed Regulation 6, Rule 6 (anti-trackout) applies to project construction. Incentives for construction equipment engine upgrades (TR22) apply in general. TR16 (New Source Review of Toxic Air Contaminants) or Regulation 2, Rule 5, does not apply as the proposed project is not a new or modified source or a stationary source of TACs.

AQ Impact-1 The proposed project entails limited excavation, directed subsurface boring, other earth disturbance and travel on unpaved roads; therefore, it has the potential to cause track-out of mud and soil carried onto public roads. This could conflict with control measures in the adopted 2017 CAP.

AQ Mitigation Measure-1: Provisions for track-out control of soil/mud from project construction will be implemented as construction best practices BP6 and BP7 described in Table 12.

B. Would the proposed Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact – The SFBA is a non-attainment area for ozone, PM₁₀, and PM_{2.5} under federal and/or state ambient air quality standards. Ozone precursors, which form ozone in a reaction with sunlight, include ROG and NO_x. The proposed project would add short-term emissions of ozone precursors and PM during construction. After its construction, the proposed project would not result in recurring incremental emissions for operations or cause increases in any of the criteria air pollutants for which the region is a non-attainment area. By fixing the damaged segment of pipeline, the project would likely avoid emissions from escalating monitoring and maintenance or repair activities.

Construction-phase emissions were estimated based upon the expected construction equipment list and equipment operating hours. Fleet-average, Tier 3, or Tier 4 emission rates, from Road Construction Emission Model Version 9.0.0 (RCEM) were assumed for ROG, NO_x, SO₂, CO, PM₁₀, PM_{2.5}, and GHGs. Equipment, equipment daily work hours, schedule, and emission rates were entered into an RCEM to facilitate calculations.

ROG, NO_x, and PM would be emitted in the exhaust of non-road diesel powered equipment, including the diesel-powered HDD rig, drilling mud reclaimer, generators, and pumps. PM also would be emitted as fugitive dust during off-road travel, earthwork, and soil stockpiling. Owing to the proposed use of HDD rather than open trench, NO_x and PM emission are substantially lessened for the construction of the project. With the HDD approach for the construction of the project, emission of ROG would be 0.15 ton and emission of NO_x would be 1.5 tons. Exhaust emission of PM₁₀ would be 0.036 ton, and exhaust emission of PM_{2.5} would be 0.056 ton (see Table 13).

Table 12. Construction Practices for Fugitive PM Controls

Construction Basic Practices for Dust Control	
A1	Water [<i>at least</i>] two times per day exposed soil surfaces (<i>e.g.</i> , staging areas, soil piles, graded areas, and unpaved access roads). BEST Maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
A2	Cover haul trucks transporting soil, sand, or other loose material to or from the site.
A3	Remove visible mud or dirt track-out onto adjacent public roads, using wet power vacuum street sweepers at least once per day. The use of dry power sweeping should be done in conjunction with thorough watering of the subject roads.
A4	Limit vehicle speeds on unpaved roads [<i>less than</i>] 15 mph.
A8	Post a sign visible to the public with the telephone number and person to contact at the Lead Agency regarding dust or odor complaints. The Air District’s Complaint Line (1-800-334-6367) shall also be included on posted signs to ensure compliance with applicable best practices and regulations. <i>NOTE: The recommended response time for corrective actions, if any, shall be within 48 hours.</i>
Construction Best Practices for Dust Control	
BP1	Water exposed soil surfaces to maintain soil moisture at 12 percent or higher
BP2	Suspend grading or demolition when average wind speed exceeds 20 mph or 10 mph over average.
BP3	Install wind breaks (<i>e.g.</i> , trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
BP4	Plant vegetative ground cover (<i>e.g.</i> fast germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.
BP5	Phase or stagger grading activities to reduce the amount of earth disturbance and equipment exhaust occurring next to a specific sensitive receptor at any one time.
BP6	Wash truck beds, trailers, equipment tracks or tire treads before hauling or transporting equipment off site.
BP7	Treat the site entry with a six- to 12-inch compacted layer of wood chips, mulch, or gravel, to minimize mud/dirt track-out.
SOURCE: BAAQMD, 2017. <i>California Environmental Quality Act Air Quality Guidelines</i> , May 2017, (224 pp.). http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en BAAQMD, 2016. <i>Planning Healthy Places; A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning</i> , DRAFT, January 2016, (44 pp.), pp. 14-15 and 25. http://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/draft_planninghealthyplaces_marchworkshop-pdf.pdf?la=en	

Table 13. Construction Emissions for the SCPL Phase 3 Improvement Project

EMISSION CATEGORY	ROG	CO	NO_x	SO_x	PM₁₀exh	PM_{2.5}exh	CO_{2e}
Construction daily exhaust emissions							
Maximum pounds/day	2.6	27	21	0.76	0.57	0.89	9,900
Average pounds per day	1.53	17	16	0.44	0.37	0.58	7,100
Annualized pounds per day	0.82	8.8	8.4	0.24	0.20	0.31	3,800
BAAQMD THRESHOLD	54	NA	54	NA	82	54	NA
Construction total exhaust emissions							
Total (tons)	0.15	1.6	1.5	0.04	0.04	0.06	---
CO _{2e} (metric tons)	---	---	---	---	---	---	650 ⁽²⁾
2007 Final EA max. per segment⁽¹⁾	0.6	---	5.0	---	---	---	---
BAAQMD THRESHOLD (tons)	10	NA	10	NA	15	10	---
CO_{2e} (metric tons)	---	---	---	---	---	---	1,100⁽³⁾
NOTES							
(1) These emissions of ROG and NO _x were estimated for the original project Segment 1, with the further qualification that subsequent phases, also known as segments, would not generate higher quantities.							
(2) Rounded to the nearest 50, to 650 MT CO _{2e} from 630 MT CO _{2e} .							
(3) Current operational threshold. BAAQMD has not re-established a numerical greenhouse gas emission threshold for construction, which previously had been 1,100 metric tons (MT CO _{2e}) for operations and construction.							

Calculated emissions do not exceed either 1) BAAQMD thresholds of significant effect or 2) maximum emissions projected in 2007 in the original EA/FONSI. At the time of the original analysis, maximum emissions for any phase (or, segment) were projected not to exceed 0.61 ton of ROG (or, VOC) and 5.02 tons of NO_x. The BAAQMD’s recommended thresholds of significant effect are 10 tons/year (54 pounds/day) for ROG, NO_x, and PM_{2.5} exhaust and 15 tons/year (82 pounds/day) for PM₁₀ exhaust. Therefore, the construction of the proposed project is not in a class of construction project that is considered by the BAAQMD to have potential for causing or contributing to a violation of an ambient air quality standard.

C. Would the proposed Project 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant with Mitigation Incorporated – The proposed project would not generate substantial recurring emissions of ozone precursors ROG and NO_x, or PM. Construction-phase emissions of ROG, NO_x, PM_{2.5} exhaust and PM₁₀ exhaust were estimated and found not to exceed thresholds of significant effect. Therefore, construction of the proposed project is not in a class of construction project that is considered to have potential for causing or contributing to a violation of criteria air pollutant standards.

AQ Impact-2 Construction of the proposed project would generate fugitive dust during earthwork and travel on unpaved roads. The BAAQMD views these construction emissions as mitigated and less-than-significant subject to implementation of recommended Construction Basic Practices and Construction Best Practices for compliance with BAAQMD’s anti-trackout rule.

AQ Mitigation Measure-2: To minimize fugitive PM emission and downwind PM concentrations from on-site construction, implement Construction Basic Practices A1 through A4 and A8 and Construction Best Practices BP6 and BP7 for anti-trackout (see Table 12).

Impact-3 Construction of the proposed project would generate exhaust PM. The BAAQMD views these PM exhaust emissions as mitigated and less-than-significant subject to implementation of recommended Construction Basic Practices.

AQ Mitigation Measure-3: To minimize exhaust PM emission and downwind PM concentrations from on-site construction, the BAAQMD recommends implementation of Construction Basic Practices A6 and A7 for non-road equipment exhaust control (see Table 14).

Table 14. Construction Practices for Non-Road Equipment Exhaust Control

Construction Basic Practices for Control of Exhaust	
A6	Minimize idling times to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
A7	Maintain and properly tune all construction equipment in accordance with the manufacturers’ specifications.
Construction Best Practices for Control of Exhaust	
BP9	Limit idling time of diesel powered construction equipment, trucks and generators to no more than 2 minutes. Post clear signage regarding the Idling Time Limit at all access points.
BP10	The applicant/general contractor for the project shall demonstrate to the local jurisdiction that all off-road equipment greater than 50 hp that will be operating during construction, including equipment from subcontractors, would achieve a project-wide fleet-average 20 percent NO _x reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines (Tier 3 or Tier 4), alternative fuels, engine retrofit technology, after-treatment low-emission diesel products, add-on devices such as particulate filters (DPFs), and/or other options as such become available. <i>NOTE: Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet the Verified Diesel Emission Control Strategies (VDECS) requirement.</i>
BP12	Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO _x and PM.
BP13	Require contractors to use equipment that meets California ARB’s most recent certification standard for non-road heavy duty diesel engines.
<p>SOURCE: BAAQMD, 2017. <i>California Environmental Quality Act Air Quality Guidelines</i>, May 2017, (224 pp.). http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en BAAQMD, 2016. <i>Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning</i>, DRAFT, January 2016, (44 pp.), pp. 14-15 and 25. http://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/draft_planninghealthyplaces_marchworkshop-pdf.pdf?la=en</p>	

D. Would the proposed Project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant with Mitigation Incorporated – Proposed materials include HDPE pipe and bentonite drilling fluid. Bentonite is a clay solid that will be hydrated to form a slurry. Bentonite and bentonite clay slurry are odorless and do not generate emission of air pollutants. Facing and butt fusion of HDPE pipe under heat and pressure are not reported to generate odors. Use of heat and pressure to bond sections of HDPE pipe does not entail use of solvents or glues to create the bond. The sole air pollutants of potential concern during the construction, therefore, are PM_{2.5} in exhaust, which is a proxy for DPM.

The prevailing winds typically would carry and disperse construction-phase air pollutants toward the east, southeast, northeast, or north, away from the nearest residences, which are located south and west of the project site. Adverse winds blowing toward the nearest sensitive receptors occur on average during 24 percent of afternoon observations, 16 percent of morning observations, and 14 percent of observations over all hours. Around the project site, the minimum separation distance of the project site from the nearest houses is 0.40 mile. This separation is sufficient to reduce the potential for odor nuisance and PM under most conditions to less-than-significant.

AQ Impact-4: Potential malodors from construction exhaust would be avoided by implementing Construction Basic Practices. In the event of incidental or accidental spillage during refueling,—under adverse winds blowing toward the west, southwest, or south,—odor from spilled fuel potentially could cause inadvertent odors.

AQ Mitigation Measure-4: Carefully refuel in designated areas with spill response equipment and supplies available on-site to minimize incidental spills and respond in the event of accidental spills.

3.2 BIOLOGICAL RESOURCES

Would the Project:

ISSUES:		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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?		X		
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?		X		
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
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?		X		
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

Summary

A. Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated – The Proposed Project could affect salt marsh harvest mouse through increased disturbance and habitat destruction. Increased levels of disturbance to salt marsh harvest mouse would result from noise and vibrations from equipment and other repair work activities, and potential destruction of SMHM habitat.

Operation of equipment and associated loss of habitat could result in displacement of salt marsh harvest mouse from protective cover and territories/home ranges (through noise and vibrations), and/or direct injury. These disturbances could disrupt normal behavior patterns of breeding, foraging, sheltering, and dispersal, and may result in the displacement of salt marsh harvest mouse in the areas where SMHM habitat is destroyed. Displaced SMHM may have to compete for resources in condensed, occupied habitat and may be more vulnerable to predators. Because SMHM are reproductively active from March through November, disturbance during this period could result in abandonment or failure of the nest and litter. Thus, displaced SMHM could suffer from increased predation, competition, injury, and reduced reproductive success.

Construction associated with the Proposed Project will result in the creation of new maintenance areas and improved access roads that are currently open space areas near or within seasonal wetland, tidal marsh, and upland grassland habitats. These areas provide suitable foraging, breeding, nesting, and refuge habitat to a variety of local wildlife species, including the SMHM. Although SMHM is mainly nocturnal, they have been observed to travel and forage during the day. Increased traffic associated with the Proposed Project could harass SMHM. Additionally, the improvements of existing access roads could potentially further isolate SMHM populations within the action area from those on adjacent lands. This impact would be temporary and cease once construction work is completed, and the maintenance areas and roads would only be used minimally for operations & maintenance.

Implementation of the mitigation measures listed below would reduce any potential significant impacts to less than significant, and other forms of take would be avoided.

BIO Mitigation Measure-1: Preconstruction Surveys – Prior to the initiation of exclusion fencing installation, vegetation clearing, and other construction activities, a Service approved biologist will conduct pre-construction surveys for SMHM.

BIO Mitigation Measure-2: Preconstruction Environmental Training – Prior to initiation of construction activities, all construction personnel will participate in an endangered species training program to be given by the Service-approved biological monitor. The training will provide information about the SMHM, measures being implemented to avoid impacts to the species, and procedures to follow should a SMHM be

encountered during routine activities. Training materials will be in Spanish and English.

BIO Mitigation Measure-3: Biological Monitoring – A U.S. Fish and Wildlife Service-approved biological monitor will be present during vegetation clearing and SMHM exclusion fence installation. Once the SMHM exclusion fencing has been installed and all work activity is confined to the cleared work site, the biological monitor will inspect the site at least once per day while construction is ongoing.

BIO Mitigation Measure-4: Contingency if SMHM is found on site - If a SMHM is observed within the areas being removed of vegetation or elsewhere within the work site, the biological monitor will stop work in the immediate area until the salt marsh harvest mouse leaves the work area on its own volition.

BIO Mitigation Measure-5: SMHM Exclusion Fencing – Exclusion fencing for SMHM will be installed between areas of SMHM habitat and work sites immediately following vegetation removal and before excavation activities begin to prevent entry of the SMHM into cleared areas.

BIO Mitigation Measure-6: Habitat Restoration – All temporarily disturbed sites shall be restored to full functions and values in the 12-month period following impacts. A three-year monitoring and maintenance period is prescribed for these sites to ensure they meet pre-construction habitat quality.

BIO Mitigation Measure-7: SMHM Habitat Compensation – CCWD will mitigate for SMHM offsite at Cordelia Slough Preserve (or another Service-approved site if not possible at this location), at a 1:1 ratio for short-term temporary disturbance (less than 12 months) involving major construction activities including vegetation removal, trenching, HDPE mats, and the use and staging of heavy equipment. Permanent impacts will be compensated at a 3:1 ratio.

B. Would the proposed Project 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 with Mitigation Incorporated – The method proposed for Project pipeline repairs avoids most habitats by drilling deep below the surface thereby avoiding impacts on the surface. Surface impacts do not occur within riparian habitat. There are areas of pickleweed mats (*Sarcocornia pacifica*) which are a sensitive natural community within the temporary impact areas of the Proposed Project on both Site 4 and Site 5. These temporary impacts will result in less than significant adverse effects with implementation of the mitigation measures listed below.

BIO Mitigation Measure-8: Pickleweed Harvesting and Propagation - Pickleweed within temporary impact areas will be mowed with string trimmers with saw-blade attachments to the soil surface leaving the root system intact. These areas will be covered with Visqueen sheeting (or similar) and marsh mats to allow equipment to drive on these

areas. When construction is completed, the marsh mats and Visqueen sheeting will be removed and the pickleweed will be allowed to regrow naturally. In addition, areas of pickleweed impact will be permanently mitigated for at Cordelia Slough Preserve as a part of the SMHM habitat mitigation (see BIO Mitigation Measure 7).

C. Would the project 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 Incorporated – The Proposed Project may temporarily interfere with the movement of the federally endangered SMHM due to the temporary installation of a wildlife exclusion fence around the staging and work areas of the Proposed Project. This temporary fencing would prevent SMHM and other species from moving across the work site to habitats on the opposite side. The work area on Site 4 is also a native nursery site for SMHM that would be unavailable for the construction duration of the Proposed Project. Implementation of BIO 1, BIO 6 and BIO 7 referenced above would reduce any potential significant impacts to less than significant, and other forms of take would be avoided.

D. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated – The Proposed Project access road improvements and maintenance pad construction in wetland areas would require the permanent filling of 0.552 acres of isolated wetlands (all at Site 4), plus 2.881 acres affected on a temporary basis for staging of equipment (at both Sites 4 and 5). No Corps jurisdictional wetlands will be impacted by the creation of maintenance pads or road improvements, however, 0.465 acres will be temporarily impacted for access and staging. The Proposed Project would include onsite restoration of all temporary impacts. Wetland mitigation will fulfill requirements of the Clean Water Act section 404 permit, and the section 401 water quality certification. Implementation of BIO 6 Plus BIO 9 and 10 would reduce any potential significant impacts to less than significant, and other forms of take would be avoided.

BIO Mitigation Measure-9: Wetland Compensation – The San Pablo-Rheem Creek Wetland Restoration Project contains already established seasonal wetlands on an 8.6 acre set of parcels adjacent to Rheem Creek and Breuner Marsh, located in the City of Richmond. Wetlands will be mitigated consistent with Phase 2 requirements – 1:1 for permanent impacts and 0.1:1 for temporary impacts.

BIO Mitigation Measure-10: Erosion Control – To control erosion during and after implementation of the Proposed Project, the contractor would implement a Stormwater Pollution Prevention Plan (SWPPP) with appropriate BMPs, in accordance with San Francisco Bay Regional Water Quality Control Board guidelines.

E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact – The Proposed Project will not conflict with any local policies or ordinances protecting biological resources as the Proposed Project plans do not include the removal of any trees. Thus, no impact is anticipated.

F. Would the project 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 Impact – The Proposed Project would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. No such conservation plans have been adopted encompassing the Project vicinity, and *no impact* is therefore anticipated. No mitigation is considered necessary.

3.3 CULTURAL RESOURCES

Would the Project:

<i>ISSUES:</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a.	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.57?		X		
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c.	Disturb any human remains, including those interred outside of formal cemeteries?		X		

Cultural resources include precontact (prehistoric) and historic-era archaeological sites and objects, as well as extant historic structures, buildings, and locations of important historic events or sites of traditional and/or cultural importance to various groups. The CEQA of 1966 is the primary State legislation that outlines the lead non-federal agency’s (state, county, city, or other) responsibility to cultural resources. The CEQA Statutes and Guidelines (Title 14, California Code of Regulations, Section 15064.5) requires the lead non-federal agency to take into consideration the adverse impacts of a Proposed Project to historical resources listed in, or formally determined eligible for, the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), or local registers.

CEQA further defines a “historical resource” as a resource that meets any of the following criteria:

- A resource listed in, or determined to be eligible for listing in, the National Register or California Register.
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code (PRC), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- A resource identified as significant (rated 1–5) in a historical resource survey meeting the requirements of PRC Section 5024.1(g) Department of Parks and Recreation (DPR) Form 523, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered “historically significant” if it meets the criteria for listing on the California Register.

California Register of Historical Resources

The California Register of Historical Resources is designed to “identify, evaluate, register and protect California's historical resources. The Register is the authoritative guide to the state's significant historical and archeological resources” (California Office of Historic Preservation 2020).

A resource may be eligible for listing in the California Register of Historical Resources if it:

- 1) Is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- 2) Is associated with the lives of persons important to local, California, or national history;
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values; or
- 4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation. (California Office of Historic Preservation 2020)

The eligibility of archaeological sites is usually evaluated under Criterion 4—their potential to yield information important to prehistory or history. Criterion 3 is most often applied to built environment resources (e.g., buildings, fences, and landscape features). Whether or not a site is considered important is determined by the capacity of the site to address pertinent local and regional research themes. Public Resources Code Section 21084.1 stipulates that any resource listed in or eligible for listing in the California Register of Historical Resources is presumed to be historically or culturally significant.

Assembly Bill 52

Assembly Bill (AB) 52 established a consultation process with all California Native American tribes identified by the Native American Heritage Commission (NAHC) as having cultural ties to an area and created a new class of resources under CEQA known as tribal cultural resources.

Pursuant to CEQA Section 21080.3.1(d), within 14 days of a determination that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency is required to contact the Native American tribes that are culturally or traditionally affiliated with the geographic area in which the Project is located. Notified tribes have 30 days to request consultation with the lead agency to discuss potential impacts on tribal cultural resources and measures for addressing those impacts.

The following information is summarized from cultural resources technical reports prepared by Far Western Anthropological Research Group, Inc. (Far Western): *Cultural Resources Inventory for the Contra Costa Water District Shortcut Pipeline Improvements Project – Phase 3, Contra*

Costa County, California (Far Western 2022) and *Archaeological Examination of Geotechnical Borings for the Shortcut Pipeline Replacement Project, Contra Costa County, California* (Meyer 2021).

The Project alignment runs through a lowland marsh area on the southern edge of Suisun Bay, crossing Pacheco Creek and just east of Walnut Creek. These water sources and the associated marsh created a hospitable environment for the region's prehistoric inhabitants. Prior to the arrival of the first Europeans, the Project area was within the northeastern edge of Bay Miwok territory, which extended into the interior valleys of the eastern shore of San Francisco Bay. The Bay Miwok may have been present in the area as far back as 1,500 years ago. Archaeological evidence and Native American history suggest that ancestors of the Bay Miwok may have been present in Contra Costa County as early as 9,000 years ago.

The Bay Miwok comprised five autonomous tribes, each of which functions as independent and sovereign nations: Saclan; Chupcan, Volvon, Julpun, and Tatcan. Previous archaeological investigations in the project area concluded that the Chupcan likely occupied the Project area. The typical tribe had a population of between 200 and 400 people distributed across several permanent settlements and many seasonally occupied camps. Both types of settlements were frequently located adjacent to water sources.

The Project area was first explored by Europeans in 1772 by an expedition led by Pedro Fages. Following the establishment of the San Francisco Presidio by Capt. Juan Bautista de Anza in 1776, Bautista de Anza and his men explored the East Bay shoreline, crossing through the Project area and further eastward toward the present-day city of Tracy.

A records search of recorded archaeological sites and resources was conducted via the Northwest Information Center (NWIC) at Sonoma State University. The records search indicated that there are no previously recorded archaeological resources in the Project area. There are no recorded Native American archaeological resources in the area and no recorded historical buildings or structures. Far Western conducted a desktop archival review of historical maps and aerial imagery and identified one structure mapped within the Project area, overlapping the HDD entry bore and staging area on the east side of Pacheco Creek. This structure is visible on the 1898 Karquines, California United States Geological Survey (USGS) 15-minute topographic quadrangle and is visible on historical aerial imagery as late as 1948. Far Western conducted a pedestrian field survey for the Project area and no cultural resources were identified (Far Western 2022).

Far Western's buried site sensitivity model indicated the potential for buried archaeological resources ranges from moderate to highest within the Project area (Meyer 2021). This variation is based mainly on the position of former stream channels and the age of the surface landforms in this area. Far Western conducted geoarchaeological analysis in five exploratory geotechnical bores taken throughout the Project area and identified four major stratigraphic units. From top to bottom, the upper portion typically consisted of several feet of mixed artificial fill deposits that were mechanically imported from other locations. The fill is underlain by alternating layers of silt, clay and peat that extend to depths ranging from 15 to 50 feet (5 to 15 meters) below the existing

surface, which are also known as “Bay Mud” because they formed in the estuary and marsh that was connected to San Francisco Bay. The Bay Mud is underlain by alluvial floodplain deposits composed of alternating layers of sand, silt, clay, and gravel that were deposited in a terrestrial setting during the Pleistocene and early Holocene periods. The alluvial deposit overlies bedrock encountered at 75 feet (23 meters) below mean sea level, at the shallowest. Because most of the “pre-Bay” terrestrial alluvium lies at elevations of about 30 to 45 feet (9 to 14 meters) below sea level, the surface of this floodplain began to be inundated by rising sea levels between about 7,800 and 6,300 years ago, or early in the middle Holocene. Consequently, these deposits have little potential to contain archaeological materials. No archaeological materials were observed in the geotechnical bores.

Native American consultation is being carried out by the United States Bureau of Reclamation that will address the National Historic Preservation Act (NHPA) and AB 52.

ENVIRONMENTAL CHECKLIST SUMMARY

A. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.57?

Less than Significant Impact with Mitigation Incorporated – The NWIC records search reported that no previously documented historical resources are in the APE. After an intensive pedestrian survey of the APE and geoarchaeological analysis of bores within the APE, no cultural resources, either historic or prehistoric, were identified. It is possible to encounter inadvertent cultural resources during ground disturbing activities; however, with mitigation measure CR-1, impacts become less than significant.

CR Mitigation Measure-1 If any cultural artifacts are encountered during site grading or other construction activities, all ground disturbance in the vicinity shall be halted until a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s).

B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact with Mitigation Incorporated – The NWIC records search reported that no previously documented archaeological resources are in the APE. After field survey and geoarchaeological assessment of bores, no archaeological materials, either historic or prehistoric, were identified. While the deposits within the APE were determined to have low potential to contain archaeological materials at the Proposed Project depths, there is still potential to encounter inadvertent archaeological resources during ground disturbance; however, with mitigation measure CR-1, impacts become less than significant.

CR Mitigation Measure-1 If any cultural artifacts are encountered during site grading or other construction activities, all ground disturbance in the vicinity shall be halted until a

qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s).

C. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact with Mitigation Incorporated – No formal cemeteries or previously recorded human remains were identified within the APE by the NWIC records search, archival review, or pedestrian survey. Geoarchaeological analysis of bores within the APE concluded that there is low potential to encounter human remains during ground disturbance (Meyer 2021). There is still potential to encounter human remains during ground disturbance, however, with mitigation measure CR-2, impacts become less than significant.

CR Mitigation Measure-2 In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately, and a qualified archaeologist shall notify the Office of the Contra Costa County Coroner and advise that office as to whether the remains are likely to be Native American.

If the remains are Native American, the Coroner must notify the NAHC of the discovery within 24 hours. The NAHC will then identify and contact a Most Likely Descendant (MLD). The MLD may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods. Once proper consultation has occurred, a procedure that may include the preservation, excavation, analysis, and curation of artifacts and/or reburial of those remains and associated artifacts will be formulated and implemented.

If the remains are not Native American, the Coroner will consult with the archaeological research team and the lead agency to develop a procedure for the proper study, documentation, and ultimate disposition of the remains. If a determination can be made as to the likely identity—either as an individual or as a member of a group—of the remains, an attempt should be made to identify and contact any living descendants or representatives of the descendant community. As interested parties, these descendants may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods.

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3.4 GREENHOUSE GAS EMISSIONS

Would the Project:

<i>ISSUES:</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a.	Generate greenhouse gases, either directly or indirectly, that may have a significant impact on the environment?		X		
b.	Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases?				X

BACKGROUND

GLOBAL WARMING SETTING

Greenhouse gases (GHGs) refer to gases emitted by man’s post-industrial age activities, which induce global warming and a cascade of related consequences such as ocean acidification, melting of polar ice, rising sea level, and changes to ocean currents and climate.

In addition to CO₂, GHGs include methane, nitrous oxide, and three groups of fluorinated compounds. Although emission of these other greenhouse gases is minor compared to CO₂, they are potent agents of climate change.

Owing to the 100⁺ year persistence of CO₂ and other GHGs in the atmosphere, effects are cumulative. Some of the projected consequences of global warming are already committed, from accumulated post-industrial emission of GHGs.

Global CO₂ concentration as monitored in Mauna Loa, Hawaii, has increased to 417 parts per million by volume (ppmv) in 2021 from 315 ppmv in 1958 (NOAA, 2022). During 1880 to 2021, sea level has risen approximately 10 inches (254 mm). See Figures 19 and 20. Arctic Ocean surface sea temperatures (SSTs) have warmed 2 to 5 degrees Fahrenheit (°F) compared to the August 1982-2010 mean (Timmermans and Labe, 2017).

CLIMATE CHANGE CONSEQUENCES

California

Surface mean air temperature has warmed variably across the state since 1900, by +1 to +2°F in northern California to +3°F in southern California. Snowpack has decreased during 1955-2013 both in the Sierra-Nevada Mountains and also in the mountains that feed the Colorado River basin. More frequently observed weather extremes (*e.g.*, drought and heat waves), increased risk of wildfire, sea level rise, and decreased Sierra snowpack that have manifested in recent decades, are likely consequences of underlying systematic changes in temperature, ocean currents, and winds, and are projected to persist through the end of the 21st century.

Figure 19 Atmospheric CO₂ Concentration 1957-2021

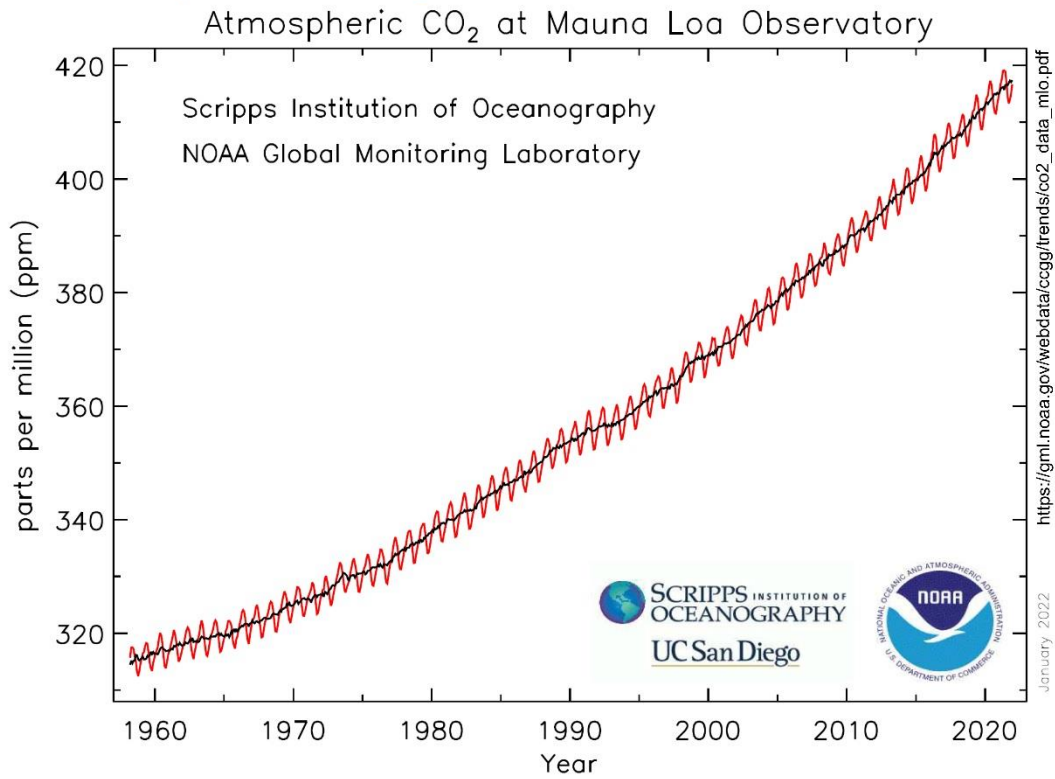
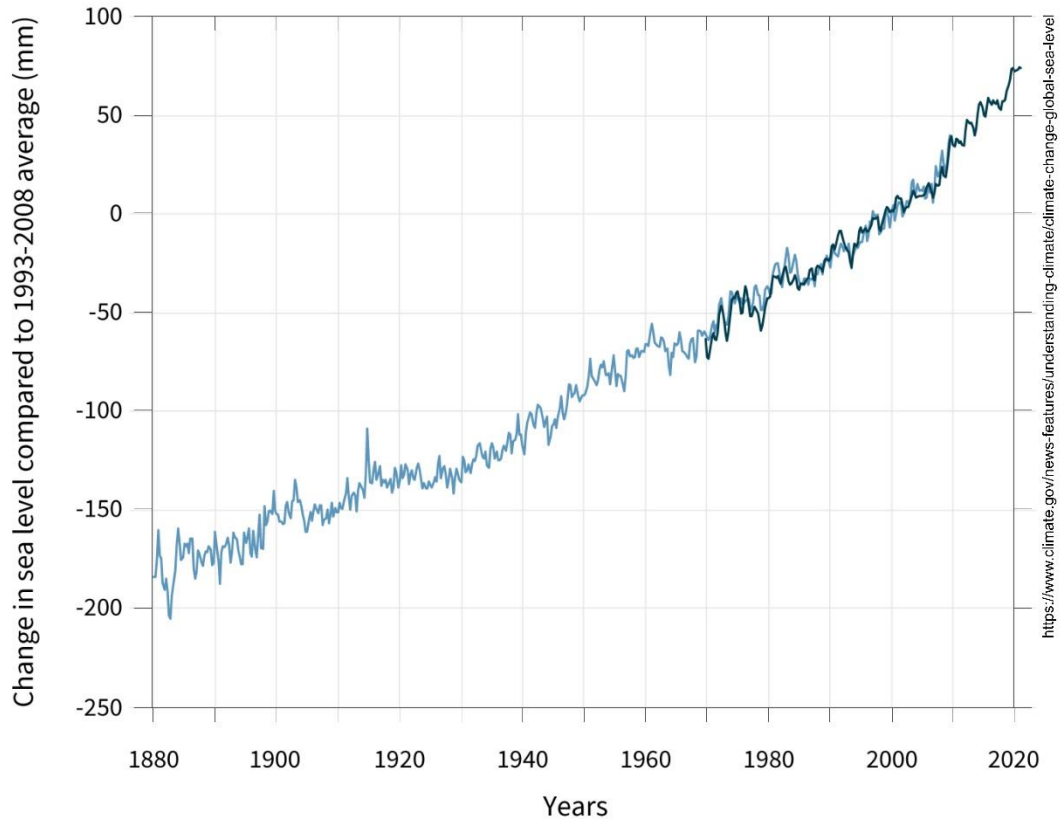


Figure 20
Global Sea Level Change 1880-2020



San Francisco Bay Area (SFBA)

The SFBA's annual maximum temperature increased by +1.7°F from 1950 to 2005. Even with substantial global efforts to reduce emission of GHGs, the SFBA is expected to get even warmer by 2050 (Ackerly *et al.*, 2019). In addition to the SFBA's comfortable weather, GHGs present particular risks to its bay wetlands, wetland-dependent species, shorelines, and water supply, as identified in Chapter 3 of the 2017 CAP.¹²

Eastern Contra Costa County

Warming surface air temperature will increase ozone levels in California's inland areas such as eastern Contra Costa County and the Central Valley, which already are susceptible to elevated ozone levels. In eastern Contra Costa County, the primary water supply comes from the Sacramento-San Joaquin Delta via the Central Valley Project. This water source is susceptible to impact by climate change. Owing to projected sea level rise and increase storm severity, the land area in Contra Costa County that is susceptible to 100-year flooding today will increase through the end of the 21st century.

LEGISLATED AND LOCAL ACTION

Statewide

The California Global Warming Solutions Act of 2006 (AB 32) and AB 32 Climate Change Scoping Plan called for the reduction of climate change causing GHG emissions. California achieved its initial 2020 GHG emission target by returning to the 1990 GHG emission level in 2016-17, nearly four years ahead of the schedule mandated in AB 32. California currently is implementing strategies in the 2017 Scoping Plan Update, which aim to reduce statewide GHG emission to 256 million metric tons of CO_{2e} (MMT CO_{2e}) by 2030. This is 40 percent below the 1990 GHG emission level.^{13,14}

The 1990 GHG emission level in California was established by ARB in 2007. The 1990 level of annual GHG emission was set at 427 million metric tons of CO_{2e} (MMT CO_{2e}). As of 2019, statewide annual GHG emission is approximately 418 MMT CO_{2e} (see Figure 21).

Regional Actions

Control measures in the BAAQMD's 2017 Clean Air Plan (CAP) are intended to reduce GHG emissions while improving air quality in impacted communities. Among the rules adopted, amended, or tabled since 2017 are:

- Risk reduction from TACs emitted by existing facilities—*Regulation 11, Rule 18*
- Refinery emission tracking—*Regulation 12, Rule 15*

¹² <http://www.baaqmd.gov/plans-and-climate/climate-protection>

¹³ Governor's Executive Order B-30-15 (2015) - Reduction target of 40 percent below 1990 GHG emission by 2030.

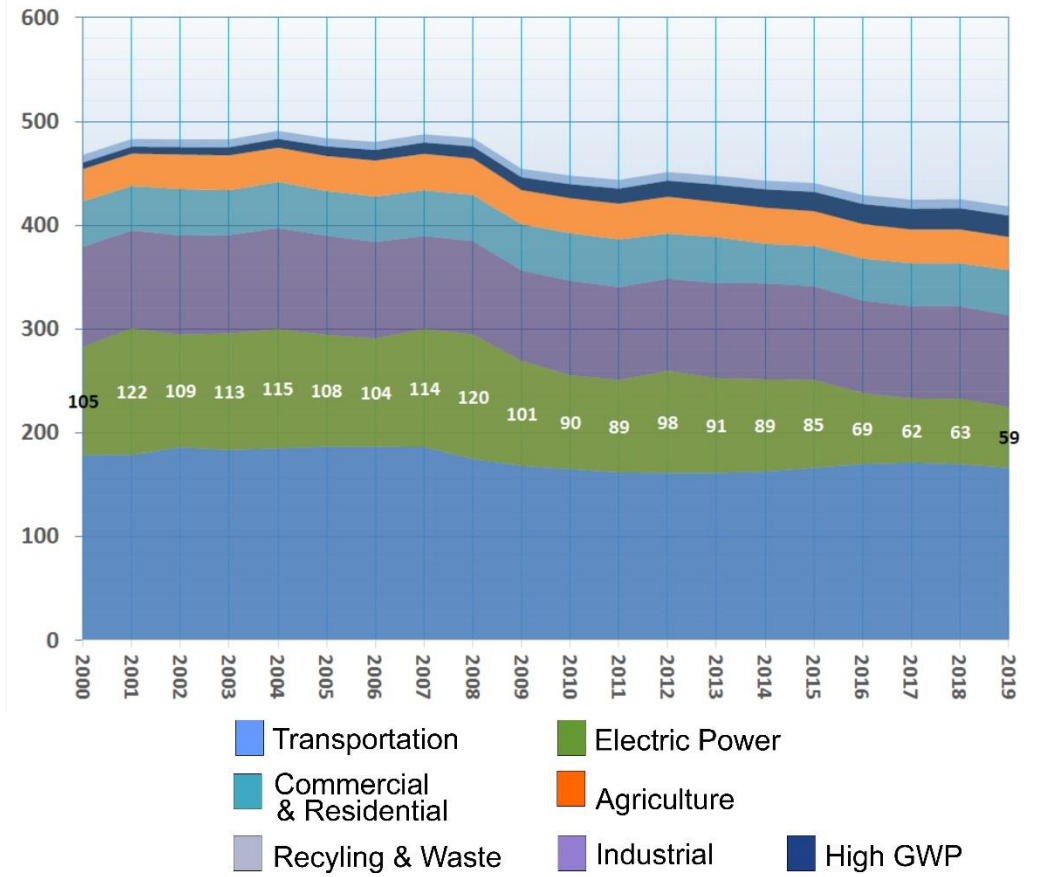
¹⁴ Executive Order S-3-05 (2005) – Reduction target of 80 percent below 1990 GHG emission by 2050.

Contra Costa County Actions

Some of the largest GHG-emitting stationary sources in California are found in unincorporated Contra Costa County. Three of these major sources are located close to the project site—Marathon refinery (formerly Tesoro), Martinez Cogen Limited Partnership cogeneration plant, and Shell Oil Products refinery. Excluding these major sources, the GHG emission inventory in unincorporated Contra Costa County is approximately 1.4 MMT CO_{2e}. Including the major sources, the GHG emission inventory in unincorporated Contra Costa County is approximately 18 MMT CO_{2e}.

Figure 21

California GHG Emissions (MMT CO₂e)



Contra Costa County Climate Action Plan (CCC-CAP) was adopted by the Board of Supervisors on December 15, 2015. The primary objective of the CCC-CAP is to identify the County’s strategies for the unincorporated areas to address climate change. Since the major emitters are essentially beyond the jurisdictional reach of the County, the CCC-CAP focuses on GHG emission within its influence. In year 2035, the County’s strategies combine for a total estimated reduction of approximately 135,000 MT CO_{2e} (see Table 15). The additional reduction needed to meet the County’s 2035 GHG Emission Target is sobering.

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Table 15. Contra Costa County's 2035 GHG Emission Target
Unincorporated Contra Costa County

GHG Emission, State Programs & Local Reductions	MT CO_{2e}
Baseline 2005 County GHG Emission ¹	1,404,000
Target Reduction (×57.5%)	(807,000)
County’s 2035 GHG Emission Target 57.5% below Baseline 2005 County GHG Emission ²	597,000
Forecast BAU³ 2035 County GHG Emission	1,546,000
Estimated Year-2035 Reduction from State Programs	(322,000)
Year-2035 Reduction from CCC-CAP GHG Reduction Strategies	(135,000)
Forecast Net 2035 County GHG Emission Net of State & Local GHG Emission Reductions	1,089,000
Net 2035 County GHG Emission	1,089,000
County’s 2035 GHG Emission Target	(597,000)
Make-up GHG Emission Reduction Additional Reduction Needed to Meet the County’s 2035 GHG Emission Target	492,000
NOTES:	
1. Contra Costa County excluded non-jurisdictional emissions from the refineries, power plants, and other major emitters.	
2. This progress is considered to be consistent with 40% below Baseline 1990 GHG Emission by 2030 and 80% below Baseline 1990 GHG Emission by 2050.	
3. BAU business as usual. Forecast is without the effect of State of California programs.	
SOURCE: Contra Costa County Climate Action Plan, adopted December 15, 2015	

ENVIRONMENTAL CHECKLIST SUMMARY

A. Would the proposed Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact with Mitigation Incorporated – For its construction the proposed project could generate approximately 650 metric tons of CO₂ equivalent (650 MT CO_{2e}) total during the full duration of construction. Refer to Section 3.1, Air Quality, Table 13.

Emission of GHGs here follows conventions. The mass of GHGs is expressed as the equivalent mass of CO₂ (termed CO_{2e}) that would have the same global warming potential as the project's emissions of various GHGs (e.g., methane, nitrous oxide, and CO₂). Mass is expressed in metric tons which are the same as 1,000 kilograms, 2,200 pounds, or 1.1 tons. Calculated emissions are based upon typical equipment, hours, horsepower ratings and operating loads, and RCEM emission factors for equipment of typical age and U.S. EPA exhaust control tier.

The *CEQA Air Quality Guidelines* published by the BAAQMD in 2017 no longer recommend a specific numerical threshold of significant effect for construction-phase GHG emission. Instead, in the current-state-of-practice, the impact of GHG emission on the environment is evaluated in relation to the adopted statewide GHG emission reduction goals or a locally adopted Qualified GHG Reduction Strategy such as the 2015 CCC-CAP.

In the GHG emission inventory for unincorporated Contra Costa County, baseline year-2005 GHG emission is 1,404,000 MT CO_{2e}. Of this, approximately 68,000 MT CO_{2e} was emitted from construction in the unincorporated area of the County. Construction accounts for approximately 4–5 percent of baseline year-2005 GHG emission in the unincorporated area. However, the CCC-CAP does not address GHG emission from construction activities, and the adopted GHG reduction strategies do not include strategies specifically for construction.

Estimated emission of GHGs for construction of the proposed project is 650 MT CO_{2e}. In comparison to GHGs emitted from construction activities in the unincorporated area in a single year, this is equivalent to approximately 1 percent.

GHG Impact-1 The proposed project would emit GHGs during its construction, for which there is no adopted GHG reduction strategy in the CCC-CAP. Worker and visitor travel for the duration of construction is estimated to be approximately 376,000 vehicle miles. The following measure is recommended:

GHG Mitigation Measure-1: To reduce GHG emission during construction, CCWD will require the contractor to implement a Worker Travel Plan, to be approved by CCWD, which includes measures to reduce VMT and travel in single-occupant vehicles. Estimated GHG reduction potential is 67 MT CO_{2e} or 10 percent of construction-phase emission of GHGs.

B. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact – The proposed project would not conflict with or preclude implementation of relevant plans, including the 2017 CAP and 2015 CCC-CAP, or any other relevant plan, policy, or regulation.

3.5 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:

ISSUES:		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
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?		X		
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
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 or excessive noise for people residing or working in the project area?				X
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g.	Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?		X		

BACKGROUND

Existing Conditions

The land surrounding the SCPL has a long history of use for disposal of refinery wastes. The Marathon Refinery (formerly known as Avon Refinery and Tesoro Golden Eagle Refinery) and Martinez Refining Company (formerly, Shell Oil Refinery) are major sources of refined petroleum products and associated air pollutants, as well as solid and liquid wastes. Before environmental and hazardous waste regulations became effective in the 1980s,¹⁵ it was common practice to dispose of wastes on or near the refineries. The SCPL Phase 3 Improvement Project alignment passes through Baker Site, which is an area of former liquid waste disposal ponds operated during approximately 1971 to 1987 by IT Corporation. The ponds were used for evaporation of treated refinery waste liquids (see Figure 22). Pond liquids and bottom sludge have been removed and cleaned up. Solid waste from the pond cleanup has been consolidated in a 30-acre area that is capped with low permeable material and contained within slurry walls and de-watering trenches installed around the perimeter to prevent contaminants from migrating. Collected groundwater and leachate are conveyed by pipe for treatment at IT's Vine Hill Site, approximately 2,500 feet to the north. The waste consolidation area is located over 1,000 feet to the south of the existing SCPL right-of-way.

During post-closure monitoring of the IT Vine Hill and Baker sites, groundwater samples have been collected from point of compliance wells for laboratory testing of various chemicals of potential concern. Figure 22 shows the wells closest to the western portion of the project site. These proximate monitoring wells include PCW-301, PCW-302, PCW-407, MW-120, and MW-125.

Waste Management Units (WMUs) on the Marathon Refinery are in post-closure monitoring and management. The nearest Marathon Refinery WMUs are located outside the SCPL Phase 3 Improvement Project site and at sufficient distance from the eastern staging area (Site 5) not to be of concern. See Figure 23.

Portions of the 5-mile SCPL right-of-way run parallel to petroleum or natural gas transmission pipelines, and other portions are transected by underground pipelines (see Figure 23). Pipelines are not located next to the SCPL Phase 3 alignment but cross the construction staging areas. In the eastern staging area (Site 5), Pacific Gas & Electric Company's pipeline ID 12739 is a natural gas transmission pipeline that terminates at the Martinez Cogen Limited Partnership cogeneration plant and is listed as active/filled. Crossing the southern end of the western staging area (Site 4), CPN Pipeline Co.'s natural gas pipeline is listed/active unfilled and Shell Pipeline Co.'s crude oil pipeline ID 92 is listed as active/filled (NPMS, 2022).¹⁶

¹⁵ Hazardous waste regulations under the federal Resource Conservation and Recovery Act went into effect in November 1980. At that time, federal Superfund cleanup legislation to remediate the worst waste sites was still in preparation in the U.S. Congress.

¹⁶ NPMS still lists the crude oil pipeline as Shell-owned/operated. Two recent changes of ownership after Shell: 1)

In summary, the proposed SCPL Phase 3 Improvement Project site is located outside Acme landfill sites, outside the closed Marathon WMUs, outside the IT waste consolidation area, and outside the IT Corporation Vine Hill Site. The SCPL Phase 3 Improvement Project site is physically separated from these IT facilities by perimeter slurry walls with active groundwater and leachate extraction. The SCPL Phase 3 Improvement Project site is located in a clean-closed area between former Baker Site waste ponds A and B. The former Baker Site waste ponds have been remediated and “clean closed.”

Emitters of Toxic Air Contaminants (TACs)

In addition to potential soil and groundwater pollution in the area, existing major emitters of toxic air contaminants (TACs) are located around the project site. With the exception of the Martinez Cogen Limited Partnership cogeneration plant, these emitters are located over 1,000 feet from the project site (see Air Quality, Figure 17). Martinez Cogen Limited Partnership (BAAQMD ID 1820) is a natural gas and refinery gas-fired cogeneration plant, which adjoins the northeastern tip of the eastern staging area (Site 5).

Fire & Life Safety

Fire safety and response services are provided by the Contra Costa County Fire Protection District (CCCFPD). The Engineering Unit of the CCCFPD’s Fire Prevention Bureau is responsible for plan review, inspection of new construction, and fire and life safety testing, to ensure compliance with the California Fire and Building Codes, Fire District Ordinance and Standards, and applicable National Fire Protection Association (NFPA) standards. The Exterior Hazard Control Unit inspects properties for compliance with weed abatement standards. The CCCFPD has published a Minimum Standards Bulletin for weed abatement. The Exterior Hazard Control Unit’s primary objective is to limit the potential sources of fuel for fire through abatement of combustible rubbish and vegetation.

CCCFPD’s Station #9, which is located at 209 Center Avenue in Martinez, is the station closest to the project site. Access to the project site from Station #9 is by way of Center Avenue, Pacheco Boulevard, Blum Road, Imhoff Drive, and Conco Road. The travel distance is 2.2 miles and the travel time is approximately 6 minutes.

School Sites

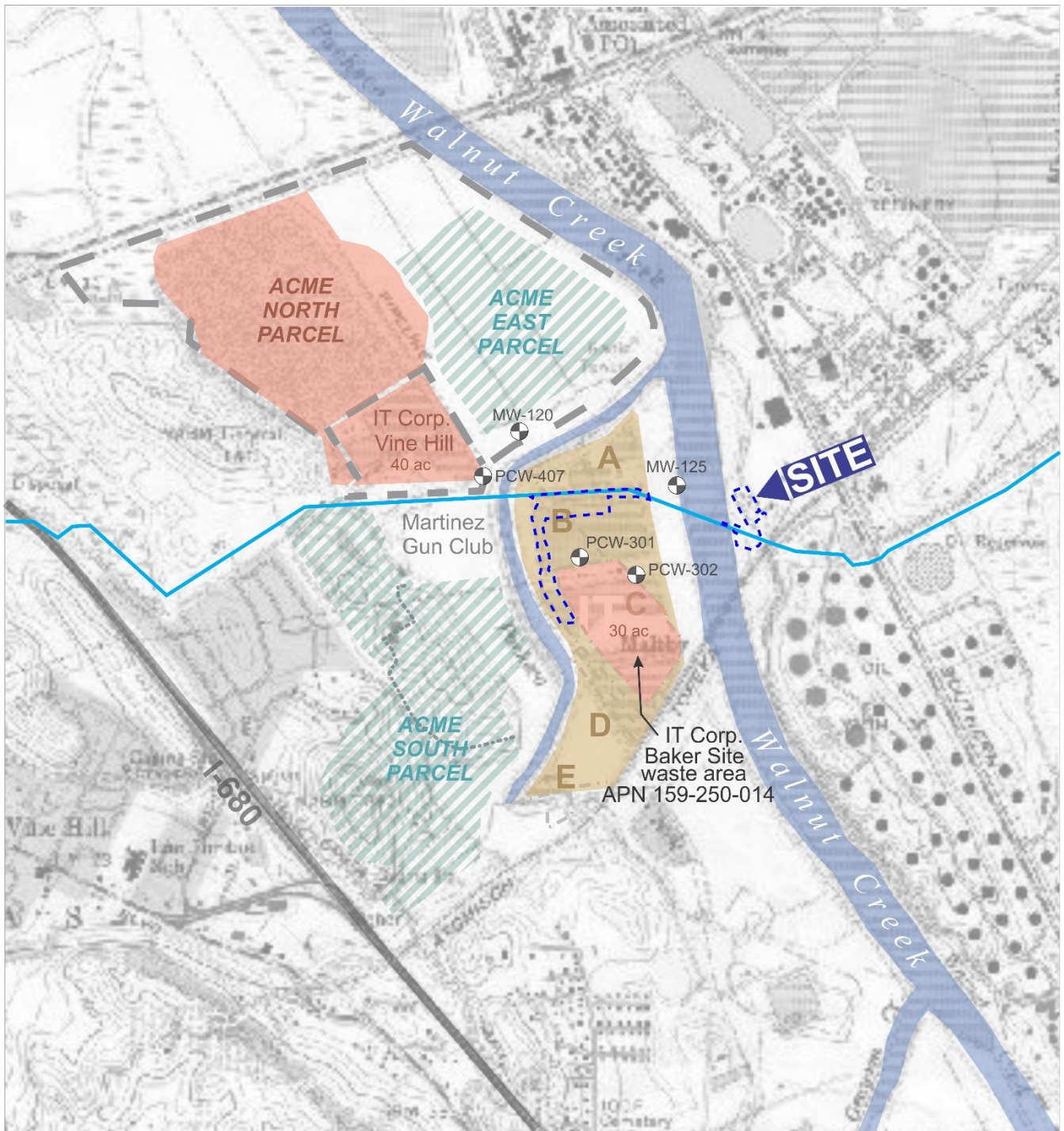
The nearest school is Las Juntas Elementary School (4105 Pacheco Boulevard), which is located approximately 0.9–1 mile west-southwest of the project site.

Airports

Buchanan Field Airport is located approximately 1.5 miles southeast of the project site. The *Contra Costa County Airport Land Use Compatibility Plan* defines Buchanan Field Airport Policies for four airport safety zones. The project site is located within the Airport Influence Area, but outside

Crimson Midstream, LLC (Feb. 2020) and 2) CorEnergy Infrastructure Trust, Inc. (Feb 2021).

the four safety zones. Figure 24 illustrates the four safety zones and the project site's location outside these zones.



KEY

HAZARDOUS WASTE AREAS

NON-HAZARDOUS WASTE AREAS

CLEAN-CLOSED FORMER WASTE AREAS

PCW-302 GROUNDWATER MONITORING WELL

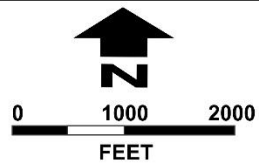
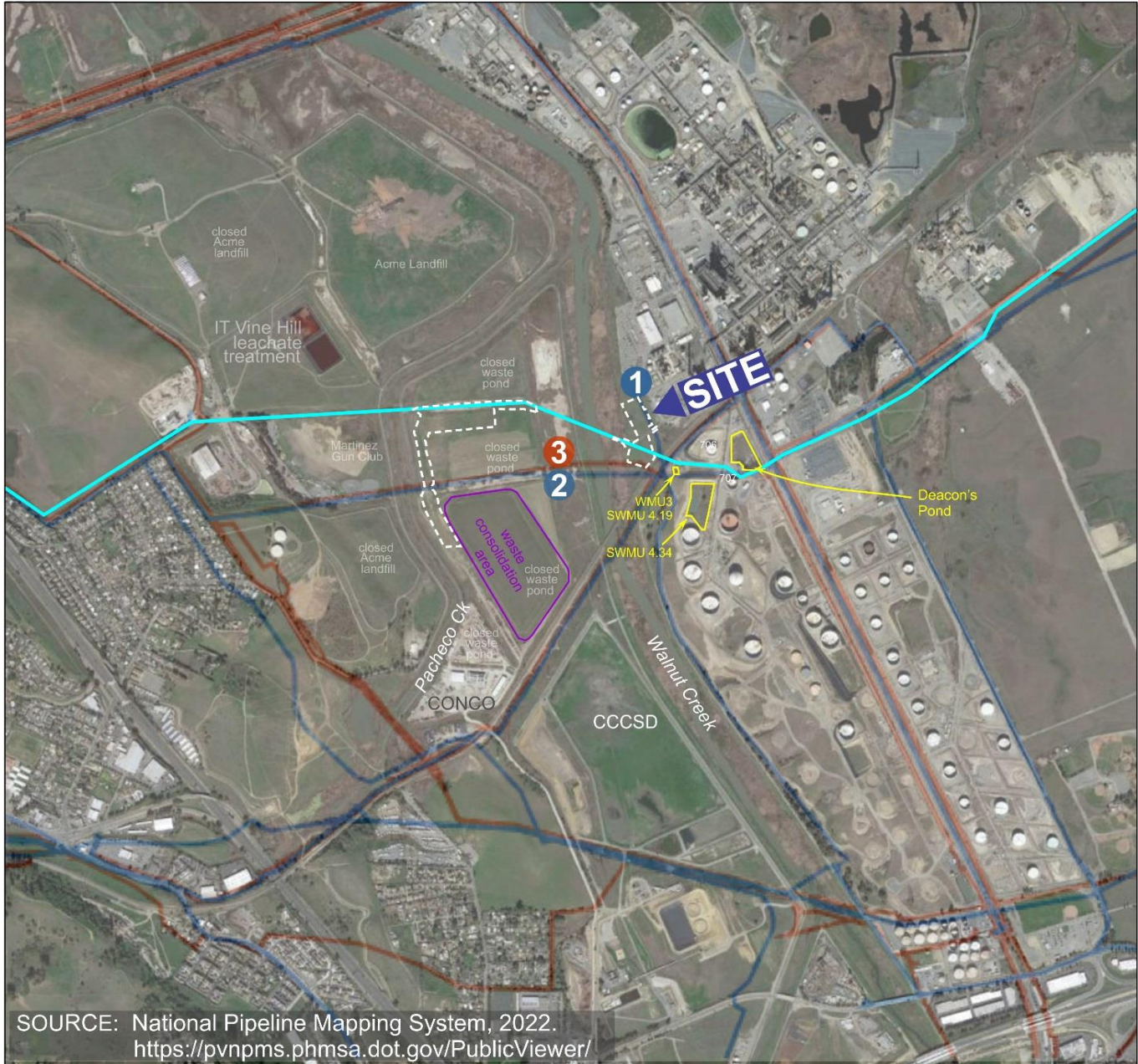











Figure 22
IT Corp & Acme Landfill
Waste Parcels



KEY					
	natural gas transmission		petroleum product or crude oil		SCPL (raw water)
	PGE #12739 (NG)		Shell Pipeline Co. #92 (crude)		waste management unit (WMU)
	CPN Sac Valley (NG)				



**CONTRA COSTA
WATER DISTRICT**



0 1500 3000
FEET

Figure 23
Key Pipelines
& Waste Management Units
Contra Costa County, California

KEY

Zone 1:

Prohibited–

1. New structures except aeronautical facilities.
2. Storage of fuel or haz materials.

Zone 2:

Prohibited–

1. Housing, grade schools, day cares, hospitals, and nursing homes.
2. Aboveground haz materials storage except up to 2,000 gallons nonflammable.
3. Buildings over 2 habitable floors above ground.

Zone 3:

Prohibited–

1. Housing, grade schools, hospitals, and nursing homes.
2. Aboveground fuel or haz materials storage over 2,000 gallons.
3. Buildings over 3 habitable floors above ground.

Zone 4:

Prohibited–

1. Aboveground fuel or haz materials storage over 2,000 gallons.
2. Buildings over 4 habitable floors above ground.

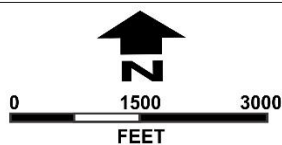


Figure 24
Airport Safety Zones
Buchanan Field Airport

ENVIRONMENTAL CHECKLIST SUMMARY

A. Would the proposed Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant with Mitigation Incorporated – The proposed project would not entail routine use, transport, or disposal of hazardous materials or hazardous waste for its operation. During its construction, intermittent transport and use of diesel fuel, grease, and hydraulic fluid would be necessary for refueling and maintenance of non-road motorized equipment. Use or handling of acutely hazardous materials that may pass by the Las Juntas Elementary School is not a part of the construction or operation of the proposed project.

Petroleum Fuels

Construction of the proposed project would entail periodic re-fueling of non-road equipment. Non-road construction equipment would be diesel-powered. Electric motors in the drilling fluid reclaimer would be powered using a diesel-powered generator. In addition to diesel fuel, non-road diesel-powered equipment also would require service with grease and hydraulic fluid during the course of construction.

Refueling needed during the construction could be accommodated either with on-site self-contained diesel fuel storage or else with a remote mobile fuel delivery service, without installation of a temporary above-ground fuel storage tank. In the event that fuel is stored on-site, this could be accommodated with a system including secondary containment and cover to protect the secondary storage from rainwater.

HM Impact-1 On-site refueling by mobile fuel delivery service or on-site storage of fuel, hydraulic oil, and grease pose a risk of accidental spill.

HM Mitigation Measure-1

A Spill Prevention and Contingency Plan will be included as an element of the Soil & Groundwater Management Plan. Equipment will be maintained on site to respond to a spill of fuel, oil, hydraulic oil, or grease.

Hazardous Materials

High-density polyethylene (HDPE) pipe does not require any protective coatings. Painting during construction is not proposed. Other than diesel fuel and hydraulic oil, other hazardous materials would not be used for the construction of the SCPL Phase 3 Improvement Project. Hazardous or flammable liquids such as paints, solvents including halogenated solvents, and polyaromatic hydrocarbons (PAHs) would not be needed, and are not proposed, for construction of the proposed project.

Soil cuttings would be generated during the horizontal drilling process. Soil also would be excavated at the entry and exit pits and near the endpoints where the new pipeline would be

connected to the existing SCPL pipeline. “Excess soil” refers to soil that would be displaced by new pipe and backfill. Groundwater would be generated during construction de-watering.

Review of preliminary laboratory data for soil and groundwater samples collected along the project’s alignment indicates that these may contain concentrations of diesel-range total petroleum hydrocarbons (TPH). Testing of grab groundwater samples found evidence of dissolved petroleum residues in the diesel-range and motor-oil range (Stantec, 2021b; Ninyo & Moore, 2019). Ongoing monitoring of point of compliance wells found limited concentrations of volatile organic compounds (VOCs) including acetone, carbon disulfide, and isopropanol in some groundwater samples collected from the wells (IT, 2021, 2016, 2015). Cumulative data will be used to develop a Soil & Groundwater Management Plan and Worker Health & Safety Plan before construction.

Construction Safety

The federal Occupational Safety and Health Administration (OSHA) administers the Occupational Safety and Health Act, which requires special training of handlers of hazardous materials and notification to employees who work in the vicinity of hazardous materials. On the project site, construction safety would be within the jurisdiction of Cal/OSHA. Cal/OSHA also enforces regulations, contained generally in Title 8 of the California Code of Regulations, to protect workers and the general public. Among these is a worker Illness and Injury Prevention Program (IIPP).

Cal/OSHA performs workplace and job site inspections to correct unsafe conditions. Cal/OSHA requires that construction managers post warnings signs and exclude the public from construction zones. Cal/OSHA also requires permits for work considered to present a significant risk of injury, such as worker entry into excavations greater than five feet deep, which may be classified as confined spaces.¹⁷ It is also routine in California to prepare a Worker Illness and Injury Prevention Program (IIPP) and, for earthwork on construction sites that may potentially have traces of hazardous residues in soil or de-watered groundwater, a Worker Health & Safety Plans.

HM Impact-2 Temporary storage of soil and groundwater generated by construction activities presents minor, manageable potential for public contact due to spillage. Soil from excavations and soil cuttings recovered from the drilling mud reclaimer will be saturated and may contain low-level petroleum residues in the diesel range. Wet soil will require time for on-site drying at Site 5.

HM Mitigation Measure-2

Procedures for on-site safety and management of soil and groundwater will be set forth for the contractor in a Worker Health & Safety Plan and a Soil & Groundwater Management Plan, which will be incorporated into contract and construction documents.

¹⁷ Cal/OSHA, 2011. *Pocket Guide for the Construction Industry*, CCR Title 8, July 7, 2011, (93 pp.).
http://www.dir.ca.gov/dosh/dosh_publications/ConstGuideOnline.pdf

- Posting of appropriate signage and covering of soil stockpiles will be implemented to minimize potential for public contact with temporarily stored soil and de-watering water.
- A chemical profile will be completed before off-site disposal of groundwater. Only de-watered groundwater that has met relevant acceptance criteria and has been pre-approved (*i.e.*, accepted or permitted) by a responsible discharger would be transported off site to that discharger.
- A chemical profile will be completed before reuse or off-site disposal of soil. If applicable, open-air drying will follow provisions set forth in BAAQMD Regulation 8, Rule 40 (Aeration of Contaminated Soil).
- Trucks transporting excess soil would be tarped and tire treads cleaned to avoid trackout on public ways.

B. Would the proposed Project 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 Incorporated – Drilling mud will consist of a slurry of bentonite clay and water. Solvents or glues will not be used. HDPE pipe will be joined by a thermal and pressure process, without solvents or other hazardous materials. Risk of release of petroleum products or contaminated soil would be minimized by implementing mitigation measures HM-1, HM-2, and HM-3.

HM Mitigation Measure-3

The contractor will be required to work subject to conditions of a contract and construction documents that acknowledge the nearby presence of underground natural gas and crude oil pipelines. Conditions of work at crossings of underground pipes, which are located in the southern part of the western (Site 4) and eastern (Site 5) staging areas, will preclude damage to the pipes.

The contractor will be required to be familiar with the boundaries and acknowledge the presence of the nearby waste consolidation area and WMUs. Inadvertent work damaging to the integrity of the caps, slurry walls, or other subsurface features integral to their waste containment function will be avoided.

C. Would the proposed Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact – The nearest school is Las Juntas Elementary School (4105 Pacheco Boulevard), which is located approximately 0.9–1 mile west-southwest of the project site.

D. Would the proposed Project 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?

No Impact – Part of the SCPL Phase 3 Improvement Project site is located between former IT waste disposal ponds A and B that have been remediated and clean closed. The clean closed areas are not listed Cortese hazardous material sites. The nearby Vine Hill Complex, which includes Baker Site waste consolidation area, is listed in the State Water Resources Control Board’s (SWRQCB’s) GeoTracker database and in the California Department of Toxics Substances Control’s (DTSC’s) EnviroStor database.

E. For a project located within an airport land use plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact – The project site is located within the Buchanan Field Airport Area of Influence. The project site is located outside of Airport Safety Zones 1–4. Cranes proposed for lifting HDPE pipe are not the kind of tall cranes that, otherwise, could warrant review by the Airport Land Use Commission. Implementation of the proposed project, therefore, would not result in a hazard for construction workers.

F. Will the proposed Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact – The Emergency Operations Plan is the official, adopted emergency response and recovery plan of Contra Costa County (Contra Costa County, 2015). The County Administrator is the administrator of emergency services and is in charge of the county’s emergency operations center. The administrator of emergency services is supported by the Contra Costa County Sheriff’s Office of Emergency Services.

The Emergency Operations Plan applies to emergencies in unincorporated areas that require planned, coordinated responses. The Emergency Operations Plan also applies to regional emergencies, to the extent that such emergencies may require substantial resources and multi-agency coordination.

The proposed project would include construction of an underground untreated water pipeline and construction staging for an elapsed time of up to twelve months. None of the proposed construction work would be on a public thoroughfare or highway that could be used as an evacuation route. Construction would not include any facilities disruptive of microwave or other communications. It would not cause or worsen power outages and would not impede access. The proposed project, therefore, would not impair implementation of or physically interfere with the County’s Emergency Operations Plan.

G. Will the proposed Project expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact with Mitigation Incorporated – Habitable or other occupied structures are not proposed. The proposed project would be buffered on the north, south, and west by substantial undeveloped land outward 1,000 feet or more from the limit of the proposed construction staging areas.

HM Impact-4 Fuel load may increase during construction. In combination with heavy equipment and drying summertime conditions, this potentially could increase chance of grass fire.

HM Mitigation Measure-4

The contractor will be required to maintain fuel load on the project site near the existing load through vegetation management during construction. Cranes and other non-road equipment will operate only in suitably maintained work areas to minimize risk of grassfire.

3.6 HYDROLOGY AND WATER QUALITY

Would the Project:

		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
ISSUES:					
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X		
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
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 that would:				
	i. Result in substantial erosion or siltation on- or off-site?		X		
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
	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?				X
	iv. Impede or redirect flood flows?				X
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

HYDROGEOLOGIC CONDITIONS

Hydrogeologic conditions near the SCPL Phase 3 Improvement Project have been analyzed based upon review of a combination of geologic mapping, past investigations performed by USBR during 1968-1970, monitoring performed for IT Vine Hill and Baker sites, and project-specific borings and CPT tests. General subsurface conditions consist of Holocene Bay Mud with peat, Holocene alluvium (primarily clay and silt with some interbedded sand), Pleistocene alluvium, and Cretaceous sedimentary bedrock (*e.g.*, sandstone and siltstone) of the Panoche Formation. Recent geotechnical investigation for the proposed SCPL Phase 3 Improvement Project was designed to characterize subsurface soil, rock, and groundwater conditions along the alignment. The geotechnical investigation included five (5) borings and six (6) cone penetration tests (Stantec, 2021b,c).

The project site is located within the watershed denoted as the Suisun Bay Estuary, a tidal marsh area of Suisun Bay near the confluence of Pacheco Creek and Walnut Creek. Suisun Bay and Walnut Creek are 303(d) listed impaired water bodies.

The SCPL, built in 1972, crosses Walnut Creek, Pacheco Creek, and the Concord Fault, all west of the Marathon Refinery. Cumulative differential settlement of the pipeline beneath Walnut Creek and Pacheco Creek exceeded 1 foot during 1972-1986, caused by surcharge load of levee soils over Holocene Bay Mud. Pipeline survey performed in 2019 indicated a sag of approximately 4 feet where pipeline crosses under the Walnut Creek levee (Stantec, 2021b). The proposed project would cross under Walnut Creek. Walnut Creek at the project crossing is an engineered flood control channel built after 1948, which subsequently was widened and fortified by the U.S. Army Corps of Engineers in 1965. The Site 4 road west of the new pipeline tie in point and east of Pacheco Creek will be improved so that if a future failure occurs in this area at a later date, repair can be made from the surface.

Geologic Setting

The SCPL Phase 3 Improvement Project site is located in the Ygnacio Valley within the Coast Range. The Coast Range province has undergone a complex geologic history, including periods of sedimentation, folding, faulting, uplift, and erosion. The project site is located south of Pacheco Marsh, approximately 1.5 miles south of Suisun Bay.

Native soils in the area include sequentially from, surface to base depth, Younger Bay Mud (Qybm), Older Bay Mud (Qobm), a lower sand stratum (Qobm1), and bedrock. Qybm and Qobm soils have low permeability. Qybm is silty soft clay. Qobm is a stiff clay. Qobm1 refers to the sand stratum beneath Qobm. On the east side of the Vine Hill Site, Qybm attains a maximum thickness of approximately 47 feet, and Qobm reaches a maximum thickness of about 37 feet. At the Baker Site, Qobm occurs approximately 10 to 15 feet below the closed waste consolidation area. At the Baker Site, bedrock is found at depths of 70–200 feet below ground surface (fbgs) as reported by others (RWQCB, 2003).

Nearest Surface Waters

Walnut Creek—The Walnut Creek watershed drains approximately 146 square miles, which is nearly 20 percent of the land area of Contra Costa County. The watershed extends from Danville north to Suisun Bay, east to Mount Diablo and west to the Briones Hills and Las Trampas Ridge.

To alleviate recurring flood problems, lower Walnut Creek was channelized by the U.S. Army Corps of Engineers in 1965. North of and adjacent to the SCPL Phase 3 Improvement Project site, in 2021, the Lower Walnut Creek Restoration (LWCR) Project has built new levees outboard to the old levees and breached portions of the old levees to allow seasonal flooding and restore natural habitat and function of adjoining wetlands.

Walnut Creek flows at an average rate of approximately 80 cubic feet per second (cfs) through its lower reach but conveys approximately 31,200 cfs during a 100-year flood event.¹⁸ Development with impervious surfaces cover approximately 30 percent of the 146-square mile watershed.

Pacheco Creek—Pacheco Creek today is a minor tributary to Walnut Creek, approximately 3.4 miles long, which drains approximately 2 square miles in Contra Costa County. Pacheco Creek’s confluence with Walnut Creek is located approximately 1,200 feet north of the project site.

Flooding

Fluvial flooding occurs due to high flows and overtopping of the Walnut Creek and Pacheco Creek channels. Flooding along Walnut Creek and Pacheco Creek also may be exacerbated by tidal waters. High tide waters or “storm surge” in Suisun Bay can propagate upstream along the Walnut Creek Channel. The Federal Emergency Management Agency (FEMA) flood map panel 06013C00089H, effective March 21, 2017, illustrates that most of the project site is located in Zone A or Zone AE of special flood hazard.

Levees along the west bank of Walnut Creek and along Pacheco Creek are owned and maintained by CCCFC&WCD. The elevation of these levees varies. Hydraulic modeling performed by CCCFC&WCD indicates that its existing levees overtop during 1-in-40-year annual chance of flooding event.¹⁹

Environmental review under CEQA was completed for the LWCR Project in October 2019 (ESA, 2019). In 2021, the CCCFC&WCD began constructing the LWCR Project to build new levees and breach certain existing levees to allow restoration of wetland and tidal marsh habitats and functions. Portions of the SCPL Phase 3 Improvement Project site are located in the South Reach and Pacheco Reach of LWCR Project Area. The CCCFC&WCD elected to construct levees north and south of the SCPL Phase 3 so this area will not be subject to flooding from the LWCR (see Figure 25).

¹⁸ ESA, 2019. LWC Restoration Project Final Initial Study/MND dated October, 2019, footnote 4, p. 2-5.

¹⁹ ESA, 2019. LWC Restoration Project Final Initial Study/MND dated October, 2019, p. 3-97.

Groundwater

In the Ygnacio Valley Groundwater Basin the aquifer providing domestic, or irrigation water is located at approximately 150 to 400 fbgs²⁰, based upon information provided by the Department of Water Resources (DWR). None of the domestic wells included in DWR's survey of the Ygnacio Valley Groundwater Basin is screened above 60 fbgs (DWR, 2004). Information regarding local groundwater depth and subsurface hydrology was obtained from nearby compliance wells associated with the IT Vine Hill complex and site-specific data obtained from soil borings and cone penetration tests performed in support of the SCPL Phase 3 Improvement Project.

Depth to groundwater—Point of compliance wells of interest to the SCPL Phase 3 Improvement are groundwater monitoring wells MW-125, PCW-301, PCW-302, and PCW-407 (see Figure 25). These wells have total depths of 29-45 fbgs and are all screened in Younger Bay Mud (Qybm). Well screens are 10 feet in length (MW-125 and PCW-407) or 20 feet in length (PCW-301 and PCW-302). Gauged depth to groundwater surface has been in the range 2.2–4.9 fbgs (approximate elevation 4-7 feet, NAVD88) during 2015-2020 (IT, 2021, IT, 2016; IT, 2015). Shallow groundwater is perched and is disconnected from the deeper aquifer.

²⁰ fbgs is Feet Below Ground Surface

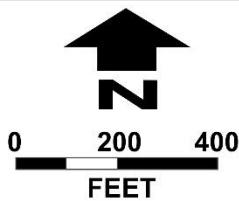
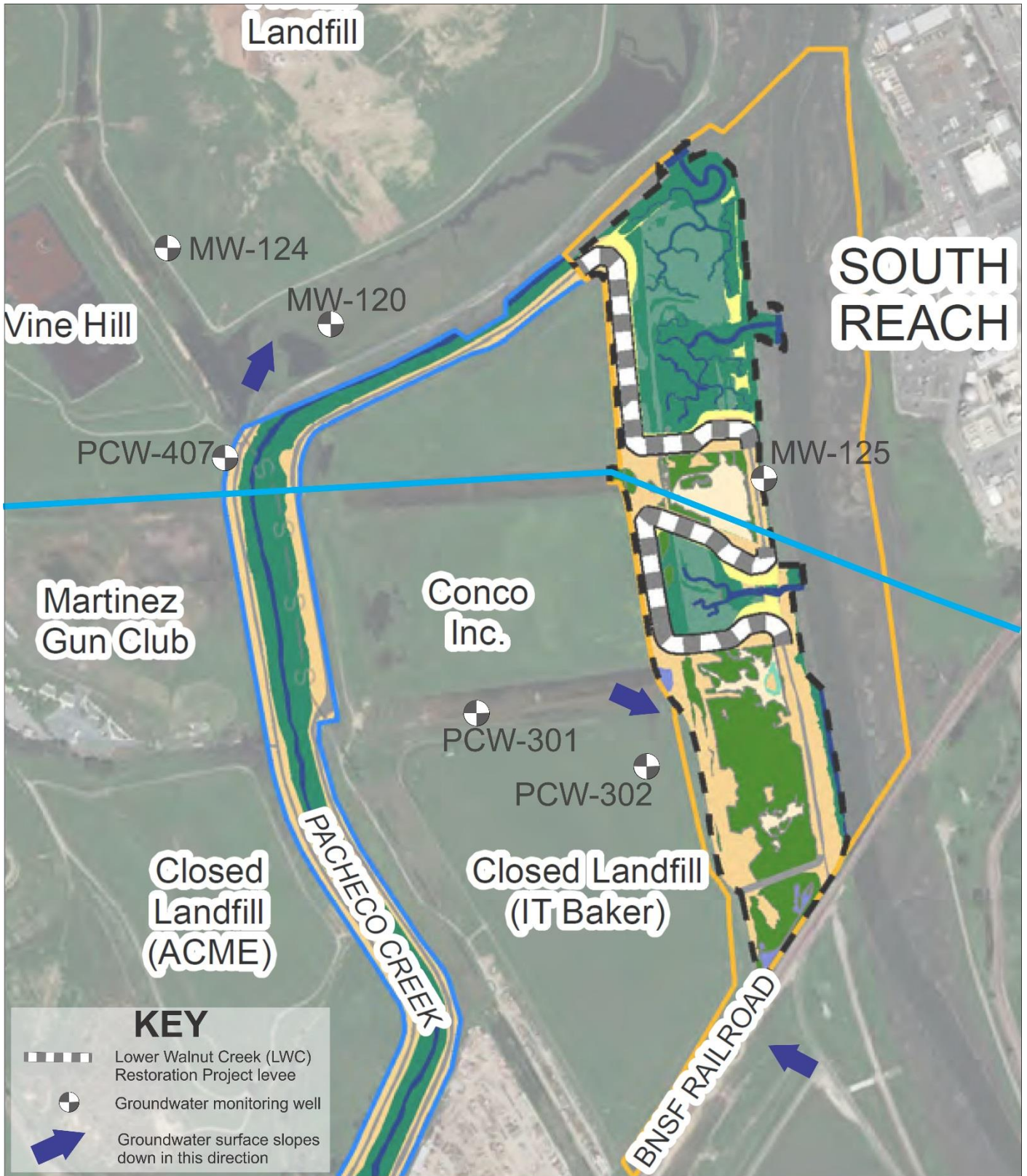


Figure 25
LWC Restoration
& Monitoring Wells

Project-specific borings B-1 through B-5 and cone penetration tests CPT-1 through CPT-6 drilled for investigation of the SCPL Phase 3 Improvement Project site were drilled during April 6-21, 2021. B-5 and CPT-6 were located just west of the project site (see Figure 26). Groundwater was encountered in B-5 at 5 fbs, which is approximately the same as approximate elevation -1 foot, NAVD88. Depth to groundwater in the other borings was unclear owing to mud-rotary drilling method (Stantec, 2021b,c).

Slope direction of groundwater potentiometric surface—In Younger Bay Mud, outside of the eastern limit of the Vine Hill Site, the groundwater potentiometric surface slopes down toward the east and southeast (IT Environmental Liquidating Trust, 2016; RWQCB, 2003).

In Older Bay Mud (Qobm), outside the Baker Site waste consolidation area slurry wall, the groundwater potentiometric surface slopes down toward the north or northeast. In Older Bay Mud, outside of the eastern limit of the Vine Hill Site, groundwater potentiometric surface slopes down toward the northeast (IT Environmental Liquidating Trust, 2016; RWQCB, 2003).

Gradient and velocity—The steepness or flatness of the slope of the groundwater surface (*i.e.*, the potentiometric surface) is very flat. Flow velocities in the Younger Bay Mud are generally very low, generally 0.01 to 0.1 feet per year. Flow velocity in the Older Bay Mud is estimated up to 30 feet per year (RWQCB, 2003).

Groundwater Quality

Shallow groundwater quality within the SCPL Phase 3 Improvement Project site is understood based upon a combination of point-of-compliance monitoring for the IT Vine Hill Complex as reported to RWQCB and project-specific grab groundwater sampling and laboratory testing by Ninyo & Moore (2019) and Stantec (2021c).

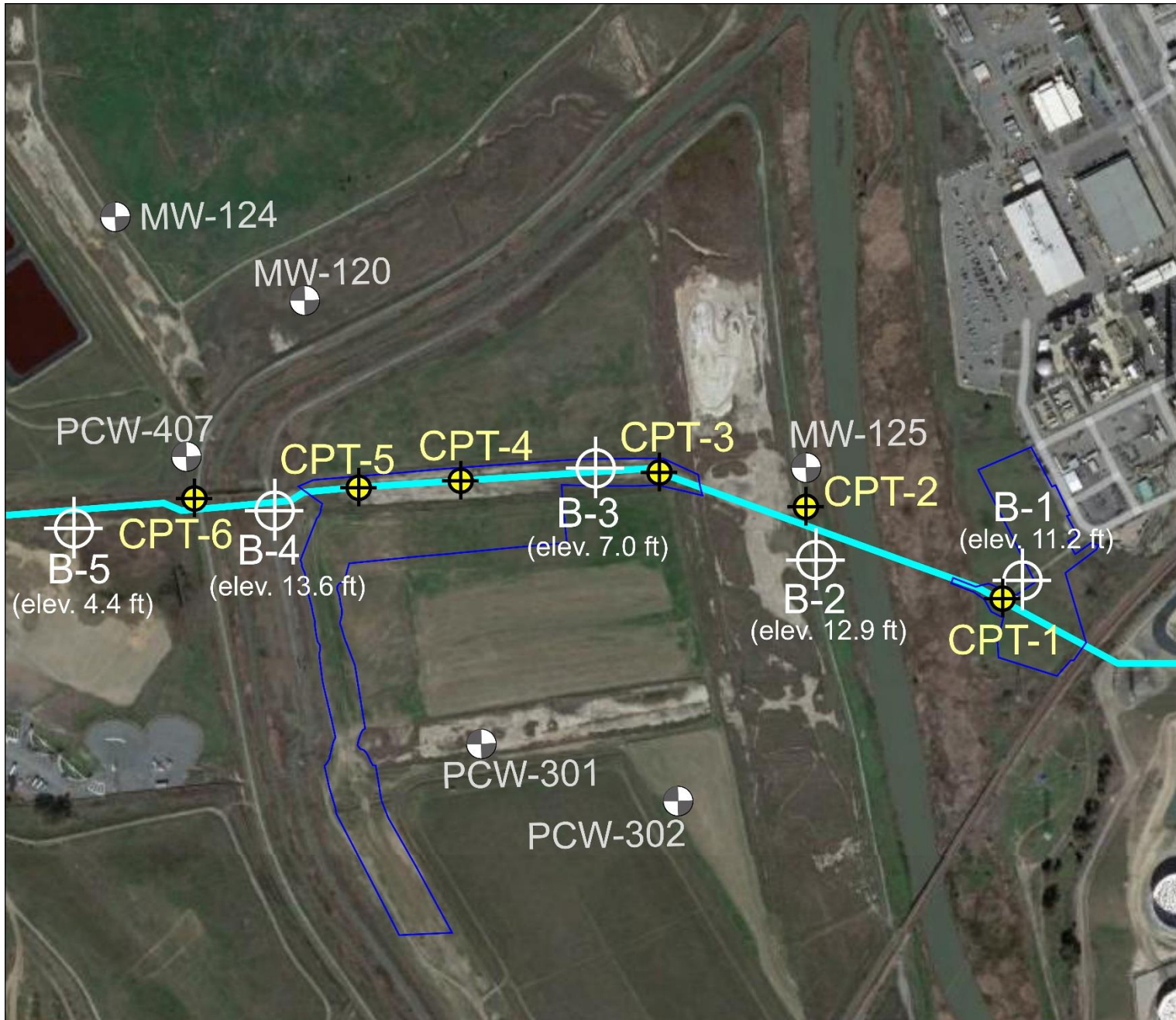
Hydropunch Groundwater Sampling (2021)—Stantec in March-April 2021 conducted HydroPunch direct-push borings, in conjunction with the geotechnical investigation. HydroPunch is a direct-push sampling probe that enables collection of a discrete groundwater sample below the water table. The groundwater samples are collected using a bailer, therefore, results for volatile organic compounds (VOCs) are generally viewed as biased low as the act of bailing agitates the groundwater column being sampled. CPT-1 was located next to Marathon Refinery. CPT-5 was located next to Pacheco Creek. CPT-2, -3, and -4 were located along the alignment between CPT-1 and CPT-5. See Figure 26.




The Hydropunch groundwater sample GW-CPT4-6 collected from CPT-4 at 6 fbs contained a concentration of 22,000 micrograms per Liter ($\mu\text{g/L}$) as diesel-range Total Petroleum Hydrocarbons (TPH), with no detected concentrations of VOCs or gasoline-range TPH. Samples GW-CPT5-23 and GW-CPT5-37, both collected from CPT-5, at two depths of 23 fbs and 37 fbs, contained concentrations of 190–360 $\mu\text{g/L}$ as diesel-range Total Petroleum Hydrocarbons (TPH), also without detected concentrations of VOCs or gasoline-range TPH. Hydropunch

groundwater samples collected at CPT-2, CPT-3, and CPT-4 were reported as not containing concentrations of TPH or VOCs at or above laboratory detection and reporting limits.

Grab Groundwater Sampling (2019)—Ninyo & Moore collected grab groundwater samples from two shallow test pits on the project site. Two samples, WP-1 and WP-2, were each tested for gasoline-range, diesel-range, and motor oil range TPH as well as benzene, toluene, ethylbenzene and xylenes. Concentrations of TPH were reported as 1,900-5,700 mg/L in the diesel range and 1,800-2,400 mg/L in the motor-oil range. Concentrations of gasoline-range TPH and aromatic constituents benzene, toluene, ethylbenzene and xylenes were less than laboratory detection and reporting limits (Ninyo & Moore, 2019).

**Figure 26
Borings,
CPT,
& Wells**



-  Boring
-  Monitoring well
-  CPT cone penetration test



0 250 500
FEET

Point of Compliance Wells (2015-2020)—Groundwater quality outside of the waste consolidation landfills of the Vine Hill and Baker sites has been monitored as part of the post-closure groundwater monitoring performed for the IT Corp. Vine Hill Complex. IT Environmental Liquidating Trust has monitored groundwater at its two closed waste sites, Vine Hill and Baker Site, through September 2020. Point of compliance monitoring wells are located outside the slurry walls, short distances away from the closed waste sites. Monitoring wells relevant to the SCPL Phase 3 Improvement Project site include wells MW-125, PCW-301, PCW-302, and PCW-407 (see Figure 26). Groundwater samples collected from these wells are tested for pH, electrical conductivity, LUFT metals, organic lead, and select VOCs.

Low levels of one or more of acetone, carbon disulfide, and isopropanol have been reported in groundwater samples collected from wells MW-125, PCW-302, and PCW-407. Detection has been sporadic during 2015-2020. In 2020, concentrations of acetone, 7.7 micrograms per Liter (mg/L) and 7.8 mg/L, in groundwater samples collected from wells MW-125 and PCW-302, are consistent with RWQCB's environmental screening levels (ESLs) for aquatic habitat (1,500mg/L) and direct human exposure (14,000mg/L). However, they exceed the CVRWQCB's screening level for Limited Threat Discharges to Surface Water, Attachment I, Table I-5, acetone (0.5 mg/L), for discharge wastewater from VOC remediation projects.

Drainage Areas

The SCPL Phase 3 Improvement Project site is located in Drainage Area 125 (DA 125) as defined by the CCCFC&WCD. DA 125 contains part of Pacheco Creek near its confluence with Walnut Creek. DA 125 also contains the lower reach of Walnut Creek from State Route 4 to Suisun Bay.

Stormwater runoff crossing the SCPL Phase 3 Improvement Project site on Site 5 discharges from the project site and from Marathon Refinery to Walnut Creek. Marathon discharge points in this area collectively are identified in RWQCB Order No. 22-2021-0029 as E005. On the western side of the project site (Site 4), west of Walnut Creek, some land is seasonally ponded. Ponding was observed in n November 2021 and remained ponded at the end of February 2022.

Stormwater & Non-Stormwater Discharges—The project site generates stormwater runoff and does not generate non-stormwater discharges to a surface water. Detention or retention features lined or unlined V-ditches or channels were not observed during a reconnaissance in November 2021 in the vicinity of the SCPL Phase 3 Improvement Project between Site 5 and Site 4. However, such surface stormwater controls are reported to be present around the Vine Hill and Baker sites (RWQCB, 2003). The LWCR Project is constructing artificial tidal channels that will convey water at high tides into created tidal wetlands between Walnut Creek and the new levees. Where needed to convey tidal waters between tidal wetland basins, culverts are being constructed.

The Vine Hill and Baker site caps and stormwater controls (*e.g.*, perimeter v-ditches) are reported to be designed to prevent runoff from contacting wastes that could potentially degrade surface water quality (RWQCB, 2003). The closed waste sites are nearly hydraulically isolated from

outside groundwater by means of slurry walls and by groundwater and leachate collection trenches keyed into the Younger Bay Mud (Qybm). Groundwater and leachate pumping operates at both Vine Hill and Baker sites. Recovered groundwater and leachate from both sites is treated at treatment facilities located at Vine Hill. Discharges from both the Vine Hill and Baker sites are managed under the General Industrial Storm Water Permit (NPDES Permit No. CAS000001).

During reconnaissance in November 2021, wet soil conditions and ponded water were observed on portions of the western staging area (Site 4). This was from incident rainfall as opposed to runoff from any adjacent upslope areas.

The adjacent Marathon refinery also generates non-stormwater discharges. Discharges from multiple points along the western limit of the refinery are designated collectively as Discharge Point E005 in RWQCB Order No. 2021-0029. Near the eastern staging area (Site 5) of the SCPL Phase 3 Improvement Project site, stormwater runoff from the refinery land includes runoff from Tract 2 Drainage Area C. Stormwater compliance monitoring is performed at discharge points E005-T2S-A, E005-T2S-B, and E005-T2S-C (RWQCB, 2021).

Sea Level Rise

Future sea level rise and flooding are addressed in the *Initial Study/MND for the Lower Walnut Creek Restoration Project*. Evaluation was performed to assess the effect of the LWCR Project on future flood levels in the area of influence of the restoration project. Hydraulic modeling performed for the LWCR Project estimated future conditions with and without +2 feet of sea level rise. Even without a tidal or fluvial flood event, sea level rise is expected in the area of the SCPL Phase 3 Improvement Project. Modeling showed that LWCR Project would have a less-than-significant effect on peak water surface elevations for the scenario having up to 5 feet of sea level rise. The planned LWCR Project will create lowland grass transition zones, which will convert after restoration to tidal wetlands. The lowland grasslands are designed to accommodate up to +5 feet of sea level rise as tidal wetlands become permanent in-water habitat (ESA, 2019). Sea level rise by +5 feet means 5 feet over MHHW (water surface elevation: 10.9 feet, NAVD88).

Tsunami Risk

Tsunami risks for the SFBA have been mapped by Cal/OES. The project site is not at risk for tsunamis (Cal/OES, 2022). In addition, the project site is not located in a seiche zone.

REGULATORY FRAMEWORK

The basic objective of the regulatory framework is to limit discharges of sediment and other water pollutants conveyed in stormwater runoff to receiving waters. Contra Costa Clean Water Program and the County Watershed Program (CWP) work together to ensure compliance with the Municipal Regional National Pollutant Discharge Elimination System (NPDES) Permit. The County Watershed Program is a program within the Flood Control Division of the County's Public Works Department.

The Clean Water Program is a collaboration between the County (represented by the County Watershed Program), the 19 incorporated cities and towns in the County, and the CCCFC&WCD (“Co-Permittees”). The Clean Water Program has independent staff who interact with regulatory and elected officials and provide guidance to the Co-Permittees. Within the unincorporated areas of the County, CWP is responsible for ensuring compliance with the Municipal Regional NPDES permit.

A Stormwater Pollution Prevention Plan (SWPPP) describes how a project will prevent short-term pollution during construction. A SWPPP describes how erosion will be prevented, how sediment will be controlled, and how other construction-related pollutants (*e.g.*, concrete dust, oil and hydraulic fluid) will be prevented. SWPPPs are required under the California Construction General Permit for projects disturbing at least 1 acre of soil. Construction projects that will disturb soil of more than 1 acre may be required to file a Notice of Intent (NOI) for inclusion in the General Construction NPDES Permit.

A Stormwater Control Plan (SWCP) describes permanent stormwater management facilities or controls (*e.g.*, bioretention areas, biofiltration strips) that will be incorporated into development projects. These controls are intended to treat stormwater runoff and control runoff rates and volumes after the construction. SWCPs are applicable to regulated projects that must implement permanent stormwater controls to comply with Condition C.3 requirements of the Municipal Regional NPDES Permit.

Construction General Permit (CGP)

Construction which involves disturbance of more than one acre of land is subject to the requirements of the NPDES Construction General Permit (CGP). SWRCB adopted Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). Regulated construction activities must conform to requirements outlined in the CGP, including the implementation of Storm Water Pollution Prevention Plans (SWPPP), among other requirements. Section II.B.1 of the CGP defines covered construction activities as follows:

“Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.”

Before the start of construction, the Contractor would be required to file electronically Permit Registration Documents including a Notice of Intent (NOI), SWPPP, and additional applicable documents. The NOI filed with the SWRCB is an application for coverage and statement that the contractor will prepare a SWPPP and will comply with other requirements under the CGP. Implementation of the SWPPP is intended to prevent unauthorized discharge of sediment or other pollutants from the construction site to receiving waters.

Municipal Regional Permit (MRP)

Contra Costa County and the CCCFC&WCD are members of the Contra Costa Clean Water Program, which includes Permittees covered under Municipal Regional NPDES Permit No. CAS612008. In 2015, the San Francisco Bay RWQCB (SFBRWQCB) adopted Order No. R2-2015-0049/NPDES No. CAS612008, as amended later by Order No. R2-2019-0004 in 2019. Amendment by Order No. R2-2019-0004 added the East County Permittees, which otherwise remain in the jurisdiction of the Central Valley RWQCB.²¹ Unincorporated Contra Costa County and the CCCFC&WCD are Permittees under NPDES Permit No. CAS612008.

The MRP sets a comprehensive framework to reduce the discharge of pollutants in storm water to the "Maximum Extent Practicable" (MEP) and protect water quality. The MRP is comprised of the several provisions including provision C.6, Construction Site Control, which potentially could be applicable to the proposed project. The proposed SCPL Phase 3 Improvement Project is an underground utility project that would add temporary permeable mats for the heavy construction equipment and would remove/replace the mats or use materials having the same runoff characteristics as the pre-construction conditions. The proposed project would add 125 square feet of impervious surface area (*e.g.*, around valves). Based upon further review of Contra Costa County Title 10 – Public Works and Flood Control, Division 1014: Stormwater Management and Discharge Control, the proposed SCPL Phase 3 Improvement Project is not regulated under the C.6 provision of the MRP, because it would add negligible impervious surface. The proposed SCPL Phase 3 Improvement Project would disturb more than 1 acre of land; therefore, construction of the proposed project would be regulated under the CGP but not the MRP.

²¹ Contra Costa County watersheds are under the jurisdictions of two Regional Water Quality Control Boards, the San Francisco Bay RWQCB and the Central Valley RWQCB.

SFBRWQCB NPDES General Permit for Discharge of Treated Groundwater

Order No. R2-2017-0048 as amended by Order No. R2-2018-0050 (NPDES Permit No. CAG912002) establishes waste discharge requirements for dischargers of treated groundwater that are not otherwise permittees under an individual permit. Covered facilities may include construction sites in addition to active or closed cleanup sites (*e.g.*, leaking underground storage tank service station sites). This Order addresses discharges from these facilities to any surface waters, including creeks, streams, and flood control channels, and others.

The short title of this permit is the “VOC and Fuel General Permit.” It became effective January 1, 2019 and will expire on December 31, 2023. Treatment such as filtration and granular activated carbon (GAC) may be required to achieve effluent limitations. For diesel-range and motor oil-range TPH, these are 50 mg/L and 100 mg/L, respectively. In view of the anticipated 200,000-gallon total volume of dewatering water, installation and monitoring of a filtration and treatment system would be less cost effective than discharge under permit to the nearby Marathon Refinery or the Central Contra Costa Sanitary District (CCCSD) WWTP.

Central Contra Costa Sanitary District (CCCSD) Special Discharge Permit

CCCSD’s WWTP operates under a permit with discharge requirements issued by SFBRWQCB. CCCSD accepts special discharges to its system subject to application and approval. Total toxic organics (TTO) and TPH are subject to effluent limits. TTO means the same as VOCs and SVOCs (U.S. EPA Method 624/625 analytes) plus chlorinated pesticides (U.S. EPA Method 608 analytes). The TTO limit is 2.10 milligrams per Liter (2.1 mg/L is the same as 2,100 mg/L). The TPH limit is 10 mg/L (10 mg/L is the same as 10,000 mg/L). Additional limits are listed in the Special Discharge Permit Application.

Marathon Refinery

Marathon Refinery collects and treats its refining process wastewater, sanitary wastewater, and most stormwater runoff. The treatment system is permitted under an individual NPDES Permit No. CA0004961 (Order No. R2-2021-0029) issued by the SFBRWQCB. The treatment process includes oil/water separators, lagoons for settling of suspended solids and biological degradation, clarifiers for additional solids settling, and filtration. Oil recovered from the oil/water separators is transported for processing and reuse at another refinery. Treated effluent is discharged to Suisun Bay (Discharge Location 001) or a portion is recycled on site.

CCWD is working with Marathon Refinery to transport groundwater extracted by the construction dewatering system to Marathon Refinery for treatment in Marathon’s treatment system.

Lake and Streambed Alteration Agreement

Fish and Game Code Section 1602 prohibits unauthorized activities that may: 1) divert or obstruct natural stream flow, 2) alter the bed, bank or channel of any lake, river or stream, 3) use material taken from a lake, river or stream, or 4) deposit materials or waste into a lake, river or stream. An

entity shall not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any lake, river or stream, or deposit or dispose of debris, waste, or other material where it may pass into any river, stream, or lake, unless CDFW receives written notification regarding the activity in the manner prescribed in Section 1602.

Receipt of notification by CDFW will trigger one of the following:

- CDFW’s written concurrence that the SCPL Phase 3 Improvement Project activity will not substantially adversely affect an existing fish or wildlife resource, and that the CCWD may commence the activity without a Lake and Streambed Alteration (LSA) Agreement.
- CDFW’s written determination that the SCPL Phase 3 Improvement Project activity may substantially adversely affect an existing fish or wildlife resource and LSA agreement including reasonable measures necessary to protect the resource.

In the latter event, CCWD would conduct pipeline construction activity in accordance with the conditions of the LSA agreement.

Section 404 of the Clean Water Act (CWA)

The CWA establishes a program to regulate the discharge of dredged or fill materials into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (*e.g.*, dams, levees), infrastructure development (*e.g.*, highways, pipelines) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into jurisdictional waters unless the activity is exempt from the regulation. The SCPL Phase 3 Improvement is not exempt and could temporarily place construction materials or equipment and/or require excavation of the entry pit over delineated wetlands. Soil cuttings mixed with drilling mud would be staged temporarily over non-jurisdictional ruderal uplands. See Biology for details.

ENVIRONMENTAL CHECKLIST SUMMARY

A. Would the proposed Project violate any water quality standards or waste discharge requirements?

Less than Significant with Mitigation Incorporated – Unwatering of surface water and pumping of groundwater will be performed during construction. Discharge of ponded water or collected groundwater will have a general potential to degrade receiving waters.

Standing Water

Ponded water also may be present as observed in November 2021 and which remains as of February 2022. To provide a suitable base for staging and equipment, potential areas of standing water will need to be drained or “unwatered.” Discharge options include the following:

- Storage and reuse on site for construction dust control;

- Land application on nearby properties including Marathon, the CCCFC&WCD, or adjacent Conco property with landowner permission and approval by the SFRWQCB;
- Interim storage followed by discharge to Pacheco Creek or Walnut Creek under permit to SFRWQCB; or,
- Interim storage followed by trucking for discharge to the CCCSD WWTP under Special Discharge Permit to CCCSD or to Marathon Refinery's oily water separator with permission.

WQ Impact-1 Unwatered ponded water could contain high silt content.

WQ Mitigation Measure-1

Any standing water pumped for discharge would first be pumped into Baker tanks for interim storage and settling, to ensure that sediment is minimized. Interim storage also will allow time for sampling and analytical testing by a laboratory before discharge or land application. Baker tanks would be staged near the entry and exit pits at a safe distance from the pipeline.

Groundwater

The groundwater table is expected to be shallow. Gauged depth to groundwater has been in the range 2.2–4.9 feet below ground surface (fbgs). Pumping of groundwater to stabilize the entry and exit pits and facilitate construction of pipe facilities will be required. Groundwater pumped from the pits will be temporarily stored on-site, tested, and then discharged in batches to approved discharge locations or facilities. It is estimated that approximately 200,000 gallons of groundwater will be removed during the construction.

WQ Impact-2 Extracted groundwater will be generated during subsurface construction that could contain high silt content and potential trace residues of contaminants (*e.g.*, acetone, carbon disulfide, isopropanol, and TPH).

WQ Mitigation Measure-2

Unpermitted discharges of extracted groundwater to land or surface water will be prohibited. The Contractor will be required to install groundwater de-watering system(s) for the anticipated subsurface conditions. Groundwater pumped from dewatering system(s) will be stored, tested, and treated if required. Groundwater will be discharged into treatment systems on the Marathon property and/or CCCSD's WWTP with prior permission or permitting, in accordance with the waste discharge requirements of the dischargers.

Stormwater

Construction that involves disturbance of more than one acre of land is subject to the requirements of the NPDES CGP. Before the start of construction, the contractor would be required to file electronically Permit Registration Documents including a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and additional applicable documents. The NOI to be filed with the SWRCB is an application for coverage and statement that the contractor will prepare a SWPPP and will comply with other requirements under the CGP. Implementation of the SWPPP is intended to prevent unauthorized discharge of sediment or other pollutants from the construction site to receiving waters.

Stormwater runoff from the project site could be expected to carry a sediment load, especially after disturbance for the construction. Omni silty clay soil, where present on the project site, is fine-grained erosive soil and is classified in Hydrologic Group D. On slopes, rills and gullies could form that concentrate runoff and increase erosion relative to the existing setting.

The proposed project is not a regulated project under the MRP since it is an underground water pipe improvement project that will add negligible impervious surface area. A SWCP for the long-term project lifetime will not be prepared, as permanent on-site drainage controls are not warranted.

Temporary Bedding Materials

Temporary construction pads will be needed for heavy equipment prior to the start of HDD. Placement of permeable bedding materials for the heavy construction equipment pads potentially could impede overland flow (due to siltation and clogging soil pore spaces) and could concentrate stormwater overland flows at low points formed by the added materials. This is not expected to degrade surface or groundwater quality but could present on-site maintenance issues. Upon completion, it also could present a restoration challenge.

WQ Impact-3 Heavy equipment, temporary storage vessels for either surface or groundwater, and stockpiled soil may compact existing soil or interfere with existing overland flow of stormwater. Compaction could reduce rainwater infiltration and increase erosion and potential sediment load in runoff relative to the existing setting. Concentration of stormwater runoff (e.g., owing to placement of soil stockpiles for drying) could increase sediment load.

WQ Mitigation Measure-3

A SWPPP will be prepared for the proposed project to address sedimentation and maintenance of overland flow. The SWPPP will include performance criteria for site restoration and other mitigation measures listed below.

- Equipment pads consisting of coarse rock on a suitable geotextile fabric would minimize a compaction of underlying soil.
- Under temporary soil stockpiles, a suitable base consists of a double ply of plastic

liner with geotextile fabric. Geotextile fabric will serve as a delineator, marking the bottom of materials placed during construction and identify the original native soil.

- After removal of equipment and placed materials, to address potential erosion and sedimentation, site restoration will return surface soil infiltration and vegetative cover to pre-construction conditions.

Petroleum Fuels & Hazardous Materials for Construction

Construction of the proposed project would entail periodic re-fueling of non-road equipment. Non-road construction equipment is expected to be diesel-powered. In addition to diesel fuel, non-road diesel-powered equipment also would require service with grease and hydraulic fluid during the course of construction.

High density polyethylene pipe (HDPE) pipe would be fabricated off site. Pipe strings would be made by onsite thermal fusing, a process which entails facing pipe ends and heating the ends with equipment known as a pipe fuser. Two segments of pipe are then joined and allowed to cool while under mechanical hydraulic pressure. Liquid solvents and glues will not be used in the process.

HDPE pipe does not require any protective coatings. Painting during construction is not proposed. Hazardous or flammable liquids such as paints, solvents including halogenated solvents, and polyaromatic hydrocarbons (PAHs) would not be needed, and are not proposed, for construction of the proposed project, other than diesel fuel and hydraulic oil.

WQ Impact-4 Refueling and maintenance of heavy equipment with hydraulic fluid and grease potentially could result in spillage.

WQ Mitigation Measure-4

A Spill Prevention and Contingency Plan will be included as an element of in the Soil & Groundwater Management Plan. Equipment and sorbent materials will be maintained on site to respond to an inadvertent spill of fuel, oil, hydraulic oil, or grease.

Drilling Fluid

Drilling fluid is used in HDD pipeline installation to reduce friction and drive the pilot bore cutting head and reamer and generally consists of a slurry of bentonite clay and water with other inert polymers potentially added. Bentonite clay is an inert natural mineral substance without hazardous material or petroleum content.

During pilot bore drilling, reaming, and pipe pullback, drilling mud is injected to reduce friction. During drilling and reaming, drilling mud is circulated in the bore from cutting head of the drill stem to the entry pit. Drilling mud is reclaimed at the mud reclaimer and is re-circulated back to hold the borehole open. Pressure is carefully monitored and controlled to avoid over-pressurization and release of drilling fluid to the ground surface, which is known as “inadvertent drilling fluid return” (Stantec, 2022).

Risk of drilling mud inadvertent returns was evaluated and reported by Stantec (2022). The construction can be built with a margin of safety which diminishes near the approach to the exit pit located east of Site 4. This is a benched upland area which presents a reduced likelihood of inadvertent release into Walnut Creek if contingencies for response are in place in advance of the work.

During HDD drilling, soil cuttings mixed with drilling fluid from the reclaimer would be stored temporarily on an adjoining ruderal upland area in Site 5 east of Walnut Creek. See Biology for details.

WQ Impact-5 HDD presents a risk of release of drilling mud termed “inadvertent return,” which could potentially result in discharge of sediment into a creek. Most of the proposed project has a design safety factor of $\times 1.5$, except the portion near the approach to the exit pit on Site 4 (Conco property).

WQ Mitigation Measure-5

The Contractor will be required to install drilling mud relief wells along the alignment with the highest risk of inadvertent return on Site 4 near the exit boring pit. The relief wells will provide a preferential pathway for drilling mud surfacing. Drilling mud exiting the ground surface will be contained, removed, and properly managed to minimize any potential for uncontrolled release.

The Contractor will include procedures for preventing and responding to inadvertent returns in an Inadvertent Returns Contingency Plan and will maintain on-site equipment and materials for containment and cleanup response.

WQ Impact-6 Stockpiled soil and construction activities generally have the potential to generate sediments conveyed in stormwater runoff that can impact surface water bodies. Construction of the SCPL Phase 3 Improvement Project will generate wet soil displaced by pipe, which will be stored temporarily in the Site 5 upland area next to Walnut Creek, thereby creating potential for discharge of sediments into Walnut Creek. Soil cuttings from the reaming process and drilling mud reclaimer will be too wet for direct loading into haul trucks, which necessitates staging in interim stockpiles for drying.

WQ Mitigation Measure-6

A SWPPP for the construction would be designed and implemented to control erosion during the construction. The SWPPP will include provisions for straw wattle to capture sediment, and provisions for restoration of ground cover as soon as possible after ground disturbing activity.

The SWPPP will include provisions for the interim soil stockpiles to maintain distributed overland flow and avoid concentration of runoff and increased sedimentation of Walnut Creek and wetlands adjacent to the project construction Site 5.

B. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pro-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less than Significant Impact – The proposed project would create 125 square feet of impervious surface consisting of concrete collars around valves. Access points with provisions for anti-trackout of soil on tire treads and heavy equipment pads would be constructed using pervious aggregate (*i.e.*, hard rock) over geotextile fabric. Runoff patterns and volumes on the project site would be preserved at the existing pre-construction conditions.

Temporary construction groundwater de-watering would generate approximately 200,000 gallons, total for the duration of construction. The proposed project, therefore, would not deplete groundwater through extraction or lower the groundwater table by substantially interfering with groundwater recharge.

C. Would the proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

- (i) result in substantial erosion or siltation on-site or off-site;
- (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
- (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?

The SCPL Phase 3 Improvement consists of HDD to install HDPE pipelines underground. Some minor facilities such as valves would daylight. The proposed HDD construction method would avoid most trenching, except for entry and exit pits. Open trench construction would be limited to short trenches at the connections to the existing pipeline in Sites 4 and 5. The proposed SCPL Phase 3 Improvement Project would not change the topography or existing drainage patterns, alter the course of Walnut Creek or Pacheco Creek, or add impervious surfaces. After completion of the construction, entry and exit pits, staging areas, and other areas within the construction footprint would be restored to pre-construction condition. Soil temporarily stockpiled for drying in Site 5 will be removed. Unpaved maintenance areas around the HDPE tie ins and some improved gravel roads will remain after construction is completed.

- (i) *Less than Significant with Mitigation Incorporated* – Non- Road equipment travel and heavy equipment could potentially expose sparsely vegetated soils to accelerated

erosion if the soil is not properly protected. Omni silty clay on the project site has high runoff potential and is erosive.

Based upon the preliminary information, the proposed project would most likely be classified as Risk Level 2. Risk Level 2 projects require a SWPPP, implementation of BMPs, and effluent sampling at discharge points. Samples would need to meet the numeric action levels for pH and turbidity. If discharge samples exceed the levels set forth in the CGP, exceedance reporting, and BMP modifications could potentially be required. The SWPPP is discussed in Mitigation Measure WQ-3.

- (ii) **No Impact** – Runoff from the project site generally would continue as sheet flow following pre-construction patterns. The pattern and volume of runoff would not be altered by the proposed project. Therefore, the proposed project would not impact available capacity at existing or planned stormwater drainage systems.
- (iii) **No Impact** – The proposed project would not include paved service roads or parking lots. Anti-trackout pads and heavy equipment pads would be constructed using rock fill over geotextile fabric. The proposed project would not increase the rate or volume of stormwater runoff volume.
- (iv) **No Impact** – The proposed project would construct an underground untreated water pipeline. Changes to the topography by cutting, filling, or addition of buildings are not proposed. Settlement due to pipe surcharge and annular void space potentially left from the drilling process is possible. Projected settlement is 0.66 inches over the top of pipe, but less with increased distance outboard from the pipe (Stantec, 2022). In the vicinity of the LWCR Project, at the levees shown in Figure 25, settlement would be negligible. Therefore, the proposed project could not impede or redirect flood flows or impair the floor protection effectiveness of the LWCR Project levees.

D. Is the proposed project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact – Based upon available mapping of risk prone areas by Cal/OES, the project site is not at risk for tsunamis and also is not located in a seiche zone. Since the proposed project is a water pipeline, there is no risk of release of pollutants due to project inundation.

E. Does the proposed project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact – Construction of the proposed project is expected to comply with a SWPPP and have a less-than-significant short-term impact on surface water and groundwater resources, their quality and quantity. The proposed project is not expected to have long-term effects on surface water and groundwater resources, their quality or quantity. No amount or groundwater recharge would be depleted by implementing the proposed project. The proposed project, therefore, would not

conflict with or obstruct programs of the Contra Costa Clean Water Program or Contra Costa County's Green infrastructure Plan. The area has not yet adopted a groundwater sustainability plan. The nearest such plan applies in East Contra Costa County. Recycled water is available from CCCSD's wastewater treatment plant for dust control use.

3.7 MANDATORY FINDINGS OF SIGNIFICANCE

The analysis conducted in this IS/MND results in a determination that the Project would have a less-than-significant effect on the environment. As described above, the potential for impacts to biological resources from the Proposed Project would be less than significant following implementation of the provided mitigation measures. Accordingly, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory. The Project would not result in substantial adverse effects on human beings, either directly or indirectly. Adverse effects on human beings resulting from implementation of the Project would be less than significant. Refer to Appendix A for the CEQA Checklist signature page.

4. SUMMARY OF PROPOSED MITIGATION MEASURES

Earlier Analyses Used: The following mitigation measures identified, as well as the mitigation measures in the 2011 MND continue to be necessary to reduce potentially significant impacts to less than significant levels.

Mitigation Measures: The mitigation measures for the six topics listed would reduce Project impacts to less than significant levels:

Air Quality

AQ Mitigation Measure-1: Provisions for track-out control of soil/mud from project construction will be implemented as construction best practices BP6 and BP7 described in Table 12.

AQ Mitigation Measure-2: To minimize fugitive PM emission and downwind PM concentrations from on-site construction, implement Construction Basic Practices A1 through A4 and A8 and Construction Best Practices BP6 and BP7 for anti-trackout (see Table 12).

AQ Mitigation Measure-3: To minimize exhaust PM emission and downwind PM concentrations from on-site construction, the BAAQMD recommends implementation of Construction Basic Practices A6 and A7 for non-road equipment exhaust control (see Table 14).

AQ Mitigation Measure-4: Carefully refuel in designated areas with spill response equipment and supplies available on-site to minimize incidental spills and respond in the event of accidental spills

Biological Resources

BIO Mitigation Measure-1: Preconstruction Surveys – Prior to the initiation of exclusion fencing installation, vegetation clearing, and other construction activities, a Service approved biologist will conduct pre-construction surveys for SMHM.

BIO Mitigation Measure-2: Preconstruction Environmental Training – Prior to initiation of construction activities, all construction personnel will participate in an endangered species training program to be given by the Service-approved biological monitor. The training will provide information about the SMHM, measures being implemented to avoid impacts to the species, and procedures to follow should a SMHM be encountered during routine activities. Training materials will be in Spanish and English.

BIO Mitigation Measure-3: Biological Monitoring – A U.S. Fish and Wildlife Service-approved biological monitor will be present during vegetation clearing and SMHM exclusion fence installation. Once the SMHM exclusion fencing has been installed and all work activity is confined to the cleared work site, the biological monitor will inspect the site at least once per day while construction is ongoing.

BIO Mitigation Measure-4: Contingency if SMHM is found on site - If a SMHM is observed within the areas being removed of vegetation or elsewhere within the work site, the biological monitor will stop work in the immediate area until the salt marsh harvest mouse leaves the work

area on its own volition.

BIO Mitigation Measure-5: SMHM Exclusion Fencing – Exclusion fencing for SMHM will be installed between areas of SMHM habitat and work sites immediately following vegetation removal and before excavation activities begin to prevent entry of the SMHM into cleared areas.

BIO Mitigation Measure-6: Habitat Restoration – All temporarily disturbed sites shall be restored to full functions and values in the 12-month period following impacts. A three-year monitoring and maintenance period is prescribed for these sites to ensure they meet pre-construction habitat quality.

BIO Mitigation Measure-7: SMHM Habitat Compensation – CCWD will mitigate for SMHM offsite at Cordelia Slough Preserve (or another Service-approved site if not possible at this location), at a 1:1 ratio for short-term temporary disturbance (less than 12 months) involving major construction activities including vegetation removal, trenching, HDPE mats, and the use and staging of heavy equipment. Permanent impacts will be compensated at a 3:1 ratio.

BIO Mitigation Measure-8: Pickleweed Harvesting and Propagation - Pickleweed within temporary impact areas will be mowed with string trimmers with saw-blade attachments to the soil surface leaving the root system intact. These areas will be covered with Visqueen sheeting (or similar) and marsh mats to allow equipment to drive on these areas. When construction is completed, the marsh mats and Visqueen sheeting will be removed and the pickleweed will be allowed to regrow naturally. In addition, areas of pickleweed impact will be permanently mitigated for at Cordelia Slough Preserve as a part of the SMHM habitat mitigation (see BIO Mitigation Measure 7).

BIO Mitigation Measure-9: Wetland Compensation – The San Pablo-Rheem Creek Wetland Restoration Project contains already established seasonal wetlands on an 8.6 acre set of parcels adjacent to Rheem Creek and Breuner Marsh, located in the City of Richmond. Wetlands will be mitigated consistent with Phase 2 requirements – 1:1 for permanent impacts and 0.1:1 for temporary impacts.

BIO Mitigation Measure-10: Erosion Control – To control erosion during and after implementation of the Proposed Project, the contractor would implement a Stormwater Pollution Prevention Plan (SWPPP) with appropriate BMPs, in accordance with San Francisco Bay Regional Water Quality Control Board guidelines.

Cultural Resources

CR Mitigation Measure-1: If any cultural artifacts are encountered during site grading or other construction activities, all ground disturbance in the vicinity shall be halted until a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s).

CR Mitigation Measure-2: In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately, and a qualified archaeologist shall notify the Office of the Contra Costa County Coroner and advise that office as to whether

the remains are likely to be Native American.

If the remains are Native American, the Coroner must notify the NAHC of the discovery within 24 hours. The NAHC will then identify and contact a Most Likely Descendant (MLD). The MLD may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods. Once proper consultation has occurred, a procedure that may include the preservation, excavation, analysis, and curation of artifacts and/or reburial of those remains and associated artifacts will be formulated and implemented.

If the remains are not Native American, the Coroner will consult with the archaeological research team and the lead agency to develop a procedure for the proper study, documentation, and ultimate disposition of the remains. If a determination can be made as to the likely identity—either as an individual or as a member of a group—of the remains, an attempt should be made to identify and contact any living descendants or representatives of the descendant community. As interested parties, these descendants may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods.

Greenhouse Gas Emissions

GHG Mitigation Measure-1: To reduce GHG emission during construction, CCWD will require the contractor to implement a Worker Travel Plan, to be approved by CCWD, which includes measures to reduce VMT and travel in single-occupant vehicles. Estimated GHG reduction potential is 67 MT CO₂e or 10 percent of construction-phase emission of GHGs.

Hazards and Hazardous Materials

HM Mitigation Measure-1: A Spill Prevention and Contingency Plan will be included as an element of the Soil & Groundwater Management Plan. Equipment will be maintained on site to respond to a spill of fuel, oil, hydraulic oil, or grease.

HM Mitigation Measure-2: Procedures for on-site safety and management of soil and groundwater will be set forth for the contractor in a Worker Health & Safety Plan and a Soil & Groundwater Management Plan, which will be incorporated into contract and construction documents.

- Posting of appropriate signage and covering of soil stockpiles will be implemented to minimize potential for public contact with temporarily stored soil and de-watering water.
- A chemical profile will be completed before off-site disposal of groundwater. Only de-watered groundwater that has met relevant acceptance criteria and has been pre-approved (i.e., accepted or permitted) by a responsible discharger would be transported off site to that discharger.
- A chemical profile will be completed before reuse or off-site disposal of soil. If applicable, open-air drying will follow provisions set forth in BAAQMD Regulation 8, Rule 40 (Aeration of Contaminated Soil).
- Trucks transporting excess soil would be tarped and tire treads cleaned to avoid trackout

on public ways.

HM Mitigation Measure-3: The contractor will be required to work subject to conditions of a contract and construction documents that acknowledge the nearby presence of underground natural gas and crude oil pipelines. Conditions of work at crossings of underground pipes, which are located in the southern part of the western (Site 4) and eastern (Site 5) staging areas, will preclude damage to the pipes.

The contractor will be required to be familiar with the boundaries and acknowledge the presence of the nearby waste consolidation area and WMUs. Inadvertent work damaging to the integrity of the caps, slurry walls, or other subsurface features integral to their waste containment function will be avoided.

HM Mitigation Measure-4: The contractor will be required to maintain fuel load on the project site near the existing load through vegetation management during construction. Cranes and other non-road equipment will operate only in suitably maintained work areas to minimize risk of grassfire.

Hydrology and Water Quality

WQ Mitigation Measure-1: Any standing water pumped for discharge would first be pumped into Baker tanks for interim storage and settling, to ensure that sediment is minimized. Interim storage also will allow time for sampling and analytical testing by a laboratory before discharge or land application. Baker tanks would be staged near the entry and exit pits at a safe distance from the pipeline.

WQ Mitigation Measure-2: Unpermitted discharges of extracted groundwater to land or surface water will be prohibited. The Contractor will be required to install groundwater de-watering system(s) for the anticipated subsurface conditions. Groundwater pumped from dewatering system(s) will be stored, tested, and treated if required. Groundwater will be discharged into treatment systems on the Marathon property and/or CCCSD's WWTP with prior permission or permitting, in accordance with the waste discharge requirements of the dischargers.

WQ Mitigation Measure-3: A SWPPP will be prepared for the proposed project to address sedimentation and maintenance of overland flow. The SWPPP will include performance criteria for site restoration and other mitigation measures listed below.

- Equipment pads consisting of coarse rock on a suitable geotextile fabric would minimize a compaction of underlying soil.
- Under temporary soil stockpiles, a suitable base consists of a double ply of plastic liner with geotextile fabric. Geotextile fabric will serve as a delineator, marking the bottom of materials placed during construction and identify the original native soil.
- After removal of equipment and placed materials, to address potential erosion and sedimentation, site restoration will return surface soil infiltration and vegetative cover to pre-construction conditions.

WO Mitigation Measure-4: A Spill Prevention and Contingency Plan will be included as an element of in the Soil & Groundwater Management Plan. Equipment and sorbent materials will be maintained on site to respond to an inadvertent spill of fuel, oil, hydraulic oil, or grease.

WO Mitigation Measure-5: The Contractor will be required to install drilling mud relief wells along the alignment with the highest risk of inadvertent return on Site 4 near the exit boring pit. The relief wells will provide a preferential pathway for drilling mud surfacing. Drilling mud exiting the ground surface will be contained, removed, and properly managed to minimize any potential for uncontrolled release.

The Contractor will include procedures for preventing and responding to inadvertent returns in an Inadvertent Returns Contingency Plan and will maintain on-site equipment and materials for containment and cleanup response.

WO Mitigation Measure-6: A SWPPP for the construction would be designed and implemented to control erosion during the construction. The SWPPP will include provisions for straw wattle to capture sediment, and provisions for restoration of ground cover as soon as possible after ground disturbing activity.

The SWPPP will include provisions for the interim soil stockpiles to maintain distributed overland flow and avoid concentration of runoff and increased sedimentation of Walnut Creek and wetlands adjacent to the project construction Site 5.

5. LIST OF PREPARERS AND REVIEWERS

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Appendix A
CEQA Checklist Signature Page

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

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.

Mark A. Seedall
Signature
Mark A. Seedall
Printed Name

March 11, 2022
Date
Contra Costa Water District
For