Flow Equalization & Resource Recovery Facility Levee Improvements & Bayfront Recycled Water Facility Project

DRAFT ENVIRONMENTAL IMPACT REPORT
SCH#2020050414

DECEMBER 2020



WEST BAY
SANITARY DISTRICT

West Bay Sanitary District
500 Laurel Street | Menlo Park, CA 94025

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FERRF LEVEE IMPROVEMENTS AND BAYFRONT RECYCLED WATER FACILITY DRAFT ENVIRONMENTAL IMPACT REPORT

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ACRONYMS, ABBREVIATIONS, AND SYMBOLS

Acronym / Symbol	Full Phrase or Description
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACI	American Concrete Institute
AES	Aesthetics
AFY	Acre-Feet Per Year
AHPA	Archaeological and National Historic Preservation Act
AISC	American Institute of Steel Construction
ALUCP	Airport Land Use Compatibility Plan
AMSL	Above Mean Sea Level
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AP Zone	Alquist-Priolo Earthquake Fault Zone
ARTP	Archaeological Resource Treatment Plan
ASCE	American Society of Civil Engineers
ATS	Automatic Transfer Switch
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
Basin Plan	Water Quality Control Plan of The San Francisco Bay Basin
Bay	San Francisco Bay
Bayfront RWF	Bayfront Recycled Water Facility
Bay Plan	San Francisco Bay Plan
BCDC	San Francisco Bay Conservation and Development Commission
BIO	Biological Resources
BLM	Bureau of Land Management
BMP	Best Management Practices
BTT	Bio-Trickling Tower
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards

Acronym / Symbol	Full Phrase or Description
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
Cal/OSHA	California Division of Occupational Safety and Health Administration
Cal-IPC	California Invasive Plant Council
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CBC	California Building Code
CBRS	Coastal Barrier Resources System
CCR	California Code of Regulations
CDFG	California Department of Fish and Game (Now CDFW)
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFP	California Fully Protected
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CH_4	Methane
CIP	Cast Iron Pipe
City	City of Menlo Park
CMU	Concrete Masonry Unit
CN	Cyanide
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COVID-19	Coronavirus Disease 2019

Acronym / Symbol	Full Phrase or Description
CPO	Chief Plant Operator
CPT	Cone Penetrometer Tests
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Ranked
Cr III	Trivalent Chromium
Cr VI	Hexavalent Chromium
CSSC	California Species of Special Concern
CUL	Cultural, Historic, and Tribal Cultural Resources
CWA	Federal Clean Water Act
CWSRF	Clean Water State Revolving Fund
CY	Cubic Yard(s)
C/CAG	City/County Association of Governments of San Mateo County
D	Distance
dB	Decibel
dBA	Decibels, A-Weighted
DCA	Dichloroethane
DCE	Dichloroethylene
DIP	Ductile Iron Pipe
District	West Bay Sanitary District
DNL	Day-Night Noise Level
DPM	Diesel Particulate Matter
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DWQ	Department of Water Quality
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EQ	Equalization
FAR	Federal Acquisition Regulation
FC	Federal Candidate for Listing
FE	Federal Endangered
FEMA	Federal Emergency Management Agency

Acronym / Symbol	Full Phrase or Description
FERRF	Flow Equalization and Resource Recovery Facility
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Works Administration
FMP	Fisheries Management Plan
FP	State Fully Protected
FSC	Federal Species of Concern
FT	Federal Threatened
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Acts
GCCS	Gas Collection and Control System
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
GWP	Global Warming Potential
H	Horizontal
HAP	Hazardous Air Pollutants
HAPC	Habitat Areas of Particular Concern
HDD	Horizontal Directional Drilling
HFCs	Hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMMP	Habitat Mitigation and Monitoring Plan
hp	Horsepower
HPIR	Historic Properties Identification Report
HRE	Historic Resource Evaluation
HTL	High Tide Line
Hz	Hertz
H_2S	Hydrogen Sulfide
In/sec	Inches Per Second
I-280	Interstate 280 (California)
IPS	Influent Pump Station
KOP	Key Observation Point

Acronym / Symbol	Full Phrase or Description
kV	Kilovolt
LAFCO	Local Agency Formation Commission
lbs	Pounds
L_{dn}	Day-Night Noise Level
L_{eq}	Continuous Equivalent Noise Level
LF	Linear Feet
LI	Light Industrial
LID	Low Impact Development
L_{max}	Maximum Noise Level
LRA	Local Response Area
LSAA	Lake or Streambed Alteration Agreement
LU	Land Use
MBPA	California Migratory Bird Protection Act
MBR	Membrane Bioreactor
MBTA	Federal Migratory Bird Treaty Act
MG	Million Gallons
MGD	Million Gallon(S) Per Day
MHW	Mean High Water
MLD	Most likely Descendant
MOA	Memorandum of Agreement
MRP	Municipal Regional Permit
MSL	Mena Sea Level
MS4	Municipal Separate Storm Sewer System
MT	Metric Tons
DNLMTC	Metropolitan Transportation Commission
$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalent
MU	Multi-Use
Mw	Moment Magnitude
m/s	Meters Per Second
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act

Acronym / Symbol	Full Phrase or Description
NAHC	Native American Heritage Commission
NAVD88	North American Vertical Datum Of 1988
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO	Nitrogen Oxide
NO_x	Oxides of Nitrogen
NO_2	Nitrogen Dioxide
NPPA	California Native Plant Protection Act
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
N_2O	Nitrous Oxide
OHP	California Office of Historic Preservation
OLU	Operational Landscape Units
OPC	California Ocean Protection Council
OPR	Governor's Office of Planning and Research, California
OSC	Open Space and Conservation
OSHA	U.S. Occupational Safety and Health Administration
O_3	Ozone
PCB	Polychlorinated Biphenyl
PE	Polyethylene
P-F	Public Facilities
PFCs	Perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM	Particulate Matter
$PM_{2.5}$	Fine Particulate Matter

Acronym / Symbol	Full Phrase or Description
PM_{10}	Coarse Particulate Matter
Porter-Cologne	Porter-Cologne Water Quality Control Act
ppm	Parts Per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
PVC	Polyvinyl Chloride
RO	Reverse Osmosis
ROG	Reactive Organic Gases
ROWD	Report of Waste Discharge
RW	Recycled Water
RWF	Recycled Water Facility
RWQCB	Regional Water Quality Control Board
R&D	Research and Development
SAFER Bay	Strategy to Advance Flood Protection, Ecosystems, and Recreation Along San Francisco Bay
SFCJPA	San Francisquito Creek Joint Powers Authority
SB	Senate Bill
SBSP	South Bay Salt Pond
SC	State Candidate for Listing
SCADA	Supervisory Control And Data Acquisition
SE	State Endangered
SFBAAB	San Francisco Bay Area Air Basin
SF	Square Feet
SF_6	Sulfur Hexaflouride
SFEI	San Francisco Estuary Institute
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SLAC	Stanford Linear Accelerator Center
SLC	State Lands Commission
SLF	Sacred Lands File
SLR	Sea Level Rise
SO_x	Oxides of Sulfur

Acronym / Symbol	Full Phrase or Description
SO_2	Sulfur Dioxide
SO_4^{2-}	Sulfates
SPUR	San Francisco Bay Area Planning and Urban Research Association
SR	State Route
SRF	State Revolving Fund
ST	State Threatened
State	State of California
SVCW	Silicon Valley Clean Water
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCR	Tribal Cultural Resources
TDS	Total Dissolved Solids
TIA	Transportation Impact Analysis
UF	Usage Factor
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
U.S.	United States
U.S. EPA	U.S. Environmental Protection Agency
V	Vertical
VCP	Vitrified Clay Pipe
VdB	Velocity Decibels
VegCAMP	Vegetation Classification and Mapping Program
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
Water Trail	San Francisco Bay Water Trail
WBSD	West Bay Sanitary District
WDRs	Waste Discharge Requirements

Acronym / Symbol	Full Phrase or Description
WQS	Water Quality Standards
WWTP	Wastewater Treatment Plant
yr	Year
µg / L	Micrograms Per Liter
µg / m^3	Micrograms Per Cubic Meter
%	Percent
°F	Degrees Fahrenheit

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EIR SUMMARY

The West Bay Sanitary District (District, or WBSD) has prepared this Environmental Impact Report (EIR) to evaluate the potentially significant environmental effects that may result from a proposed project to construct levee improvements to protect the District's existing facilities and San Francisco Bay water quality from the current 100-year floodplain and future sea level rise, and to construct a new Recycled Water Facility at the District's Menlo Park Flow Equalization Facility and Resource Recovery (FERRF) site, located on the edge of Flood Slough in the San Francisco Baylands.

This Summary chapter presents an overview of the proposed FERRF Levee Improvement and Bayfront Recycled Water Facility (Bayfront RWF) Environmental Impact Report (EIR) and identifies project objectives, describes conclusions of the environmental analysis contained in Chapters 3 through 13 of this EIR, identifies the environmentally preferred alternative, project issues to be resolved, and areas of controversy. Table S-1 presents all potentially significant impacts and mitigation measures identified to reduce those impacts to less than significant levels. For a complete description of the proposed project and all its components please see Chapter 2, Project Description, of this Draft EIR.

This Draft EIR has been prepared pursuant to the requirements of CEQA (California Environmental Quality Act, California Public Resources Code, Division 13, Section 21000, et seq.) and the State CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Section 15000, et seq.) to determine the potential direct, indirect, and cumulative environmental impacts of the proposed Plan. Information for this Draft EIR was obtained from on-site field observations and surveys; information provided WBSD and its engineers, by discussions with regulatory agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, biological resources, cultural resources, hydrology and water quality, and noise).

S.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared pursuant to CEQA to assess the potential physical environmental effects associated with implementation of the proposed project. The main objectives of this document as established by CEQA are:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public the reasons for agency approval of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.

- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the statutes and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority.

This Draft EIR was prepared based on public "scoping" comments received during the Notice of Preparation process. This Draft EIR will be circulated for public and agency comment for a 45-day public review period. All substantive comments received on the Draft EIR must be responded to in a Final EIR, which may also contain necessary corrections/revisions to the Draft EIR's text and analysis.

Prior to approving a proposed project, the lead agency must consider the information contained in the Final EIR, determine whether the Final EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and must adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

S.2 TYPE OF EIR

Pursuant to CEQA Guidelines Section 15161, the WBSD has prepared a project EIR to examine the potential environmental impacts of the proposed project. A project EIR, the most common type of EIR prepared, examines the environmental impacts of a specific development project and focuses primarily on the changes in the environment that would result from the development of the project. The EIR shall examine all phases of the project including planning, construction, and operation.

S.3 SUMMARY OF PROPOSED PROJECT

The proposed project is located at the District's 20-acre Menlo Park Flow Equalization and Resource Recovery Facility (FERRF) site, which is at the end of Marsh Road in Menlo Park, adjacent to Bedwell Bayfront Park, on the edge of Flood Slough in the San Francisco Baylands. The FERRF contains open basins (also referred to as ponds in this EIR) that provide wastewater storage for District flows when the conveyance system to the plant is at capacity, most likely during wet weather events, or the conveyance system to the plant is undergoing maintenance or repairs. The existing levees surrounding the site were built in the late 1960's and are not currently certified by the Federal Emergency Management Agency to protect the site from the 100-year flood event. Therefore, the levees require improvement/repairs to ensure the facility and San Francisco Bay remain protected from raw wastewater cross contamination and adjacent Bay/tidal areas waters remain protected during flood events and as sea levels rise.

The levee improvements consist of sheet pile installation (large sheets of metal inserted into the ground that rise above the ground surface) and the reconfiguration of a portion of existing levee into an ecotone levee, also known as a "living shoreline." Ecotone levees are a nature-based adaptation measure comprising gentle slopes or ramps that provide a gradual transition zone between tidal marshes and flood risk management levees. They stretch from the levee crest to the marsh surface and can provide wetland-upland transition zone habitat when properly vegetated with native grasses, rushes, and sedges. They can attenuate waves, provide high-tide refuge for marsh wildlife, and allow room for marshes to migrate upslope with sea level rise.

In addition to flood improvements, the project would also install a new satellite recycled water facility at the site. The Bayfront RWF would typically produce 0.5 MGD of recycled water (approximately 560 acre-feet per year) on average, it would have a capacity of 1.0 MGD. Other than the RWF itself, the system would require new influent and effluent pump stations and piping to transport the recycled water to customers (end users) in the Menlo Park Bayshore area. Pipeline alignments primarily utilize existing street rights-of-way for installation. The RWF also includes a bayside discharge for RWF brine.

S.4 USES OF THIS EIR

The EIR is an objective, information document that informs governmental agency decision makers and the public of the potential for significant project effects, including possible ways to minimize those effects, and describes reasonable alternatives to the project (CEQA Guidelines SS 15121(a)). An EIR must be prepared with a sufficient degree of analysis to provide decision makers with information enabling them to make a decision that intelligently considers the project's potential direct and indirect environmental consequences. The evaluation of environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible (CEQA Guidelines SS15151).

This EIR may be used by the District, other regulatory agencies having jurisdiction over the project, and members of the general public in considering the proposed project. As the Lead Agency, the District will use this EIR to satisfy the requirements of CEQA when considering its actions related to the project.

Other responsible or trustee agencies with regulatory jurisdiction over the project may review this EIR. Such agencies may include, but are not limited to the Bay Area Air Quality Management District (BAAQMD), the San Francisco Regional Water Quality Control Board (RWQCB), the Bay Conservation and Development Commission (BCDC), the State Lands Commission (SLC), the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service (FWS), the California Department of Fish and Wildlife (CDFW), the San Mateo County Local Agency Formation Commission (LAFCO), San Mateo County Environmental Health Hazardous Materials Compliance Division, Caltrans, and City of Menlo Park.

The District is seeking funding from the State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund Program. The Clean Water State Revolving Fund Program is partially funded by the U.S. Environmental Protection Agency (U.S. EPA), therefore, the information provided in Chapter 13 is intended to address the CEQA Plus (federal cross-cutting) requirements.

S.5 PUBLIC OUTREACH

Public outreach for the project included public noticing, issuance of a Notice of Preparation (NOP) for an EIR, and a public scoping meeting for the EIR, as summarized below. Comments received on the NOP and during the scoping meeting were taken into consideration during the preparation of this draft EIR. The NOP summary of comments received at the scoping meeting and the written comments received on the NOP are included in Appendix A of this document.

S.5.1 Notice of Preparation

As required by CEQA Guidelines Section 15082, the District prepared a NOP and circulated it to agencies and made it available to the public on May 18, 2020 (SCH# 2020050414). The NOP contained a summary of the project description, identified the purpose of the NOP process (to solicit input on the content of the EIR), identified how the NOP could be reviewed, and how to submit comments. Circulation of the NOP consisted of its filing with the San Mateo County Clerk's office, submittal to the State Clearinghouse for State Agency Distribution, and by direct mailing to properties within ½ mile of the FERRF. The NOP was also posted at entrances to the Bedwell Bayfront Park.

The NOP was provided to the Governor's Office of Planning and Research State Clearinghouse for distribution to various State agencies for review. Copies of the NOP were made available at the District and electronically via a web link on the District's website. The District provided a concurrent 30-day public review period for the NOP from May 18, 2020 to June 22, 2020. The NOP was also directly emailed to responsible agency staff on June 8, 2020.

Written comments in response to the NOP was received from four (4) agencies including the Bay Conservation and Development Commission (BCDC), State Lands Commission (SLC), San Mateo County Local Agency Formation Commission (LAFCO) and the Native American Heritage Commission (NAHC). No other written comments were received during the NOP comment period.

The District held a scoping meeting via Zoom on June 2, 2020 which was attended by two interested individuals. General questions from the scoping meeting included the location of the proposed distribution pipeline and what SLR scenario was used to develop the project.

Summary of Comments:

- Project consistency with Bay Plan Policies including policies related to Bay Fill, Climate Change, Public Access, Shoreline Protection, Water Quality, Biological Resources (fish, other aquatic organisms and wildlife), Outreach and Engagement, and Mitigation;
- Requirements for outreach under AB 52 and mitigation of cultural resources and tribal cultural resources as well as potential for submerged cultural resources;
- Recycled Water Service area boundaries (potential impacts on existing and proposed service areas);
- Jurisdictional boundaries near to or within project boundaries;

- Noise and vibration; and
- Greenhouse gases.

The NOP notice, distribution list, and response letters are contained in Appendix A.

S.5.2 Native American Consultation

No Native American Tribes have requested consultation for projects proposed or authorized by the District under AB 52. Five California Native American tribes were identified as part of the Sacred Lands File (SLF) Search completed for the project in 2017 and then again in 2020. The SLF search was negative in 2017, and the District did not receive any requests for consultation nor notification of any tribal cultural resources in the project area at that time. A follow up SLF search was performed in 2020, which resulted in a positive response from the NAHC for possible tribal resources in the project area. Follow up outreach with tribes was conducted and two tribes responded that Native American burials have been discovered near the project area.

S.5.3 Areas of Known Controversy

Pursuant to Section 15123(b)(2) of the state CEQA Guidelines, an EIR shall identify areas of controversy known to the lead agency including potential issues raised by agencies and the public. The District has made efforts to engage members of the business and development community in the planning process, as well as surrounding property owners.

The following issues were most prominent during EIR scoping process:

- Method of disposing of the RO concentrate produced by the Bayfront RWF.
- Temporary removal of high-quality tidal wetland habitat for the construction of the ecotone levee. Once the ecotone levee is revegetated, this habitat would be replaced with habitat that will be useful for current tidal events and for the future design sea level rise.

The environmental analyses in this Draft EIR consider the issues and concerns raised by agencies and the public in its identification of the scope of the EIR and the potential impacts resulting from implementation of the Levee Improvements and Bayfront RWF Project.

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S.6 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Table S-1 Summary of Project Impacts and Mitigation Measures	
AESTHETICS	
Impact AES-1: The project proposes the removal two trees at the IPS site which is noted as a view corridor in Menlo Park's Land Use Element. **Potentially Significant Impact**	**Mitigation Measure AES-1: Replacement Landscaping**. The District shall provide replacement landscaping trees for any trees removed as part of the project. Placement/location and species of the replacement landscaping will be designed so that adequate sight distance for turning vehicles at the intersection of Bayfront Expressway and Marsh Road is maintained. **Less than Significant with Mitigation Incorporated**
Impact AES-2: Implementation of the proposed project could result in new sources of light and glare that could affect day or night-time views in the project area. **Potentially Significant Impact**	**Mitigation Measure AES-2: Exterior Lighting.** To avoid and minimize light spillage and glare from exterior light fixtures, the District shall, to the maximum extent feasible: • Mount light fixtures as low as possible and orient the fixtures away from adjacent land uses • Equip all exterior light fixtures with shields, hoods, or guards that direct light down towards the ground surface • Use the minimum number of fixtures and minimum lighting levels necessary to provide sufficient security lighting **Less than Significant with Mitigation Incorporated**
BIOLOGICAL RESOURCES	
Impact BIO-1: The proposed project may result in significant impacts to special-status plants due to disturbance or destruction of individuals or suitable habitat.	**Mitigation Measure BIO-1a: Pre-Activity Surveys for Special-Status Plants**. Prior to initial ground disturbance in grassland and wetland habitats, and during the appropriate blooming period (Coastal marsh milkvetch and Point Reyes bird's-beak, June–October; Congdon's tarplant, May–November; saline clover, April–June), a focused survey for these four potentially occurring special-status plant species will be conducted by a qualified plant ecologist within suitable

Table S-1 Summary of Project Impacts and Mitigation Measures	
Potentially Significant Impact	habitat in areas to be disturbed by the project and a 50-foot buffer around the project footprint, where feasible. The purpose of the survey will be to assess the presence or absence of the potentially occurring species. If none of the target species are found in the impact area or the identified buffer, then no further mitigation will be warranted. If Point Reyes bird's-beak, Coastal marsh milkvetch, Congdon's tarplant, or saline clover individuals are found in the impact area, then Mitigation Measures BIO-1b will be implemented. The results of the survey will be documented.. **Mitigation Measure BIO-1b: Avoidance Buffers**. The project proponent, in consultation with a qualified plant ecologist, will take measures to protect all populations of special-status plant species found to occur within the project site or within 50 feet of the impact area, to the extent feasible. Avoided special-status plant populations will be protected by establishing and observing the identified buffer between plant populations and the impact area. All such populations located in the impact area or the identified buffer, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around special-status plants to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities.. If avoidance is not feasible, then the appropriate resource agencies will be consulted to determine the appropriate mitigation measures, which may include salvage of seeds and/or plants, relocation of individual plants, and/or off-site preservation, enhancement, and management of occupied habitat for the species. **Less than Significant with Mitigation Incorporated**
Impact BIO-2: The proposed project could harm special-status fish, degrade surface or ground water quality, and will result in both	**Mitigation Measure BIO-2a: Biological Monitoring During Construction in the Marsh.** A qualified biological monitor will be present during all construction activities within the marsh or in vegetated areas within five (5) feet of the marsh

Table S-1 Summary of Project Impacts and Mitigation Measures	
permanent and temporary impacts to aquatic habitat during construction of the ecotone levee. **Potentially Significant Impact**	to look for special-status animals that may be impacted by construction. For example, when construction personnel need to install the ecotone levee coffer dam and remove vegetation, the biological monitor will first inspect the vegetation to determine whether any salt marsh harvest mice or salt marsh wandering shrews are present. If any animals are present, they will be allowed to leave the area on their own, or the location of the in-marsh work will be adjusted to ensure that no impacts to individual mice or shrews occur at that time. The biologist will have stop-work authority if any individual of a federally listed species is detected in an area where it may be injured or killed by construction activities. The results of the monitoring will be documented. If found necessary by the agency approved biological monitor. Mitigation Measure BIO-2b will be implemented to include an approved dewatering plan and relocate any stranded fish found within the ecotone levee construction site. If recommended by the approved biologist, Mitigation Measure BIO-3h (exclusion fencing) will be implemented to include additional exclusion fencing along the coffer dam during ecotone levee construction. The biological monitor will also ensure that Mitigation Measure BIO-3h is implemented as necessary to protect species. **Mitigation Measure BIO-2b: Dewatering Plan and Relocation of Stranded Fish.** An agency approved dewatering plan shall be implemented if necessary, to complete the ecotone levee grading once the coffer dams are installed. If necessary, as the coffer dams are being placed, a qualified biologist will relocate any stranded fish to an area outside of the work area. The method of relocation will be determined by the qualified biologist, in consultation with NMFS, based on site conditions and species present. Implementation of this measure will avoid loss of fish due to stranding. The methods and results of fish relocation efforts will be documented. **Mitigation Measure BIO-2c: Measures to Protect Water Quality.** During all construction in and near tidal aquatic habitat, standard BMPs will be used to minimize erosion and impacts to water quality as well as direct impacts to special-status fish. These are reported in the EIR and will be included in the

Table S-1 Summary of Project Impacts and Mitigation Measures	
	SWPPP prepared for the project. Compliance measures that protect water quality help reduce potential impacts to biological resources to less than significant. **Less than Significant with Mitigation Incorporated**
Impact BIO-3: The proposed project could harm salt marsh harvest mouse and salt marsh wandering shrew, and will result in both permanent and temporary impacts to tidal and upland habitats during construction of the ecotone levee. Additionally, if the proposed project includes the installation of lighting that illuminates marsh habitat and the adjacent levees, such lighting could potentially have adverse effects on special-status species in the wetlands and adjacent levee refugia habitat. **Potentially Significant Impact**	**Mitigation Measure BIO-3a: Worker Environmental Awareness Training.** A resource agency approved biologist will prepare a worker environmental awareness fact sheet with 1) the description and status of the species; 2) the habitat of the species; 3) the legal ramifications of impacting the species; 4) a list of measures being taken to reduce impacts on these species during project construction (including preconstruction surveys, minimizing trash that attracts predators, and other measures); and 5) what to do if the species are encountered. All construction personnel working on the site and in the pipeline alignments and pump station areas adjacent to wetlands will participate in a worker environmental awareness training conducted by a resource agency approved biologist, and will sign an acknowledgment that they have participated in the worker environmental awareness training. **Mitigation Measure BIO-3b: No Pets.** No pets (e.g., dogs or cats) will be brought to the project site to avoid harassment, killing or injuring of wildlife. **Mitigation Measure BIO-3c: Food Trash Removal**. To minimize attraction of predators such as racoons and feral cats all workers will be required to secure their food related trash and remove it daily. The site foreman shall assure that all food trash related to the construction work is secured and removed. **Mitigation Measure BIO-3d: Minimize Non-daylight Work; Prepare Lighting Plan.** Project lighting during construction activities shall be limited in consideration of the potential impacts to special status species. If early morning, early evening, or night lighting is necessary during construction, a lighting plan shall be prepared in consultation with an agency approved biologist. 24-hour work that requires night lighting shall only be conducted with approval from the

Table S-1 Summary of Project Impacts and Mitigation Measures	
	US Fish and Wildlife Service and the California Department of Fish and Wildlife due to potential impacts to species protected under FESA and CESA. See also Mitigation Measure BIO-3i Artificial Lighting regarding permanent site lighting. **Mitigation Measure BIO-3e: Work During Extreme High Tides.** To avoid the loss of individual salt marsh harvest mice, salt marsh wandering shrew, California Ridgway's rail, and California black rail that may shelter in the work area during extreme high tides, an agency approved biological monitor shall be present when work around the perimeter of the FERRF site occurs during extreme high tides, such as King Tides. The agency approved biological monitor shall complete a pre-construction survey prior to construction activities in areas where extreme high tide has limited upland habitat available for refuge before approving construction to proceed. **Mitigation Measure BIO-3f: Limit Vegetation Removal.** To avoid the loss of individual harvest mice and wandering shrews from any excavation, fill, or construction activities in suitable habitat, vegetation removal will be limited to the minimum amount necessary. **Mitigation Measure BIO-3g: Vegetation Removal Methods**. Vegetation removal will occur under the supervision of a qualified biologist as noted in Mitigation Measure BIO-2a. The biologist will give consideration to requiring the vegetation be removed on a progressive basis, such that it allows species to find adjacent cover. The qualified biologist would also make specific recommendations with respect to the rate of vegetation removal (to ensure that any harvest mice or wandering shrews present are able to escape to cover that will not be impacted), and whether vegetation needs to remain in a certain area temporarily to facilitate dispersal of mice/shrews into habitat outside of the impact area. **Mitigation Measure BIO-3h: Exclusion Fence**. Following the hand-removal of vegetation, exclusion fencing will be erected around the outer boundary of the

Table S-1 Summary of Project Impacts and Mitigation Measures	
	work area that is adjacent to harvest mouse/wandering shrew habitat that is to remain intact, if the coffer dam design does not exclude species. This will define and isolate protected harvest mouse habitat. The installation of the fence will be supervised by a qualified biologist. This fencing will consist of heavy plastic sheeting or metal material that cannot be climbed by harvest mice, buried at least 4 inches below the ground's surface, and with at least 1 foot (but no more than 4 feet) above the ground. All supports for the fencing will be placed on the inside of the work area. A 4-foot buffer will be maintained free of vegetation around the outside of the exclusion fencing. The fencing will be inspected daily during construction, and any necessary repairs will be made within 24 hours of when they are found. If any breaks in the fencing are found, the qualified biologist will inspect the work area for salt marsh harvest mice and salt marsh wandering shrews. If any individuals are found, all work that could impact these individuals will cease until the individuals have left the impact area on their own. **Mitigation Measure BIO-3i: Artificial Lighting.** During and after project construction, the spillover of lighting into the salt marsh habitat and adjacent levees will be minimized using low-intensity lighting or other appropriate low-dispersion lighting technology; orientation of lights so that they are placed on the perimeter of the work area and directed inward (rather than directing any lighting toward the marsh) and downward toward the ground; and shielding of lights from behind. Low-intensity lighting, downcast lighting, or other appropriate lighting technology will be incorporated into the project design where permanent lighting is to be placed within 200 feet of the salt marsh to reduce potential adverse effects on animals within this habitat. **Mitigation Measure BIO-3j: Prohibition of Plastic Monofilament Netting**. Monofilament plastic netting, including in temporary and permanent erosion control measures (such as straw wattles), shall not be used. **Less than Significant with Mitigation Incorporated**

Table S-1 Summary of Project Impacts and Mitigation Measures	
Impact BIO-4: The proposed project could harm California black rail and California Ridgway's rail, and will result in both permanent and temporary impacts to tidal and upland habitats during construction. **Potentially Significant Impact**	**Mitigation Measure BIO-4: Pre-Construction/Pre-Disturbance Survey for California Black Rail and California Ridgway's Rail.** If construction activities occur during the nesting season (February 1 through August 31), a qualified biologist shall conduct protocol level surveys for California black rail and Ridgway's rail before initiation of any ground disturbing activities within the salt marsh habitat and a 700-foot buffer. Protocol surveys are required to be completed over **several visits between January and April,** and may significantly impact the construction schedule if they have not been completed in time. The qualified biologist will be experienced with the various calls, estimating distances to calls under field conditions, and the USFWS Ridgway's rail survey methodology (USFWS 2015). The qualified biologist shall submit the proposed survey methods to CDFW and USFWS for review and approval prior to commencing the surveys. The results of the survey will be documented. If an active nest is found within the survey area, the qualified biologist shall consult with CDFW and/or USFWS to determine the appropriate construction-free buffer zone (typically 700 feet) and/or other mitigation measures to be implemented. If no rail call centers or nests are found, then further mitigation is not required. If Ridgway's rail is assumed present, then construction activities would need to avoid the breeding season each year (February 1 through August 31). **Less than Significant with Mitigation Incorporated**
Impact BIO-5: The proposed project could harm burrowing owls, and will result in both permanent and temporary impacts to nesting, roosting, and foraging habitats during construction.	**Mitigation Measure BIO-5a: Conduct Pre-construction Surveys for Burrowing Owls.** Pre-construction surveys for burrowing owls will be conducted prior to the initiation of all project activities within suitable burrowing owl nesting and roosting habitat (i.e., grassland habitat and levees with burrows of California ground squirrels). Pre-construction surveys will be completed in conformance with the CDFW's 2012 guidelines (CDFG 2012). An initial habitat assessment will be conducted by a qualified biologist to determine if suitable

Table S-1 Summary of Project Impacts and Mitigation Measures	
Potentially Significant Impact	burrowing owl habitat is present. During the initial site visit, which will be conducted not less than 14 days prior to the onset of ground disturbing activities, a qualified biologist will survey the entire activity area and (to the extent that access allows) the area within 250 feet of the site for suitable burrows that could be used by burrowing owls for nesting or roosting. If no suitable burrowing owl habitat is present, no additional surveys will be required. If suitable burrows are determined to be present within 250 feet of work areas, a qualified biologist will conduct at least one additional survey to investigate each burrow within the survey area for signs of owl use and to determine whether owls are present in areas where they could be affected by proposed activities. The final survey will be conducted within the 24-hour period prior to the initiation of project activities in any given area. The results of the survey will be documented. **Mitigation Measure BIO-5b: Implement Buffer Zones for Burrowing Owls.** If burrowing owls are present during the nonbreeding season (generally September 1 to January 31), a 150-foot buffer zone will be maintained around the occupied burrow(s), if feasible. If maintaining such a buffer is not feasible, then the buffer must be great enough to avoid injury or mortality of individual owls. During the breeding season (generally February 1 to August 31), a 250-foot buffer, within which no newly initiated project-related activities will be permissible, will be maintained between project activities and occupied burrows. Owls present between February 1 and August 31 will be assumed to be nesting, and the 250-foot protected area will remain in effect until August 31. If monitoring evidence indicates that the owls are no longer nesting or the young owls are foraging independently, the buffer may be reduced, or the owls may be relocated prior to August 31. If necessary, relocation of owls in any season will be completed by a qualified biologist using one-way doors, which should be installed in all burrows within the impact area and left in-place for at least two nights. These one-way doors will then be removed and the burrows back-filled immediately prior to the initiation of grading.

Table S-1 Summary of Project Impacts and Mitigation Measures	
	Mitigation Measure BIO-5c: Monitor Owls During Construction to Determine if a Reduced Buffer is Feasible. As an alternative to Mitigation Measure 5b, which requires a 250-foot buffer around owl nests (assuming they have not been relocated), this measure provides for monitoring of owl behavior to determine if the size of the buffer can be reduced. Any owls occupying the study area are likely habituated to frequent human disturbance due to regular activity at the project site and in nearby Bedwell Bayfront Park. As a result, they may exhibit a tolerance of greater levels of human disturbance than owls in more natural settings, and construction within the standard 250-foot buffer during the nesting season may be able to proceed without disturbing the owls. Therefore, if nesting owls are determined to be present on the site, and project activities cannot feasibly avoid disturbance of the area within 250 ft of the occupied burrow during the nesting season (i.e., February 1 through August 31), under this measure a qualified biologist will be present during all activities within 250 feet of the nest to monitor the owls' behavior. If in the opinion of the qualified biologist, the owls are disturbed to the point of harm or possible reduced reproductive success, all work within 250 feet of the occupied burrow will cease until the nest is determined by a qualified biologist to no longer be active. **Less than Significant with Mitigation Incorporated**
Impact BIO-6: The proposed project could result in temporary and permanent impacts to Alameda song sparrow, American peregrine falcon, black skimmer, Bryant's savannah sparrow, California brown pelican, loggerhead shrike, northern harrier, San Francisco common yellowthroat, short-eared owl, western snowy plover, white-tailed kite, and other nesting birds protected by the MBTA and California Fish and Game Code.	**Mitigation Measure BIO-6a: Pre-Construction/Pre-Disturbance Surveys for Nesting Birds** <u>Avoidance.</u> To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code would be avoided. The nesting season for most birds in San Mateo County extends from February 1 through September 15.

Table S-1 Summary of Project Impacts and Mitigation Measures	
Potentially Significant Impact	Pre-Construction Surveys. If it is not possible to schedule construction activities between September 15 and January 31, then preconstruction surveys for nesting birds will be conducted by a qualified biologist to ensure that no nests would be disturbed during project implementation. These surveys will be conducted no more than five days prior to the initiation of any site disturbance activities and equipment mobilization in the BSA as well as the right of ways for the distribution pipelines and the influent pump station. If project activities are delayed by more than five days, an additional nesting bird survey will be performed. During this survey, the biologist will inspect all potential nesting habitats (e.g., shrubs, developed areas, structures, etc.) in and immediately adjacent to the impact area for nests. Active nesting is present if a bird is building a nest, sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys will be documented. **Mitigation Measure BIO-6b: Nesting Bird Protection.** If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist will determine the extent of a construction-free buffer zone to be established around the nest (typically up to 1000 feet for raptors and up to 250 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation. Within the buffer zone, no site disturbance and mobilization of heavy equipment, including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, demolition, and grading will be permitted until the chicks have fledged. Monitoring will be required to ensure compliance with MBTA and relevant California Fish and Game Code requirements. Monitoring dates and findings will be documented. **Mitigation Measure BIO-6c: Reduce Collision Hazard.** The project design shall comply with measures such as those identified in Menlo Park Municipal Code Chapter 16.43.140 (6) to minimize the number of bird collisions with new buildings and reduce bird collision hazard to a less than significant impact.

Table S-1 Summary of Project Impacts and Mitigation Measures	
	Less than Significant with Mitigation Incorporated
Impact BIO-7: The proposed project could result in the introduction or spread of invasive plants, which can displace native marsh vegetation and reduce habitat quality of the salt marsh by reducing refugia and foraging habitat for native species, including special-status species. **Potentially Significant Impact**	**Mitigation Measure BIO-7a: Integrate Invasive Plant Management into the Ecotone Levee Restoration Plan.** Prior to the start of construction activities, measures to control invasive plant species shall be specified and integrated with the Habitat Mitigation and Monitoring Plan (HMMP) for the ecotone levee restoration, with the purpose of protecting restoration areas from being significantly impacted by invasive weeds. Invasive plant removal in the salt marsh and on the adjacent levees shall be limited to hand tools as specified in Measure BIO-3h and shall be removed before grading starts. If specified in the HMMP for the restoration area, invasive species management will extend into developed areas of the parcel as needed to protect the restoration area. **Mitigation Measure BIO-7b: Construction Measures to Minimize Invasive Plant Infestations.** The following measures shall be taken during construction to minimize invasive plant infestation and potential impacts of invasive plants on adjacent natural habitats, particularly the wetlands: • All ground disturbing equipment used adjacent to native habitats will be washed (including wheels, tracks, and undercarriages) both before and after being used at the site. Worker personal gear, including boots, should also be cleaned and clear of plant material prior to entering the work area. • All seeds and straw materials used on site shall be weed-free rice straw, and all gravel and fill material shall be certified weed free. • The project will follow a Stormwater Pollution Prevention Plan as per the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ), to reduce stormwater runoff which can carry the seed of invasive plants to other locations.

Table S-1 Summary of Project Impacts and Mitigation Measures	
	• All disturbed soils within sensitive habitats and adjacent levee slopes will be stabilized and planted in accordance with a restoration plan prepared for the project as part of an approved ecotone levee project. • Soil and vegetation removed from weed-infested areas will not be used in general soil stockpiles and will not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil will be disposed of off-site at a landfill or buried at least 2.5 feet below final grade. **Less than Significant with Mitigation Incorporated**
Impact BIO-8: The proposed project will result in both temporary and permanent impacts to jurisdictional waters and sensitive communities from the construction of the ecotone levee, installation of sheet piles along a section of existing levee, the discharge of stormwater runoff into an existing swale that discharges to the bay, and the disposal of the remainder effluent from the RO process into the bay. **Potentially Significant Impact**	**Mitigation Measure BIO-8: Water Quality Monitoring Plan**. The West Bay Sanitary District will develop a water quality monitoring plan in consultation with the EPA, which will consult with NMFS. The water plan will include an impact assessment, water quality standards and protections of those standards, monitoring methodology, and reporting requirements. The goal of the plan is to ensure that the discharge from the water recycling facility complies with the discharge requirements set by the regulatory agencies to protect Bay waters. Depending on the requirements of the regulatory agencies, the plan may include, for example, quarterly surface and effluent water monitoring for suspended solids, settable solids, ammonia, pH, and temperature. If required, the water quality monitoring plan will be submitted as part of the NPDES permit package.. **Less than Significant with Mitigation Incorporated**
CULTURAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES	
Impact CUL-1: Project construction could cause potential disturbance of previously unknown prehistoric, archaeological, or tribal	**Mitigation Measure CUL-1a: Inadvertent Discovery.** In the event archaeological resources are unearthed, all soil disturbing work shall be halted within 60 feet of any discovery. An archaeologist who meets the Secretary of the Interior's Standards for Archaeology must be contacted and the requirements under 36 CFR 800.13 followed. Work shall not commence in the vicinity of the

Table S-1 Summary of Project Impacts and Mitigation Measures	
cultural resources, or human remains, during project construction. **Potentially Significant Impact**	inadvertent discovery until a qualified archaeologist completes a significance evaluation of the find(s) pursuant to Section 106 of the National Historic Preservation Act (36 CFR 60.4). If artifacts are found during construction, construction worker training shall be provided to all crews doing earthwork/soil moving activities. If a newly discovered resource is, or is suspected to be, Native American in origin, a Native American cultural monitor will be retained, as directed by the NAHC. If archaeological resources are found on the northern western segment of the project site (pipeline alignments in Chilco Street, Constitution Drive, Bayfront Expressway crossing, Marsh Road, and IPS) archaeological monitoring will be instigated for those segments. No further ground disturbing work shall be allowed to continue until the archaeologist has fully evaluated the find and approves work to continue. Dependent on the evaluation by the archaeologist, archaeological excavation and recordation may be required before construction can continue. An Archaeological Resource Treatment Plan (ARTP) will be written in consultation with the District. **Mitigation Measure CUL-1b: Tribal Resources**. It is possible for a lead agency to determine that an artifact is considered significant to a local tribe, and thus considered a significant resource under CEQA, even if it would not otherwise be considered significant under CEQA. As such, all Native American artifacts (tribal finds) shall be considered as a significant Tribal Cultural Resource, pursuant to PRC 21074 until the lead agency has enough evidence to make a determination of significance. **Mitigation Measure CUL-1c: Human Remains**. The following actions are promulgated in the CEQA Guidelines Section 15064.5(d) and pertain to the discovery of human remains. If human remains are unearthed during construction, the County Coroner will be notified immediately, and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the

Table S-1 Summary of Project Impacts and Mitigation Measures	
	remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). All applicable laws pertaining to the discovery of human remains will be followed. **Mitigation Measure CUL-1d: Plan Details**. All project plans shall clearly state that ground disturbing activities have the potential for the discovery of human remains. **Mitigation Measure CUL-1e: Construction Monitoring on Hamilton Avenue.** Archaeological and Native American monitoring shall be instigated for all ground disturbing activities along the Hamilton Avenue section of the recycled water distribution pipeline. An archaeologist who meets the Secretary of the Interior's Standards for Archaeology shall be present at the project site during ground disturbing activities, including machine or hand excavation. No ground disturbing activities, with the exception of road surface removal, shall be allowed to take place if the archaeologist is not present. An archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased. **Mitigation Measure CUL-1f: Toothless Buckets**. All excavator machinery on Hamilton Avenue shall use toothless buckets during ground disturbing activity to allow the monitoring archaeologist to more clearly identify archaeological features, if present. **Less than Significant with Mitigation Incorporated**

Table S-1 Summary of Project Impacts and Mitigation Measures	
GEOLOGY AND SOILS	
Impact GEO-1: The project has the potential to create or exacerbate existing conditions related to seismic ground shaking, seismic-related ground failure, slope stability, and expansive soils. **Potentially Significant Impact**	**Mitigation Measure GEO-1: Geotechnical Engineering Investigation.** A site-specific Geotechnical Engineering Investigation shall be prepared for the project and all recommendations shall be included in project plans and specifications. **Less than Significant with Mitigation Incorporated**
Impact GEO-2: Project construction could unearth paleontological resources, including fossils. **Potentially Significant Impact**	**Mitigation Measure GEO-2: Paleontological Resources.** If paleontological resources are discovered during construction, ground-disturbing activities shall halt immediately until a qualified paleontologist can assess the significance of the discovery. Depending on determinations made by the paleontologist, work may either be allowed to continue once the discovery has been recorded, or if recommended by the paleontologist, recovery of the resource may be required, in which ground-disturbing activity within the area of the find would be temporarily halted until the resource has been recovered. If treatment and salvage is required, recommendations shall be consistent with Society of Vertebrate Paleontology guidelines and current professional standards. The District will ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means. **Less than Significant with Mitigation Incorporated**

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S.7 ALTERNATIVES TO THE PROPOSED PROJECT

S.5.4 Alternatives Considered and Rejected

The District considered and rejected the following alternatives to the proposed project:

- Alternative Location for Bayfront RWF
- Raising Existing Levees with Fill and Installing Limited Sheet Piling (does not include installation of an ecotone levee)
- Reconstructing the Levees and Installing Limited Sheet Piling
- Raising an Interior Portion of the Facility with Fill
- RO Concentrate Discharge to Sanitary Sewer

S.5.5 Alternatives Considered

Chapter 11 of the EIR considers the following alternative to the proposed project:

- No Project
- Flood Protection Through Placement of Sheet Pile Only & Bayfront RWF Alternative
- Reduced Size of Ponds to Accommodate Ecotone Levee

The merits of each of these alternatives were considered against the identified impacts of the proposed project and the ability of the alternative to meet the identified project objectives.

S.5.6 Environmentally Superior Alternative

The alternatives analysis determined that the Proposed Project Alternative is considered the environmentally superior alternative. This alternative would allow the District to obtain all the project objectives and preserve habitat functions on the northern levee under anticipated sea level rise conditions. Identified alternatives resulted in reduced severity of some impacts identified for the proposed project; however, the alternatives all introduced new significant impacts. Even though the project would result in the near-term loss of tidal wetlands from the construction of the ecotone levee, the project would implement mitigation measures to avoid significant impacts from the loss of tidal wetland habitat by restoring or preserving existing wetlands.

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CHAPTER 1 INTRODUCTION

The West Bay Sanitary District (District, or WBSD) has prepared this Environmental Impact Report (EIR) to evaluate the potentially significant environmental effects that may result from a proposed project to construct levee improvements to protect the District's existing facilities and San Francisco Bay water quality, and to construct a new Bayfront Recycled Water Facility (Bayfront RWF) at the District's Menlo Park Flow Equalization and Resource Recovery Facility (FERRF) site, as well as off-site recycled water influent and distribution infrastructure.

1.1 PROJECT OVERVIEW

WBSD maintains and operates over 200 miles of main line sewer in the City of Menlo Park and the Town of Portola Valley, as well as portions of the cities of East Palo Alto and Redwood City, the towns of Atherton and Woodside, and portions of unincorporated San Mateo and Santa Clara Counties. The raw wastewater collected by WBSD is conveyed to the FERRF then pumped to Silicon Valley Clean Water (SVCW) wastewater treatment plant, located adjacent to San Francisco Bay in Redwood City.

The District's Menlo Park FERRF is located at 1700 Marsh Road (Assessor's Parcel Number [APN] 055-400-010) situated along the shoreline and adjacent to Bedwell Bayfront Park (Figure 1-1 and Figure 1-2 Project Overview). The FERRF site provides storage of sewer flows within three open air basins surrounded by earthen levees as well as a working satellite corporation yard and the decommissioned Menlo Park Wastewater Treatment Plant (WWTP, in service 1952-1980). The three open air basins, also referred to in this EIR as ponds, currently have a combined storage capacity of approximately 23.5 million gallons (MG). Use of the FERRF site as a satellite corporation yard includes using some of the buildings and grounds for equipment and material storage, training exercises, pump repair workshop, Capital Improvement Project staging area, and Salt Marsh plant propagation area.

The existing facility is surrounded by earthen levees originally constructed in the late 1950s that are not Federal Emergency Management Agency (FEMA) certified and the site is currently in the FEMA 100-year flood zone. The levees therefore require improvements to ensure the flow equalization and satellite corporation yard facility remain separated from adjacent Bay/tidal waters and they protect the site from the 100-year flood event as well 50-year sea level rise projections. In order to receive FEMA certification, the project proposes to protect the site from flooding and sea level rise by installing sheet pile walls around the northern and western perimeters of the facility, raising the grades of the perimeter access road within the property, and construction of an ecotone levee[1] (see Section 2.2.2) to promote shoreline resiliency.

The project also proposes to construct a new Bayfront RWF at the site including various recycled water facilities, recycled water storage tanks, and off-site improvements including an influent

[1] Ecotone levees are a structural, natural, and nature-based adaptation measure comprising gentle slopes or ramps that provide a gradual transition zone between tidal marshes and flood risk management levees. They stretch from the levee crest to the marsh surface and can provide wetland-upland transition zone habitat when properly vegetated with native grasses, rushes, and sedges. They can attenuate waves, provide high-tide refuge for marsh wildlife, and allow room for marshes to migrate upslope with sea level rise.

pump station and influent and recycled water distribution pipelines. Proposed influent and distribution pipeline alignments would be in existing street rights-of-way except for various utility crossings including a high-pressure gas line and railroad properties. The Bayfront RWF includes two alternatives for disposal of reverse osmosis (RO) concentrate (effluent) including discharging into the existing basins on site and a bayside outfall. Project construction is anticipated to start in January 2022 and be completed by January 2024.

1.2 ENVIRONMENTAL REVIEW PROCESS

1.2.1 CEQA Lead Agency Information

CEQA establishes the District as the Lead Agency for the project. The Lead Agency is defined in CEQA Guidelines Section 15367 as "the public agency which has the principal responsibility for carrying out or approving a project." Under CEQA, the Lead Agency is responsible for preparing the appropriate environmental review documentation. The District has determined an EIR is the appropriate CEQA document for the proposed project and has prepared this Draft EIR in accordance with the provisions of CEQA (PRC §21000 et seq.) and the CEQA Guidelines (14 CCR §15000 et seq.). The District is both the project proponent and CEQA Lead Agency for the project. The District's Board of Directors serves as the decision-making body for the District and is responsible for certifying the EIR and approving the FERRF Levee Improvements and Bayfront RWF Project.

1.2.2 Draft and Final EIRs

Draft EIR: Pursuant to CEQA Section 21080(d) and CEQA Guidelines Section 15063, the District determined that the proposed project could result in potentially significant environmental impacts and that an EIR would be required. In compliance with Section 21080.4 of the California Public Resources Code, the District circulated a Notice of Preparation (NOP) of an EIR for the proposed project to the Office of Planning and Research (OPR) State Clearinghouse and interested agencies and persons on May 18, 2020. The NOP solicited comments from responsible and trustee agencies, as well as interested parties regarding the scope of the Draft EIR (see Appendix A). This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 45-day comment period. During the comment period, the public is invited to submit written comments via mail or e-mail on the Draft EIR to the District.

Final EIR: Upon completion of the 45-day public review period for the Draft EIR, the WBSD will review all written comments received and prepare written responses to each comment on the adequacy of the EIR. The District will then proceed to prepare a Final EIR which will contain all comments received, responses to comments raising environmental issues, and any changes and additions to the description and analysis in this Draft EIR. The Final EIR will then be presented to the District Board of Directors for certification as the environmental document for the proposed project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the Board of Directors. All responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to certification of the EIR. The District Board of Directors will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The Final EIR will need to be certified as having been prepared in compliance with CEQA by the

District's Board prior to deciding to approve or deny the proposed project. Public input is encouraged at all public hearings. After the Board of Directors certifies the Final EIR, it may then consider the proposed project. The Board of Directors will adopt and incorporate into the project all feasible mitigation measures identified in the EIR and it may also require other feasible mitigation measures. In some cases, the Board of Directors may find that certain mitigation measures are outside the jurisdiction of the District to implement, or that no feasible mitigation measures have been identified for a given significant impact. In that case, the Board of Directors may nonetheless determine that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable, significant effects on the environment.

1.2.3 Mitigation Monitoring

Public Resources Code Section 21081.6 requires that the lead agency adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code 21081 or adopted a Negative Declaration pursuant to Public Resources Code Section 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration. The Mitigation Monitoring and Reporting Program for the proposed project will be completed after preparation of the Final EIR and will be considered as part of the WBSD Board of Director's decision to certify the Final EIR and adopt the proposed project.

1.3 INTENDED USES OF THIS EIR

This EIR is intended to evaluate the potential direct and indirect physical, environmental effects associated with implementation of the District's FERRF Levee Improvements and Bayfront RWF Project, which is described in detail in Chapter 2, Project Description. The EIR is an objective information document that informs governmental agency decision makers and the public of the potential for significant project effects, including possible ways to minimize those effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121(a)). An EIR must be prepared with a sufficient degree of analysis to provide decision makers with information enabling them to make a decision that intelligently considers the project's potential direct and indirect environmental consequences. The evaluation of environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible (CEQA Guidelines §15151).

The District is seeking funding from the State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund Program. The Clean Water State Revolving Fund Program is partially funded by the U.S. Environmental Protection Agency (U.S. EPA), therefore, the information provided in Chapter 13 is intended to address the CEQA Plus (federal cross-cutting) requirements.

1.3.1 Responsible, Trustee, and Interested Agencies

The information contained in this EIR will be used for all project-related discretionary approvals subject to environmental review, including potential approvals by responsible, trustee, and other agencies.

CEQA Guidelines Section 15381 defines a responsible agency as "a public agency which proposes to carry out or approve a project for which a Lead Agency has prepared an EIR." Responsible Agencies for the proposed project may include but are not limited to the Bay Area Air Quality Management District (BAAQMD), the San Francisco Regional Water Quality Control Board (RWQCB), the Bay Conservation and Development Commission (BCDC), the State Lands Commission (SLC), and the California Department of Fish and Wildlife (CDFW).

CEQA Guidelines Section 15386 defines a trustee agency as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California." Trustee agencies with jurisdiction over the resources potentially affected by the proposed project may include, but are not limited to, SLC and CDFW.

CEQA Guidelines Section 15379 excludes federal government agencies from the definition of a "public agency." Thus, they are not responsible or trustee agencies for the purposes of CEQA, but rather interested agencies that may be concerned with the project and its potential effects on jurisdictional resources. Such federal agencies for the project include the U.S. Fish and Wildlife Service (USFWS) and the U.S. Army Corps of Engineers (USACE).

A complete list of the permits and approvals the project may require is provided in Section 2.5.

1.4 PUBLIC OUTREACH

Public outreach for the project included public noticing, issuance of a Notice of Preparation (NOP) for an EIR and a public scoping meeting as required under CEQA Guidelines Section 15082. Comments received from public outreach were taken into consideration during the preparation of this draft EIR. The NOP summary of comments received at the scoping meeting and the written comments received on the NOP are included in Appendix A of this document. Additional information on the public outreach conducted for the project and identified concerns is further discussed in Section 2.6, Public Outreach.

1.4.1 EIR Scope and Content

In accordance with CEQA Guidelines Section 15126, this EIR identifies and focuses on the potentially significant environmental effects of the proposed project, based on the project as described in this EIR and written comments received during the public review period for the NOP. Accordingly, this EIR identifies potentially significant impacts to the following resource areas identified in Appendix G to the State CEQA Guidelines: Aesthetics, Biological Resources, Cultural Resources, Geology, and Hydrology. Section 12.3 provides more information on the proposed project's impacts found not to be significant.

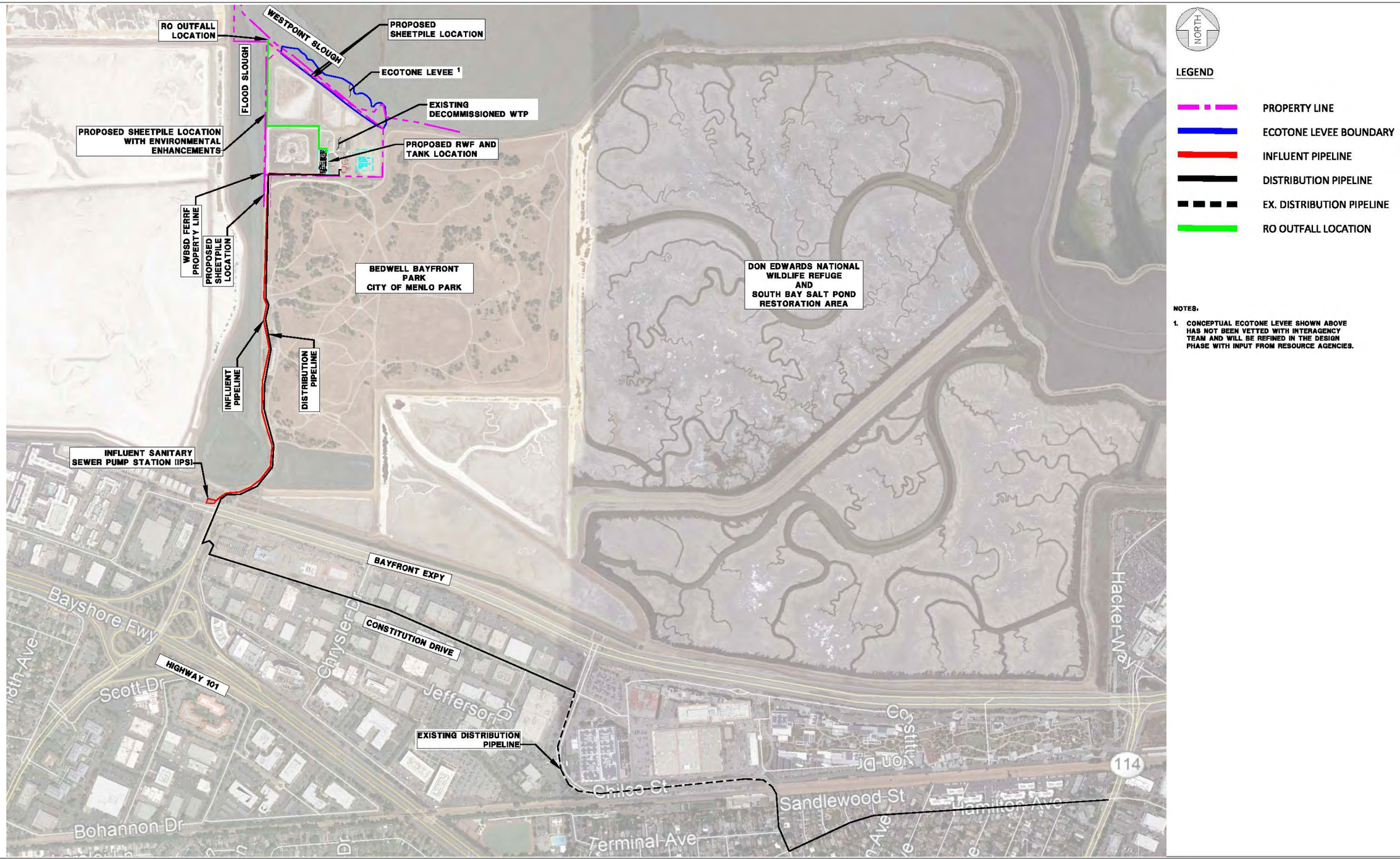
Source: ESRI 2020; MIG 2020

Project Location
Distribution Pipeline
Existing Pipeline
Sanitary Sewer Forceman
Menlo Park City Boundary

0 0.5 1 2 Miles

Figure 1-1 Regional Setting

West Bay Sanitary District Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Facility Project



Source: F&L, December 2020

Figure 1-2 Project Overview

CHAPTER 2 PROJECT DESCRIPTION

The District is proposing flood protection improvements at its FERRF site as well as the installation of a new Bayfront Recycled Water Facility (RWF) and associated off-site infrastructure to provide recycled water to customers in Menlo Park, Redwood City, and East Palo Alto. The proposed project involves:

- Construction of FEMA flood protection improvements through the installation of sheet piles (large metal plates), raising existing grades with imported fill, and an ecotone levee;
- Improving an existing stormwater ditch along the eastern portion of the FERRF site with one-way check valves to prevent tidal flows from entering the ditch;
- Capping the existing stormwater drainage system discharge point (outfall) for the decommissioned on-site wastewater treatment plant and rerouting on-site drainage to discharge into one of the existing flow equalization basins;[2] and
- Construction of a new 1.0 million gallon per day (MGD) Bayfront RWF including a discharge outfall, construction of an off-site influent pump station, and off-site influent and distribution pipelines. The Bayfront RWF would have an estimated peak flow of 1.0 MGD with estimated average flows of 0.5 MGD.[3]

The District anticipates beginning construction in January 2022 with the new Bayfront RWF becoming operational in 2024; however, the proposed project's construction schedule may change depending on the timing and availability of future funding. Although the start and end dates may change, the type and total duration of potential construction activities outlined in Section 2.2.7, below, would remain the same.

2.1 PROJECT LOCATION AND SITE DESCRIPTION

Project activities would span multiple locations as shown in Figure 1-2, with the majority of improvements located in and around the FERRF site shown in Figure 2-1 and Figure 2-2.

. Site photos are provided in Figure 2-3.

2.1.1 Flow Equalization and Resource Recovery Facility (FERRF)

The FERRF site is located at 1700 Marsh Road (Assessor's Parcel Number 055-400-010) in the northern part of Menlo Park, northwest of Bedwell Bayfront Park and at the northern terminus of Marsh Road. Access to the site is provided via Highway 101, Bayfront Expressway (State Route 84), and Marsh Road. Westpoint Slough, and Don Edwards National Wildlife Refuge are located

[2] The existing, stormwater outfall used at the site under current conditions is the decommissioned wastewater outfall from the former wastewater plant.

[3] Estimated peak flow is the maximum amount of recycled water the Bayfront RWF would be able to generate on a daily basis. The design and actual flows are the anticipated amount of recycled water the Bayfront RWF would be able to generate on a daily basis.

to the north of the site, Flood Slough and salt evaporation ponds are located to the west, and Bedwell Bayfront Park abuts the site's southern and eastern boundaries.

The FERRF property is approximately 20 acres in size (Figure 2-1) and contains three open storage (flow equalization) basins (also referred to as ponds), a satellite maintenance corporation yard and small operations office, the remnants of a decommissioned WWTP, and a small native plant nursery operated by Save the Bay. The facility is closed to public access with chain link fencing located along the eastern and southern property lines. Access to the site for District personnel is controlled by a gated entrance driveway from Marsh Road at the southwest corner of the site.

The entire flow from the WBSD collection system converges at the Menlo Park Pump Station site at the intersection of Marsh Road and Bayfront and is then pumped to the SVCW wastewater treatment plant in Redwood City for secondary and tertiary wastewater treatment. The flow equalization basins provide storage for wastewater flows during peak flow events or during conveyance system maintenance or repairs to prevent sanitary sewer overflows (SSOs) until such times the flows can be routed to the treatment plant in Redwood City. The basins are clay lined. Pond 1 (southwest pond) has a concrete pad where the standpipe is located (i.e., approximately in the middle of the pond), and Pond 3 has a concrete cap on the outfall line. The ponds are surrounded by earthen levees. Earthen levees on the western and northern perimeter make up the current shoreline on the FERRF property and are the only existing shoreline protection structures at the site. The tops of the levees provide internal access through the site.

The flow equalization ponds currently have a combined storage capacity of 23.5 million gallons (MG):

- Pond 1 is in the southwest corner of the site and has approximately 10 MG capacity;
- Pond 2 is in the northwest portion of the site and has approximately 10 MG capacity; and
- Pond 3 is in the northeast portion of the site and has approximately 3.5 MG capacity.

Pond 1 serves as the primary location for handing excess flows during maximum flow events (e.g., during a storm event) or system maintenance or repairs. If the SVCW Regional Plant (in Redwood City) were to reach treatment capacity or shut down for some unforeseen reason during a storm event, or the force main from the Menlo Park Pump Station toward SVCW should fail, it would not take long for Pond 1 to fill up and overflow into Pond 2. Events that require the use of Pond 2 are uncommon but do occur and safeguard against SSOs. The last time Pond 2 was used for overflow purposes was approximately 12 years ago. Historically, Ponds 2 and 3 were connected, but this is no longer the case; only Ponds 1 and 2 are connected under current conditions.

The FERRF site also contains the remnants of the decommissioned Menlo Park WWTP, located just east of Pond 1. The Menlo Park WWTP operated from 1952-1980, and the remnant facilities, including an operations building, settling basins, stormwater collection system and outfall, and digester tanks (55-feet in diameter, 26.5 feet high), remain on site. The operations building is a two-story structure that remains in daily use by District staff as office space and

storage and as a satellite corporation yard for use of sewer system maintenance and construction crews. The WWTP stormwater outfall remains operational. Other than the two-story building and metal storage buildings, all other WWTP facilities are not in use. WBSD does use a portion of the FERRF grounds for Capital Improvement Project staging area and for equipment and material storage. Lastly, Save the Bay also operates a small nursery in the southeast corner of the FERRF site. The nursery grows wetland vegetation in raised planter beds for nearby wetland restoration projects.

The FERRF site is largely unpaved. The only impervious areas at the site are the remnant WTTP facilities and a portion of the entrance driveway into the site. Northern coastal salt marsh and tidal slough are located along the western and northern shorelines, while the eastern and southern boundaries of the FERRF property contain developed and California annual grassland areas (see Chapter 5, Biological Resources, for additional information).

2.1.2 Surrounding Area Features

2.1.2.1 Flood Slough and Cargill Salt Ponds

Flood Slough is located to the west of the FERRF property. It conveys stormwater from Atherton Channel and Bayfront Canal through a five-gate tide control structure (the Bayfront Canal Tide Gates) at the eastern terminus of Bayfront Canal, adjacent to Marsh Road (Horizon 2019). Cargill Industrial Saltworks owns and operates salt ponds to the west of Flood Slough.

2.1.2.2 Westpoint Slough and Northern Shoreline

The proposed ecotone levee improvements extend outside of the FERRF property footprint along the shoreline of Westpoint Slough (Figure 2-1). The shoreline along Westpoint Slough includes northern coastal saltmarsh wetland and tidal sloughs. The area on the shoreline is not open to public access, and the District does not conduct any operations in this area except to use the top of the levee (on FERRF property) for access around the site when needed; therefore, it is relatively undisturbed.

Westpoint Slough. Westpoint Slough is located to the north of the FERRF property and conveys bay waters to the east and west and around the southern point of Greco Island. Greco Island and areas to the east and south of Bedwell Bayfront Park (see below) are part of Don Edwards National Wildlife Refuge, a 30,000-acre wetland/shoreline area across the southern end of San Francisco Bay.

City of Menlo Park. The shoreline area immediately north of the FERRF property boundary includes 1.06 acres of land owned by the City of Menlo Park (APN 055-400-490), which is (designated as Baylands land use and a Flood Plain zoning district).

State Lands Commission. The proposed project extends along the shoreline within approximately 2.05 acres of land owned by the State Lands Commission conveyed to the State by Leslie Salt Co (APN 055-400-170).

San Francisco Bay Water Trail. The Water Trail is a regional program that promotes non-motorized small boaters (kayak, stand-up paddleboard, kite board, outrigger) to safely enjoy San

Francisco Bay. Westpoint Harbor in Redwood City, approximately one-mile northwest of the FERRF site, offers two launch points for non-motorized small boaters to access Westpoint Slough, Redwood Creek, the sloughs of Bair Island Ecological Reserve, and open waters of the Bay.

2.1.2.3 Bedwell Bayfront Park

The City of Menlo Park's Bedwell Bayfront Park adjoins the FERRF site to the south and east. It is approximately 160 acres in size and encompasses an area that is a closed sanitary landfill. The park supports passive open space uses such as hiking, running, bicycling, dog walking, bird watching, kite flying, and photography. Park facilities are limited to bike and pedestrian trails, benches, restrooms, and parking areas. The park contains a relatively flat 2.3-mile section of the Bay Trail around the perimeter of the park, providing a loop trail beginning and ending at the Park's entrance near Bayfront Expressway and Marsh Road. The interior of the site has elevated topography with small hills because of the closed landfill, and some trails offer steep grades leading to several viewpoints. Most of the trails are unpaved.

Parking is available along the entrance road and in two paved lots. City staff manage the park grounds as well as the landfill facilities including the landfill gas collection and control system (GCCS) and flare and leachate (liquid drainage from the landfill) collection system. The landfill GCCS flare is located on the northwest side of the park, near the shared property line with the FERRF. Gates at the park entrance near Bayfront Expressway and Marsh Road restrict access to the park to daylight hours (7 A.M. to sunset).

2.1.2.4 Bayfront RWF Related Off-Site Improvements Locations

The project also includes various off-site improvements related to the operation of the proposed Bayfront RWF. An influent pump station as well as influent and recycled water distribution pipelines would be installed primarily within existing road rights-of-way, or existing District-owned property. These improvements are shown in Figure 1-2 and include:

- Influent pump station located near the SVCW's existing Menlo Park Pump Station near the intersection of Marsh Road and Bayfront Expressway. The site is mostly unpaved and contains a WBSD manhole and above-ground controls in the northwest corner of the site. A portion of the site is covered in iceplant, and there are approximately four trees.
- Influent and recycled water distribution pipelines would be located within the road right-of-way for Marsh Road connecting from the influent pump station to the Bayfront RWF. The road is entirely paved with varying widths of unpaved shoulders to the east and west of the roadway. Flood Slough and Bedwell Bayfront Park abut Marsh Road to the east and west, respectively.
- Recycled water distribution pipelines would also be constructed within the road right-of-way for Bayfront Expressway, Constitution Drive, Chilco Street, and Hamilton Avenue. The Chilco Street segment also includes crossings for the San Mateo County Transit District's Dumbarton Rail Corridor (not currently in use, see Section 12.4.9) and a PG&E high pressure gas line. Existing uses along the alignment is largely office/commercial uses along Constitution, office/commercial, railroad right-of-way, and single-family

residential uses along Chilco Street, and single-family and multi-family uses along Hamilton Avenue.

2.1.3 Existing Elevation and Topography

The FERRF site is generally flat. Surface elevations (excepting the equalization basins) are approximately 8 to 12 feet above mean sea level (AMSL) on the western portion of the site, while the eastern portion of the site is roughly 10 to 17 feet AMSL. The levees on the west and north of the site vary between 10 and 12 feet (AMSL). The equalization basins' floor elevation (bottom depth) is approximately 3 to -3 feet AMSL. The project area is located within a FEMA-defined Special Flood Hazard Area (FEMA 2019).

As a closed landfill, Bedwell Bayfront Park contains sloped areas up to 90 feet in elevation. Surrounding areas beyond Bedwell Bayfront Park are also flat and at or near sea level like the FERRF site.

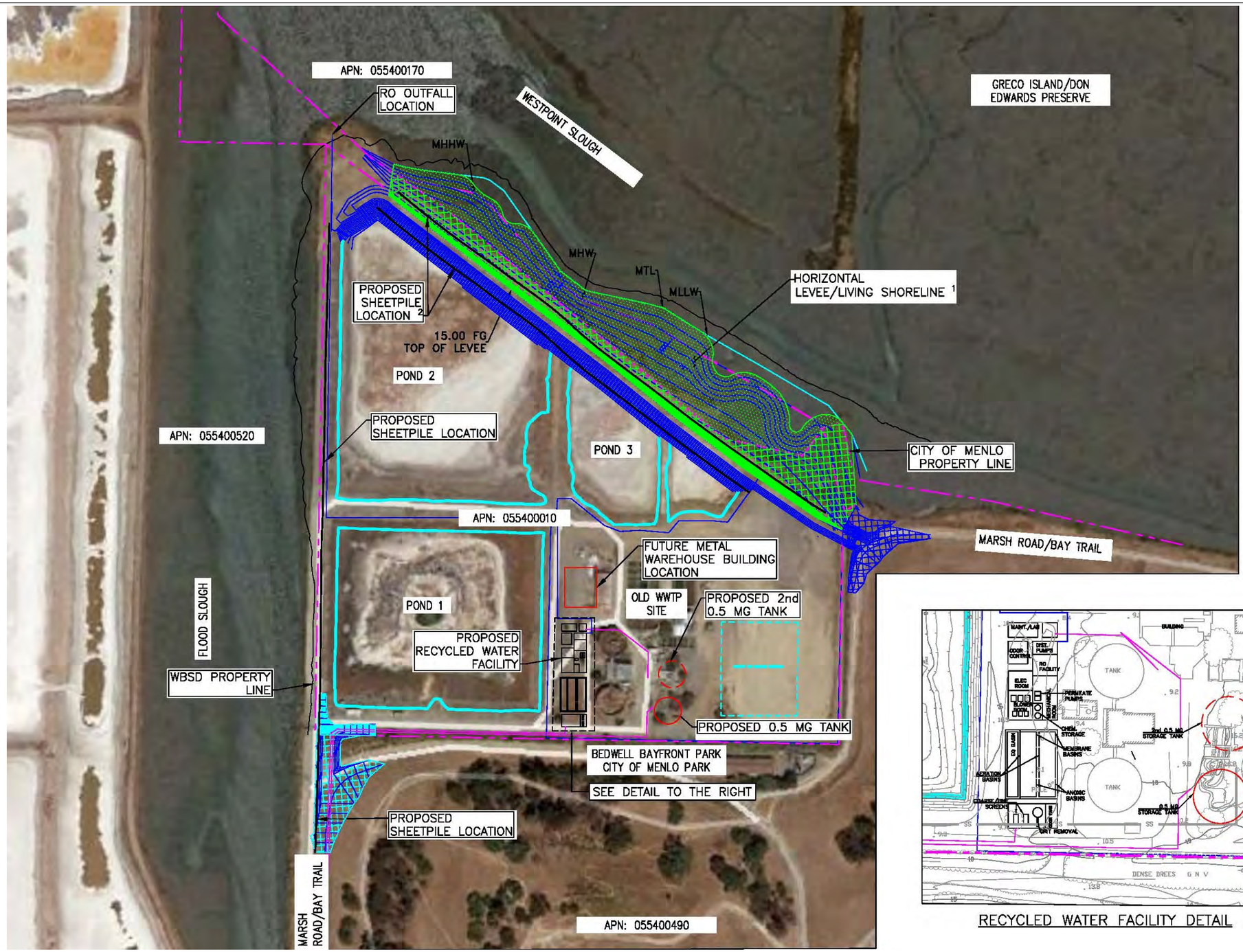
2.1.4 Existing Utilities

The proposed FERRF site is served by existing sewer, electricity, water, and telecommunication lines. The Pacific Gas and Electric Company (PG&E) provides electricity and natural gas service to the site. Overhead electrical lines run along the western edge of Marsh Road in the project area to the FERRF site.

Menlo Park Municipal Water provides municipal drinking water to the FERRF site and surrounding areas. A water main at Marsh Road serves the site. Existing on site sewer service is provided by West Bay Sanitary District through infrastructure located at Marsh Road.

2.1.5 Future Metal Warehouse

Separate from the proposed project, the District is in the process of permitting the construction of a new metal warehouse building located to the north of the proposed Bayfront RWF and just west of existing metal warehouse building with the City of Menlo Park. The building would be prefabricated and placed on a concrete slab and used to store vehicles, maintenance equipment, and tools as the District's current warehouse is at capacity. The building would be constructed at grade (9.88 feet), which would locate it below the current FEMA 100-year flood elevation, which is 11 feet and benefit from the flood protection provided by the proposed levee improvements associated with this project. The building would be single-story and approximately 80 feet long by 65 feet wide and 24 feet high. The metal warehouse is not required to support the proposed project and is therefore not included in the impact analysis contained in this EIR.



ECOTONE BOUNDARY – 3.46 ACRES

- WBSD PROPERTY – 0.35 ACRES APN: 055400010
- CITY OF MENLO PARK –1.06 ACRES APN: 055400490
- STATE LANDS – 2.05 ACRES APN: 055400170

STORM DITCH IMPROVEMENTS – 0.27 ACRES

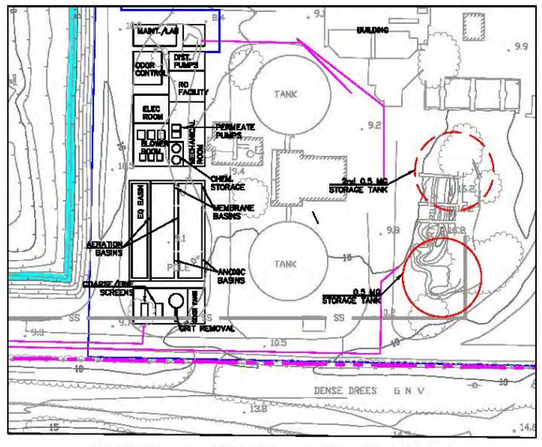
- CITY OF MENLO PARK – 0.27 ACRES APN: 055400490

ENTRANCE DRIVEWAY IMPROVEMENTS– 0.49 ACRES

- WBSD PROPERTY – 0.09 ACRES APN 055400010
- CITY OF MENLO PARK – 0.40 ACRES APN: 055400490

NOTES:

1. CONCEPTUAL ECOTONE LEVEE SHOWN ABOVE HAS NOT BEEN VETTED WITH INTERAGENCY TEAM AND WILL BE REFINED IN THE DESIGN PHASE WITH INPUT FROM RESOURCE AGENCIES.
2. SHEET PILE SHOWN NEAR THE LEVEE WILL BE UNDERGROUND. FILL WILL COVER THE TOP OF THE SHEET PILES



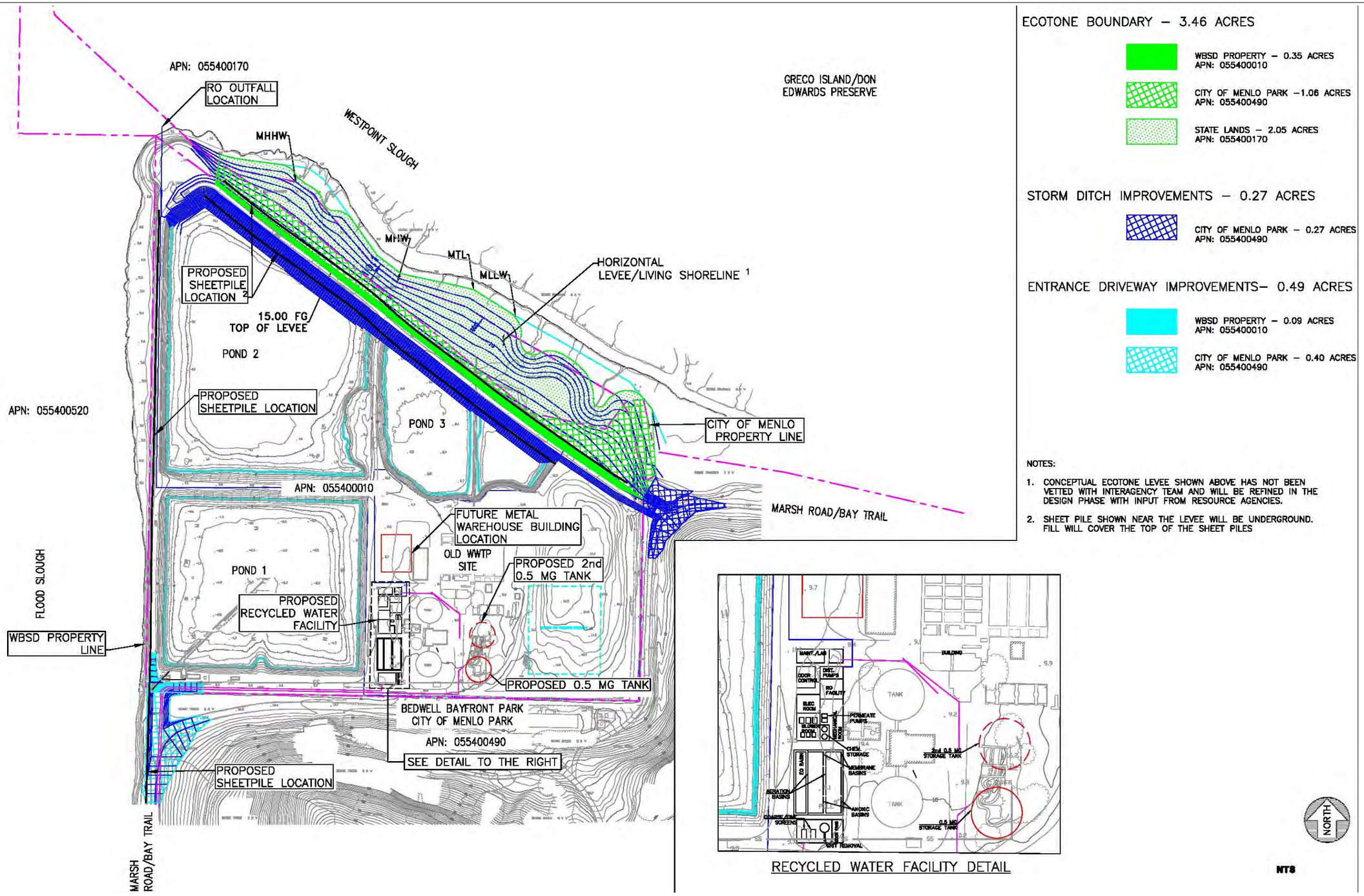
RECYCLED WATER FACILITY DETAIL

NORTH

NTS

Source: F&L, December 2020

Figure 2-1 FERRF Improvements Aerial



Source: F&L, December 2020

Figure 2-2 FERRF Improvements Topography

Figure 2-3 Site Photos

Photo 1. Marsh Road Entrance Looking North.

Photo 2. Flood Slough Looking North.

Figure 2-3 Continued

Photo 3. Looking east from the northwest corner of the FERRF property.

Photo 4. Looking northeast to Westpoint Slough at low tide from northern levee**.**

Figure 2-3 Continued

Photo 5. View to Pond 1, existing metal warehouse building, satellite corporation offices, and remnant decommissioned Menlo Park WWTP with Bedwell Bayfront Park in the background

Photo 6. View of satellite corporation offices (brown building) and decommissioned Menlo Park WWTP facilities looking north

Figure 2-3 Continued

Photo 7. View along the southern FERRF boundary with Bedwell Bayfront Park looking west.

Photo 8. View along the southern FERRF boundary landfill gas collection and control system flare and building within Bedwell Bayfront Park.

Figure 2-3 Continued

Photo 9. Save the Bay wetland plant nursery in southeast corner of site looking northeast.

Photo 10. View south from northern levee to Pond 3 (immediate foreground), remnant decommissioned WWTP, and landfill gas collection and control system flare and building at Bedwell Bayfront Park.

Figure 2-3 Continued

Photo 11. Marsh Road looking north at the northern most parking area for Bedwell Bayfront Park (no public vehicular access north of this point.

Photo 12. View west toward storm ditch improvements in northeast corner of FERRF and adjoining Bedwell Bayfront Park.

Figure 2-3 Continued

Photo 13. Marsh Road looking south near southern portion of Bedwell Bayfront Park.

Photo 14. WBSD Influent Pump Station Site.

Figure 2-3 Continued

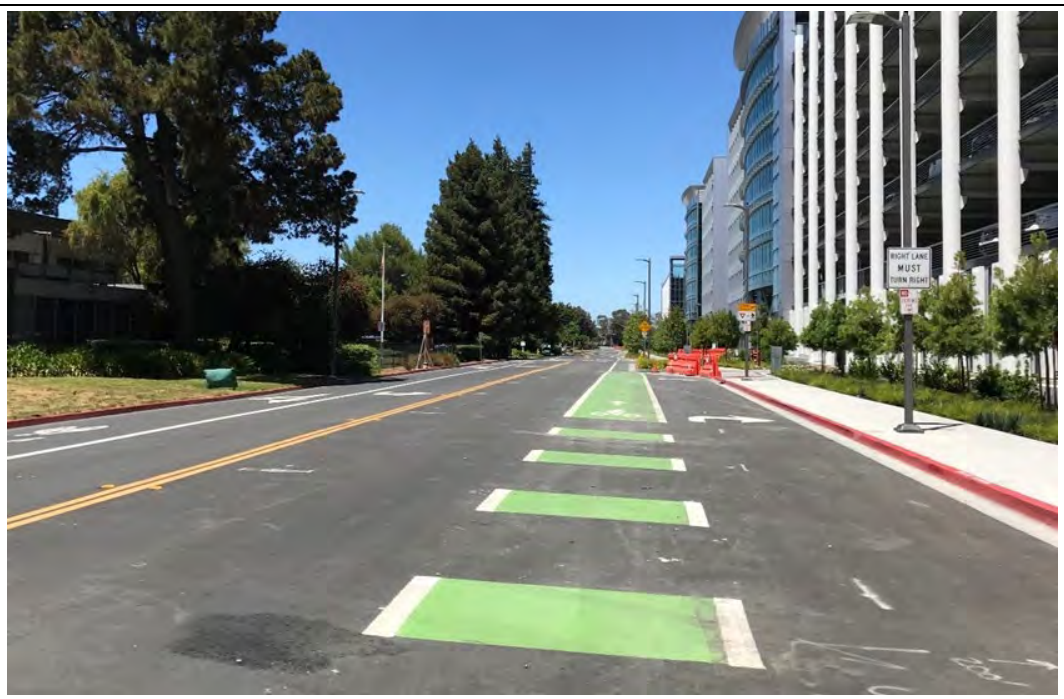


Photo 15. Constitution Drive at Chrysler Drive looking west.

Photo 16. Constitution Drive at Chrysler Drive looking east.

Figure 2-3 Continued

Photo 17. San Mateo County Transit District Rail crossing on Chilco Street looking northwest.

Photo 18. Hamilton Avenue looking west near Hamilton Park.

Figure 2-3 Continued

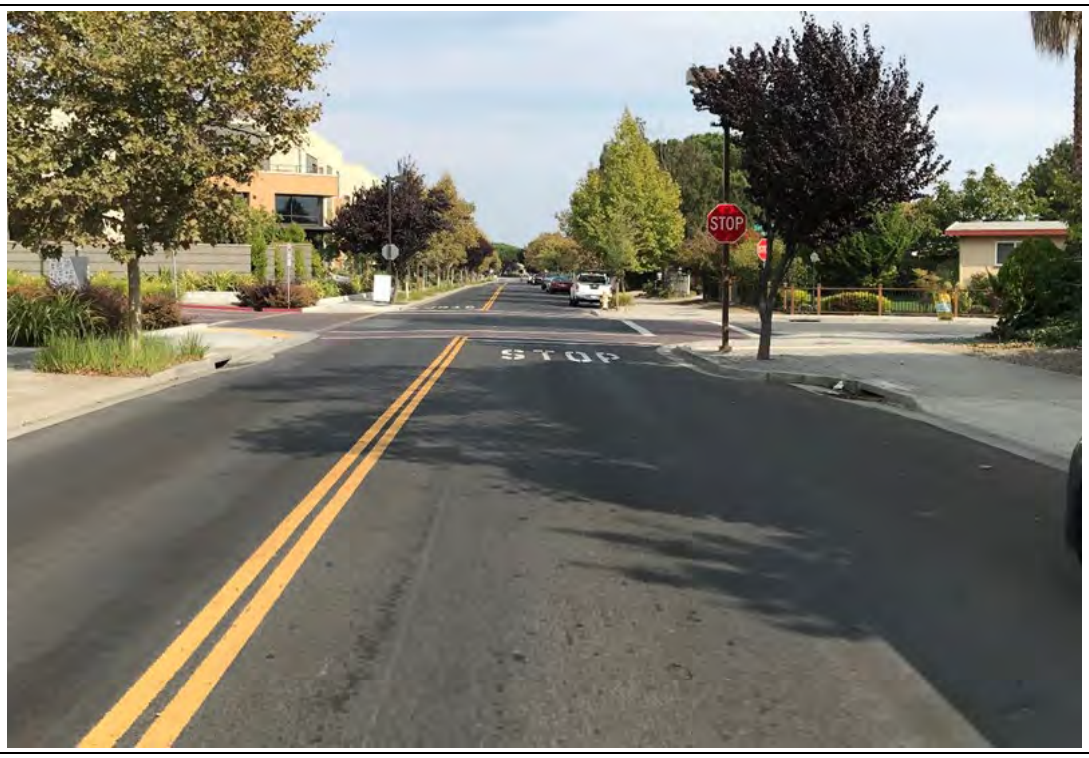


Photo 19. Hamilton Avenue looking east toward Sevier Avenue.

Photo 20. Hamilton Ave at Willow Road looking east.

Storm drain inlets for the decommissioned WWTP collects stormwater flows which are routed to an existing 30-inch storm drain inlet that discharges into Westpoint Slough north of the existing northern perimeter levee. The FERRF site does not contain any other formal drainage features. There are no known utility easements across the FERRF parcel.

2.2 PROJECT COMPONENTS

The proposed project would involve the following components:

- Flood protection, including installation of metal sheet pile walls;
- Construction of an ecotone levee and installation of fill;
- On-site stormwater drainage improvements;
- Improvement of an existing stormwater ditch;
- Raising existing grades near the northeast and southwest corners of the FERRF site;
- Construction and operation of a new Bayfront RWF, including a new off-site influent pump station and off-site influent and distribution pipeline system and bayside outfall to discharge concentrate from the Bayfront RWF reverse osmosis process.

2.2.1 Sheet Pile Installation

Sheet pile walls are interlocking steel metal plates (3/8-inch thick, 12-inch wide, 35 feet tall/long) that are driven or vibrated into the existing earthen levees. The proposed thickness of the piles is based on predicted erosion rates and the minimum service life of the material. Approximately 3,400 linear feet of sheet piles would be placed at the top of the bank along the western and northern portions of the FERRF site as shown in Figure 2-1, with a short, approximately 200-foot section extending onto Menlo Park land at the site's Marsh Road entrance. A double wall (two walls in parallel) is planned on the north side of the site to improve seismic stability of the existing northern levee. The sheet piles would be driven or vibrated into the ground approximately 30 feet deep, while leaving the top of the pile at a height of 15 feet (North American Vertical Datum of 1988, or NAVD 88) in elevation. This height was selected to account for the FEMA flood height as well as the projected 50-year sea level rise height. The 50-year sea level rise projection used to establish the proposed sheet pile height is the San Mateo County Sea Level Rise and Overtopping Analysis for San Mateo County's Bayshore, developed using the BCDC's Adapting to Rising Tides Methodology (May 2016).

The western perimeter levee varies in elevation from 10- to 12-foot elevation; therefore, approximately three to five (3-5) feet of sheet pile would remain visible above ground. The double pile wall along the north of the site would not be visible above ground because the ecotone levee on the north side of the wall and the northern perimeter levee/roadway to the south of the wall would both be brought up to the same 15-foot elevation with fill.

The outboard face of the sheet pile wall is planned to include modular unit wall enhancements that attach to the wall structure to provide physical habitat for sessile (immobile) organisms such as mussels and algae and refuge and forage for fish species. The modular units utilize a bio-enhanced concrete mix, increased surface complexity, and physical design to provide suitable

environmental conditions for the development of marine flora and fauna. The wall enhancements can increase the habitat value of the vertical wall by increasing the ability of species to utilize the structure. The complexity and variation of surface texture offer refuge to marine animals similar to natural habitats. In addition, many of the organisms that attach themselves to the units are species that cement their calcitic skeletons onto the structure through the process of biogenic build-up. The modular units would be designed to target the recruitment of native fish and invertebrates and should be implemented with an adaptive management framework.

2.2.2 Ecotone Levee and Fill along Northern Levee

Ecotone levees are structural, natural, and nature-based adaptation measures comprising gentle slopes or ramps that provide a gradual transition zone between tidal marshes and flood risk management levees. They stretch from the levee crest to the marsh surface and can provide wetland-upland transition zone habitat when properly vegetated with native grasses, rushes, and sedges. They can attenuate waves, provide high-tide refuge for marsh wildlife, and allow room for marshes to migrate upslope with sea level rise.

The San Francisco Estuary Institute (SFEI) and San Francisco Bay Area Planning and Urban Research Association (SPUR) published the San Francisco Bay Shoreline Adaptation Atlas, which identifies effective shoreline adaptation strategies that are appropriate for specific settings and take advantage of natural processes (SFEI and SPUR 2019). The report divides the San Francisco Bay shoreline into 30 operational landscape units (OLUs) which are connected geographic areas that share common physical characteristics that would benefit from being managed as individual units. The report identifies the shoreline along the northern levee of the FERRF site as potentially suitable for an ecotone levee that can address coastal risks including storm surge, erosion, and short-term and long-term sea level rise.

The proposed ecotone levee would be located along the northern perimeter of the FERRF site, extend to a height of 15 feet (NAVD 88), and utilize slopes ranging from 20:1 (horizontal to vertical) to 10:1, to maintain some of the existing channel characteristics of Westpoint Slough in the area (see Figure 2-4, Figure 2-5, Figure 2-6, and Figure 2-7).

The ecotone levee would be built by first installing coffer dams at low tide to isolate the area from tidal action. The cofferdams are anticipated to be sheet piles that would be vibrated into bay mud using a vibratory hammer (or similar machinery) staged on the top of the existing levee. Dewatering is not anticipated to be necessary (Freyer & Laureta, pers. comm. December 2020).

Once the construction area is isolated from tidal action the existing marsh vegetation would be mechanically stripped from the area after pre-construction surveys for special-status species are completed. The vegetation would be preserved onsite, watered, and protected so it can be used to revegetate the ecotone levee.

Locally sourced imported fill would be used to raise the existing northern levee and ecotone levee to an elevation of 15 feet NAV88. Stabilizing fill may be installed before placement of suitable soils for the ecotone levee (comprised of native fill and/or dredged material from the bay). The fill used would be specifically sourced from locations supplying appropriate material to support the proposed ecotone levee plantings and shoreline location. Placement of imported fill would be done from the landside, above the mean high tide water line (approximately 6.8 feet

elevation; existing levee is between 10 to 12 feet) with use of loaders, backhoes, and excavators. Dewatering activities would require work below the mean high tide water line are not expected. If necessary, they would require a site-specific dewatering plan prepared and reviewed as part of project regulatory permit applications. A dewatering plan is also included, if necessary, as a mitigation measure in this EIR. Temporary irrigation may be installed with the ecotone levee plantings for initial plant establishment although irrigation is not anticipated to be needed long term.

Construction activities would take place land side and no activities are planned by boat or barge.

Once grading is complete, the area would be inspected for stability and prepared for planting. Plants from salvaged marsh sod, seeds, and container plants would be installed as determined by a site planting plan approved by the resource agencies. Temporary irrigation would be provided during the plant establishment period.

Once all revegetation is installed and inspected by a restoration ecologist the cofferdam would be removed to re-open the area to tidal action. Pending results of a wave run up analysis, the design would be reviewed and ultimately approved by state and federal resource agencies and may include living shoreline elements at the toe of slope of the ecotone levee (e.g., oysters, eel grass). In addition, notches or knick points at the edge adjacent to Westpoint Slough may be included in the design to encourage dendritic channels to develop.

The estimated total fill for this area is approximately 10,350 cubic yards (CY) for the northern levee and approximately 17,900 CY for the ecotone. Placement of the fill on the northern levee reduces the capacity of the equalization basins by approximately 0.95 MG (4,700 CY), a four percent reduction in storage capacity for the FERRF. This reduction in capacity is strictly related to building up the levee to an elevation of 15 feet NAV88; the reduction would not occur because of the ecotone levee.

The EIR analysis assesses the impacts of the approximately 3.5-acre ecotone levee conceptual design area. The ecotone levee design has not yet been reviewed by the resource agencies responsible for permitting the project and the ecotone acreage and/or grading quantities may be revised based on this review. The final design would be determined in coordination with the resource agencies during the permit process.

Estuarine Wetland: pickleweed (Salicornia pacifica), cordgrass (Spartina foliosa), alkali heath (Frankenia salina), marsh gumplant (Grindelia stricta), marsh rosemary (Limonium californicum), marsh jaumea (Jaumea carnosa), and big saltbush (Atriplex lentiformis).

Bayside Scrub: montara sagebrush (Artemisia californica X montara), dwarf coyote bush (Baccharis pilularis 'Twin Peaks'), coast buckwheat (Eriogonum latifolium), and creeping wild rye (Elymus triticoides).

NORTH

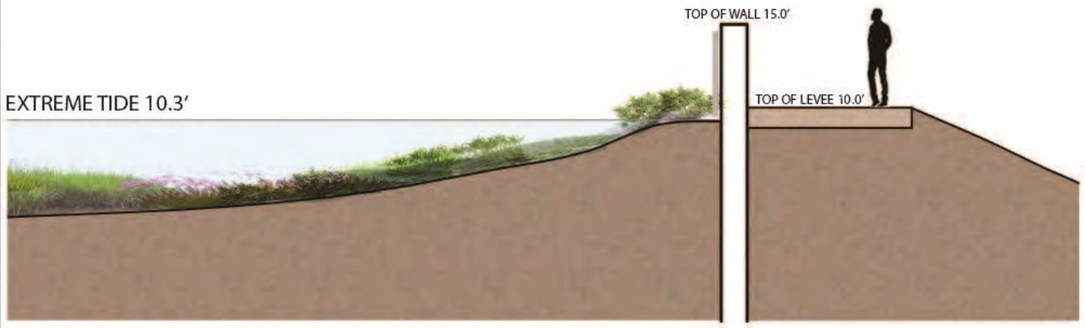
0' 100' 200' 400' 600'

Source: F&L, 2020

Figure 2-4 Living Shoreline Conceptual landscape Plan

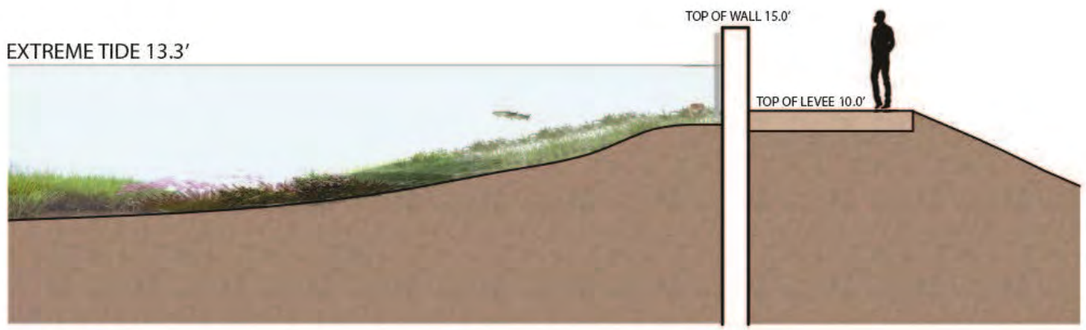
West Bay Sanitary District Flow Equalization and Resource Recovery Facility
Levee Improvements and Bayfront Recycled Water Facility Project

Existing Condition

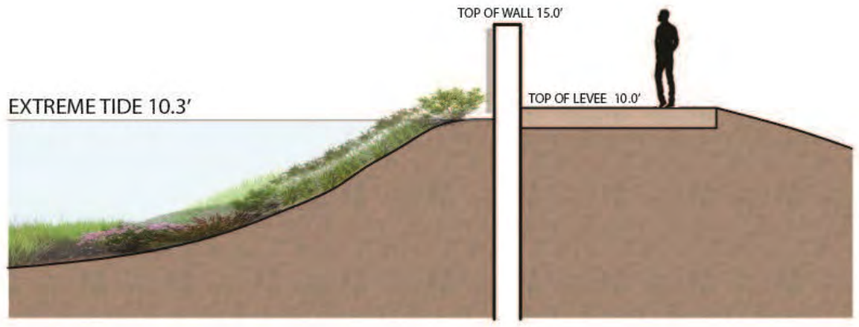


Section B

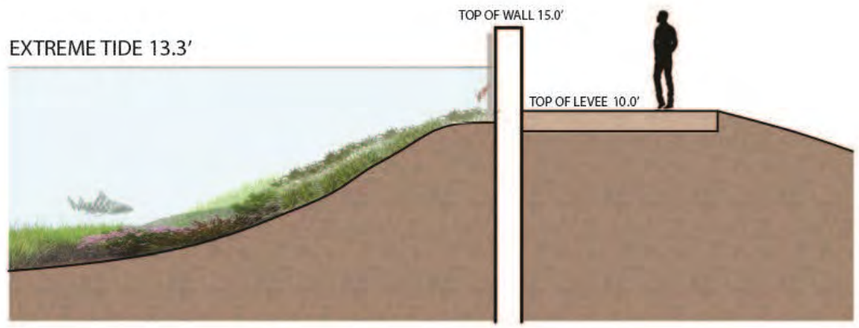
2070 Condition



Section B



Section A

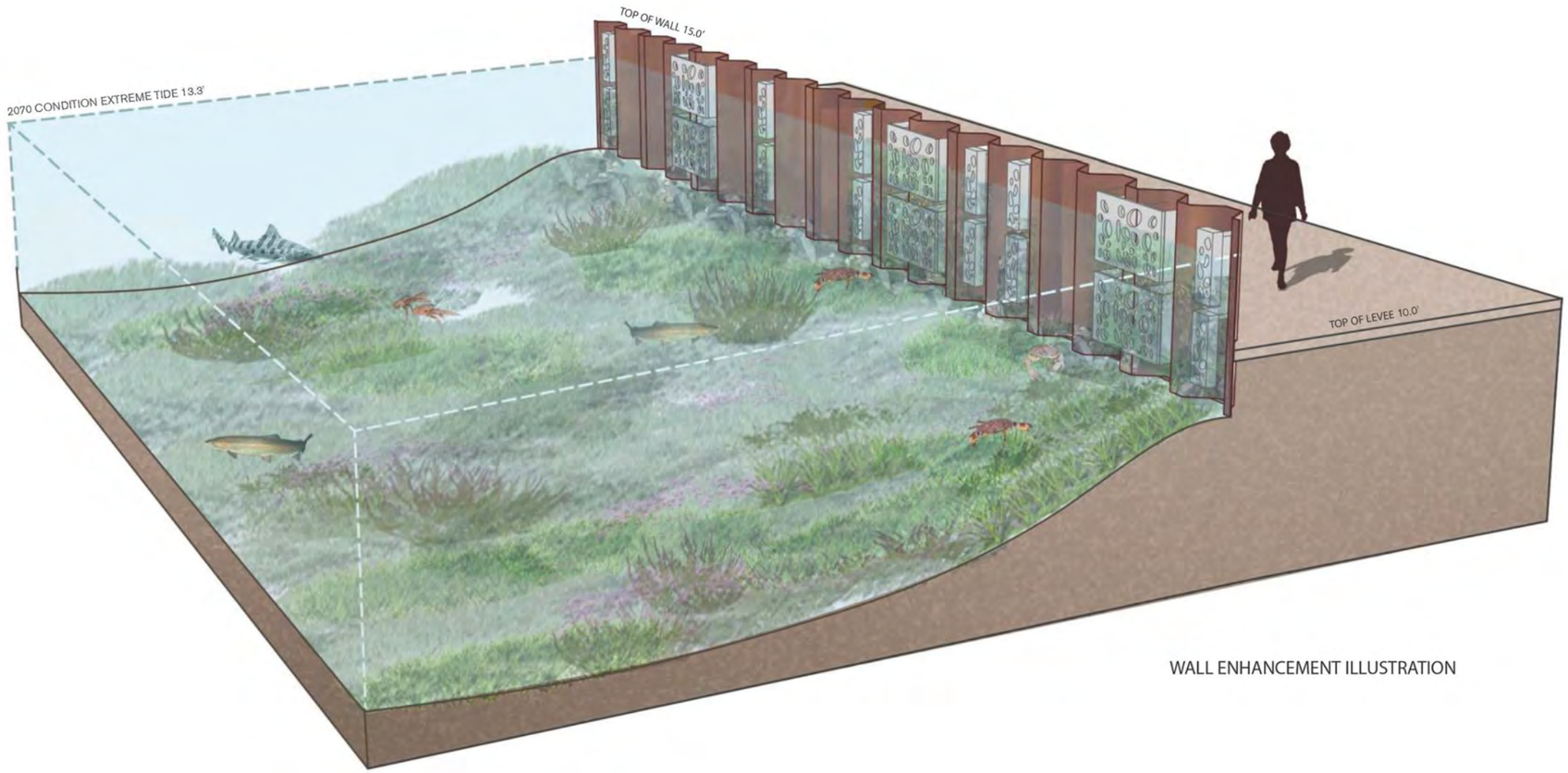


Section A

Source: F&L, 2020

Figure 2-5 Living Shoreline Sections Sheetpile Wall

WALL ENHANCEMENT UNIT
ENLARGEMENT

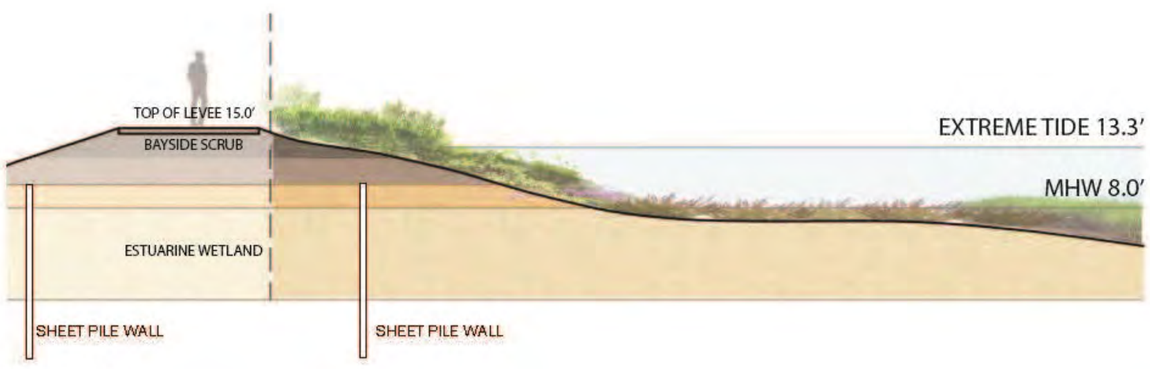


WALL ENHANCEMENT ILLUSTRATION

Source: F&L, 2020

Figure 2-6 Sheetpile Wall Enhancements

Section C



Section D

Source: F&L, 2020

Figure 2-7 Cross Sections for Ecotone Levee 2070 Condition

2.2.3 On-Site Storm Water Improvements

The FERRF has an existing 30-inch stormwater drain, located approximately 20 feet east of the old WWTP, that extends north to outfall to Westpoint Slough. This drain used to also serve as the discharge outfall for the old WWTP, but since the plant is no longer operational, wastewater is no longer discharged through this pipe. The proposed project includes capping of this stormwater drain and rerouting on-site drainage from the site's developed areas to the existing flow equalization basins. No new impervious surfaces created by the project would discharge stormwater off-site.

2.2.4 Storm Ditch Improvements and Grading

There is an existing ditch in Bedwell Bayfront Park, along the south and eastern portion of the FERRF site, that conveys stormwater from Bedwell Bayfront Park and discharges to Westpoint Slough. The proposed levee improvements on the FERRF site require that the adjacent existing ditch be improved with one-way check valves to allow water to drain off the site, but not allow bay waters to infiltrate back into the drainage ditch. Approximately 460 CY of imported fill would be used to raise the grades in and around the area, including a section of the Bay Trail to 15 feet NAVD 88. The ditch and outfall would be sized and designed to ensure slope protection and adequate capacity to prevent flooding, erosion, and siltation.

2.2.5 Entrance Roadway Grading

The entrance to the FERRF site from Marsh Road within Bedwell Bayfront Park would be graded with imported fill to bring the entrance roadway and immediate surrounding areas, including a short segment of the Bay Trail, up to 15 feet NAVD 88. Approximately 2,700 cubic yards of fill are anticipated. A short (less than 5 feet) retaining wall is planned just inside the entrance at the southwest corner of the pond closest to the entrance (Pond 1). Existing paved portions of Marsh Road and the FERRF entrance roadway affected by project activities would be repaved (returned to original condition) and unpaved areas would remain unpaved.

2.2.6 Recycled Water Facility

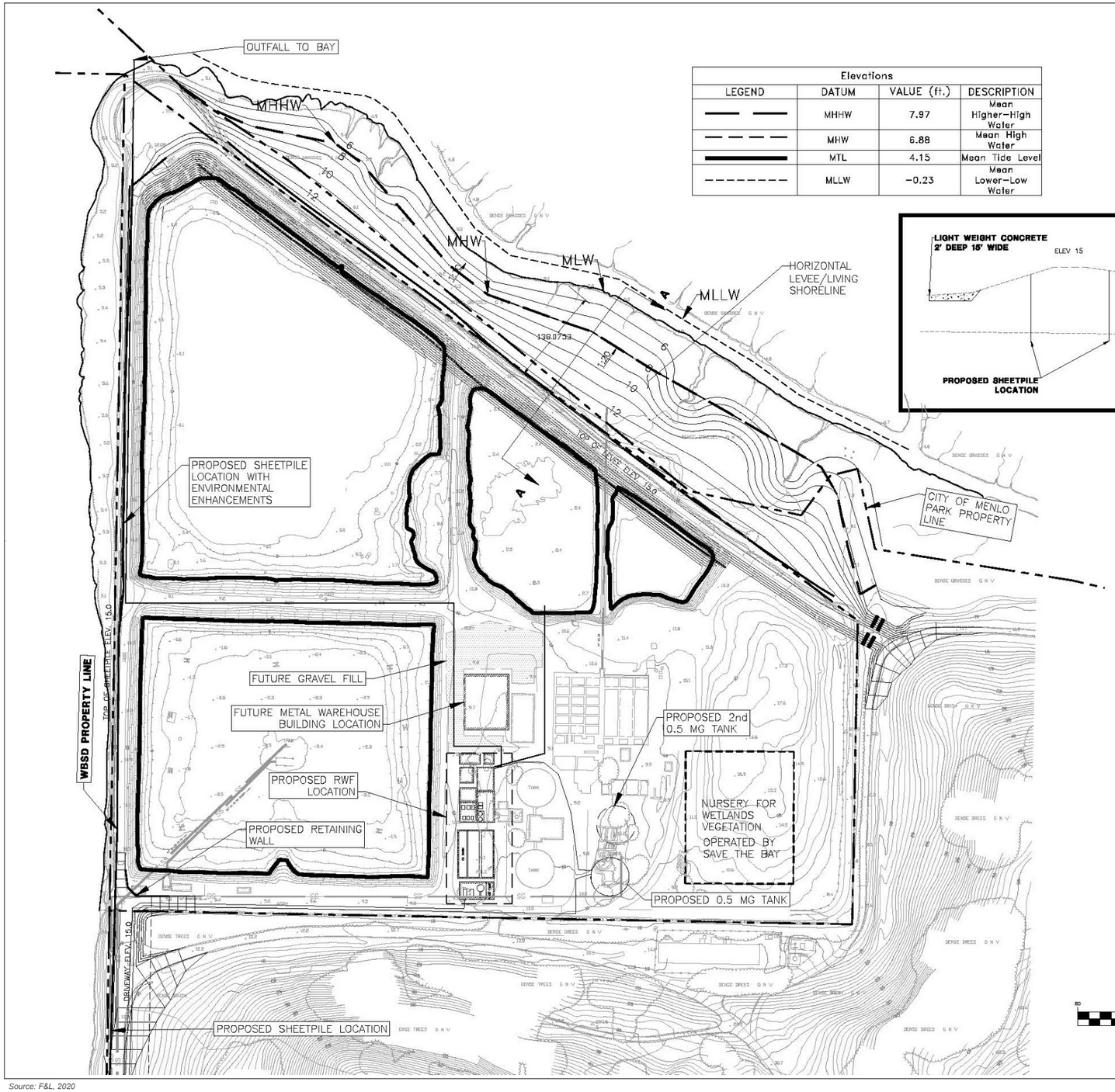
In 2014, the District completed a Recycled Water Market Survey (RMC 2014), including a preliminary market and recycled water supply assessment and evaluation of three conceptual alternatives to provide recycled water to customers and assess overall feasibility of adding recycled water to the available water supply portfolio. As a result of the market survey, the District proceeded with design and construction of a satellite treatment plant at Sharon Heights Golf Course & Country Club to provide recycled water for irrigation at the golf course, Stanford Linear Accelerator Center (SLAC), and other customers in the area. The facility began operations in March 2020.

The District also prepared a Bayfront Recycled Water Facilities Plan (Woodard & Curran 2019) to evaluate implementation of a recycled water facility project in the Bayfront area. The proposed Bayfront RWF is a result of these initial planning efforts. Title 22 of the California Code of Regulations (Title 22) specifies the allowable uses of recycled water based on the target level of treatment. The proposed Bayfront RWF would produce disinfected tertiary recycled water, commonly referred to as "purple pipe" water. Potential uses in WBSD's service area are

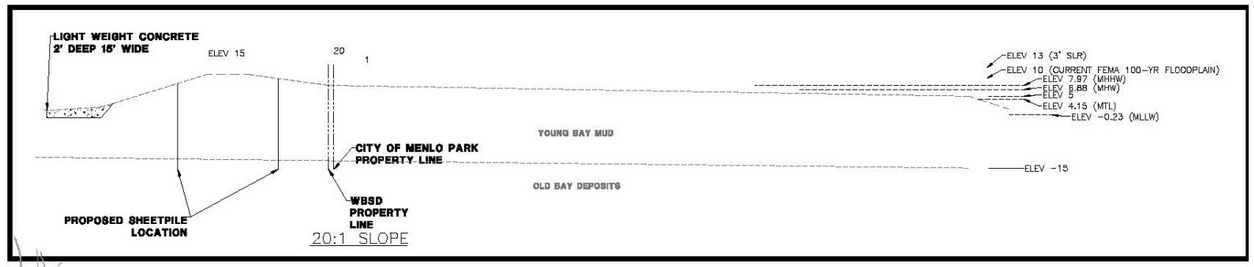
categorized as irrigation and commercial cooling tower uses and other industrial uses, firefighting, public fill stations, or for flushing toilets. Figure 2-9 shows the proposed recycled water purveyor area. The service areas for recycled water service for the Sharon Heights and proposed Bayfront RWF do not overlap.

The proposed Bayfront RWF would operate year-round and occupy an approximately 12,000 square foot area just west of the decommissioned WWTP and would be sized to produce up to 1.0 MGD of recycled water (approximately 1,120 acre-feet per year). Although the Bayfront RWF would have the capacity to produce up to 1.0 MGD of recycled water on a daily basis, the facility would typically produce 0.5 MGD (approximately 560 acre-feet per year) under the design and actual flows (i.e., estimated average) at the site.

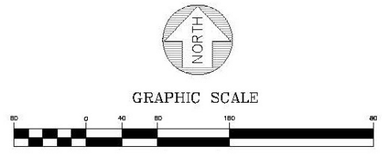
The major components of the Bayfront RWF include an influent flow diversion structure, submersible influent pumps, influent force main, grit removal and screen fines that would be off hauled, dual fine screen, equalization basin, equalization return pumps, anoxic basin with mixers and feed forward pumps, aerobic basin with mixer and feed forward pumps and diffusers, membrane basins with membrane cassettes, permeate pumps, reverse osmosis (RO) system, chemical system for membrane cleaning, recycled water tank and distribution pumps, distribution pipeline, odor control system, electrical and supervisory control and data acquisition (SCADA) system, standby generator, sampling system and laboratory testing areas. The Bayfront RWF process flow schematic is shown in Figure 2-10, below.



Elevations			
LEGEND	DATUM	VALUE (ft.)	DESCRIPTION
—— ——	MHHW	7.97	Mean Higher-High Water
— — — —	MHW	6.88	Mean High Water
————	MTL	4.15	Mean Tide Level
- - - - - - - -	MLLW	-0.23	Mean Lower-Low Water



SECTION A



Source: F&L, 2020

Figure 2-8 Grading Plan

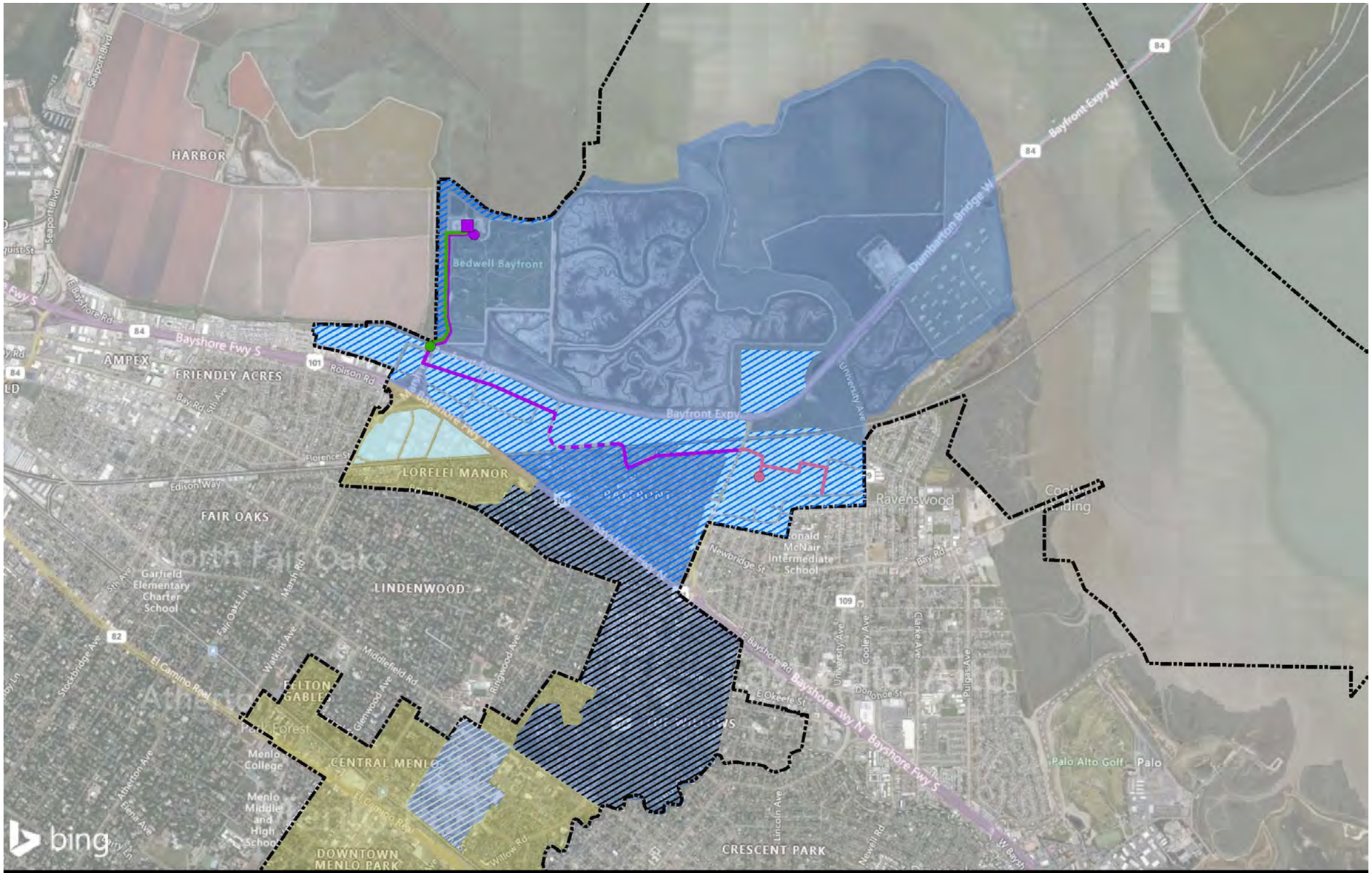


Exhibit A:
Recycled Water Purveyor Boundary
West Bay Sanitary District (WBSD)
Menlo Park Municipal Water District

Legend

- Recycled Water Facility
- Influent Sanitary Sewer Pump Station (IPS)
- Recycled Water Storage Tank (0.50 MG)
- Future Storage Tank (0.50 MG)
- Distribution Pipeline
- Existing Distribution Pipeline
- Future Distribution Pipeline
- Influent Sanitary Sewer Force Main (SSFM)
- Phase 1
- Phase 2
- Phase 3
- City Boundary
- ConnectMenlo
- Menlo Park Municipal Water
- California Water Service Company

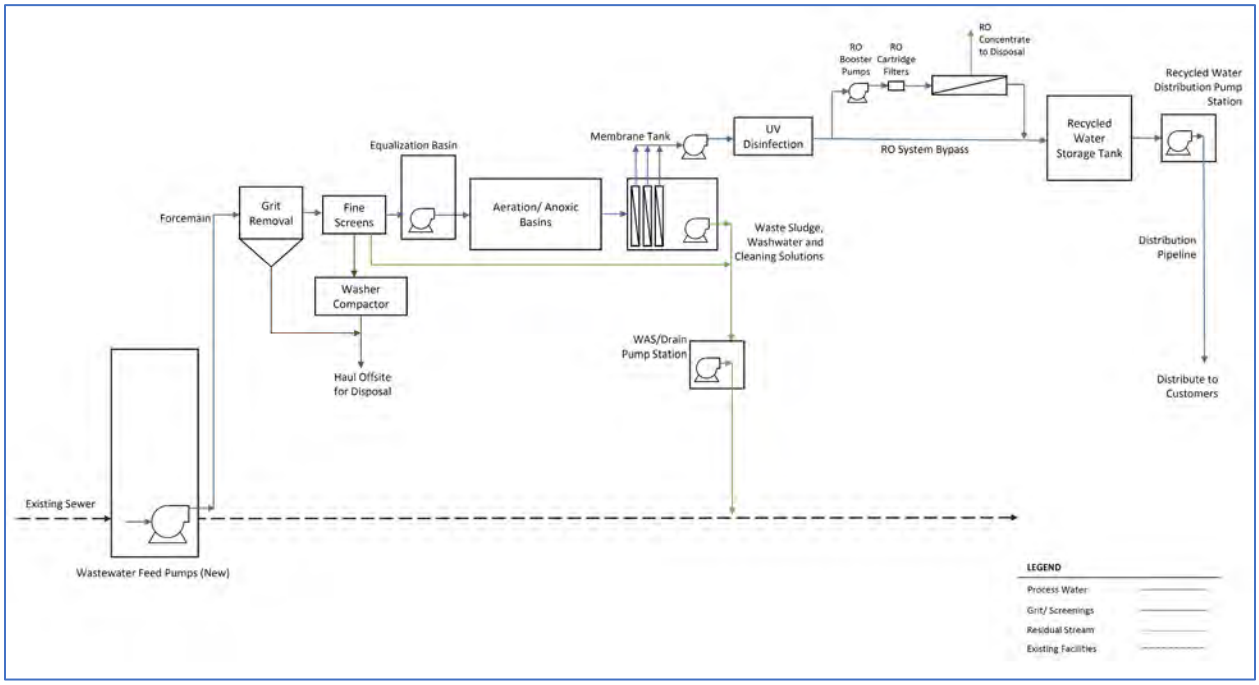
N

0 1,750 3,500 Feet

Source: F&L, 2020

Figure 2-9 Recycled Water Purveyor Boundary

Figure 2-10 Recycled Water Facility Process Flow Schematic



Source: Woodard & Curran 2020. [2020.04.06 Process Schematic_MBR+RO_Rev.pdf]

The Bayfront RWF processes listed above and shown in the process flow schematic (Figure 2-10) would be housed in structures (see Figure 2-1) at the FERRF site including:

- A concrete masonry unit (CMU) headworks building approximately 25 feet wide by 50 feet wide and 18 feet high);
- Below grade concrete basins consisting of equalization, anoxic, aerobic, and membrane basins approximately 50 feet wide by 90 feet long and 15 feet deep);
- CMU reverse osmosis (RO) facility approximately 25 feet wide by 20 feet long and 18 feet high;
- CMU operations and laboratory building approximately 25 feet wide by 20 feet long and 13 feet high;
- Below grade recycled water holding tank approximately 15 feet wide by 15 feet long and 10 feet deep;
- Pad for odor control system approximately 30 feet wide by 20 feet long;
- Electrical service transformer pad located separate from the treatment facility approximately 6 feet wide by 6 feet long;
- Reverse osmosis (RO) concentrate discharge storage tank (one (1) tank, 25,000-gallon size or 2 (two) 12,500-gallon tanks) and RO concentrate discharge pipeline (to Pond 3 or outfall to slough);
- Two (2) steel, 0.5 MG recycled water storage tanks (55 feet diameter, 30 feet high); and

- Distribution pump station building approximately 25 feet long by 13 feet wide and 10-foot-high building to house two pumps (between 30 to 100 hp each) and their controls.

As noted above, building materials are primarily CMU block construction. None of the above listed features would utilize large windows or highly reflective materials. The Bayfront RWF would be constructed on imported fill to achieve a finished floor elevation of 12 feet, which is 12 inches above the FEMA flood elevation.

2.2.6.1 Bayfront RWF Waste Streams

Producing recycled water results in the production of several waste streams. One is grit (solids) from the initial screening of the influent wastewater. This material is collected and stored until it is hauled off-site to a sanitary landfill. The second waste stream is the residual fluid concentrate from the RO process (RO concentrate or effluent). Reverse osmosis is included in the RFW to reduce the amount of total dissolved solids (TDS) concentration within the recycled water product. It is estimated that the Bayfront RWF would produce an average of approximately 0.025 MGD (or 25,000 gallons per day) of RO concentrate under design and actual flows (i.e., average approximately 0.5 MGD of recycled water produced by the facility on a daily basis), which would be discharged into Pond 3 and left to evaporate by 50 percent at which time it can be off hauled to a landfill. When Pond 3 is filled, the RO concentrate would be discharged to the Westpoint Slough continuously at an average temperature of 25 degrees Celsius (77 degrees Fahrenheit). The discharge line is shown as proceeding north then proceeding west along the levee separating Pond 1 and Pond 2, then north along Pond 2 with the outfall located at the northwestern corner of the site. Based on influent wastewater from SVCW, the RO concentrate that would be generated as part of the second waste stream is expected to exhibit the pollutant concentrations listed in Table 2-1. The third waste stream is waste sludge, washwater and cleaning solutions, which would be discharged back into the sewer system.

Table 2-1 Reverse Osmosis Concentrate Concentrations

Pollutant	# of Samples	SVCW Effluent Concentration (assumed RO influent)		Projected RO Concentrate Concentration	
		95th Percentile (ug/L)	Average (ug/L)	Estimated 95th Percentile (ug/L)	Estimated Average Concentration (ug/L)
Arsenic, Total	60	1.4	1.00	7.0	5.0
Copper, Total	60	11	7.41	55	37
Lead, Total	60	0.28	0.19	1.4	0.93
Nickel, Total	60	5.3	3.97	27	20
Mercury, Total	60	0.0082	0.0050	0.041	0.025
Selenium, Total	60	0.79	0.48	4.0	2.4
Zinc, Total	60	19	14.40	95.3	72
Cyanide, Total (as CN)	60	4.3	2.84	22	14

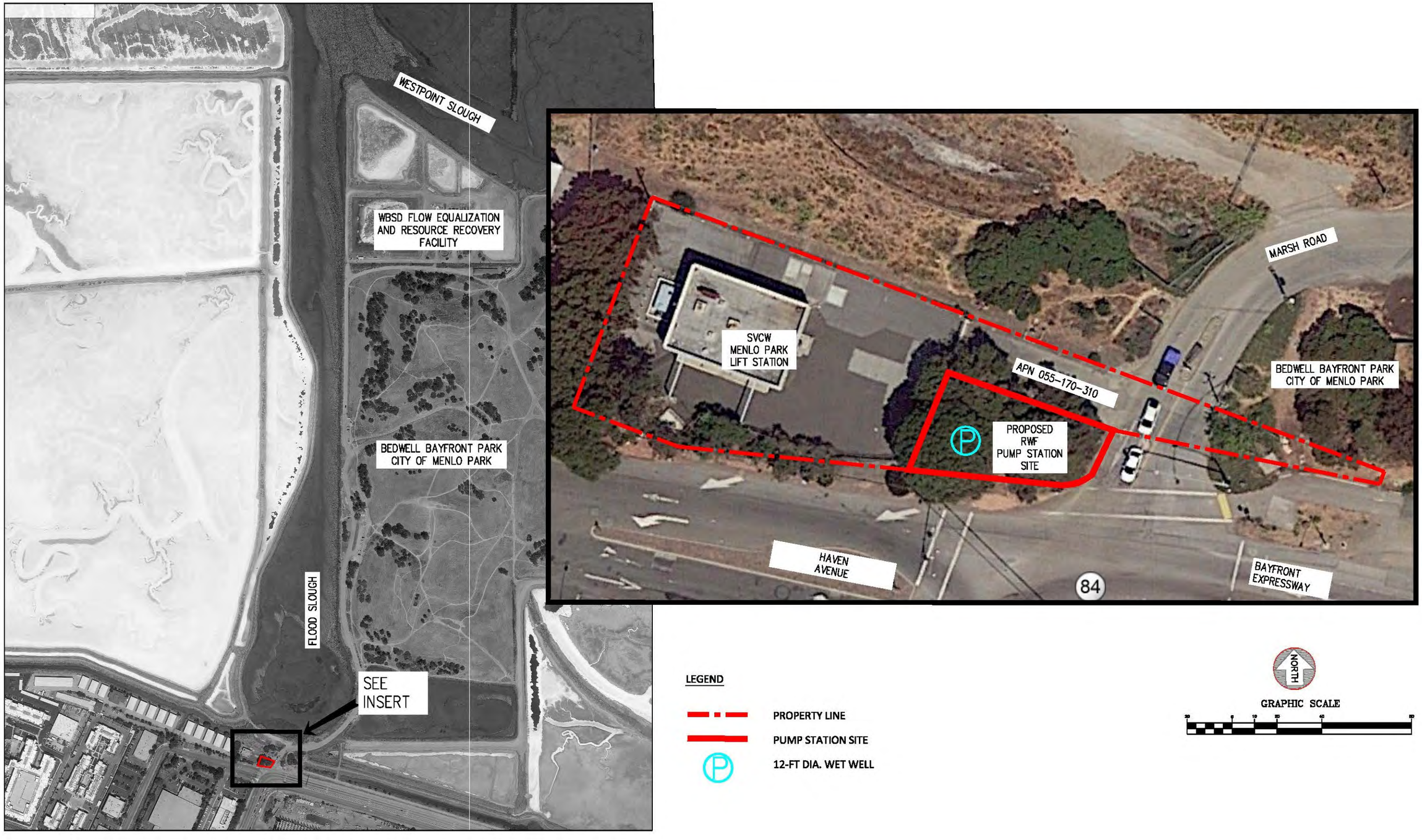
Source: Woodard & Curran (W&C) 2020. SVCW effluent data for the period June 2015 – May 2020 was used for all pollutants analyzed. All available data was used, without removing any potential outliers. W&C assumed the water quality of the SVCW effluent would be similar to the influent RO water quality for WBSD. W&C assumed 80% RO flow recovery and RO rejection of 100% for all pollutants.

2.2.6.2 Influent Wastewater Pump Station (IPS)

Wastewater would be diverted to the proposed Bayfront RWF by a new IPS which would be located near the SVCW's existing Menlo Park lift station at the intersection of Bayfront Expressway and Marsh Road (see Figure 2-11).

The IPS consist of a 12-foot diameter wet well (example shown in Photo , below) with a few associated above ground control cabinets placed on concrete footings. The wet well is a cylindrical mostly underground structure with an influent pipe at the bottom, discharge pipe at the top, and two submersible pumps (approximately 10-20 horsepower [hp] each) to move influent from SVCW to the Bayfront RWF at the FERRF (Figure 2-12). Only one pump is needed; however, two are provided for redundancy in the event a pump breaks down. Construction of the wet well is expected to require excavation of up to approximately 15 feet deep.

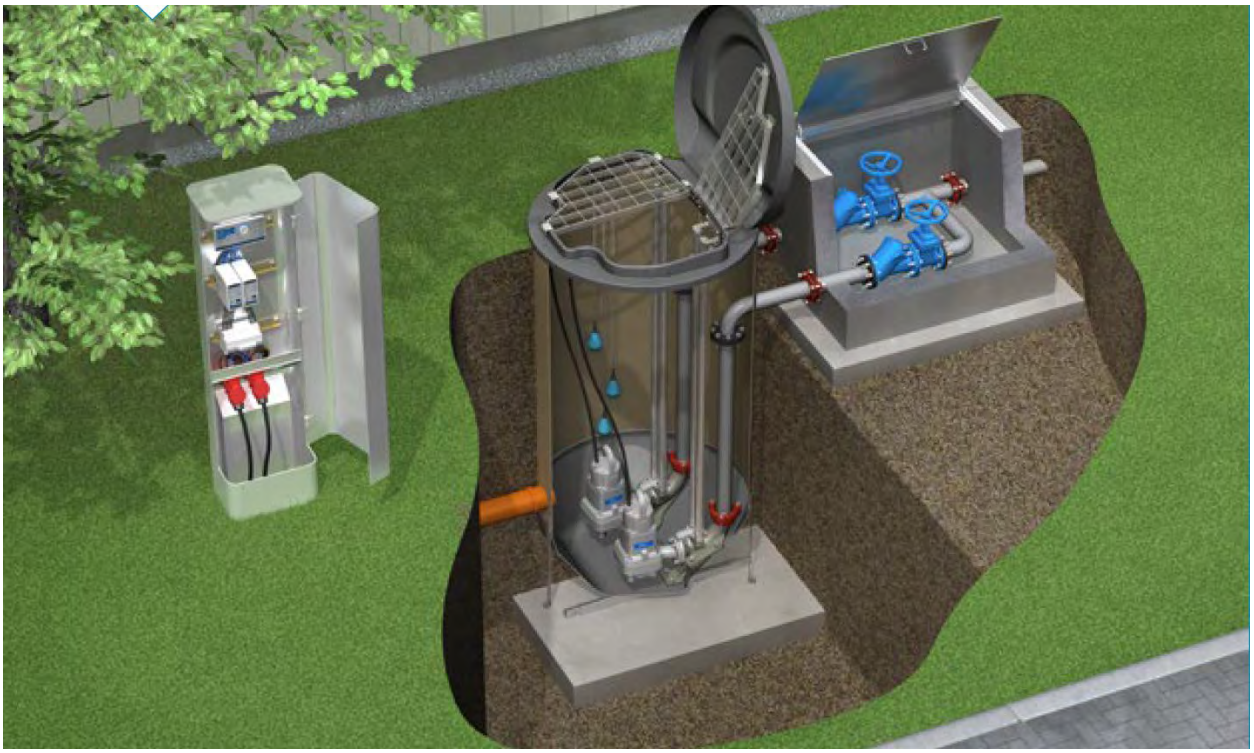
Photo 21. Example of an IPS wet well. Note: the diameter of the wet well shown above is 6-feet in diameter. The proposed wet well would measure 12-feet in diameter.



Source: F&L, 2020

Figure 2-11 Influent Pump Station Location

Figure 2-12 Influent Pump Station Concept



Source: Xylem, 2019.

2.2.6.3 Pipelines

The District would develop detailed designs for the proposed influent and distribution pipelines, including exact pipe materials, diameters, location, and depths within the identified road right-of-way. The District's Standard Specifications state that force mains can be constructed using vitrified clay pipe (VCP), polyvinyl chloride (PVC) pipe, polyethylene pipe (PE), and cast or ductile iron pipe (CIP or DIP, respectively). The pipelines would be a minimum 6-inch diameter in size.

The EIR analysis assumes the proposed pipeline routes and disturbance areas would be confined to existing paved road rights-of-way and that they would be installed primarily using open trench construction (disturbance approximately three feet wide and seven feet deep). The EIR analysis considers that several locations may require alternative, trenchless methods of installation such as jack and bore, horizontal directional drilling (HDD), or micro-tunneling, depending on the results of site-specific geotechnical investigations. These trenchless installations would require temporary pit excavations on either side of the crossing, typically up to 10-feet deep. Locations requiring these future investigations include, but are not limited to:

- California Department of Transportation (Caltrans) crossing at Bayfront Expressway (SR 84);
- The Dumbarton Railroad Corridor (San Mateo County Transit District) railroad crossing on Chilco Street;

- A PG&E high-pressure gas line crossing located on Hamilton Avenue at the intersection with Sevier Avenue; and
- Caltrans crossing at Willow Road (SR 114).

Trenchless crossings may be required at all these locations pending coordination with the corresponding agencies.

Influent Wastewater Pipeline

The influent wastewater pipeline from SVCW would connect the influent pump station with the Bayfront RWF at the FERRF and be located within the Marsh Road right-of-way and be approximately 4,500 linear feet (LF) long.

Recycled Water Distribution Pipelines

The recycled water distribution pipelines would utilize approximately 14,200 LF of pipe along Marsh Road, Constitution Drive, Chilco Street, and Hamilton Avenue. Approximately 2,600 LF of distribution pipeline already exists along Chilco Street between Constitution and Hamilton Avenue (shown as a dashed line on Figure 1-2), and the new constructed pipeline would connect to this existing distribution pipeline. The distribution pipeline requires four easement crossings: Caltrans crossings at Bayfront Expressway (SR 84) and Willow Road (SR 114), a Dumbarton Rail Corridor crossing on Chilco Street, a PG&E high pressure gas line crossing on Hamilton Avenue at Sevier Avenue.

2.2.6.4 Future Projects and Connections

Figure 2-9 shows a future section of the distribution pipeline on Hamilton Avenue after it crosses Willow Road (SR 114) as well as a potential future recycled water distribution tank. Other future projects along the proposed distribution route that would be connecting to the proposed distribution pipeline would require encroachment and/or street permits from the City as well as connection permits from the District. These future connections would be subject to future CEQA review under the City's planning review process and are not considered as part of the environmental review for this project because the Bayfront RWF can operate in the absence of the potential future distribution pipeline and recycled water tank east of Willow Road.

2.2.6.5 Design Regulations

The Bayfront RWF would be designed, constructed, and operated consistent with regulations designed to ensure the plant operates safely and all plant features, equipment, and piping are constructed to withstand conditions found at the site. This includes but is not limited to California Building Code, American Society of Civil Engineers (ASCE) 7-16, American Concrete Institute (ACI), and American Institute of Steel Construction (AISC) as well as specifications set forth by the District and the City of Menlo Park, in final design. California Code of Regulations Title 17 (Air Resources Board) and Title 22 (Recycled Water) requirements would need to be met as well. The District and City specifications would indicate what other safety measures are required. Project specifications and compliance with California Occupational Safety and Health Administration (OSHA) indicate what is required during construction. For

safety in operation, OSHA is the overriding regulation with specific safety practices that will be outlined in a plant specific operations and maintenance manual.

2.2.7 Project Construction

The District intends to construct the levee improvements first, followed by the Bayfront RWF. Construction would most likely start with the installation of the sheet piles along the western portion of the property along Flood Slough. Once the sheet piles are in place, the construction would move on to the levee and ecotone levee construction phase. This includes salvaging existing site vegetation, raising the existing levee to an elevation of 15 NAV88, and construction of the ecotone levee as well as the storm ditch outfall improvements. The installation of utilities and the raising of the grade on the entrance road would follow. The final phase would consist of the construction of the recycled water facility, the RO concentrate disposal pipeline and the new on-site drainage system.

The proposed project would increase the impervious area at the site by a total of approximately 14,113 square feet (approximately 13,620 square feet for the FERRF and approximately 493 square feet for the influent wastewater pump station (IPS)). See Figure 2-8 for an overall grading plan for the FERRF site.

Construction of the levee improvements is anticipated to begin in early 2022, pending receipt of all required permits. The target date for construction of the Bayfront RWF is in early 2023; however, the proposed project's construction schedule may change depending on the timing and availability of future funding.

Table 2-2 lists the anticipated construction phases, duration, typical equipment used, and number of anticipated workers during construction of the project. Construction staging for project activities other than the influent pump station would occur at the project site. Construction staging for the influent pump station would occur at the influent pump station site

.

Table 2-2 Summary of Project Construction Phases, Duration, and Equipment

Construction Activity	Months	Typical Equipment[A]	Workers[B]
1. Sheet Pile Installation	1	Excavator (1), Loader (1), Dozer (1), Water Truck (1), Auger Rig (1), Vibrational Hammer / Pile Driver (1)	10
2. Levee/Ecotone Levee and storm drain improvements	1 to 2	Excavator (1), Loader (1), Dozer (1), Water Truck (1), Roller (1), Backhoe (1), Vibrational Hammer / Pile Driver (1)	8
3. FERRF entrance/Marsh Road grade and utilities installation	3 to 6	Excavator (1), Loader (1), Dozer (1), Water Truck (1), Roller (1)	8
4. Recycled Water Treatment Plant	18	Excavator (2), Loader (2), Dozer (2), Water Truck (1), Roller (1), Mobile Crane (1), Impact or Vibrational Hammer / Pile Driver (1)	60[C]

(A) The typical equipment list does not reflect all equipment that would be used during the construction phase.
(B) Worker numbers are approximate.
(C) Reflects the number of workers present during the peak construction period of this activity.

The sheet pile installation would be conducted with a vibrational hammer. In order to make the installation at this type of site, a single directional drill rig with a vibrational hammer, would be used but the key step is to predrill with an auger. Use of the auger would not be to extract spoils but just to break up the soil to make installation easier and avoid large amounts of vibration being transmitted.

The District estimates the project would require the import of approximately 32,250 cubic yards (CY) of fill (see Table 2-3) for the levee improvements and raising grades in and around the site. As noted above, this EIR analysis assesses the impacts of the approximately 3.5-acre ecotone levee conceptual design area. The ecotone levee design has not yet been reviewed by the resource agencies responsible for permitting the levee and the ecotone acreage and/or grading quantities may be revisited. The final design will be determined in coordination with the resource agencies during the permit process

Table 2-3 Fill Quantities

Location	Cut/Fill/Off-Haul Amount (CY)
Levee Fill	10,350 CY
Ecotone Fill	17,900 CY
Bayfront RWF Fill	840 CY
Entrance Driveway Fill	2,700 CY
Storm Ditch/Bedwell Bayfront Park Fill	460 CY

Location	Cut/Fill/Off-Haul Amount (CY)
Total Fill	**32,250 CY**

2.2.8 Utility Improvements

The District, in coordination with utility service providers, would relocate, replace, and/or extend existing utilities and utility infrastructure to support the Bayfront RWF (see Section 2.2.6.3 for a description on the recycled water pipelines that would be installed as part of the proposed project).

2.2.9 Bayfront RWF Operations and Maintenance

The recycled water facility operations would be remotely monitored through a Supervisory Control and Data Acquisition (SCADA) system. SCADA generally refers to an industrial computer system that monitors and controls a process. The District would hire one additional employee for operation and maintenance of the plant. Only one or two staff would be on site for regular maintenance on an average of four hours per day. Some days may need six to eight hours with three or four staff depending on what needs to be done and some days only 2.5 to 3 hours with one staff may be necessary, but on average it is anticipated to require about 4 hours per day with one to two staff. Personnel needs would be refined based on the final design/build outcome.

The Bayfront RWF would have numerous overflow and passive bypass abilities to prevent spills onsite. Additionally, SCADA alarms would alert operators to scenarios where immediate response is needed. An approximately 175 to 200 kV (approximately 200 kilowatt) emergency backup generator would begin operation in the event of a power failure or shutdown. The generator would likely feature an automatic transfer switch (ATS) so WBSD staff do not have to manually start the generator in the event of an emergency. A PG&E transfer of power would be done by the ATS. The standby power provided by this emergency backup generator ensures that the IPS, Bayfront RWF (particularly the equipment utilized for the biological treatment processes), and distribution pumps can remain in operation. The emergency backup generator would be subject to permitting by the BAAQMD.

2.3 BEST MANAGEMENT PRACTICES INCLUDED AS PART OF THE PROJECT

The project would incorporate the following measures in Table 2-4 as Best Management Practices (BMPs) to be included as part of the design, construction, and operation of the project.

Table 2-4 BMPs Included in Project Construction, Design, and Operation

Resource Area	Measures
Air Quality	**Fugitive Dust.** To reduce potential fugitive dust that may be generated by project construction activities, the WBSD and its contractors will implement the most current version of the BAAQMD Basic Construction Measures when ground disturbing activities have the potential to generate fugitive dust. The current Basic Construction Measures are provided below: • All active construction areas will be watered twice daily or more often if

Resource Area	Measures
	necessary. Increased watering frequency will be required whenever wind speeds exceed 15 miles-per-hour. • Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials will be covered. • All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day or as often as necessary to keep them free of dust and debris associated with site construction. The use of dry power sweeping is prohibited. • Subsequent to clearing, grading, or excavating, exposed portions of the site will be watered, landscaped, treated with soil stabilizers, or covered as soon as possible. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas and previously graded areas inactive for 10 days or more. • Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways. • Replanting of vegetation in disturbed areas as soon as possible after completion of construction. • Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage will be provided for construction workers at all access points. • All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the City of Menlo Park regarding dust complaints. This person will respond and take corrective action within 48 hours. The BAAQMD's phone number will also be visible to ensure compliance with applicable regulations.
Air Quality	**Construction Emission Reduction/Energy Efficiency Best Management Practices:** To reduce construction equipment related fuel consumption and emissions of criteria air pollutants, toxic air contaminants, and GHGs, the WBSD and its contractors shall implement the following best management practices: Where possible, electrical service shall be provided to construction work areas to avoid the need to power equipment with generators. The design shall be energy efficient consistent California Green Building practices and incorporate sustainable energy design elements including, but not limited to: • Exterior energy design elements; • Internal lighting service and climatic control systems; and • Building siting and landscape elements.

Resource Area	Measures
Building Codes	**2019 California Building Code.** New Structures included as part of the project shall, at a minimum, be designed per the 2019 California Building Code.
Hazards / Noise	**District Standard Specification C2.9: Safety and Health Provisions.** The Contractor shall conform to all applicable occupational safety and health standards, rules, regulations, and orders established by Federal and State Agencies. All working areas utilized by the Contractor to perform work during the hours of darkness shall be lighted to conform to the minimum illumination intensities established by the California Division of Occupational Safety and Health Construction Safety Orders (Cal/OSHA). All lighting fixture shall be mounted and directed in a manner precluding glare to approaching traffic. Specific attention is directed also to Cal/OSHA safety rules, regulations, and precautions to be taken by the Contractor before entering sanitary sewer manholes, and other sanitation structures with respect to physical and chemical hazards which may be present.
Hazards	**District Standard Specification C2.10: Hazardous Materials.** If the Contractor encounters material on the site, which it reasonably believes may contain asbestos, Polychlorinated Biphenyl (PCB), or other suspected hazardous materials, the Contractor shall stop work in the affected area and notify the WBSD Manager. The Contractor shall proceed with the analysis, removal, and disposal of the material according to applicable federal and state guidelines.
Hydrology / Water Quality	**Construction Stormwater Quality**. Construction projects in California causing land disturbances that are equal to 1.0 acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized.

Hydrology / Water Quality	**District Standard Specification C2.11: Storm Water Pollution Prevention Program.** The City of Menlo Park adopted an ordinance to control the discharge of pollutants into storm sewers protecting the water quality pursuant to the Clean Water Act. In order to implement the Federal Regulatory requirements, the Contractor and its subcontractors shall undertake all practicable measures specified herein to reduce pollutants. The following are recommended construction materials handling and disposal practices for construction sites and a list of recyclers and disposal services to guide contractors/subcontractors in safe and non-polluting methods of disposal. The City of Menlo Park will enforce any of the provisions of this Section. The violation of any provisions in this Section or failure to comply with any of the mandatory requirements of this Section shall constitute a misdemeanor to be charged and prosecuted as provided by City code. A. ROADWORK AND PAVING: Road construction often involves extensive earth work and grading, which loosens soils and creates opportunities for erosion and deposition of sediments in storm drains and creeks. Road paving, surfacing, and pavement removal happen right in the street where there are numerous opportunities for storm drain pollution by asphalt sawcut slurry or excavated material. Efforts shall be made to store and dispose of materials properly and to guard against pollution of storm drains and creeks. 1. Check all equipment for leaks and repair leaking equipment promptly. 2. Perform major maintenance, repairs, and washing of equipment away from storm drains and creeks. 3. When refueling or vehicle/equipment maintenance must be done on site, designate a completely contained area away from storm drains and creeks. 4. Recycle used oil to lubricate (clean equipment and/or parts) 5. Cover and seal catch basins and manholes when applying seal coats, slurry seal, and fog seal. 6. Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect, recycle, or dispose to dirt area. 7. Cover stockpiles and other construction materials with plastic tarps. Protect from rainfall to prevent run-off with temporary roofs or plastic sheets and berms. 8. Catch drips from paver with drip pans or absorbent materials. Place under machine when not in use. 9. Clean all spills and leaks using “dry methods” and dig up and remove contaminated soil. 10. Avoid creating excess dust when breaking asphalt or concrete. After breaking up pavement, be sure to remove all chunks and pieces from the site.

Resource Area	Measures
	11. Protect nearby storm drain inlets during sawcutting. Shovel or vacuum sawcut slurry deposits and remove from the site. Never hose down streets to cleanup tracked dirt. Use dry sweep methods. B. HEAVY EQUIPMENT OPERATION: Poorly maintained vehicles and heavy equipment leaking fuel, oil, anti-freeze, or other fluids on the construction site are common sources of storm drain pollution. Prevent spills and leaks by isolating equipment from run-off channels and by watching for leaks and other maintenance problems. Remove such equipment from the site as soon as possible. 1. Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks. 2. Perform major maintenance, repair jobs, and vehicle equipment washing off site. 3. If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all fluids, store in separate containers, and recycle whenever possible or dispose of fluids as hazardous waste. 4. Recycle used vehicle batteries. 5. Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry clean-up methods whenever possible. 6. Sweep up spilled dry materials immediately. Never attempt to wash them away with water or bury them. 7. Report significant spills to the appropriate spill response agencies immediately. The District also uses the SMC Construction BMPs and CASQA BMP handbook.
Noise	**Construction Noise.** City of Menlo Park Noise Ordinance: Construction activities between the hours of 8:00 AM. and 6:00 PM. Monday through Friday are exempt from sound level limits established elsewhere in the City of Menlo Park Noise Ordinance provided that proper signage is posted and noise generated by powered equipment does not exceed eighty-five (85) dBA at fifty (50) feet. Work that doesn't meet these conditions would be subject to a daytime limit of sixty (60) dBA and nighttime limit of fifty (50) dBA measured from any residential property (City of Menlo Park 2020b).

	To reduce potential noise levels associated with construction of the proposed project, the WBSD and/or its designated contractor, contractor's representatives, or other appropriate personnel shall: • *Restrict and Post Work Hours.* Construction hours shall generally be limited to the hours of 8 AM to 6 PM, Monday to Friday, as set forth in the City of Menlo Park Municipal Code (Section 8.06.040(a)(1). The West Bay Sanitary District shall only permit work outside of these hours if such work is necessary and/or essential to achieve engineering design standards or specifications (e.g., a continuous concrete pour that cannot be interrupted), avoid forecasted work interruptions (e.g., forecasted high winds that prohibit equipment operations or rain that requires storage or covering of materials and structures), or address unsafe working conditions (e.g., inspections reveal an immediate danger).. All noise generated during nighttime work shall comply with the 50 dBA limit for residential properties as specified in the City of Menlo Park Municipal Code Section 8.06.030(a). • *Reduce Equipment Noise Levels Near Residential Areas.* The WBSD shall ensure that equipment operated within 250 feet of residential areas does not generate a noise level that exceeds 85 dBA at a distance of 50 feet. This BMP may be documented by an equipment specific sheet or documented empirical evidence of equipment noise levels. • *Construction Notification for Bedwell Bayfront Park Users.* During sheet pile wall, levee / ecotone levee improvement and recycled water facility construction phases, the WBSD shall post signs at Bedwell Bayfront Park parking areas and along trails directly adjacent to the FERRF site warning of potential temporary elevated noise levels during construction. Signs shall be posted at trail heads in parking areas and on trail segments within 250 feet of the FERRF property boundary. • *Pre-Construction Notification to Residential Land Uses.* Provide residences along pipeline routes written notice of the type and duration of planned construction activities. This notice shall be provided at least one week prior to the start of work activities within 500 feet of impacted residences and shall include the name and phone number of a designated WBSD staff person responsible for handling construction-related noise complaints. • *Staging Areas.* Pipeline installation staging areas shall be located away from sensitive residential areas as much as feasible. • *Construction equipment care, siting, and design measures*. The following construction equipment care, siting, and design measures shall apply during construction activities: o Heavy equipment engines shall be covered and exhaust pipes shall include a muffler in good working condition. Pneumatic tools shall include a noise suppression device on the compressed air exhaust. o All stationary noise-generating equipment such as pumps, compressors, and welding machines shall be located as far from sensitive receptors/property lines as practical. o The WBSD shall connect to existing electrical service at staging areas

Resource Area	Measures
	and other work areas as feasible to avoid the use of stationary, diesel- or other alternatively-fueled power generators. o No radios or other amplified sound devices shall be audible beyond boundary of work areas. **Backup Generator Noise Control Best Management Practices.** To reduce potential noise levels associated with the Bayfront RWF's backup generator, the WBSD and/or its designated contractor, contractor's representatives, or other appropriate personnel shall: • *Install a Natural Gas or Propane-Fueled Backup Generator.* If feasible, the WBSD shall install a natural gas or propane-fueled backup generator instead of a diesel-fueled generator. • *Install the Backup Generator away from Property Boundaries.* The WBSD shall install the backup generator as far away as feasible from FERRF's property boundaries. At a minimum, a 50-foot setback from property lines shall be provided for the generator. • *Shield and/or Enclose Backup Generator.* The WBSD shall install the backup generator with manufacturer's shielding or otherwise enclose the generator such that generator noise levels do not exceed 75 dBA at a distance of 25 feet.
Traffic Control	**Traffic Control Plan.** The WBSD and or it's contractor(s) shall prepare a Traffic Control Plan for construction activities. The Traffic Control Plan shall, at a minimum include the following requirements: • The plan should consider the daily volume of on-haul, timing of trucks to limit/minimize hauling activities during peak traffic hours and address potential conflicts with recreational users at Bedwell-Bayfront park. • Whenever the Contractor's operations affect normal conditions for traffic or for the public, the Contractor shall furnish, erect, and maintain, at its expense, all fences, barricades, lights, signs, and other devices necessary to prevent accidents or damage or injury to the public. • Construction area signs shall be furnished, installed, maintained and removed, when no longer required, in accordance with the provisions of Section 12-3.01 through 12-3.12 of the State Specifications and any requirements of the special provisions, except all compensation therefore shall be included in the prices paid for the various contract items of work, and no additional compensation will be paid therefore. • The Contractor shall also furnish, at its own expense, flaggers and guards necessary to give adequate warning to traffic and to the public of construction conditions. Flaggers and guards assigned to direct traffic or to warn the public of construction conditions shall perform their duties, and shall be provided with necessary equipment, in accordance with the current edition of the Caltrans publication "Instructions to Flaggers."

Resource Area	Measures
	The equipment shall be furnished and kept clean and in good repair by the Contractor at its expense. Signs, lights, flags and other warning and safety devices shall conform to the requirements set forth in the current Caltrans "Manual of Traffic Controls for Construction and Maintenance Work Zones." • No material or equipment shall be stored where it will interfere with the free and safe passage of public traffic, and at the end of each day's work and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from that portion of the roadway open for use by public traffic. • Where any items or facilities required under the provisions of this Section are not provided or are out of service, and an emergency exists that necessitates protective measures, the WBSD may provide or arrange to have provided such facilities during the emergency and the cost thereof will be deducted from money due or to become due to the Contractor or on private projects, will be billed to the Contractor. Before taking such emergency action, the WBSD Engineer will endeavor to notify the Contractor of the conditions, and to allow the Contractor to correct them with its own crew, provided the Contractor acts promptly and expeditiously.to public rights-of-way during construction. • Adequate signage shall be provided at all access points to and within Bedwell Bayfront Park to notify users of all trail closures and reroute information.

2.4 PROJECT OBJECTIVES

The District's objectives for the proposed Flow Equalization and Resource Recovery Facility Levee Improvements and Water Recycling Facility Project are to:

- Provide FEMA certified levee improvements to the FERRF to protect the facility and San Francisco Bay water quality in a 100-year flood event and guard against projected 50-year sea level rise estimates.
- Maintain the FERRF site's existing function and preserve maximum flow equalization storage at the site.
- Incorporate an ecotone levee (living shoreline) on a portion of the site to promote shoreline resiliency and avoid the loss of wetlands and upland habitat caused by climate change.
- Provide a 1.0 MGD Bayfront RWF to provide recycled water to address demand and provide an additional revenue stream to the District.
- Improve the existing ditch that serves as storm drainage along the eastern portion of the parcel to allow storm water to drain to the slough while not allowing bay water to infiltrate the property.

- Decommission the existing outfall/drainage system for the retired treatment plant at the discharge point and reconfigure onsite stormwater drainage to drain to the on-site ponds.

2.5 PERMITS AND APPROVALS REQUIRED BY THE PROJECT

The District is the proponent and CEQA Lead Agency for this project. A list of Responsible and Trustee Agencies and the potential permits and approvals that the project could be subject to is provided in Table 2-5.

Table 2-5 Potential Project Permits and Approvals

Agency	Review, Authorization, or Approval
Bay Conservation and Development Commission (BCDC)	Responsible Agency. Bay Fill/Development permit.
Bay Area Air Quality Management District (BAAQMD)	Responsible Agency. General Permit to Construct, Authority to Operate
California Department of Transportation (Caltrans)	Responsible Agency. Encroachment Permit for crossing Bayfront Expressway (State Route 84), and Willow Road (State Route 114)
PG&E	Easement for high-pressure gas line crossing
San Mateo County Environmental Health Hazardous Materials Compliance Division	County Local Enforcement Agency - Coordination on activities on/near the closed landfill. Hazardous Materials Business Plan (HMBP)
San Mateo County Transit District	Responsible Agency. Easement for railroad crossing
San Mateo Local Agency Formation Commission (LAFCO)	Responsible Agency. Any additional areas that are proposed to receive recycled water services shall require LAFCO authorization pursuant to Government Code 56824.
State Lands Commission (SLC)	Responsible and/or Trustee Agency. A lease from SLC would be required.
Regional Water Quality Control Board (RWQCB)	Responsible Agency. • Clean Water Act Section 401 Permit • Clean Water Act Section 402 NPDES Permit for point discharges
State Water Resources Control Board (SWRCB)	Responsible Agency. • General Construction Permit (Order 2009-0009-DWQ) • Industrial General Permit (Order 2014-0057-DWQ) • General Water Discharge Requirements for Recycled Water Use (WQ 2014-0900-DWQ)

City of Menlo Park	Responsible Agency. • Encroachment and Excavation Permit • Street Work Permit • Conditional Use Permit • Memorandum of Agreement (MOA) - The District and the City of Menlo Park are jointly working on a MOA regarding several issues related to this project and District operations.
U.S. Army Corps of Engineers	Responsible Agency. • Clean Water Act Section 404 Permit
U.S Fish and Wildlife Service	Responsible Agency. • Biological Opinion

As noted previously, the District is seeking funding from the SWRCB Clean Water State Revolving Fund Program. The Clean Water State Revolving Fund Program is partially funded by the U.S. EPA, therefore, the information provided in Chapter 13 is intended to address the CEQA Plus (federal cross-cutting) requirements.

2.6 PUBLIC AND AGENCY OUTREACH

2.6.1 Notice of Preparation Process

As required by CEQA Guidelines Section 15082, a NOP was prepared and circulated to agencies and made available to the public on May 18, 2020 (SCH# 2020050414). The NOP contained a summary of the project description, the purpose to solicit input on the content of the EIR, how the NOP could be reviewed, and how to submit comments. Circulation of the NOP consisted of its filing with the San Mateo County Clerk's office, submittal to the State Clearinghouse for State Agency Distribution, and by direct mailing to properties within ½ mile of the FERRF. The NOP was also posted at entrances to the Bedwell Bayfront Park.

The NOP was provided to the Governor's Office of Planning and Research State Clearinghouse for distribution to various State agencies for review. Copies of the NOP were made available at the District and electronically via a web link on the District's website. The District provided a concurrent 30-day public review period for the NOP from May 18, 2020 to June 22, 2020. The NOP was also directly emailed to responsible agency staff on June 8, 2020.

Written comments in response to the NOP was received from four (4) agencies including BCDC, SLC, San Mateo County LAFCO, and the Native American Heritage Commission (NAHC). No other written comments were received during the NOP comment period.

The comment letters suggested the following topics be discussed in the EIR:

- Consistency with the McAteer-Petris Act and Bay Plan policies including policies related to bay fill, climate change, public access, shoreline protection, water quality, biological resources (fish, other aquatic organisms and wildlife), outreach and engagement, and mitigation (BCDC);
- Requirements for outreach under AB 52 and mitigation of cultural resources and tribal cultural resources, (Native American Heritage Commission);
- Recycled water service area boundaries (potential impacts on existing and proposed service areas), (San Mateo County LAFCO);
- Jurisdictional boundaries near to or within project boundaries, (SLC and BCDC); and
- Noise and vibration, including aquatic vibration on biological resources, greenhouse gases, submerged cultural resources including archaeological resources and shipwrecks, enforceable mitigation measures (SLC).

The NOP notice, distribution list, and response letters are contained in Appendix A.

2.6.2 NOP Public Scoping Meeting

The District held a scoping meeting via Zoom on June 2, 2020 which was attended by two interested individuals. The meeting involved a presentation to explain the proposed project and the purpose of the meeting to solicit comments on the content of the EIR. General questions from the scoping meeting included the location of the proposed distribution pipeline and what sea level rise scenario was used to develop the project levee improvement height. Additional information regarding comments made at the scoping meeting and comments received as part of the scoping process are included in Appendix A.

2.6.3 Native American Consultation

No Native American Tribes have requested consultation for projects proposed or authorized by the District. Five California Native American tribes were identified as part of the Sacred Lands File (SLF) Search completed for the project in 2017 and then again in 2020. The SLF search was negative in 2017, and the District did not receive any requests for consultation nor notification of any tribal cultural resources in the project area at that time. A follow up SLF search was performed in 2020, which resulted in a positive response from the NAHC for possible tribal resources in the project area. Follow up outreach with tribes was conducted and two tribes responded that Native American burials have been discovered in the project area. Please refer to Chapter 6, Cultural, Historic, and Tribal Cultural Resources, for additional information regarding Native American outreach and consultation conducted for the proposed project.

2.6.4 Interagency Meeting

The District participated in two Interagency Meetings (August 2018 and July 2019), and two site visits (one with RWQCB staff and one with USFWS staff) to solicit early comments on the project. All agencies expressed interest in a site visit. The RWQCB and USFWS subsequently attended separate site visits.

At the second Interagency Meeting on July 11, 2019, the District introduced the ecotone levee, and identified that the existing facilities would be used for a recycled water facility. The meeting was attended by staff from the USACE, National Marines Fisheries Service (NMNFS), the USFWS, RWQCB, and SLC in order to solicit initial comments and feedback from the agencies on the proposed project including the ecotone levee, recycled water facility and RO concentrate outfall.

2.6.5 Regional Water Quality Control Board

The District's team met with San Francisco Bay Regional Water Quality Control Board staff to discuss the proposed RO concentrate discharge outfall aspect of the project. Staff noted consideration of the RO concentrate method of discharge would be evaluated during the permitting stage of the project. A single discharge location at the northwestern tip of the site was discussed as well as constituent concentrations. Regional Board staff noted that acceptance of the proposed outfall would need to be based on model runs for mixing action and projected levels of constituents. The District's team noted the pollutant concentrations provided were based on data from influent to SVCW's and that data obtained from the District's newly operational Sharon Heights RWF may result in lower concentrations for pollutants of concern. The District also noted that there are certain treatment processes that can be implemented to remove certain constituents of concern from the discharge stream so that the levels are more acceptable.

The Regional Board will not permit discharges with adverse environmental impacts if lower impact alternatives are available if the bay discharge is not acceptable at time of permit.

2.6.6 Vulnerable and Disadvantaged Community Outreach

The District notes that due to COVID-19, in person meetings and outreach is limited. Therefore, the District is making targeted outreach to vulnerable and disadvantaged communities through Facebook and YouTube advertisements. The District notes there are no residential uses within 0.8 mile of the FERRF site. Temporary construction activities would occur off-site for the Bayfront RWF influent and distribution infrastructure. For these activities, areas considered the highest social vulnerability are located south of the Dumbarton Rail Corridor and east of Willow Road (SR 114) (BDCD 2020). Project activities near these areas include temporary construction activities to install underground infrastructure and as described in the following Chapter 4, Air Quality, Chapter 10, Noise, Section 12.4.8, and Section 12.4.9 analyses would not disproportionately affect vulnerable or disadvantaged communities.

2.6.7 Changes to the Project Since Distribution of the NOP

No substantive changes to the proposed project have been made since distribution of the NOP.

2.7 REFERENCES

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CHAPTER 3 AESTHETICS

3.1 ENVIRONMENTAL SETTING

3.1.1 Visual Character of the Project Area and Vicinity

The project site is located in the North Bayshore area of Menlo Park, north of Highway 101. The FERRF site is located along the shoreline and is bounded by Flood Slough and salt ponds to the west, Westpoint Slough and Greco Island/Don Edwards National Wildlife Refuge to the north, and Bedwell Bayfront Park to the east and south. The shoreline location allows near shore views to slough waters, mud flats, wetland vegetation, and salt ponds to the west and north as well as long range views to the East Bay. Portions of developed areas off Seaport Boulevard in Redwood City are also visible northwest of the site.

Bedwell Bayfront Park sits atop a closed landfill providing elevated topography in a generally flat area along the shoreline. The park supports passive recreational activities and does not provide any built recreational facilities except trails, benches, restrooms and parking areas. Don Edwards National Wildlife Refuge, part of the South Bay Salt Pond Restoration Project, extends around the east and south of Bedwell Bayfront Park.

The Bayfront area contains major regional transportation links including Bayfront Expressway (State Route 84) and Willow Road (State Route 114) which provide connection to the Dumbarton Bridge. Significant redevelopment in the North Bayshore area has occurred in recent years with the adoption of the most recent ConnectMenlo General Plan Land Use and Circulation Elements and M-2 Area Zoning Update. The area between Bayfront Expressway and Highway 101 is transitioning from business park and light industrial uses, to office, life sciences, and multi-family residential uses as allowed by the new land use map. The Land Use Element includes policies and programs to ensure redevelopment in the area promotes sustainability and complete neighborhoods, encourage healthy communities, and address climate change.

3.1.2 Visual Character of the Project Site

The project site comprises three locations: The FERRF site and areas adjacent to the site just outside the property line, the proposed influent pump station site, and the influent and distribution pipeline network within paved street rights-of-way. Together these areas cover approximately 31 acres of land. The following provides a discussion of each of these three locations. Figure 2-3 in the Project Description shows photographs of the project site and immediate vicinity. The photos show the bayshore location of the FERRF site and the urban setting of the IPS and the pipeline routes.

FERRF Site – The FERRF was developed as a water pollution control plant site in the early 1950s. In the past, West Bay Sanitary District system sewer flows converged at the FERRF site (at the time a functioning treatment plant) and was treated. Today, District sewer flows converge at the Menlo Park Pump Station before being pumped for treatment at the Silicon Valley Clean Water treatment facility in Redwood City. The western and northern perimeters consist of earthen levees which surround open air basins. The outboard sides of the northern and western perimeter levees support northern coastal saltmarsh and tidal slough habitats. Some of the

interior levee/basin slopes are covered in ruderal ground cover vegetation. When empty, the basins have a white/off-white coloring similar to the salt basins to the west. When filled, the water looks murky with areas of a whitish foam floating on the surface of the water. The southern and eastern boundaries are closed to public access with a six-foot chain link fence topped with barbed wire. FERRF signage, equipment buildings, facilities, the open-air basins and equipment within the basins, decommissioned WWTP and existing metal storage warehouse, and overhead utility lines are all visible from various off-site locations.

Influent Pump Station (IPS) – The IPS site is located at the corner of Marsh Road and Bayfront Expressway, adjacent to the SVCW pump station. The site is relatively undeveloped with bare ground and ice plant covering a portion of the site, a paved driveway along the northern side, a sewer manhole, and control box. The site also contains four (4) trees. Two trees are planned for removal.

Influent and distribution pipelines would be located within the road right-of-way for Marsh Road connecting from the influent pump station to the Bayfront RWF. The road is paved with varying widths of unpaved shoulders to the east and west of the roadway. Flood Slough and Bedwell Bayfront Park abut Marsh Road to the east and west, respectively.

Distribution pipelines would also be constructed within the road right-of-way for Bayfront Expressway, Constitution Drive, Chilco Street, and Hamilton Avenue (see

Figure 1-2). The Chilco Street segment also includes crossings for the San Mateo Transit District's Dumbarton Rail Corridor railroad (not currently in use) and a PG&E high pressure gas line. Existing uses along the alignment are largely office/commercial uses along Constitution, office/commercial, railroad right-of-way, and single-family residential uses along Chilco Street, and single-family and multi-family uses along Hamilton Avenue.

3.1.3 Scenic Vistas and Roadways

The only designated scenic highway near the project site is Interstate 280, the Junipero Serra Freeway, located approximately 5.5 miles southwest of the FERRF site. None of the various project features are visible from Interstate 280.

The City has no designated scenic corridors or vistas; however, it is noted that users of Bayfront Expressway and the Bay Trail are afforded views of the Bay and its scenic natural features (Menlo Park 2016). In addition, the proposed IPS site is part of a view corridor according to the ConnectMenlo General Plan Land Use Element (2016). The proposed IPS is located immediately west of the entrance to Bedwell Bayfront Park at the intersection of Marsh Road and Bayfront Expressway.

The project FERRF site is part of public views from surrounding publicly accessed areas such as Marsh Road and Bedwell Bayfront Park. The IPS is visible from nearby streets including Bayfront Expressway, Marsh Road, and Haven Avenue.

3.1.4 Light and Glare

The FERRF project site is located along the shoreline north of Bedwell Bayfront Park. Night-time lighting in the area is limited to safety lighting concentrated in and around the decommissioned WWTP facility including exterior lighting on the operations building (photocells), and five lights on poles (yard lights) and two lights on poles near driveway and Pond 1. The adjacent Bedwell Bayfront Park is closed at night and does not provide lighted pathways or trails. The IPS site does not currently have any lighting fixtures, however, its location next to the SVCW pump station building and surrounding streets provide ambient lighting to the site at night. Streetlights and ambient lighting from surrounding urban uses dominate the lighting environment along the proposed pipeline alignments.

3.1.5 Sensitive Receptors

There are no residential sensitive receptors within 0.5 mile of the FERRF site. There are residential receptors along the distribution pipelines along Menlo Park city streets. Recreational users at Bedwell Bayfront Park could have views to the project elements occurring in and around the FERRF and along Marsh Road if they recreate along the western and northern park boundaries. Public views to the FERRF site and Marsh Road are also available from the Flood Slough and Westpoint Slough waterways if accessed with non-motorized small boat equipment (kayakers, stand up paddle board, kite board, outrigger), however it is not typical to see these types of recreational uses in the area as low tides limit the ability to navigate within waterways in the immediate area. The FERRF site is viewable from locations further away including Seaport Boulevard to the north and from within the Bay from larger craft vessels.

3.1.6 Key Observation Points

To identify potential impacts of the project on the existing visual environment, Key Observation Points were selected. The KOPs selected were determined to be the most representative of areas where project components have the potential to change existing views available to sensitive viewers from publicly accessible locations. Figure 3-1 shows the location of the KOPs and Figure 3-2 shows the views of the proposed project features from those viewpoints.

Proposed project features that would result in a visual change in the environment include:

- The addition of a metal sheet pile wall, three to four feet high along the western perimeter of the FERRF site;
- The grading (five feet above existing grades) across the northern levee to construct an ecotone levee (the sheet pile at this location would not be visible because it would be underground);
- Grading in the vicinity of the northeastern corner of the FERRF site;
- Grading in the vicinity of the southwestern corner of the FERRF site entrance; and
- Bayfront RWF including new buildings and RW tanks and equipment at the FERRF site and IPS.

Source: ESRI 2020; Google Earth 2020; MIG 2020

0 340 680 1,360 Feet

Photo Points

Photo Direction

Figure 3-1 Key Observations

West Bay Sanitary District Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Facility Project

Figure 3-2 Aesthetics KOPs

KOP 1. FERRF Entrance Driveway Looking North.

KOP 2. Bay Trail near Northwest Corner of Bedwell Bayfront Park Looking Northwest Across Flood Slough and Salt Ponds to the West and FERRF Site to the North.

KOP 3. Bay Trail Looking North across FERRF Ponds 1 and 2.

KOP 4. Bay Trail Looking Northeast to the Existing WWTP and Proposed Bayfront RWF location.

KOP 5. View to Existing Satellite Corporation Yard for Maintenance and Construction Crews.

KOP 6. View from Bay Trail to Proposed Storm Ditch Grading on Bay Trail Near Northeast Corner of FERRF Site.

KOP 7. View from Bay Trail looking West Across FERRF Site and Proposed Ecotone Levee.

KOP 8. View from Bay Trail looking West Across FERRF Site and Proposed Ecotone Levee.

KOP 9. View from Road Looking North to FERRF Entrance Driveway near the Northern-most Parking Area of Bedwell Bayfront Park.

KOP 10. View Looking Northwest from within Bedwell Bayfront Park, Just North of Location Identified as a Summit Viewpoint / Point of Interest.

KOP 11. Same Location as KOP 10 and 12, View Looking North.

KOP 12. Same Location as KOP 10 and 11, View Looking Northeast.

KOP 13. View from Unmarked Trail Near Northwest Corner of Bedwell Bayfront Park.

KOP 14. Proposed IPS Site Looking Northwest from the Intersection at Marsh Road/Bayfront Expressway.

KOP 1: Marsh Road just south of the FERRF entrance gate looking north. Photo 1 consists of the view from Marsh Road looking north to the FERRF site. Existing views include the paved roadway entering the FERRF site and turning east along the shared property boundary. The FERRF site entrance restricts public access with a 6-foot-tall chain link fence and gate, topped with curls of barbed wire. There is a large site sign just inside the fence at the southwest corner of Pond 1, as well as signage on the entrance gate. The view continues north along the top of the levee which serves as an access route for maintenance vehicles. To the right of the FERRF entrance gate, there is a vegetated mound. Also, within the view are overhead utility lines along the west side of the roadway, that traverse east just passed the entrance and in the far view, power line towers and the East Bay hills beyond. Views to Flood Slough and the salt ponds to the west are available. This is not considered a scenic view due to the dominant presence of the built environment within the view and limited views to scenic features.

KOP 2: Bay Trail near the northwest corner of Bedwell Bayfront Park, overlooking the FERRF entrance gate. This KOP along the Bay Trail sits at approximately 22 feet in elevation and offers a view to the northwest which looks slightly down upon the to the FERRF entrance, overhead powerlines, Flood Slough, salt ponds and Seaport Boulevard developments and other shoreline developments well north of the project site. Views north include the FERRF site (primarily Ponds 1, 2 and the existing earthen levee and perimeter access route) and beyond to Greco Island and the East Bay Hills in the distance.

KOP 3: Bay Trail, south of FERRF Pond 1 looking north. Continuing east along the Bay Trail, this KOP drops in elevation to about 17 feet elevation along the southern FERRF boundary. Primary views north include the adjacent roadway and ruderal vegetation, Ponds 1 and 2, the earthen levees surrounding the basins, salt ponds to the west, Greco Island, powerlines and towers, and the East Bay Hills in the distance. There are limited views of Flood Slough, and no view to Westpoint Slough from this location.

KOP 4: Bay Trail, south of FERRF Pond 1 looking northeast. Views to the northeast from this location clearly show the existing FERRF including overhead utility lines, decommissioned WWTP facilities, satellite corporation office building, and Pond 1 within the foreground view.

KOP 5: Bay Trail, south of the decommissioned WWTP. This photo depicts the current view to the FERRF site looking northwest from the Bay Trail, east of KOP 4, from a location just east of the WWTP operations building.

KOP 6: Bay Trail, along the eastern boundary of the FERRF site looking north. Continuing east from KOP 5, KOP 6 shows the view north toward the proposed grading near the northeast corner of the FERRF site and onto Bedwell Bayfront Park property. Views to the west are of the FERRF site, with views to the north to Greco Island and the East Bay Hills in the distance, and views to the east looking up into Bedwell Bayfront Park.

KOP 7: Bay Trail, along the northern shoreline of Bedwell Bayfront Park, east of KOP 6. KOP 7 shows the view to the west across the northern portion of the FERRF site. The existing fill slope (elevation 17 feet) is visible on the east side of the FERRF site, along with the security chain link fencing and vegetated levee extending to the north west. Long range views to the west including the San Carlos, Belmont, and San Mateo hills are visible in the background.

KOP 8: Bay Trail, east of KOP 8. Continuing east along the trail from KOP 7, Photo 8 shows the view to the west across the northern portion of the FERRF site, with views of Westpoint Slough and Flood Slough in the distance.

KOP 9: Roadway at the northernmost parking lot for Bedwell Bayfront Park looking north. This photo shows a long-range view to the FERRF entrance and proposed grading improvements. Overhead utility lines are present along the western roadway edge, and vegetated hillsides of Bedwell Bayfront Park are along the eastern roadway edge. The FERRF entrance gate and East Bay Hills can be seen in the distance.

KOP 10, KOP 11 and KOP 12: This series of three photos shows the views near the location marked as a "summit viewpoint," "point of interest," and "seating," along the Great Spirit Path within Bedwell Bayfront Park at approximately 80 feet in elevation. As shown in the photos, existing views to the FERRF site are mostly blocked by existing mature vegetation along the roadway just outside the southern FERRF site boundary. Expansive views to the Santa Cruz Mountains to the south, or long-range views to the East Bay hills are the scenic views available from this location.

KOP 13: This photo is taken from an existing unmarked path near the northwest corner of the park at approximately 55 feet in elevation. The view clearly shows the FERRF's Ponds 1 and 2, the western perimeter levee and access roadway, Flood Slough, salt ponds and beyond.

KOP 14: This photo shows the view of the IPS location as viewed from northbound Marsh Road. Four trees are present on the site, which also contains rocks to limit vehicular access at the site's corner, iceplant vegetation, unpaved (dirt) ground, a paved driveway, other sewer infrastructure. West of the site is the SVCW pump station building site which is protected by perimeter chain link fencing.

3.2 REGULATORY SETTING

As a sanitary district organized and existing under the Sanitary District Act of 1923 (Cal. Health & Safety Code §6500, et seq.), WBSD also has independent authority to "acquire, plan, construct, reconstruct, alter, enlarge, law, renew, replace, maintain, and operate … water recycling and distributions systems" within its jurisdictional boundaries. Therefore, while the FERRF and IPS sites are located within Menlo Park, they are not actually subject to City land use policies or zoning requirements. However, there are specific project related improvements that occur outside District owned and operated lands, within lands owned by the City of Menlo Park for which an encroachment permit would be required, therefore policies related to impacts occurring on those lands, would be subject to consistency with local plans and policies.

3.2.1 State Regulations

California State Scenic Highway Program - The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), was created to protect and enhance the natural scenic beauty of California highways and adjacent corridors. The closest state designated scenic highway in the vicinity of the project site is Interstate 280 (I-280), approximately 5.5 miles southwest of the FERRF site.

BCDC San Francisco Bay Plan - The Bay Plan includes policies applicable to visual and aesthetic resources near the Bay where project features are proposed. The Appearance, Design and Scenic Views section of the Bay Plan contains several policies related to aesthetics and visual quality and character, including:

- Policy 1: To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.
- Policy 2: All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commission's concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.
- Policy 4: Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline.
- Policy 8: Shoreline developments should be built in clusters, leaving areas open around them to permit more frequent views of the Bay. Developments along the shores of tributary waterways should be Bay-related and should be designed to preserve and enhance views along the waterway, so as to provide maximum visual contact with the Bay.

3.2.2 City of Menlo Park

Several proposed project features occur on land owned by the City of Menlo Park. These include a 1.06-acre strip of land along the northern levee where the ecotone levee is planned, just outside the FERRF property boundary. Additionally, the sheet piling on the west property boundary would extend off approximately 200 feet south of the entrance gate, and 0.27 acre (approximately 1,200 SF) of land outside the FERRF northeast corner and 0.4 acre of land at the site's entrance off Marsh Road, would be filled and graded up to an elevation of 15 feet NAVD 88 to bring the FERRF site out of the FEMA flood zone and plan for 50-year sea level rise. These areas are zoned by the City as Flood Plain or FP. The City's General Plan contains the goals and policies:

- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
    - Policy LU-6.6: Protect and support public access to the Bay for the scenic enjoyment of open water, sloughs, and marshes, including restoration efforts and completion of the Bay Trail.
    - Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the City's tree canopy and to promote sustainability and healthy living, particularly through

increased trees and water efficient landscaping in large parking areas and in the public right-of-way.

- Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.

- Goal OSC-1: Maintain, protect, and enhance open space and natural resources.
  - OSC1.14: Protection of Conservation and Scenic Areas. Protect conservation and scenic areas from deterioration or destruction by vandalism, private actions or public actions.

3.2.3 Bedwell Bayfront Park Master Plan

The Bedwell Bayfront Park Master Plan (February 2018) establishes goals to guide the future development and feature recommendations for additional access and expanded recreational uses. Goal 4 of the plan is to protect existing sensitive habitats and landfills systems. Figure 6 in the Master Plan identifies several features along the park and FERRF's shared property line including a paved roadway, Bay trail as well as other park trail routes, the methane capture plant (including landfill gas flare) and several leachate extraction pumps (Menlo Park 2018). This figure also identifies a "point of interest" at a high point along the "Great Spirit Path." Views from this point of interest to the FERRF is shown in KOP 10-12.

Figure 19 in the Master Plan depicts several improvements in the areas where the proposed project activities occur. These include:

- New landscape screening vegetation and a proposed 10-foot-wide wheelchair accessible section Bay Trail (asphalt) in the vicinity of the northwest corner of the park, adjacent to the southern FERRF boundary; and
- From about the methane recovery/landfill flare facility, the Master Plan shows the Bay Trail continuing east as a gravel paved 10-foot-wide wheelchair accessible section.
- A summit viewpoint and seating area at the existing "point of interest" along the Great Spirit Path in the northwest corner of the park.
- Entrance road improvements including native plantings and gateway signage at Marsh Road and Bayfront Expressway to improve visual appeal.

3.3 PROJECT IMPACTS

3.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G Environmental Evaluation Checklist, the project would have a significant impact to aesthetics if it would:

- Have a significant adverse effect on a scenic vista;
- Substantially damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

- In non-urbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings. (Public views are those experienced from a publicly accessible vantage point). If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality; or
- Create a new source of significant light or glare that would adversely affect day or nighttime views in the area.

3.3.2 Scenic Vistas

The City's ConnectMenlo General Plan Draft EIR defines scenic vistas as views of a specific scenic feature. Scenic vistas are generally interpreted as long range views, while scenic corridors are comprised of short-, middle-, and long-range views (see Section 3.3.3, below). As stated in 3.1.3, the City has no designated scenic corridors or vistas; however, it is noted that users of Bayfront Expressway and the Bay Trail are afforded views of the Bay and its scenic natural features (Menlo Park 2016).

For the purposes of this CEQA document, a scenic vista is defined as a highly valued landscape viewed from publicly accessible areas. A substantial adverse effect to such a scenic vista is one that would substantially degrade the quality of the view of the highly valued landscape from publicly accessible areas.

As described in Section 3.1, the proposed project features will occur on already developed sites. Public views of the FERRF site from nearby Bedwell Bayfront park show a highly disturbed site containing flat bottomed ponds with pumping equipment, surrounded by earthen levees, and the decommissioned WWTP near the center of the parcel. The FERRF site has been used as a sewage treatment facility since the 1950s and is consistent with the area's historic bayfront industrial/public facility uses.

While the City of Menlo Park acknowledges the Bay Trail offers views of the Bay and scenic natural features, these views including the FERRF site are not considered scenic vistas, defined as highly valued landscapes. The proposed project features including a new sheet pile wall along the western perimeter of the FERRF site and raising the northern levee to 15 feet NAVD 88 which are new features on an already disturbed site. Long range views across the FERRF site to the East Bay Hills are maintained. The Bedwell Bayfront Master Plan includes a recommendation to install landscape screening specifically to block views to the FERRF site which supports the finding that the views are not scenic vistas to be preserved.

Project impacts on scenic vistas would be ***less than significant***.

3.3.3 Scenic Resources within a State Scenic Highway

The project is not located within the viewshed of a State Scenic Highway. The City's ConnectMenlo General Plan Draft EIR defines scenic corridors as public views as seen along a linear transportation route. The City recognizes the view north through the intersection of Marsh Road and Bayfront Expressway as a scenic corridor according to Figure 8 in the City's Land Use Element (Menlo Park 2016b). The project's impacts on the City's designated view corridor along

Marsh Road through the Bayfront Park entrance is addressed above, in Section 3.3.2, Scenic Vistas.

The project would have ***no impact*** on scenic resources within a State Scenic Highway.

3.3.4 Visual Character or Quality

The environmental setting discussion describes the FERRF as being located along the shoreline on a previously developed site. Surrounding land uses include the adjacent sloughs, Greco Island and Don Edwards National Wildlife Refuge, salt ponds, and Bedwell Bayfront Park which located on top of a closed landfill. Because of its hilly topography, Bedwell Bayfront Park is visible from off-site locations including Bayfront Expressway. However, the FERRF site is not readily visible from public roadways because it is set at the northern end of Marsh Road.

Visual quality of the general area is mixed, owing to the mostly natural bay setting north of the shoreline which is combined with views of development along the shoreline.

Public views of the project area are available from numerous vantage points from trails within Bedwell Bayfront Park or roadways along the influent or distribution pipeline routes or the proposed IPS. The most prominent roadway views are available from Marsh Road, Bayfront Expressway, Haven Avenue, Constitution Drive, Chilco Street, Hamilton Avenue, and Willow Road. Roadway views are experienced primarily by roadway users, including motorists and bicyclists. Non-motorized boaters could have views to the FERRF site from Westpoint Slough or Flood Slough.

Temporary Impacts

During construction, sensitive receptors including park users and people traveling near the proposed IPS, along the pipeline roadway routes would be able to view construction equipment and vehicles, haul trucks, excavated materials piles, trenching or pits, construction workers, and safety signage. Views to these activities would be temporary for the duration of construction and would be removed from the site once construction is completed. These impacts are considered ***less than significant*** because they are temporary for the duration of construction. Some night-time construction is anticipated. The majority of construction activities subject to night lighting would take place in and around the FERRF and IPS sites and away from residential receptors. Night-time work is not anticipated near residential areas for pipeline construction. However, if needed, night lighting on pipeline alignments would be brief as the pipeline would be installed in segments as it progresses along the alignment and night lighting would be oriented to active work areas and not residential uses. Therefore, night-time construction lighting is considered less than significant.. The potential biological impact on species from lighting during non-daylight hours are addressed in Section 5.3.

Permanent Impacts

Several project features have the potential to affect views of the Bay from several KOP vantage points. The project features that would result in a change in the visual environment include:

- The addition of a sheet pile wall, three (3) to five (5) feet high along the western perimeter of the FERRF site;
- The construction of an ecotone levee along the northern perimeter of the site. Sheet pile places along the northern levee would be hidden from view beneath the proposed levee;
- The grading (five (5) feet above existing grades) across the northern levee to construct an ecotone levee (the sheet pile at this location would not be visible because it would be underground);
- Grading (five (5) feet above existing grades) in the vicinity of the northeastern corner of the FERRF site;
- Grading (five (5) feet above existing grades) in the vicinity of the southwestern corner of the FERRF site entrance;
- Bayfront RWF including new buildings and equipment within a 12,000 square foot area and two RW tanks (55-feet in diameter, 30 feet high; requires the removal of two non-native trees) clustered around existing decommissioned WWTP facilities, existing satellite corporation offices and yard and grounds for equipment and material storage at the FERRF site; and
- New 12-foot diameter wet well (one-foot above grade) and control boxes and removal of two non-native trees at the IPS site.

Several viewpoints in the immediate vicinity of the FERRF entrance gate would be affected by the entrance road grading and western perimeter sheet pile installation. The existing view contains the site entrance chain link fence gate topped with barbed wire, FERRF signage, roadway extending north and overhead power poles and line. Long range views include power line towers and the East Bay Hills. These points and the view areas affected are shown in Figure 3-1 and Figure 3-2.

Permanent impacts include the addition of a 3- to 5-foot-high sheet pile wall, grading to build up elevations on and around the FERRF site, installation of new facilities clustered around other structures within an already developed site, and the installation of a low profile wet well and equipment panels at the IPS site. Key observation points one through nine (1-9) and 13 represent the views most affected by permanent features of the proposed project.

These permanent visual impacts are minor in nature because they do not introduce new features or structures in the area that substantially change the visual character or quality of public views of the site since it is already highly disturbed. New features are largely clustered in and amongst other built structures on the site. Long range views to the East Bay hills are maintained. Trees removed as part of the project shall be replaced as required by Mitigation Measure AES-1.

A discussion of changes to the KOPs is provided below.

KOP 1: Using the top of the existing six (6)-foot chain link and barbed wire fencing as a frame of reference, views in the immediate vicinity would change as a result of the proposed grading. Up close views from the paved roadway would change south of the grade change, however, as the viewer travels north along the roadway, the viewer will also gain elevation with the new

roadway grade, thereby preserving much of the existing views currently available such as long range views to the East Bay as well as views to a new entrance gate.

KOP 2: A similar view is available from the existing Bay Trail route that is within Bedwell Bayfront Park. Due to the park's topography, this location on the Bay Trail at approximately 22 feet in elevation offers a slightly elevated view down to the entrance road improvements as shown in Photo 2. Views from this vantage point include views to Flood Slough and salt ponds, views north across the FERRF site, including the existing earthen levee and perimeter access route and beyond to Greco Island and the East Bay Hills in the distance.

The view from this location to the proposed sheet pile installation along the western side of the FERRF site would be visible from this location (extending out of the ground three to four feet in height; generally decreasing in height moving northward due to the increasing height of the existing levee (10 feet at the southwest corner to 12 feet at the northwest corner of the FERRF site). The sheet pile installation would block some of the views to the eastern side of Flood Slough, but the slough would remain visible above the top height of the sheet piling. Views west to the salt ponds, development along Seaport Boulevard and beyond and the East Bay Hills would remain visible in the view.

The northern sheet pile installation would not be visible from above ground because the entire height of the earthen levee would be brought up to Elevation 15, approximately three to five feet above existing levee grades. The northern levee is approximately 12 feet high at the northeast corner of the site, about 10.5 feet between Ponds 2 and 3, and extending back up to about 12 feet at the northeast corner of the site. Therefore, the overall height of the northern levee would increase between three (3) to four and a half (4.5) feet, with the levee slightly encroaching into the existing Ponds 2 and 3 to regrade the slope on the interior of the pond to adjust to the new increased height of the levee.

Views from this location to the proposed Bayfront RWF would be largely blocked by existing trees and vegetation, similar to how much of the existing views to the satellite corporation offices and yard are also blocked by existing trees and vegetation at the far end of the access road, around and behind the Bedwell Park with no direct view from the street.

KOP 3: Continuing east, the Bay Trail, drops in elevation slightly to about 17 feet elevation along the southern FERRF boundary. Primary views north include the adjacent roadway and ruderal vegetation, Ponds 1 and 2, the earthen levees surrounding the basins, salt ponds to the west, Greco Island, powerlines and towers and the East Bay Hills in the distance. There are limited views of Flood Slough, and no view to Westpoint Slough from this location.

The proposed western sheet pile installation and grading along the northern levee would eliminate much of the view to Flood Slough looking northwest and to Greco Island to the north. Existing views to the interior of the FERRF site including Ponds 1 and 2 and various piping equipment.

KOP 4: Views to the northeast from this location clearly show the existing decommissioned WWTP facilities and satellite corporation office building within the foreground view. The area immediately west of the existing WWTP would be utilized for the proposed Bayfront RWF. The

Bayfront RWF facilities are all single-story buildings, with a maximum height of 18 feet tall. These proposed structures are all shorter than the existing WWTP digester tanks, which are 26 feet in height. In addition, the proposed structures would be clustered with existing built facilities at the FERRF site and within the same height range of existing structures, therefore, the impact to existing views of the site would not result in a substantial adverse effect adverse effect on scenic character or quality.

KOP 5: This photo depicts the current view to the FERRF site looking northwest from the Bay Trail, east of Photo point 4, from a location just east of the WWTP operations building. The proposed Bayfront RWF buildings would be largely obscured from view by existing WWTP structures, however the proposed RW tanks would likely be viewable from this general area. The new facilities would be clustered with existing built facilities at the site and within the same general height range of existing structures (new recycled water tanks would be approximately 30 feet tall, or 4 feet taller than the existing digester tanks), therefore, the impact to existing views would not result in a substantial adverse effect on scenic character or quality.

KOPs 2 through 5 show existing views from the Bay Trail to the FERRF site and proposed project components. It should be noted that the Bedwell Bayfront Park Master Plan specifically recommends screening vegetation along this northwestern portion of Bedwell Bayfront Park specifically to block existing views to the FERRF. An Initial Study prepared for the Master Plan found the impact of screening trees would be less than significant impact to the site's existing visual character and quality (Menlo Park 2018).

KOP 6: Continuing east from Photo 5, Photo 6 shows the view north toward the proposed grading near the northeast corner of the FERRF site and onto Bedwell Bayfront Park property. The grading plan shows the trail gaining elevation up to about the location of the equipment panel on the right side of the trail and tying into the hillside. Similar to the views from KOP 1, up close views from the trail would view the trail itself rising in elevation moving north, however, as the viewer travels north along the trail, the viewer will also gain elevation with the new trail grade, thereby preserving much of the existing views currently available such as view to Greco Island and long range views to the East Bay.

KOP 7: Continuing east along the trail from KOP 6, KOP 7 shows the view to the west across the northern portion of the FERRF site. The existing fill slope (elevation 17 feet) is visible on the east side of the FERRF site, along with the security chain link fencing and vegetated levee extending to the north west. Long range views to the west including the San Carlos, Belmont, and San Mateo hills are visible in the background. Some of these long-range views would be blocked due to the proposed height of the northern levee in the area immediately north and east of the proposed grading in this location. The ecotone levee is proposed to be vegetated with appropriate Bayshore upland species and, therefore, would have a natural appearance. Similar to the views near Photo 1 and Photo 6, as the viewer travels west along the trail and up the new grade, the views to the west would open up again. Scenic vista views across the Bay to the northwest, north, northeast and east from this location would remain unchanged.

KOP 8: Continuing east along the trail from Photo 7, Photo 8 shows the view to the west across the northern portion of the FERRF site, with views of Westpoint Slough and Flood Slough in the distance. From this location the proposed ecotone levee grading would not block views to the

distant hillsides of San Carlos, Belmont and San Mateo, however some urban development along the shoreline north of the project site would be blocked. Again, scenic vista views across the Bay to the northwest, north, northeast and east from this location would remain unchanged.

KOP 9: This photo shows a long-range view to the FERRF entrance grading improvements. The proposed grading would tie into the hillside at about the height of the existing entrance gate. Therefore, the view would remain largely unchanged with long range views to the East Bay Hills and ridgeline remaining present within the view.

KOP 10 through 12: These three photos show the views near the location marked as a "summit viewpoint," "point of interest," and "seating" along the Great Spirit Path within Bedwell Bayfront Park at approximately 80 feet in elevation. As shown in the photos, existing views to the FERRF site are mostly blocked by existing mature vegetation along the roadway just outside the southern FERRF site boundary. Expansive views to the Santa Cruz Mountains to the south, or long-range views to the East Bay hills are the scenic views available from this location. No project features would be readily visible within these views.

KOP 13: This photo is taken from an existing unmarked path near the northwest corner of the park at approximately 55 feet in elevation. From this viewpoint, the proposed western sheet pile wall would be visible within the view, however much of the view to Flood Slough would remain visible.

KOP 14: This photo shows the view of the IPS location as viewed from northbound Marsh Road. The wet well would be 12-feet in diameter and raised approximately one foot out of the ground. Several electrical control panels would also be placed at the site on concrete footings. Locating the wet well within the site would require the removal of two existing trees. The control cabinets would measure approximately three (3) to five (5) feet above the ground.

The loss of trees could affect a view corridor in the City of Menlo Park's Land Use Element. Mitigation Measure AES-1 would require replacement landscaping. Therefore, the impacts of the project on visual character and quality are considered ***less than significant with mitigation***.

3.3.5 Create a New Source of Light or Glare

The project involves the construction new structures (Bayfront RWF and RW storage tanks) in outdoor areas that would contain interior and exterior lighting. Exterior light fixtures could be mounted to the outsides of the proposed new structures. Some night-time work is anticipated during construction of the project, therefore temporary lighting of construction areas is anticipated. Because the night lighting during construction would be temporary, focused on the immediate construction areas in use and removed when construction is completed, the impacts of temporary night lighting during construction is considered less than significant. No permanent night lighting is proposed for any improvements off-site of the FERRF including IPS improvements, storm ditch and entrance road grading, and underground pipeline installations. Therefore, these off-site improvements would not create a new source of light or glare. The above ground western sheet pile installation would be a brown color and not reflective causing glare.

Existing sources of night-time lighting at the FERRF site include exterior roof mounted lights and other exterior lighting in and around the decommissioned WWTP facilities, satellite corporation office building and corporation yard as well as the entrance gate and driveway. Bedwell Bayfront Park is closed after sunset and the park does not provide lighting sources near the FERRF site.

The proposed built facilities within the FERRF site including the Bayfront RWF and RW storage tanks are anticipated to be designed with safety night lighting. To ensure potential project lighting does not affect day or night-time views in the project area, proposed night lighting in the area should be sighted and designed to the minimum necessary to achieve safe access at the site.

With Mitigation Measure AES-2, the District would use the minimum exterior light fixtures and lighting levels necessary to provide adequate security lighting and ensure these sources of light do not result in excessive light and glare or spill off site. With the implementation of this measure, Impact AES-2 would be rendered a ***less than significant impact***. As noted previously, he potential biological impact on species from artificial lighting during non-daylight hours are addressed in Section 5.3

3.4 CUMULATIVE IMPACTS

The project is located in a shoreline location on an already disturbed site and includes the construction of flood improvements to existing levees, importing fill to raise grades as the northeast and southwest corners of the site, construction and operation of a new Bayfront RWF located adjacent to a decommissioned WWTP, and the installation of underground influent and distribution pipelines. The project does not block long range views across the site. The overall existing land use, height, and size of the proposed structures are comparable to the existing features at the site and in the immediate vicinity and do not represent a significant change in the aesthetic environment; therefore, the project is ***would not result in a significant cumulative aesthetic impact***.

3.5 MITIGATION MEASURES

Potentially significant impacts were identified as a result of the removal of trees and the provision of new night lighting at the FERRF site. These impacts are mitigated to less than significant levels through Mitigation Measures AES-1 and AES-2 which require replacement plantings for trees removed and prevent light spillage off-site.

> **Impact AES-1:** The project proposes the removal two trees at the IPS site which is noted as a view corridor in Menlo Park's Land Use Element.
>
> **Mitigation Measure AES-1: Replacement Landscaping**. The District shall provide replacement landscaping trees for any trees removed as part of the project. Placement/location and species of the replacement landscaping will be designed so that adequate sight distance for turning vehicles at the intersection of Bayfront Expressway and Marsh Road is maintained.

***Effectiveness*:** Replacement of lost trees will ensure scenic resources within the view corridor are replaced.

***Implementation*:** The District shall prepare replacement landscaping plans as part of the project's final design plans and specifications.

Timing: Prior to completion of the final design plans and specifications.

***Monitoring/Reporting*:** The District.

Impact AES-2: Implementation of the proposed project could result in new sources of light and glare that could affect day or night-time views in the project area.

Mitigation Measure AES-2: Exterior Lighting. To avoid and minimize light spillage and glare from exterior light fixtures, the District shall, to the maximum extent feasible:

- Mount light fixtures as low as possible and orient the fixtures away from adjacent land uses.
- Equip all exterior light fixtures with shields, hoods, or guards that direct light down towards the ground surface.
- Use the minimum number of fixtures and minimum lighting levels necessary to provide sufficient security lighting.

Effectiveness: The proposed measure shall ensure that new lighting does not spill off-site.

Implementation: The District shall review proposed lighting plans in the project plans and specifications to ensure it is consistent with this mitigation measure.

Timing: Prior to completion of the final design plans and specifications.

Monitoring/Reporting: The District.

3.6 REFERENCES

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CHAPTER 4 AIR QUALITY

4.1 ENVIRONMENTAL SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

4.1.1 Regulated Air Pollutants

4.1.1.1 Criteria Air Pollutants

The United States Environmental Protection Agency (U.S. EPA) has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally-based criteria.

The California Air Resources Board (CARB) has established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility reducing particles.

Regulated air pollutants are described below:

- **Ground-level Ozone,** or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), also called Reactive Organic Gases (ROG), in the presence of sunlight (U.S. EPA 2017). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.
    - **ROG** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA (CARB 2004).
    - **VOC** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as methane, ethane, and methylene chloride (CARB 2004).

- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2016a).
    - **PM_{10}**, also known as inhalable coarse, respirable, or suspended PM, consists of particles less than or equal to 10 micrometers in diameter (approximately $1/7^{th}$ the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2016a).
    - **$PM_{2.5}$**, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately $1/30^{th}$ the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2016a).
- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are the single largest source of carbon monoxide in the Bay Area. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2016b).
- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016c).
- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as SO_X. Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA 2016d).
- **Sulfates (SO_4^{2-})** are the fully oxidized ionic form of sulfur. SO_4^{2-} are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).
- **Hydrogen Sulfide (H_2S)** is a colorless gas with a strong "rotten egg" odor that can be smelled at very low concentrations. H_2S is also an irritant that can affect the eyes and lungs. H_2S is formed during the biological reduction of sulfates and decomposition of organic material.
- **Lead** is a metal found naturally in the environment as well as in manufactured products. Mobile sources used to be the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline, and in 1996, lead was banned from gasoline. As a result of these efforts, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically. Lead can adversely affect multiple organ systems of the body and

people of every age group. Lead poisoning in young children can cause brain damage, behavioral problems, and liver or kidney damage. Lead poisoning to adults can cause reproductive problems, muscle and joint pain, nerve disorders and kidney disease (CARB 2016a).

- **Visibility Reducing Particles** impact the environment by decreasing visibility (haze). These particles vary greatly in shape, size and chemical composition, and come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of fine PM. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment. Haze not only impacts visibility, but some haze-causing pollutants have been linked to serious health problems and environmental damage as well. Exposure to $PM_{2.5}$ and PM_{10} in the ambient air can contribute to a broad range of adverse health effects, including premature death, hospitalizations and emergency department visits for worsened heart and lung diseases (CARB 2016b).

Common criteria air pollutants, such as ozone precursors, SO_2, and PM, are emitted by many sources and have effects on a regional basis (i.e., throughout the Bay Area). Other pollutants, such as hazardous air pollutants (HAPs) and toxic air contaminants (TACs; see Section 4.1.1.2) are generally not as prevalent and/or emitted by fewer and more specific sources and, therefore, have greater effects on local air quality conditions and local receptors.

4.1.1.2 Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as HAPs and TACs, respectively. These pollutants can cause severe health effects at very low concentrations, and many are suspected or confirmed carcinogens. The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines and other substances to be TACs (CARB 2016c).[4]

- **Diesel Particulate Matter (DPM)**. Diesel engines emit both gaseous and solid material; the solid material is known as DPM. Almost all DPM is less than 1 micron in diameter, and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles and numerous organic compounds. Diesel exhaust also contains gaseous pollutants, including VOCs and NO_x. The primary sources of diesel emissions are ships, trains, trucks, rail yards and heavily traveled roadways. These sources are often located near highly populated areas, resulting in greater DPM related health consequences in urban areas. The majority of DPM is small enough to be inhaled into the lungs and what particles are not exhaled can be deposited on the lung surface and in the deepest regions of the lungs where the lung is most susceptible to injury. In 1998, CARB identified DPM as a TAC based on evidence of a relationship between diesel exhaust exposure and lung cancer and

[4] Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs.

other adverse health effects. DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (CARB 2016c).

4.1.2 San Francisco Bay Area Air Basin

The U.S. EPA and CARB are the federal and state agencies charged with maintaining air quality in the nation and state, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the state into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions. The WBSD's project site and City of Menlo Park, in San Mateo County, are within the southwestern portion of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB covers all of Alameda, Contra Costa, Marin, Napa, Santa Clara, San Mateo, and San Francisco counties, and portions of Solano and Sonoma counties.

4.1.2.1 Topography and Meteorology

The topography and meteorology of the SFBAAB are characterized by the coast mountain ranges and the seasonal migration of the Pacific high-pressure cell. Regionally, basin airflow is affected by the coast mountain ranges, which create complex terrains consisting of higher elevations, valleys, and bays. The Golden Gate to the west and the Carquinez Strait to the east create gaps in the mountain ranges that allow air to flow into and out of the SFBAAB. In the summer, winds from the northwest are channeled through the Golden Gate and other narrow openings, resulting in localized areas of high wind speeds. Air flowing from the coast inland is called the sea breeze and begins developing in the late morning or early afternoon; air flowing from the inland regions back to the coast, or drainage, occurs at night.

Basin climate is also influenced by the Pacific high-pressure cell, a semi-permanent area of high pressure located over the Pacific Ocean. In the summer, the cell is centered over the northeastern Pacific Ocean, pushing storms to the north and resulting in generally stable conditions within the Bay Area. In the winter, the cell weakens and migrates south, bringing cooler temperatures and stormy conditions.

The SFBAAB is most susceptible to air pollution during the summer when cool marine air flowing through the Golden Gate can become trapped under a layer of warmer air (known as an inversion) and prevented from escaping the valleys and bays created by the Coast Ranges. Air pollution potential is highest along the southeastern portion of the peninsula because this area is most protected from the high winds and fog of the marine layer, the emission density is relatively high, and pollutant transport from upwind sites is possible. Wintertime inversions are weaker and more localized and are the result of rapid heat radiation from the earth's surface.

The proposed project is located within San Mateo County, which lies in the middle of the San Francisco Peninsula, south of San Francisco County, and north of Santa Clara and Santa Cruz counties. It is bounded by the Pacific Ocean to the west and the San Francisco Bay to the east. Cool, foggy weather is prevalent along the western coast of the peninsula, particularly during the summer. Summertime average daily temperatures are moderate along the west coast and warm in the county's east side. In the winter, average daily temperatures across the county range from

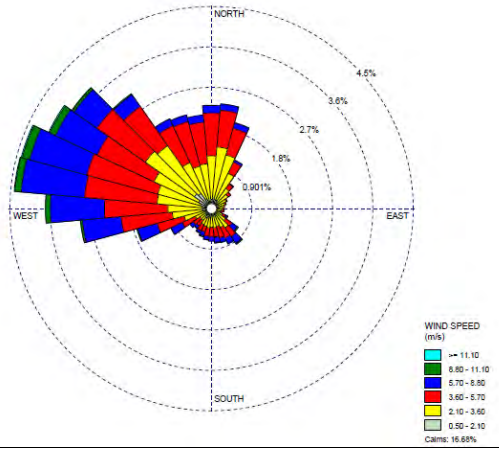
mild to moderate. Winds are mild, with the highest wind speeds focused along the western coast. Rainfall averages about 20 to 25 inches per year at lower elevations and up to 36 inches in the Santa Cruz Mountains (BAAQMD 2019a).

4.1.2.2 Wind Conditions

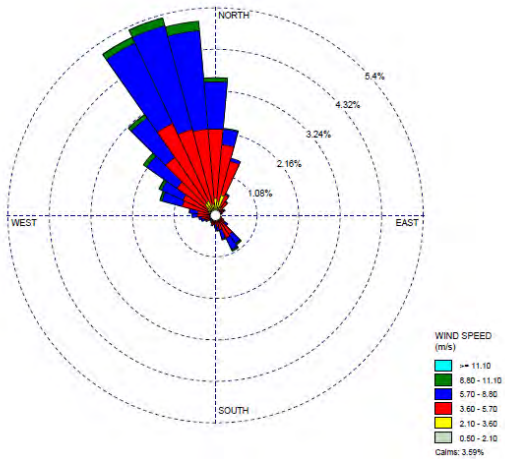
The FERRF site is located approximately 3.9 miles southeast of San Carlos Municipal Airport, and approximately 3.7 miles northwest of Palo Alto Municipal Airport. As shown in Figure 4-1, the prevailing winds at San Carlos Municipal Airport and Palo Alto Municipal Airport are from the west-northwest and northwest, respectively. This indicates the prevailing wind at the project site is likely from the northwest.

Figure 4-1 San Carlos Municipal Airport and Palo Alto Municipal Airport Prevailing Winds

San Carlos Municipal Airport Annual Wind Pattern (2009 to 2013)



Palo Alto Municipal Airport Annual Wind Pattern (2009 to 2013)



Source: CARB 2020

Wind roses depicting prevailing annual wind patterns at San Carlos Municipal Airport (first) and Palo Alto Municipal Airport (second) for the years 2009 to 2013. A wind speed of one meter per second (m/s) is approximately equal to 2.2 miles per hour (mph).

4.1.2.3 County and Regional Emissions Levels

CARB's estimate of emissions generated within San Mateo County and the SFBAAB in 2012, the most recent year for which data is available, is summarized in Table 4-1.

Table 4-1 San Mateo County / SFBAAB Emissions Summary

Source	San Mateo County 2012 Pollutant Emissions (Tons Per Day)						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	4.8	1.2	1.3	0.8	0.6	1.0	0.1
Area-wide(B)	6.8	1.7	8.8	4.7	1.4	4.5	0.0
Mobile(C)	13.1	36.0	2.0	2.0	1.4	93.1	2.4
Total(D)	24.6	38.9	12.1	7.5	3.3	98.7	2.6
Source	**SFBAAB 2012 Pollutant Emissions (Tons Per Day)**						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	61.0	39.9	21.1	14.3	10.4	34.9	20.2
Area-wide(B)	69.2	15.2	56.5	56.5	18.5	69.2	0.5
Mobile(C)	112.7	235.8	16.8	16.4	10.5	865.4	3.6
Total(D)	242.9	290.8	142.5	87.2	37.4	696.5	24.3
Source	**San Mateo County 2012 Pollutant Emissions (Tons Per Year)(E)**						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	1,741	434	464	285	201	376	47
Area-wide(B)	2,475	624	3,212	1,716	518	1,635	15
Mobile(C)	4,771	13,129	737	719	496	33,996	883
Total(D)	8,986	14,188	4,413	2,719	1,215	36,007	945
Source	**SFBAAB 2012 Pollutant Emissions (Tons Per Year)(E)**						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	22,265	14,564	7,702	5,220	3,796	12,739	7,373
Area-wide(B)	25,258	5,548	20,623	20,623	6,753	25,258	183
Mobile(C)	41,136	86,067	6,132	5,986	3,833	31,5871	1,314
Total(D)	88,659	106,17	34,456	31,828	14,381	353,868	8,870

Source: CARB, 2013a and 2013b.

(A) Stationary sources include fuel combustion in stationary equipment or a specific type of facility such as printing and metals processing facilities.

(B) Area-wide sources include solvent evaporation (e.g., consumer products, painting, and asphalt paving) and miscellaneous processes such as residential space heating, fugitive windblown dust, and cooking.

(C) Mobile sources include automobiles, trucks, and other vehicles intended for "on-road" travel and other self-propelled machines such as construction equipment and all-terrain vehicles intended for "off-road" travel.

(D) Totals may not equal due to rounding.

(E) CARB emissions data is available in tons per day. Tons per year emission estimates are derived by multiplying tons per day data times 365 days per year.

4.1.3 Ambient Air Quality Standards and Attainment Status

In general, the NAAQS and CAAQS define "clean" air, and are established at levels designed to protect the health of the most sensitive groups in our communities by defining the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment. Air pollutant levels are typically described in terms of concentration, which refers to the amount of pollutant material per volumetric unit of air. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

The U.S. EPA, CARB, and regional air agencies assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories.

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and State laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.
- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

4.1.3.1 SFBAAB Attainment Status

Table 4-2 below lists the NAAQS and CAAQS and summarizes the SFBAAB attainment status. The SFBAAB is unclassified or designated attainment for all NAAQS and CAAQS except federal ozone, state ozone, state PM_{10}, federal $PM_{2.5}$, and state $PM_{2.5}$ standards. Ozone is primarily a problem in the summer, and fine particle pollution in the winter.

Table 4-2 Ambient Air Quality Standards and SFBAAB Attainment Status

Pollutant	Averaging Time	CAAQS (A)		NAAQS (B)	
		Standard (C)	Attainment Status (D)	Standard (C)	Attainment Status (D)
Ozone	1-Hour	180 µg/m^3	**N**	--	--
	8-Hour	137 µg/m^3	**N**	137 µg/m^3	**N**
PM10	24-Hour	50 µg/m^3	**N**	150 µg/m^3	U
	Annual Average	20 µg/m^3	**N**	--	--
PM2.5	24-Hour	--	--	35 µg/m^3	**N(E)**
	Annual Average	12 µg/m^3	**N**	12 µg/m^3	A
Carbon Monoxide	1-Hour	23,000 µg/m^3	A	40,000 µg/m^3	A
	8-Hour	10,000 µg/m^3	A	10,000 µg/m^3	A
Nitrogen Dioxide	1-Hour	339 µg/m^3	A	188 µg/m^3	U(F)
	Annual Average	57 µg/m^3	--	100 µg/m^3	A
Sulfur Dioxide	1-Hour	655 µg/m^3	A	196 µg/m^3	U(G)
	24-Hour	105 µg/m^3	A	--	--
Sulfates	24-Hour	25 µg/m^3	A	--	--
H_2S	1-Hour	42 µg/m^3	U	--	--
Vinyl Chloride	24-Hour	26 µg/m^3	--	--	--

Source: BAAQMD 2017b, U.S. EPA 2020 modified by MIG.

(A) Table does not list CAAQS for lead and visibility reducing particles. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24-hour), nitrogen dioxide, suspended PM_{10} and $PM_{2.5}$ are values that are not to be exceeded. The standards for sulfates, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded.

(B) Standards shown are the primary NAAQS designed to protect public health.

(C) All standards shown in terms of micrograms per cubic meter (µg/m^3) for comparison purposes.

(D) A= Attainment, N= Nonattainment, U=Unclassifiable.

(E) On January 2013, the U.S. EPA issued a final rule to determine the Bay Area attains the 24-hour PM2.5 national standard. This U.S. EPA rule suspends key State Implementation Plan (SIP) requirements as long as monitoring data continue to show that the Bay Area attains the standard. Despite this U.S. EPA action, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour PM2.5 standard until such time as the Air District submits a "redesignation request" and a "maintenance plan" to U.S. EPA, and U.S. EPA approves the proposed redesignation.

(F) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The U.S. Environmental Protection Agency (U.S. EPA) expects to make a designation for the Bay Area by the end of 2017.

(G) On June 2, 2010, the 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 concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO_2 NAAQS. The U.S. EPA expects to make this designation for the Bay Area by the end of 2017.

4.1.3.2 Local Air Quality Conditions

Ozone and $PM_{2.5}$ are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter.

In San Mateo County, ozone almost never exceeds health standards, and $PM_{2.5}$ exceeds the national standard only on about one day each year. San Mateo County frequently receives fresh marine air from the Pacific Ocean, which passes over the coastal hills. In winter, $PM_{2.5}$ may be transported into San Mateo County from other parts of the Bay Area, adding to wood smoke, which may lead to elevated concentrations, but these are rarely high enough to exceed health standards (BAAQMD 2019a).

The BAAQMD maintains a comprehensive air quality monitoring network consisting of over 30 stations distributed among the nine Bay Area counties in its jurisdiction. Table 4-3 shows the three most recent years' worth of data from the monitor located on Barron Avenue in Redwood City. The Barron Avenue location is the closest station in proximity of the project site that collects data for ozone, CO, NO_2, and $PM_{2.5}$. Data for SO_2 and PM_{10} has been taken from the BAAQMD monitoring station on Jackson Street in San Jose, the next, nearest monitoring station that collects data for those pollutants.

As shown in Table 4-3, air quality conditions have generally improved or remained about the same over the 2017 to 2019 time period:

- PM_{10} CAAQS exceedances decreased from 6 exceedances to 4 exceedances between 2017 and 2018 and remained constant at 4 exceedances in 2019;
- $PM_{2.5}$ NAAQS exceedances increased from 6 exceedances to 13 exceedances between 2017 and 2018, but there were no recorded exceedances in 2019; and
- O_3 8- and 1-hour CAAQS and NAAQS are generally on a downward trend over the three years' worth of data.

Table 4-3 Local Ambient Air Quality (2017 – 2019)

Monitoring Station	Pollutant Standard			Exceedances		
	Pollutant	State / Federal	Concentration	2017	2018	2019
Redwood City (Barron Ave)	PM_{10} 24-hour(A)	CAAQS	50 µg/m^3	6	4	4
		NAAQS	150 µg/m^3	0	0	0
	$PM_{2.5}$ 24-hour	CAAQS	N/A	--	--	--
		NAAQS	35 µg/m^3	6	13	0
	O_3 8-hour	Both	137 µg/m^3	2	0	2
	O_3 1-hour	CAAQS	180 µg/m^3	2	0	0
		NAAQS	N/A	--	--	--
	CO 8-hour	Both	10,000 µg/m^3	0	0	0
	CO 1-hour	CAAQS	23,000 µg/m^3	0	0	0
		NAAQS	40,000 µg/m^3	0	0	0
	NO_2 1-hour	CAAQS	339 µg/m^3	0	0	0
		NAAQS	188 µg/m^3	0	0	0
	SO_2 24-hour(A)	CAAQS	105 µg/m^3	0	0	0
		NAAQS	N/A	--	--	--
	SO_2 1-hour(A)	CAAQS	655 µg/m^3	0	0	--
		NAAQS	196 µg/m^3	0	0	--

Source: BAAQMD 2018a, 2019b, 2020a
(A) Data is from Jackson Street monitor in San Jose.

4.1.4 Sensitive Air Quality Receptors

Some people are more affected by air pollution than others. The BAAQMD defines sensitive receptors as "facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses" (BAAQMD 2017a). In general, children, senior citizens, and individuals with pre-existing health issues (e.g., asthmatics) are considered sensitive receptors. Both CARB and the BAAQMD consider schools, schoolyards, parks and playgrounds, daycare facilities, nursing homes, hospitals, and residential areas as sensitive air quality land uses and receptors (BAAQMD 2017a, and CARB 2005).

In general, sensitive air quality receptors in proximity of the project site include:

- Park receptors at the Bedwell Bayfront Park, immediately south and east of the project site;
- Users of recreational water features adjacent to the FERFF (e.g., Flood Slough, Westpoint Slough);

- Residential receptors southwest of the project site at the Bayshore Villa Mobile Home Park and at Rolison Road;
- Residential land uses along the Chilco Street distribution pipeline route south of the San Mateo County Transit District Dumbarton Rail Corridor; and
- Residential, institutional, and park land uses along the Hamilton Avenue distribution pipeline route.

4.2 REGULATORY SETTING

4.2.1 Federal Clean Air Act

The Federal Clean Air Act (CAA), as amended, provides the overarching basis for both Federal and State air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees Federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of HAPs, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the U.S. EPA developed primary and secondary NAAQS. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each State prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual State will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

4.2.2 State

4.2.2.1 California Clean Air Act

In addition to being subject to Federal requirements, air quality in the state is also governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the CAAQS. As discussed above, in California, both the Federal and State Clean Air acts are administered by CARB. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

4.2.2.2 CARB In-Use Off-Road Diesel Equipment Program

CARB's In-Use Off-Road Diesel Equipment regulation is intended to reduce emissions of NO_x and PM from off-road diesel vehicles, including construction equipment, operating within California. The regulation imposes limits on idling; requires reporting equipment and engine information and labeling all vehicles reported; restricts adding older vehicles to fleets; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or

installing exhaust retrofits for PM. The requirements and compliance dates of the off-road regulation vary by fleet size, and large fleets (fleets with more than 5,000 horsepower) must meet average targets or comply with Best Available Control Technology (BACT) requirements beginning in 2014. CARB has off-road anti-idling regulations affecting self-propelled diesel-fueled vehicles of 25 horsepower and up. The off-road anti-idling regulations limit idling on applicable equipment to no more than five minutes, unless exempted due to safety, operation, or maintenance requirements.

4.2.2.3 CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_X, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines, and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015. Replacements with a 2010 model year or newer engine meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

4.2.2.4 CARB Stationary Diesel-Engines – Emissions Regulations

In 1998, CARB identified DPM as a TAC. To reduce public exposure to DPM, in 2000, the CARB approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan) (CARB 2000). Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's amendments to Airborne Toxic Control Measure for Stationary Compression Ignition Engines and be permitted by BAAQMD.

4.2.3 Bay Area Air Quality Management District

The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SFBAAB. The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards.

4.2.3.1 Rules and Regulations

The BAAQMD currently has 13 regulations containing more than 100 rules that control and limit emissions from sources of pollutants. Table 4-4 below presents the major BAAQMD rules and regulation that may apply to the proposed project.

Table 4-4 Potentially Applicable BAAQMD Rules and Regulations

Regulation	Rule	Description
1- General Provisions and Definitions	1- General Provisions and Definitions	301 – Public Nuisance: Establishes that no person shall discharge quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number or person or the public; or which endangers the comfort, repose, health or safety of any such person or the public.
2- Permits	2- New Source Review	Provides for the review of new and modified sources of pollutants; requires use of Best Available Control Technology and emissions offsets to achieve no net increase in nonattainment pollutants; implements Prevention of Significant Deterioration review for attainment pollutants.
2 – Permits	5 – New Source Review of Toxic Air Contaminants	Provides for the review of new and modified sources of toxic air contaminants; requires use of Best Available Control Technology for sources that have a risk above certain thresholds and limits total project risks to 10.0 in a million cancer risk, 1.0 chronic hazard index, and 1.0 acute hazard index.
6 – Particulate Matter	1 – General Requirements	Limits visible particulate matter emissions.
6 – Particulate Matter	6 – Prohibition of Trackout	Limits particulate matter emissions from trackout from construction sites greater than one (1) acre.
7- Odorous substances	Odorous Substances	Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, such as ammonia.
9 – Inorganic Gaseous Pollutants	8 – NOx and CO from Stationary Internal Combustion Engines	Limits emissions of NOx and CO from stationary internal gas combustion engines more than 50 brake horsepower.
11 – Hazardous Pollutants	2 – Asbestos Demolition, Renovation, and Manufacturing	Controls emissions of asbestos to the atmosphere during demolition.
Source: BAAQMD 2020		

4.2.3.2 2017 Clean Air Plan

On April 29, 2017, the BAAQMD adopted its Spare the Air-Cool the Climate 2017 Clean Air Plan. The 2017 Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, in fulfillment of state ozone planning requirements. The 2017 Clean Air Plan focuses on the three following goals:

- Attain all state and national air quality standards;

- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

The plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050. The control measures aggressively target the largest source of GHG, ozone pollutants, and particulate matter emissions – transportation. The 2017 Clean Air Plan includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives and off-road equipment (BAAQMD 2017c).

4.2.3.3 BAAQMD Permit to Operate: Plant No. 1246

Operations at the existing FERRF site are currently permitted through BAAQMD Permit to Operate (PTO) No. 1246, which covers two sources; 1) the Menlo Pump Station, and 2) flow equalization facilities. Per the PTO, the site is estimated to generate approximately 2.35 pounds of ROG per day. The flow equalization facilities are always required to maintain aerobic conditions, per permit conditions, to minimize odors.

4.2.4 City of Menlo Park

The City of Menlo Park's General Plan Open Space and Conservation Element contains the following policy related to air quality that may be applicable to the proposed project:

- Policy SC5.2: Development in Industrial Areas – Evaluate projects in industrial areas for impacts to air resources in relation to truck traffic, hazardous materials use and production-level manufacturing per CEQA (Menlo Park 2013).

4.3 PROJECT IMPACTS

4.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G Environmental Evaluation Checklist, the project would have a significant impact to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The BAAQMD's construction- and operational-related thresholds of significance for criteria pollutants and toxic air contaminants are summarized in Table 4-5.

Table 4-5 BAAQMD Thresholds of Significance

Pollutant	**BAAQMD Project-Level Threshold of Significance (A)**		
	Construction Emissions	**Operational Emissions**	
	Daily Emissions (pounds/day)	Daily Emissions (pounds/day)	Annual Emissions (tons per year)
ROG	54	54	10
NO_X	54	54	10
Exhaust PM10	82	82	15
Exhaust PM2.5	54	54	10
Fugitive Dust $PM_{10}/PM_{2.5}$	Best Management Practices	*None*	
Local CO	*None*	9.0 ppm (8-hour average) 20.0 ppm (1-hour average)	
Risks and Hazards – New Source/Receptor (Individual)	Compliance with Qualified Community Risk Reduction Plan; or Increased cancer risk of >10.0 in a million; and Increased non-cancer risk of >1.0 Hazard Index (chronic or acute); and Ambient $PM_{2.5}$ increase: >0.3µg/m^3 annual average		
Risks and Hazards – New Source/Receptor (Cumulative)	Compliance with Qualified Community Risk Reduction Plan; or Increased cancer risk of >100 in a million (from all local sources); and Increased non-cancer risk of >10.0 Hazard Index (from all local sources) (chronic); and Ambient $PM_{2.5}$ increase: >0.8µg/m^3 annual average (from all local sources)		
Accidental Release of Acutely Hazardous Pollutants	*None*	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant	
Odors	*None*	Complaint History – 5 confirmed complaints per year averaged over three years	
Source: BAAQMD 2017a			

4.3.2 Conflict with Applicable Air Quality Management Plan

As described below, the proposed project would not conflict with the applicable Air Quality Management Plan, the BAAQMD 2017 Clean Air Plan.

The BAAQMD's 2017 Clean Air Plan is a multi-pollutant plan focused on protecting public health and the climate. Specifically, the primary goals of the 2017 Clean Air Plan are to:

- Attain all state and national air quality standards;

- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG Emissions to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050.

The 85 control strategies identified in the 2017 Clean Air Plan are grouped by nine economic-based "sectors." [5] Table 4-6 presents and summarizes the three sectors that are applicable to the proposed project.

Table 4-6 BAAQMD 2017 Clean Air Plan Control Measure Sectors

Sector	No. of Measures	General Description of Sector Applicability
Stationary Sources (SS)	40	Applies to stationary sources generally used in commercial and industrial facilities. Such sources are typically regulated through BAAQMD rulemaking, permitting, and enforcement programs
Transportation (TR)	23	Applies to on-road motor vehicles such as light-duty automobiles or heavy-duty trucks, as well as off-road vehicles, including airplanes, locomotives, ships and boats, and off-road equipment such as airport ground-support equipment, construction equipment and farm equipment.
Water (WR)	2	Applies to direct emissions from the treatment of water and wastewater at publicly owned treatment works and indirect emissions associated with the energy used to pump, convey, recycle, and treat water and wastewater throughout the Bay.

As described below, the project would be consistent with the 2017 Clean Air Plan control measures and implementation mechanisms.

- Stationary source control measure 32 (SS32; Emergency Backup Generators) reduces diesel PM and black carbon from back-up generators through Rule 11-18. The emergency backup generator associated with the proposed project would be subject to this requirement and permitting through the BAAQMD.
- SS36 (PM from Trackout) reduces $PM_{2.5}$ emissions from track-out of mud and dirt onto paved, public roadways and SS38 (Fugitive Dust) reduces fugitive dust emissions from sources including construction activities. These 2017 Clean Air Plan measures would be implemented via the BAAQMD's rulemaking and permitting authority. In August 2018, the BAAQMD adopted Regulation VI, Rule 6, Prohibition of Trackout, pursuant to SS36. As described under Section 4.3.3, the District would comply with BAAQMD's trackout prevention requirements and has incorporated Best Management Practices (BMPs) into the project to control and abate fugitive dust emissions that are consistent with BAAQMD recommendations contained in the BAAQMD CEQA Air Quality Guidelines (see Table 2-4).

[5] The BAAQMD 2017 Clean Air Plan use the same economic sectors contained in CARB's Scoping Plan.

- SS40 (Odors) reduces emissions from odorous compounds and improves enforceability of Regulation VII, Odorous Compounds. This 2017 Clean Air Plan measure is implemented via the BAAQMD's rulemaking authority. As described under Section 4.3.5, the proposed project would include an odor control system to address potential odors that may be generated during operation of the Bayfront Recycled Water Facility (Bayfront RWF).
- Several transportation (TR) control measures generally reduce emissions from cars, trucks, and equipment operations, including TR14 (Cars and Light Trucks), TR19 (Medium- and Heavy-Duty Trucks), and TR22 (Construction, Freight, and Farming Equipment). These 2017 Clean Air Plan measures would be implemented via the BAAQMD's financial incentive programs, inter-agency coordination, and technical planning assistance services.
- Waste control measure 4 (WA4; Recycling and Waste Reduction) reduces emissions from landfills by diverting recyclables and other materials from landfills. This 2017 Clean Air Plan measure would be implemented via BAAQMD information dissemination services, such as recommended best practices and development of model ordinances.
- Water control measure 1 (WR1; Limit GHGs from Publicly Owned Treatment Works (POTWs)) is intended to reduce methane and N_2O emissions from wastewater collection, treatment, and storage systems. This 2017 Clean Air Plan measure would be implemented by the BAAQMD via rulemaking authority, financial incentives, and collaboration with POTWs on potential streamlining of the Air District's permitting process to promote biogas recovery. The project engineers have indicated a biogas recovery system is not planned for the facility; however, the project would be subject to BAAQMD permitting requirements and would install equipment as necessary to capture and/or abate GHG emissions generated by the wastewater treatment process, as determined by the BAAQMD (Freyer and Laureta 2020a).

As described above, the project would be consistent with all relevant and potentially applicable 2017 Clean Air Plan Control Measures. The project would not disrupt, delay, or otherwise hinder any BAAQMD rulemaking processes, and individual activities would comply with all applicable BAAQMD rules and regulations in effect at the time individual activities move forward. The project also would not disrupt, delay, or otherwise hinder with any grant or information-sharing programs operated by the BAAQMD other regional agencies through which many of the 2017 Clean Air Plan's Transportation Sector control measures are implemented. Furthermore, as described under Section 4.3.3, the project's criteria air pollutant emissions are estimated to be below all BAAQMD quantitative thresholds for criteria air pollutants. This impact would be ***less than significant***.

4.3.3 Cumulatively Considerable Net Increase of Criteria Pollutants

The proposed project would generate both short-term construction emissions associated with levee improvements and development of the Bayfront RWF and long-term operational emissions associated with activities at the Bayfront RWF. As described in more detail below, the proposed project would not generate short-term or long-term emissions that exceed BAAQMD-recommended criteria air pollutant thresholds.

4.3.3.1 Construction Criteria Air Pollutant Emissions

Construction activities associated with the proposed project would involve 1) installing sheet piles, 2) develop the ecotone levee and on-site storm drain improvements, 3) FERRF entrance / Marsh Road grade and utilities installation, and 4) development of the Bayfront RWF.[6] These activities would generally include fill placement, light grading, foundation construction, vertical building development, and paving. Construction activities are anticipated to commence in January 2022 with Phases 1 through 3. Although there is some uncertainty regarding when construction of Phase 4 would commence, it is conservatively been assumed that Phase 4 would be initiated immediately after construction of Phase 2 has concluded. Please see Table 2-2 in the Project Description for details related to construction phasing and duration.

The project's potential construction emissions were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (see Appendix B). Construction phase, duration, and equipment information was provided by the project engineers (see Table 2-2) and augmented as necessary to reflect potential project conditions. In addition to the information identified in Table 2-2, CalEEMod default assumptions for project construction were modified as such:

1. Equipment Runtime. All construction equipment was assumed to run for eight (8) hours per day.
2. Type of Construction Equipment. In addition to the equipment listed per phase in Table 2-2, the following equipment was also incorporated into the modeling for the proposed project:
    - Phase 2: Two (2) generators were added to the equipment list to account for pumps that may be required during dewatering of the tidal channel (see Mitigation Measure BIO-2a).
    - Phase 4: A paving machine was added to the equipment list to account for portions of roadway that would require repaving after installing recycled water distribution pipelines in street rights-of-way.
3. Area Graded: Updated from CalEEMod defaults to reflect light grading may take place along the levee during Phase 2 (i.e., after fill import), during Phase 3 (i.e., improvements to the entrance and utility installation), and during Phase 4 (i.e., construction of the Bayfront RWF and installation of recycled water distribution pipelines).
4. Vendor and Haul Trips: Increased to reflect soil (i.e., hauling) and material/water (i.e., vendor) deliveries throughout project construction. Hauling assumes the use of a 16 cubic yard truck, consistent with CalEEMod default assumptions (CAPCOA 2017). It was also assumed the project site would receive 10 vendor deliveries per day, on average, across all of project construction (i.e., 5,850 vendor deliveries across all project construction).

The proposed project's estimated construction emissions are shown in Table 4-7.

[6] Construction activities associated with the installation of new recycled water infrastructure along roadways south of the site (e.g., Chilco Street, Hamilton Avenue, etc.) are included in Phase 4.

As shown in Table 4-7, potential construction emissions would be below all BAAQMD significance thresholds for construction equipment exhaust emissions; however, fugitive dust emissions could be potentially significant if not adequately controlled. The BAAMQD's Basic Construction Measures have been incorporated into the project as best management practices to reduce fugitive dust emissions (see Table 2-4). The application of these Basic Construction Measures would render potential fugitive dust emissions ***less than significant*** during construction. Furthermore, the proposed project would be subject to BAAQMD Regulation 6, Rule 6, which would further reduce fugitive dust emissions from trackout. Thus, the proposed project would not generate construction emissions that are in excess of the BAAQMD's thresholds.

Table 4-7 Estimated Project Construction Emissions (Unmitigated)

Construction Year	**Pollutant Emissions (Tons per Year)**						
	ROG	**NOx**	**CO**	**PM_{10}**		**$PM_{2.5}$**	
				Dust	**Exhaust**	**Dust**	**Exhaust**
2022	0.3	3.6	2.9	1.1	0.1	0.6	0.1
2023	0.4	4.3	4.0	1.6	0.2	0.9	0.2
2024	0.1	1.0	1.0	0.4	<0.0(A)	0.2	<0.0(A)
Construction Year	**Pollutant Emissions (Average Pounds per Day)(C)**						
	ROG	**NOx**	**CO**	**PM_{10}**		**$PM_{2.5}$**	
				Dust	**Exhaust**	**Dust**	**Exhaust**
2022	2.4	27.4	21.8	8.0	1.1	4.2	1.0
2023	3.4	32.4	30.0	12.4	1.4	6.7	1.3
2024	3.3	31.1	30.0	1.4	1.4	6.7	1.3
BAAQMD CEQA Threshold	***54***	***54***	***--***	***BMPs***	***82***	***BMPs***	***54***
Potentially Significant Impact?	No	No	No	Yes(B)	No	Yes(B)	No

Source: BAAQMD 2017a, MIG 2020, see Appendix B.

(A) <0.0 does not mean zero; rather, it means greater than zero, but less than 0.05.

(B) For all projects, the BAAQMD recommends implementing eight basic construction best management practices (BMPs) to control fugitive dust from construction activities.

(C) Average daily emissions assume 264 active construction days in 2022 and 2023, and 66 days in 2024 (Assumes five days a week; 22 days per month; 12 months in 2022 and 2023, and 3 months in 2024).

4.3.3.2 Operational Criteria Air Pollutant Emissions

Once constructed, the proposed project would generate long-term emissions of criteria air pollutants from the following sources:

- **Area Sources.** The proposed Bayfront RWF would generate emissions from small area sources, including landscaping equipment and the use of consumer products such as paints and cleaners that result in the evaporation of chemicals to the atmosphere during product use.

- **Energy Use and Consumption.** The proposed Bayfront RWF would generate emissions from the combustion of natural gas in building water and space heating equipment, as well as industrial processes.
- **Mobile Sources.** Vehicle trips to and from the site (e.g., from the Chief Plant Operator (CPO), maintenance activities, chemical deliveries, waste removal, etc.) would generate emissions from the combustion of petroleum-based fuels (i.e., gasoline and diesel).
- **Wastewater/Recycled Water Process Emissions.** VOC/ROG emissions would be generated during the wastewater treatment process. Specific sources could include emissions from the flow equalization (EQ) basins, anoxic basins, membrane basins, and Reverse Osmosis (RO) concentrate discharge. All emissions from the wastewater treatment process are anticipated to be evaporative in nature. The Bayfront RWF's treatment process would be powered by electric motors, and the facility would not include combustion equipment or a digester.
- **Standby Emergency Backup Generator.** The proposed project would include a standby emergency backup generator (rated up to approximately 220 kilowatts) that would be utilized in the event of a power outage. This equipment would generate criteria air pollutants in from of exhaust from fuel combustion.[7]

The proposed project's emissions were estimated using the California Emissions Estimator Model, or CalEEMod, Version 2016.3.2. The project's emissions were estimated using default data assumptions within CalEEMod, with the following project-specific modifications:

- **Land Use Development:** The size of building for the purposes of estimating emissions from natural gas consumption was input at 12,000 square feet, which reflects the approximate area that would be used for the Bayfront RWF. Although the overall building space for the Bayfront RWF would be less than 12,000 square feet, the additional building space captures some of the energy use associated with other project components that would cohabit the 12,000 square foot footprint (e.g., supervisory control and data acquisition (SCADA) system, building lighting, etc.).
- **Mobile Sources:**
    - **Trip Generation:** As described in Section 2.2.9, the Bayfront RWF would be monitored remotely through a SCADA system and a CPO or Plant Operator would perform a daily, two- to four-hour checkup on the plant, daily. This means, on average, there would be one trip to the site per day. Additional trips to and from the site would consist of other vehicles used for maintenance activities, and truck trips to deliver chemicals / off-haul waste. As a conservative approach, it was assumed the site would generate up to approximately four trips per day on average, which would capture the afore mentioned trips throughout the year.
    - **Fleet Mix:** The fleet mix associated with vehicles that would travel to and from the site was updated to reflect that 40% percent of trips would consist of trucks

[7] Emissions from the backup generator have not been estimated, since it is speculative how often the generator would need to run on an annual basis for emergency purposes, and its operation is not a specific action proposed by this project. Other than regular testing, it would only be run in the event of an emergency.

meeting the Light Duty Truck 1 (LDT1) vehicle classification, 40% would consist of trucks meeting the Light Duty Truck 2 (LDT1) vehicle classification, and 20% would consist of trucks meeting the Heavy-Heavy Duty Truck (HHDT) vehicle classification.[8,9,10]

The proposed project's estimated operational emissions are shown in Table 4-8.

Table 4-8 Estimated Project Operational Emissions (Unmitigated)

Source	Pollutant Emissions (Tons per Year)						
	ROG	NOx	CO	PM_{10}		$PM_{2.5}$	
				Dust	Exhaust	Dust	Exhaust
Area	0.5	0.0	<0.0(A)	0.0	0.0	0.0	0.0
Energy Use and Consumption	<0.0(A)	<0.0(A)	<0.0(A)	0.0	0.0	0.0	0.0
Mobile	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)
Total	0.5	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)
BAAQMD CEQA Threshold	***10***	***10***	***--***	***None***	***15***	***None***	***10***
Potentially Significant Impact?	No	No	No	**N/A**	No	N/A	No
Source	**Pollutant Emissions (Average Pounds per Day)(C)**						
	ROG	**NOx**	**CO**	**PM_{10}**		**$PM_{2.5}$**	
				Dust	**Exhaust**	**Dust**	**Exhaust**
Area	2.9	0.0	<0.0(A)	0.0	0.0	0.0	0.0
Energy Use and Consumption	<0.0(A)	0.1	0.1	0.0	0.0	0.0	0.0
Mobile	<0.0(A)	0.1	0.1	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)
Total	2.9	0.2	0.2	<0.0(A)	<0.0(A)	<0.0(A)	<0.0(A)
BAAQMD CEQA Threshold	***54***	***54***	***--***	***None***	***82***	***None***	***54***
Potentially Significant Impact?	No	No	No	**N/A**	No	**N/A**	No

Source: BAAQMD 2017a, MIG 2020, see Appendix B.

(A) <0.0 does not mean zero; rather, it means greater than zero, but less than 0.05.

(B) Totals may not equal due to rounding.

(C) Average daily emissions assume 365 days per year.

[8] The LDT1 vehicle classification consists of trucks with a vehicle weight class of 3,750 pounds or less. This is considered representative of the type of vehicle that could be used by the CPO, the plant operator, or other vehicles used for maintenance activities.

[9] The LDT2 vehicle classification consists of trucks with a vehicle weight class of 3,751 to 5,750 pounds. This is considered representative of the type of vehicle that could be used by the CPO, the plant operator, or other vehicles used for maintenance activities.

[10] The HHDT vehicle classification consists of trucks with a vehicle weight class of 33,001 to 60,000 pounds. This is considered representative of the types of trucks that would be used to deliver chemicals to the site, as well as off-haul waste.

As shown in Table 4-8, criteria air pollutant emissions from operation of the proposed project would be below the thresholds established by the BAAQMD. It should be noted these emission estimates do not include VOC/ROG emissions from Bayfront RWF wastewater processing, because specific design information is not available for the facility at this time; however, the proposed project is not anticipated to generate substantial VOC/ROG emission for the reasons outlined below.

VOCs/ROGs are emitted from wastewater collection, treatment, and storage systems through volatilization of organic compounds at the liquid surface. Emissions can occur by diffusive or convective mechanisms, or both. Diffusion occurs when organic concentrations at the water surface are much higher than ambient concentrations. The organics volatilize, or diffuse into the air, in an attempt to reach equilibrium between aqueous and vapor phases. Convection occurs when air flows over the water surface, sweeping organic vapors from the water surface into the air. The rate of volatilization relates directly to the speed of the air flow over the water surface. Other factors that can affect the rate of volatilization include wastewater surface area, temperature, and turbulence; wastewater retention time in the system(s); the depth of the waste water in the system(s); the concentration of organic compounds in the wastewater and their physical properties, such as volatility and diffusivity in water; the presence of a mechanism that inhibits volatilization, such as an oil film; or a competing mechanism, such as biodegradation (U.S. EPA 1998). The wastewater treatment process associated with the proposed Bayside RWF facility would limit the quantity of VOCs/ROGs emitted to the ambient air, because the influent processed at the site would have a short residence time (in the EQ, aerobic, and anoxic basins) and the area available for evaporation would be small (Freyer and Laureta 2020a). Furthermore, the RO concentrate would be discharged from the facility at approximately 77 degrees Fahrenheit (i.e., roughly the same temperature of the ambient air). This would help to reduce the amount of VOCs/ROGs that could diffuse/evaporate into the surroundings. The Bayfront RWF's sources of VOC/ROG emissions are anticipated to be 2.9 average pounds per day, which is 51.1 lbs/day less than the VOC/ROG threshold (i.e., the difference between the project's estimated emissions and the BAAQMD's ROG threshold), and would be subject to review during the BAAQMD permitting process. As such, this impact is considered to be ***less than significant.***

4.3.4 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Construction and operation of the proposed project would result in the generation of short- and long-term emissions of TACs that would disperse in accordance with meteorological conditions present and in the vicinity of the project site. As described below, these emissions would not expose sensitive receptors to substantial pollutant concentrations.

4.3.4.1 Construction TAC Emissions

During project construction, the heavy-duty, diesel-powered, off-road construction equipment, as well as diesel-powered vendor and haul tucks, would emit DPM as part of their exhaust emissions; however, these emissions would not result in pollutant concentrations that could generate substantial adverse health risks to adjacent sensitive receptors for several reasons. First, as shown in Table 12-1, the proposed project's emissions would be below all BAAQMD construction emissions thresholds. Second, project construction emission activities would only

occur intermittently, generally between the hours of 8:00 a.m. and 6:00 p.m., Monday through Friday, consistent with the noise ordinances for the City of Menlo Park (see Table 2-4).

The intermittent nature of project construction activities would provide time for emitted pollutants to disperse on an hourly and daily basis according to the prevailing wind in the area, which would be toward the southeast (see Figure 4-1). Third, the construction activities associated with the proposed project would generally take place toward the interior portion of the project site, away from project boundaries. This means emissions would be generated away from potential receptors could be located, should they stand at the project boundary, which is unlikely. Construction activities occurring within roadways for recycled water infrastructure installation would be temporary and intermittent, working on each roadway segment at a time, and would not expose sensitive receptors to prolonged DPM exposure, either. Finally, the construction activities associated with most of the project would be located adjacent to sloughs, salt evaporation ponds, and a park. Any receptors at the Bedwell Bayfront Park would be transient in nature, passing through the park or located there for a temporary amount of time on a daily basis, and therefore would not be continuously be exposed to DPM emissions pollutant concentrations continuously throughout the day, week, or construction-period as a whole. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentrations. This impact would be ***less than significant***.

4.3.4.2 Operational TAC Emissions

Operation of the proposed Bayfront RWF would result in TAC emissions from the wastewater treatment process (see Section 4.3.3.2 for a description of these sources). These operational TAC emissions constitute a new source that would be subject to permitting by the BAAQMD. The BAAQMD Permit Handbook provides default emission factors for various TAC constituents, based on the average daily influent treated by wastewater treatment plants (BAAQMD 2018b). Table 4-9 summarizes the TAC emissions that could be generated by the proposed project and compares them against the BAAQMD's acute TAC trigger levels, as identified in BAAQMD Regulation 2, Rule 5 (BAAQMD 2016).[11, 12]

As shown in Table 4-9, all hourly TAC emissions associated with operation of the proposed Bayfront RWF would be considerably below the BAAQMD's acute TAC trigger levels. This finding is consistent with the health risk assessment that was prepared for the Sharon Heights RWF, which also demonstrated that air toxics generated during the wastewater treatment process

[11] As defined in BAAQMD Rule 2, Regulation 5, Section 223, a Trigger Level is defined as, "The emission threshold level for each TAC, as identified in Table 2-5-1 Toxic Air Contaminant Trigger Levels, below which the resulting health risks are not expected to cause, or contribute significantly to, adverse health effects" (BAAQMD 2016).

[12] BAAQMD Rule 2, Regulation 5 also identifies TAC Trigger Levels for chronic exposure; however, as described under Section 4.3.4.1, receptors at the Bedwell Bayfront Park are considered to be transient and exposed to emissions for only a few hours a day (at most) while they are in the northern portion of Bedwell Bayfront Park. This is in contrast to other, more permanent receptors (e.g., residences), which would be exposed continuously to emissions, if they were located in proximity of a stationary source. The proposed project does not have any permanent or long-term sensitive receptors in proximity of the project site. Thus, the chronic TAC Trigger Levels have not been included in this analysis, since they are not applicable to the types of receptors that could be adjacent to the project site.

at that facility would not exceed trigger levels, either (Freyer and Laureta, 2020b).[13] Therefore, implementation of the proposed project would not result in operational TAC emissions that have the potential to expose sensitive receptors to substantial pollutant concentrations. This impact would be ***less than significant.***

Table 4-9 Estimated Operational TAC Emissions and BAAQMD Acute Trigger Levels

TAC	Peak Daily Influent Treated (MGD)	TAC Emission Factor (lbs/yr of TAC per MGD of Influent)	TAC Emissions (lbs/hr)(A)	Acute TAC Trigger Level (lb/hr)	Acute TAC Trigger Level Exceeded?
Methylene Chloride	1.0	95.0	0.011	31.0	No
Chloroform		40.0	0.005	3.3	No
1,1,1-TCA		110.0	0.013	150.0	No
Benzene		3.7	<0.000(B)	0.06	No
TCE		11.0	0.001	--	N/A
Toluene		28.0	0.003	82.0	No
Tetrachloroethylene		37.0	0.004	44.0	No
Xylenes		33.0	0.004	49.0	No
1,4-Dichlorobenzene		5.0	0.001	--	N/A

Source: BAAQMD 2016 and 2018

(A) TAC emissions (lbs/hr) were derived by multiplying the Daily Influent Treated (MGD) by the TAC Emission Factors (lbs/yr per MGD) and dividing through by the number of hours in a year (i.e., 8,760 hr/yr)

(B) <0.0 does not mean zero; rather, it means greater than zero, but less than 0.05.

4.3.5 Odors

The BAAQMD CEQA Air Quality Guidelines identify wastewater treatment plants as a land uses that have the potential to generate odor impacts. As discussed below, the proposed project would not result in the generation of odors that adversely affect a substantial number of people.

The proposed Bayfront RWF would be constructed at a site that is currently used for flow equalization purposes. The existing flow equalization basins provide temporary storage for combined stormwater and sewer flows during peak flow events to prevent overflows within the system or for conveyance system maintenance. Therefore, odors emanating from the site are part of existing conditions.

[13] The Sharon Heights RWF and the proposed project share a similar design and Operations and Manual. Therefore, although the two sites are not the same, the air toxics generated by the wastewater treatment process, and their corresponding health risks, are anticipated to be similar.

Implementation of the proposed project would result in the construction of a new Bayfront RWF that would treat wastewater and have the potential to be a new source of odor. The treatment generally consists of the following elements:

- **Foul Air Fans** would be located in the headworks building and used to draw the foul air form the headworks screen, headworks building, equalization basin, and anoxic basis, and move it to the bio-trickling towers (BTTs).
- **Bio-Trickling Towers** consist of cylinders that are filled with packing material covered in a neutralizing chemical liquid. Odorous air passing through the BTT at low pressure would provide sufficient residence time for the odorous air components to be neutralized by the chemicals on the packing material. Odorous air passing through the BTT at low pressure would provide sufficient residence time for the odorous air components to be neutralized by the chemicals on the packing material.
- **Carbon Adsorbers** may be utilized to further treat or "polish" the air after having been passed through the BTT.

The proposed Bayfront RWF is located approximately 0.8 miles from the nearest permanent residential receptors at the Bayshore Villa Mobile Home Park and homes off Rolison Road, which are closer than the BAAQMD's two-mile screening distance for wastewater treatment plants (BAAQMD 2017a; Table 3-3); however, the proposed project would result in a less than significant impact with regard to odors for the following reasons:

1) The FERRF site is currently used for WBSD operations, which generate odors that would be similar to that occurring under implementation of the proposed project;
2) Prevailing winds at the project site are likely from the northwest (see Section 4.1.2.2), meaning that potential odors would generally not disperse in the direction of the nearest sensitive receptors (southeast of the project site);
3) Receptors within the immediate vicinity of the proposed Bayfront RWF would be transient in nature, meaning they would not be subject to odors day after day, week after week;
4) The proposed Bayfront RWF would include an on-site odor control system; and
5) The proposed Bayfront RWF would be subject to permitting by the BAAQMD, at which time odors from the proposed project would be considered and evaluated for compliance with BAAQMD Regulation 7, Odorous Substances. This impact would be less than significant.

Based on the preceding analysis, this impact would be ***less than significant***.

4.4 CUMULATIVE IMPACTS

As discussed above in Section 4.3.3, the proposed project would not result in amounts of construction or operational emissions of criteria air pollutants that exceed BAAQMD thresholds of significance. In developing its CEQA significance thresholds, the BAAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable.

The BAAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. Since the proposed project would not individually exceed any BAAQMD CEQA significance thresholds the cumulative air quality impact would be ***less than significant.***

4.5 MITIGATION MEASURES

No potentially significant impacts have been identified. No mitigation is required.

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CHAPTER 5 BIOLOGICAL RESOURCES

5.1 ENVIRONMENTAL SETTING

This section describes the existing vegetation/habitat types in the project area, special-status species and sensitive habitats potentially occurring in the project area, and wildlife movement corridors in the project region.

For a complete description of the methods used to assess the environmental setting of the project area, see the Biological Resources Report in Appendix C. Methods used included database and literature review, field survey, an assessment of plant communities and wildlife habitats and corridors, an assessment of sensitive habitats and aquatic features, and a habitat evaluation for special-status species.

5.1.1 General Project Area Description

The proposed project site includes the operational flow equalization and resource recovery facility, including three operational wastewater detention ponds used for wet weather flow storage, remnants of a decommissioned wastewater treatment plant, auxiliary corporation yard and offices, pump repair workshop, Capital Improvement Project staging area, and Save the Bay plant nursery, existing street rights-of-way for the proposed pipeline alignments, and the location for the new influent pump station located at Marsh Road and Bayfront Expressway/Haven Avenue. The proposed project features also extend into Westpoint Slough and Bedwell Bayfront Park (Figure 5-1). The project area is bordered by the Don Edwards National Wildlife Refuge to the north, Bedwell Bayfront Park to the east, and Flood Slough and salt evaporation ponds to the west. The project area elevation ranges from approximately 0 to 40 feet North American Vertical Datum of 1988 (NAVD88) (Google Inc. 2020). Bedwell Bayfront Park is the former site of a landfill closed in 1984. The 160-acre park is owned by the City of Menlo Park and includes an extensive bike/pedestrian trail system. The Don Edwards National Wildlife Refuge spans 30,000 acres of open bay, salt pond, salt marsh, mudflat, upland, and vernal pool habitats located throughout south San Francisco Bay, provides critical habitat for several special-status species, and is a major stopover for migrating birds along the Pacific Flyway.

The climate in the project area is coastal Mediterranean, with most rain falling in the winter and spring. Mild cool temperatures are common in the winter. Hot to mild temperatures are common in the summer. Climate conditions in the project area include a 30-year average of approximately 17.6 inches of annual precipitation with an average temperature range from 48ºF to 71ºF (PRISM Climate Group 2020).

5.1.2 Existing Land Uses, Vegetation Communities, and Habitats

The project area is located within the San Francisco Bay Area Subregion of the Central Western Californian Region, both of which are contained within the larger California Floristic Province (Baldwin et al. 2012). Where applicable, vegetation communities were mapped using CDFW's Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFW 2020). The reconnaissance-level field survey

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Source: ESRI 2020; Google Earth 2020; MIG 2020

0 355 710 1,420 Feet

N

Biological Study Area (33.59 acres)

Figure 5-1 Project Area Features

West Bay Sanitary District Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Facility Project

MIG

identified five general vegetation communities, habitats, and land cover types in the project area: (1) developed, (2) wastewater detention pond, (3) northern coastal salt marsh (*Sarcocornia pacifica* Alliance – Pickleweed Mats), (4) tidal slough, and (5) California annual grassland (*Avena barbata* Alliance – Wild Oats Grassland).

Table 5-1 provides a summary of the existing land uses, vegetation communities, and habitats in the project area, and their distribution is depicted in Figure 5-1. For detailed descriptions of the existing land cover types, natural communities, and habitats, see the Biological Resources Report in Appendix C.

Table 5-1 Summary of Existing Land Cover Types, Natural Communities, and Habitats in the Project Area

Land Cover Types, Natural Communities, and Habitats	Area (acres)
Wastewater Detention Pond	11.33
Developed[1]	13.19
Northern Coastal Salt Marsh	4.85
California Annual Grassland	3.07
Tidal Slough	1.15
Project Area Total	**33.59**

1 Does not include areas within road rights-of-way for the influent or distribution pipeline alignments beyond the project area identified in Figure 5-1.

5.1.3 Special-status Plants

Based on a review of the CNPS and CNDDB databases (CNDDB 2020, CNPS 2020), four plants listed by the CNPS with a California Rare Plant Rank (CRPR) of 1B.1 or 1B.2 (i.e., rare, threatened, or endangered in California and elsewhere; seriously or moderately threatened in California) were determined to be potentially present in the project area due to the presence of suitable habitat: coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus;* CRPR 1B.2), Point Reyes bird's beak (*Chloropyron maritimum* ssp. *palustre*; CRPR 1B.2), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*; CRPR 1B.1), and saline clover (*Trifolium hydrophilum*; CRPR 1B.2). For a detailed description of these plant species, see the Biological Resources Report in Appendix C. The Biological Resources Report also includes a full list of plant species determined to be absent from the project area.

5.1.4 Special-status Animals

Based on a review of the USFWS and CNDDB databases (CNDDB 2020, USFWS 2020), the biologist's knowledge of sensitive species, and an assessment of the types of habitats within the project site, it was determined that 19 wildlife species could potentially occur within or near the project area. This determination was made due to the presence of essential habitat requirements for the species, the presence of known occurrences within five miles of the project area, and/or the project area's location within the species' known range of distribution. The legal status and

likelihood of occurrence of special-status animal species in the project area are presented in Table 5-2 and discussed in greater detail in the Biological Resources Report in Appendix C. The Biological Resources Report also includes a full list of animal species determined to be absent from the project area.

5.1.5 Essential Fish Habitat

All subtidal and intertidal habitats in and adjacent to the project area are designated as Essential Fish Habitat (EFH) (Figure 5-2) for species federally managed under the following three fisheries management plans (FMPs) (Pacific Fisheries Management Council 1998, 2011, 2012):

- Coastal Pelagic FMP – including Pacific sardine (*Sardinops sagax caerulea*), Pacific mackerel (*Scomber japonicus*), and jack mackeral (*Trachurus symmetricus)*, and market squid (*Doryteuthis opalescens*);
- Pacific Groundfish FMP – various rockfish, flatfish, roundfish, sharks, and skates; and
- Pacific Salmon FMP – Chinook salmon (*Oncorhynchus tshawytscha*).

A number of fish species regulated by these FMPs, such as the leopard shark (*Triakis semifasciata*), English sole (*Parophrys vetulus*), starry flounder (*Platichthys stellatus*), and big skate (*Raja binoculata*), occur in the tidal habitats of South San Francisco Bay and are expected to occasionally disperse upstream into the tidal sloughs in the project area, such as Flood Slough. Species such as the northern anchovy, Pacific sardine, and jack mackerel (*Trachurus symmetricus*) also occur in the South Bay. These species are less likely to occur in the project area, but small numbers could potentially occur there.

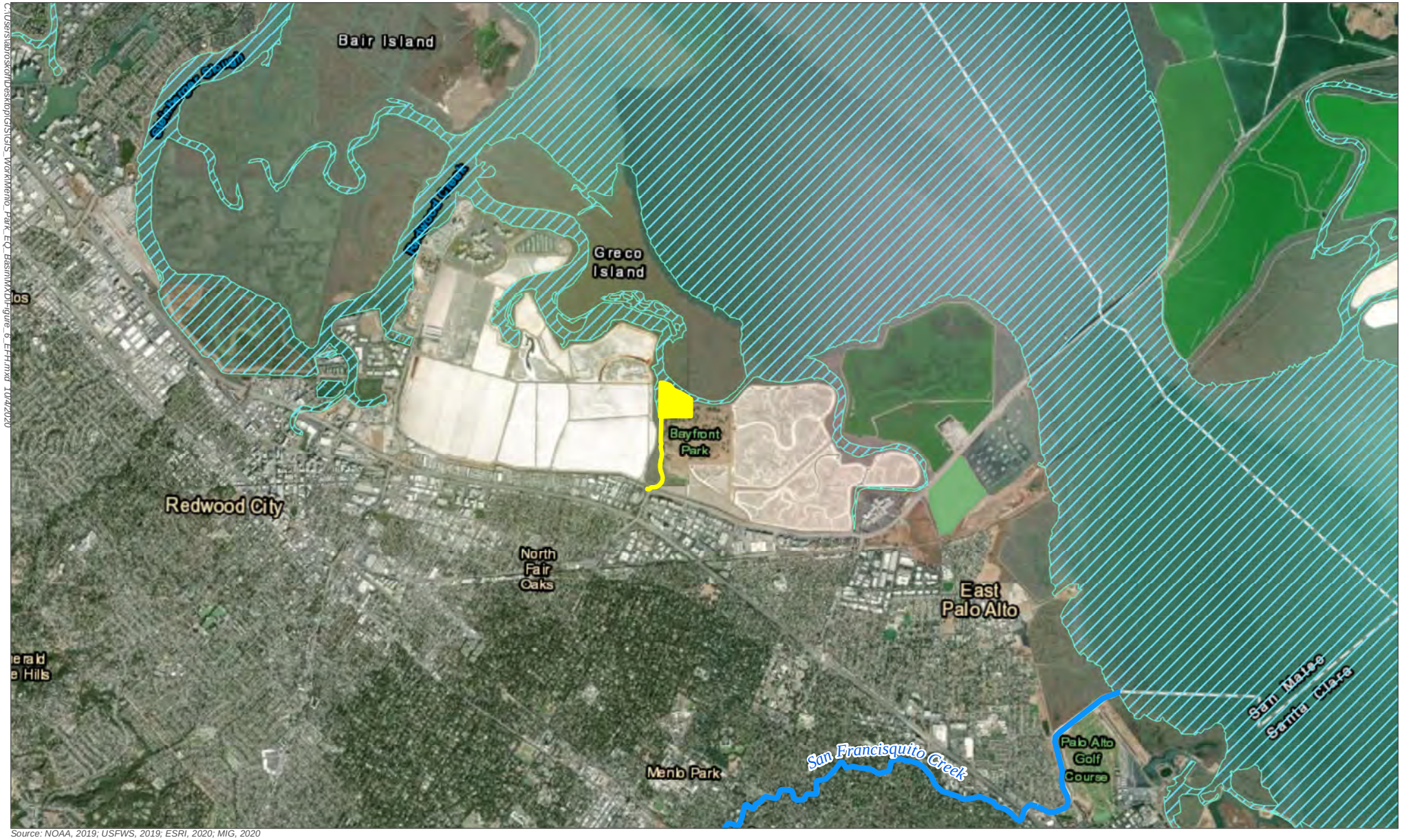
5.1.6 Natural Communities of Special Concern

There is one CDFW classified sensitive natural communities within the project area.

- **Northern Coastal Salt Marsh.** Northern coastal saltmarsh is a wetland plant community found in tidal areas and is dominated by salt-tolerant hydrophytic vegetation that typically forms a dense mat of vegetation. This plant community occurs along the California coast from Oregon to near Point Conception and is especially extensive around San Francisco Bay. Typical species include pickleweed, California cordgrass, alkali heath, salt grass, saltmarsh dodder (*Cuscuta pacifica*), jaumea (*Jaumea carnosa*), sea lavender (*Limonium californicum*), and marsh gumplant (*Grindelia stricta*).

5.1.7 Sensitive Vegetation Alliances

Sensitive plant communities identified by CDFW within the project area include *Sarcocornia pacifica* Alliance – Pickleweed Mats, which is the dominant vegetation alliance in the northern coastal salt marsh habitat in the project area (Figure 5-1). This plant community has been identified by CDFW as “G4 S3”, which means that it is rare and threatened throughout its range in California.



Source: NOAA, 2019; USFWS, 2019; ESRI, 2020; MIG, 2020

Essential Fish Habitat (EFH)

Coastal Pelagic Species; Finfish and Market Squid; Groundfish; Southern DPS Green Sturgeon

Crittical Habitat

Central California Coast Steelhead

Western Snowy Plover

Base Map Features

Biological Study Area

0 0.5 1 2 Miles

Figure 5-2 Critical Habitat/Essential Fish Habitat

West Bay Sanitary District Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Facility Project

5.1.8 CDFW Stream/Riparian Habitat

There is no stream or riparian habitat within the project area.

5.1.9 Critical Habitat/EFH/Habitat Areas of Particular Concern (HAPC)

All tidally influenced areas of the project area have been designated as critical habitat for the Southern Distinct Population Segment (DPS) of green sturgeon. San Francisquito Creek, approximately five miles to the south of the project area, is designated critical habitat for CCC Steelhead. In addition, there is designated critical habitat (Ravenswood Unit) for western snowy plover approximately two miles southeast of the project area (Figure 5-2).

All tidal waters within the project area are designated EFH (Pacific Fisheries Management Council. 1998, 2012) (Figure 5-2). In addition, all tidal waters in the project area occur within areas designated as HAPC for various federally managed fish species within the Pacific Groundfish FMP (Pacific Fisheries Management Council 2011). HAPC are described in the regulations as subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under the Magnuson-Stevens Act; however, federal projects with potential adverse impacts on HAPC are more carefully scrutinized during the consultation process. As defined in the Pacific Groundfish FMP, San Francisco Bay is designated as estuary HAPC.

5.1.10 Waters of the U.S./State

A Preliminary Delineation of Wetlands and Waters report was prepared for the project area in February 2020 (attached as Appendix D). Approximately 6.00 acres of the northern coastal salt marsh, tidal open water habitat (tidal sloughs) in the project area meet the definition of waters of the U.S./State (Figure 5-3). Waters of the state extend farther up to the top of the levees for an additional 0.46 acre. Any impacts on verified waters of the U.S./state within the project site would require a Section 404 permit and a Section 10 Letter of Permission from the USACE, and a Section 401 Water Quality Certification from the San Francisco RWQCB.

5.1.11 Bay Conservation & Development Commission (BCDC) Jurisdiction

BCDC approval must be obtained before placing solid material, building or repairing docks or other structures, dredging or extracting material from the Bay bottom, substantially changing the use of any structure or area, constructing, remodeling, or repairing any structure, and/or subdividing property or grading land. The BCDC may claim jurisdiction over the tidal marsh in the project area. Additionally, a 100-foot area extending laterally landward of the Bay Shoreline, located at five feet above MSL would be jurisdictional as Shoreline Band. Any impacts to tidal marsh and the Shoreline Band lands will require a permit from the BCDC.

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Source: ESRI 2020; Google Earth 2020; NWI 2019; MIG 2020

Base Map Features

- Study Area (33.59 acres)
- Mean High Water
- High Tide Line
- Top of Bank

Vegetation Communities

- California Annual Grassland (3.07 acres)
- Northern Coastal Salt Marsh (4.85 acres)
- Wastewater Detention Pond (11.33 acres)
- Tidal Slough (1.15 acres)
- Developed (13.19 acres)

0 295 590 1,180 Feet

N

Figure 5-3 Preliminary Identification of Waters of the U.S./State

West Bay Sanitary District Flow Equalization and Resource Recovery Facility
Levee Improvements and Bayfront Recycled Water Facility Project

MIG

5.1.12 Wildlife Corridors

Wildlife corridors are segments of land that provide a link between different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The project area is centered on an existing developed facility, including three active wastewater detention ponds and a maintained levee surrounding the facility. The project area is surrounded by Flood Slough, Westpoint Slough, and salt ponds to the west; and Bedwell Bayfront Park and salt ponds to the east and south, development to the north and east, and salt production ponds to the northwest and west. To the north there are expansive tidal marshes in Don Edwards National Wildlife Refuge to the north and east Westpoint Slough. To the south is Bedwell Bayfront Park and dense urban development occurs to the west, preventing substantive movement of terrestrial wildlife to or from open space and habitat in the foothills of the Santa Cruz Mountains, approximately six miles away.

Salt ponds and extensive urban development prevent any substantive movement of terrestrial wildlife such as mammals, reptiles, and amphibians to or from the foothills of the Santa Cruz Mountains nearly six miles to the southwest. Although there may be a connection via, Atherton Channel, the channel is intermittent, empties into Flood Slough via a tide gate (approximately 0.6 miles upstream of the project area), and is a highly engineered linear channel with culverted sections for most of its length. Although California red-legged frog and San Francisco garter snake occur at the headwaters of Atherton Channel, and in areas between I-280 and Alameda de las Pulgas Avenue. These species are not expected to disperse down the channel and into the bay due to its miles of engineered design, underground sections, and low quality habitat for dispersal from the headwaters. Similarly, extensive salt ponds and urban development to the west and east prevent movement of terrestrial species between the project area and Bair Island State Marine Park and Ecological Preserve, three miles to the northwest, and Ravenswood Open Space Preserve, 2.5 miles to the southeast. Therefore, the site is isolated as a dispersal stepping-stone for many terrestrial species.

The project site is locally connected to open, upland wildlife habitat in Bedwell Bayfront Park and salt marsh habitat in the Don Edwards National Wildlife Refuge. The upland habitat areas of Bedwell Bayfront Park are limited in size and isolated from extensive open space habitat by urban development and salt ponds as discussed above. As a result, any movement by mammals, reptiles, and amphibians through the project area would facilitate exchange of individuals or genes only very locally, along the immediate edge of the Bay in the project area. Although connectivity to adjacent open space is important, the project site is not part of a regional wildlife corridor for terrestrial species.

Even though developed portions of the site generally have low habitat connectivity value for native species, the levees within the project area provide important connectivity between the salt marsh and upland areas. Upland areas are likely important refugia habitat for native salt marsh species during high tides as well as extreme tide events. The project area supports important aquatic habitats and tidal marsh habitats, including Flood Slough. These habitats are directly

connected to Bay waters and the tidal marshes in Don Edwards National Wildlife Refuge and provide important habitat for fish, species endemic to salt marsh habitat, and birds migrating through the area as part of the Pacific flyway.

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Table 5-2 Special-Status Animal Species with Potential to Occur in the Project Area

Common Name	Regulatory Status	Detected in the Project Area	Likelihood of Occurrence in the Project Area
Fish			
Central California Coast steelhead (*Oncorhynchus mykiss*)	FT	No	High (non-breeding)
Longfin smelt (*Spirinchus thaleichthys*)	ST	No	High (non-breeding)
North American green sturgeon (*Acipenser medirostris*)	FT, CSSC	No	High (non-breeding)
Mammals			
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE, SE, FP	No	High
Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	CSSC	No	High
Birds			
Alameda song sparrow (*Melospiza melodia pusillula*)	CSSC	No	High (breeding)
American peregrine falcon (*Falco peregrinus anatum*)	FP	No	High (non-breeding); Not Expected (breeding)
Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)	CSSC	No	High (breeding)
Black skimmer (*Rynchops niger*)	CSSC (nesting)	No	High (non-breeding); Not Expected (breeding)
California black rail (*Laterallus jamaicensis coturniculus*)	ST, FP	No	High (non-breeding); Not Expected (breeding)
California brown pelican (*Pelecanus occidentalis californicus*)	FP	No	High (non-breeding); Not Expected (breeding)
California least tern (*Sterna antillarum browni*)	FE, SE	Yes	High (non-breeding); Not Expected (breeding)
California Ridgway's Rail (*Rallus obsoletus obsoletus*)	FE, SE, SP	Yes	Present (breeding)
Loggerhead shrike (*Lanius ludovicianus*)	CSSC (nesting)		High (breeding)
Northern harrier (*Circus cyaneus*)	CSSC (nesting)	No	High (breeding)
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	No	High (breeding)
Short-eared owl (Asio flammeus)	CSSC (nesting)	No	High (non-breeding); Low (breeding)
Western burrowing owl (*Athene cunicularia*)	CSSC	Yes	Present (breeding)
Western snowy plover (*Charadrius nivosus nivosus*)	FT, CSSC	No	High (non-breeding); Not Expected (breeding)
White-tailed kite (*Elanus leucurus*)	FP	No	High (breeding)

Key to Status Abbreviations: Federally Listed as Endangered (FE); Federally Listed as Threatened (FT); Federal Candidate for Listing (FC), Federal Species of Concern (FSC), State Listed as Endangered (SE); State Listed as Threatened (ST); State Candidate for Listing (SC); State Fully Protected (FP); California Species of Special Concern (CSSC)

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5.2 REGULATORY SETTING

5.2.1 Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under FESA. FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the United States (U.S.) Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), (3) prohibitions against "taking" (i.e., harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". FESA also discusses recovery plans and the designation of critical habitat for listed species.

Both the USFWS and NOAA Fisheries share the responsibility for administration of FESA. Section 7 requires federal agencies, in consultation with, and with the assistance of the USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Non-federal agencies and private entities can seek authorization for take of federally listed species under Section 10 of FESA, which requires the preparation of a Habitat Conservation Plan.

U.S. Migratory Bird Treaty Act

The U.S. Migratory Bird Treaty Act (MBTA; 16 USC §§ 703 et seq., Title 50 Code of Federal Regulations [CFR] Part 10) states it is "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof…" In short, under MBTA it is illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS enforces MBTA. The MBTA does not protect some birds that are non-native or human-introduced or that belong to families that are not covered by any of the conventions implemented by MBTA. In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit take; this was followed in 2020 with an Environmental Impact Statement and proposed rule to formalize this change to the MBTA. Incidental take refers to impacts to migratory birds incidental to an otherwise lawful activity, as opposed to purposefully destroying migratory birds. The MBTA is limited to purposeful actions, such as directly and knowingly hunting, poaching, or removing a nest. In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; this was followed in 2020 with an Environmental Impact Statement and

a proposed rule to formalize this change to the MBTA. Incidental take refers to impacts to migratory birds incidental to an otherwise lawful activity, as opposed to purposefully destroying migratory birds. The MBTA is limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching.

Marine Mammal Protection Act

The Marine Mammal Protection Act prohibits the take of marine mammals, with certain exceptions, in waters under the jurisdiction of the U.S. or by citizens of the U.S. on the high seas, as well as the importation of marine mammals and marine mammal products into the U.S. Take is defined as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." Harassment is defined as "any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild; or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."

Clean Water Act

The Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the U.S. Environmental Protection Agency (U.S. EPA). However, the U.S. EPA depends on other agencies, such as the individual states and the U.S. Army Corps of Engineers (USACE), to assist in implementing the CWA. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 and 401 of the CWA apply to activities that would impact waters of the U.S. The USACE enforces Section 404 of the CWA and the California State Water Resources Control Board enforces Section 401.

Section 404. As part of its mandate under Section 404 of the CWA, the U.S. EPA regulates the discharge of dredged or fill material into "waters of the U.S.". "Waters of the U.S." include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(b)). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when it is in compliance with Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The U.S. EPA has veto authority over the USACE's administration of the Section 404 program and may override a USACE decision with respect to permitting.

In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line (HTL) (see 33 CFR, Part 328.4). The HTL is defined in 33 CFR, Part 328.3 as "the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The HTL may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell

or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gauges, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other tides that occur with periodic frequency, but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm."

Substantial impacts to waters of the U.S. may require an Individual Permit. Projects that only minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, provided that such permits' other respective conditions are satisfied. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions (see below).

Section 401. Any applicant for a federal permit to impact waters of the U.S. under Section 404 of the CWA, including Nationwide Permits where pre-construction notification is required, must also provide to the USACE a certification or waiver from the State of California. The "401 Certification" is provided by the State Water Resources Control Board through the local Regional Water Quality Control Board (RWQCB).

The RWQCB issues and enforces permits for discharge of treated water, landfills, storm-water runoff, filling of any surface waters or wetlands, dredging, agricultural activities and wastewater recycling. The RWQCB recommends the "401 Certification" application be made at the same time that any applications are provided to other agencies, such as the USACE, USFWS, or NOAA Fisheries. The application is not final until completion of environmental review under the CEQA. The application to the RWQCB is similar to the pre-construction notification that is required by the USACE. It must include a description of the habitat that is being impacted, a description of how the impact is proposed to be minimized and proposed mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement of functions and values, and replacement of wetland at a minimum ratio of 2:1, or twice as many acres of wetlands provided as are removed. The RWQCB looks for mitigation that is on site and in-kind, with functions and values as good as or better than the water-based habitat that is being removed.

Section 402. Section 402 of the Clean Water Act requires that all construction sites on an acre or greater of land (see State and Local Requirements to Control Construction-Phase and Post-Construction Water Quality Impacts in Section 3.2.2), as well as municipal, industrial, and commercial facilities discharging wastewater or stormwater directly from a point source (a confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container) into a surface water of the United States (a lake, river, and/or ocean) must obtain permission under the National Pollutant Discharge Elimination System (NPDES) permit. The U.S. EPA issues NPDES permits to ensure the receiving waters of the U.S. will achieve specified Water Quality Standards (WQS). The U.S. EPA has fully authorized certain states to issue NPDES permits, including the State of California. However, the U.S. EPA retains the authority to consider effects on federally listed species and critical habitat, through Section 7 of the FESA, in its approval and oversight of state-run NPDES programs.

All point discharges in the California require a NPDES permit from the RWQCB. In California, NPDES permits are also referred to as waste discharge requirements (WDRs). California Water Code Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of the waters of the State, other than into a community sewer system, shall file an Application/Report of Waste Discharge (ROWD).

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation programs to achieve water quality objectives. All point discharges into the Bay will be evaluated against the objectives set forth in the Basin Plan, covering over 126 priority pollutants.

Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 prohibits the creation of any obstruction to the navigable capacity of waters of the U.S., including discharge of fill and the building of any wharfs, piers, jetties, and other structures without Congressional approval or authorization by the Chief of Engineers and Secretary of the Army (33 U.S. Code 403). Navigable waters of the U.S., which are defined in 33 CFR, Part 329.4, include all waters subject to the ebb and flow of the tide, and/or those which are presently or have historically been used to transport commerce. The shoreward jurisdictional limit of tidal waters is further defined in 33 CFR, Part 329.12 as “the line on the shore reached by the plane of the mean (average) high water (MHW).” Where precise definition of the actual location of the MHW line becomes necessary, it must be established by survey with reference to the available tidal datum. The USACE does not regulate wetlands under Section 10, only the open waters component of tidal habitat (under the Rivers and Harbors Appropriation Act of 1899), and there is overlap between Section 10 jurisdiction, which extends landward to the MHW and Section 404 jurisdiction, which extends landward to the HTL.

As mentioned above, Section 404 of the CWA authorizes the USACE to issue permits to regulate the discharge of dredged or fill material into waters of the U.S. If a project also proposes to discharge dredged or fill material and/or introduce other potential obstructions in navigable waters of the U.S., a Letter of Permission authorizing these impacts must be obtained from the USACE under Section 10 of the Rivers and Harbors Act.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States’ 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish Essential Fish Habitat in FMPs for all managed species. Additionally, along the West Coast, NOAA Fisheries relies on Fishery Management Councils to identify habitats that fall within Habitat Areas of Particular Concern (HAPC). These areas provide important ecological functions and/or are especially vulnerable to degradation. HAPCs are discreet subsets of Essential Fish Habitat that are rare, particularly susceptible to human-induced degradation, especially ecologically

important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under the Magnuson-Stevens Act; however, federal projects with potential adverse impacts on HAPC are more carefully scrutinized during the consultation process. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH and respond in writing to recommendations by the NMFS.

5.2.2 State Regulations

California Environmental Quality Act

The CEQA (Public Resources Code Sections 21000 et. seq.) requires public agencies to review activities which may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an "Initial Project and Negative Declaration" (or Mitigated Negative Declaration) or with an "Environmental Impact Report". Certain classes of projects are exempt from detailed analysis under CEQA.

CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under the state or federal Endangered Species Acts but that meet specified criteria. The state maintains a list of sensitive, or "special-status", biological resources, including those listed by the state or federal government or the California Native Plant Society (CNPS) as endangered, threatened, rare or of special concern due to declining populations. During CEQA analysis for a proposed project, the California Natural Diversity Data Base (CNDDB) is usually consulted. CNDDB relies on information provided by the California Department of Fish and Wildlife (CDFW), USFWS, and CNPS, among others. Under CEQA, the lists kept by these and any other widely recognized organizations are considered when determining the impact of a project. CDFW is a trustee agency under CEQA and, as a trustee agency, will review any CEQA document prepared for a project.

California Endangered Species Act

The California Endangered Species Act (CESA; Fish and Game Code 2050 et seq.) generally parallels the FESA. It establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Section 2080 of the California Fish and Game Code prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or by the regulations. "Take" is defined in Section 86 of the California Fish and Game Code as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." This definition differs from the definition of "take" under FESA. CESA is administered by CDFW. CESA allows for take incidental to otherwise lawful projects but mandates that State lead agencies consult with the CDFW to ensure that a project would not jeopardize the continued existence of threatened or endangered species.

California Fish and Game Code Sections 1600-1607

Sections 1600-1607 of the California Fish and Game Code require that a Notification of Lake or Streambed Alteration Agreement (LSAA) application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions in the application and, if necessary, prepares a LSAA that includes measures to protect affected fish and wildlife resources, including mitigation for impacts on bats and bat habitat. These code sections apply to freshwater rivers, streams and lakes, and do not apply to tidal waters. While CDFW may comment on the project as a Trustee Agency under CEQA, a Lake or Streambed Alteration Agreement would not be required for this project.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) was created in 1977 with the intent to preserve, protect, and enhance rare and endangered plants in California (California Fish and Game Code sections 1900 to 1913). The NPPA is administered by CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take." CDFW maintains a list of plant species that have been officially classified as endangered, threatened or rare. These special-status plants have special protection under California law and projects that directly impact them may not qualify for a categorical exemption under CEQA guidelines.

Fully Protected Species and Species of Special Concern

The classification of California fully protected (CFP) species was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (§5515 for fish, §5050 for amphibian and reptiles, §3511 for birds, §4700 for mammals) deal with CFP species and state that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species" (CDFW Fish and Game Commission 1998). "Take" of these species may be authorized for necessary scientific research. This language makes the CFP designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with CFP species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

California species of special concern (CSSC) are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

California Migratory Bird Protection Act

Fish & Game Code section 3513 states that Federal authorization of take or possession is no longer lawful under the state Fish & Game Code if the Federal rules or regulations are inconsistent with state law. The California Migratory Bird Protection Act (MBPA) was passed in September 2019 to provide a level of protection to migratory birds in California consistent with the U.S. MBTA prior to the 2017 rule change limiting protection of migratory birds under the U.S. MBTA to purposeful actions (i.e., directly and knowingly removing a nest to construct a project, hunting, and poaching). Thus, under the MBPA protections for migratory birds in California are consistent with rules and regulations adopted by the United States Secretary of the Interior under the U.S. MBTA before January 1, 2017. The MBPA reverts to existing provisions of the U.S. MBTA on January 20, 2025.

Nesting Birds

Nesting birds, including raptors, are protected under California Fish and Game Code Section 3503, which reads, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, under California Fish and Game Code Section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Passerines and non-passerine land birds are further protected under California Fish and Game Code 3513. As such, CDFW typically recommends surveys for nesting birds that could potentially be directly (e.g., actual removal of trees/vegetation) or indirectly (e.g., noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by CDFW.

Non-Game Mammals

Sections 4150-4155 of the California Fish and Game Code protects non-game mammals, including bats. Section 4150 states "A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission". The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under California Fish and Game Code.

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique in constituent components, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by the CDFW (i.e., CNDDB) or the USFWS. The CNDDB identifies a number of natural communities as rare, which are given the highest inventory priority (Holland 1986;

CDFW 2016). Impacts to sensitive natural communities and habitats must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Water Quality Control Act (Porter-Cologne) is to protect water quality and the beneficial uses of water, and it applies to both surface and ground water. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne, referred to as "waters of the State," include isolated waters that are not regulated by the USACE. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, any person discharging, or proposing to discharge, waste (e.g., dirt) to waters of the State must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

California State Lands Commission

The California State Lands Commission has jurisdiction and management over sovereign state-owned lands, lands sold directly to settlers from the federal government, lands granted to the state for sale or use, and lands granted by a prior sovereign (i.e., rancho and pueblo lands). Sovereign lands include approximately four million acres of land underlying the State's navigable and tidal waterways, including the beds of California's navigable rivers, lakes and streams, as well as the state's tide and submerged lands along the State's approximately 1,100 miles of coastline and offshore islands.

The Commission holds its sovereign lands for the benefit of all the people of the State, subject to the Public Trust for water related commerce, navigation, fisheries, recreation, open space and other recognized Public Trust uses. Authorization from the Commission is required if there are plans to build upon or otherwise occupy any lands described above, such activity may be within the Commission's jurisdiction. The Commission also monitors sovereign land granted in trust by the California Legislature to approximately 70 local jurisdictions that generally consist of prime waterfront lands and coastal waters. The Commission protects and enhances these lands and natural resources by issuing leases for use or development, providing public access, resolving boundaries between public and private lands, and implementing regulatory programs to protect state waters from oil spills and invasive species introductions.

The Commission's jurisdiction for tidal lands extends from the mean high tide line to three nautical miles offshore. Except for those locations where the boundary has been permanently fixed by either a court or an agreement with the Commission, the boundary of tidal lands is classified as an ambulatory boundary because it is based on the location of the water. The ambulatory boundary is determined from the mean high tide, which can be determined by either the published MHW elevation from the closest NOAA tide station to the project or a linear interpolation between two adjacent tide stations, depending on tidal regime characteristics. The

current tidal datum and epoch should be used (presently NAVD88 and 1983-2001, respectively). Local, published control benchmarks should be used in determining elevations at the survey site. Control benchmarks are the monuments on the ground that have been precisely located and referenced to the local tide stations and vertical datum used to calculate the mean high tide elevation and the elevation datum must match that of the tidal datum.

The McAteer-Petris Act and the Bay Conservation and Development Commission

In response to uncoordinated and indiscriminate filling of the Bay, the California legislature passed the McAteer-Petris Act in 1965, establishing the San Francisco Bay Conservation and Development Commission (BCDC) as the management and regulatory agency for the San Francisco Bay and Delta. A permit must be obtained from the BCDC for shoreline projects; dredge and fill activities in the Bay or certain tributaries, salt ponds, or managed wetlands; and Suisun Marsh projects. The limits of BCDC jurisdiction are defined in the Bay Plan (BCDC 2012) and include a 100-foot-wide band along the shoreline of the Bay. The "shoreline" is defined as all areas that are subject to tidal action from the south end of the Bay to the Golden Gate (Point Bonita-Point Lobos), and to the Sacramento River line (a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut). In addition, the BCDC will take jurisdiction over the marshlands lying between mean high tide and up to 5 feet above mean sea level (MSL), where marsh vegetation is present; tidelands (land lying between mean high tide and mean low tide); and submerged lands (land lying below mean low tide). In relation to salt ponds, the BCDC will claim, "salt ponds consisting of all areas which have been diked off from the Bay and have been used during the three years immediately preceding 1969 for the solar evaporation of Bay water in the course of salt production" (BCDC 2020).

The BCDC may claim jurisdiction over the tidal marsh in the study area. Additionally, a 100-foot area extending laterally landward of the Bay Shoreline, located at 5 feet above MSL would be jurisdictional as Shoreline Band. A total of 11.75 acres of the study area is potentially subject to BCDC jurisdiction (Appendix A, Figure 8). Any impacts to tidal marsh and the Shoreline Band lands will require a permit from the BCDC.

State and Local Requirements to Control Construction-Phase and Post-Construction Water Quality Impacts

Construction Phase. The CWA has nationally regulated the discharge of pollutants to the waters of the U.S. from any point source since 1972. In 1987, amendments to the CWA added Section 402(p), which established a framework for regulating nonpoint source storm water discharges under the National Pollutant Discharge Elimination System (NPDES). The NPDES is a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the U.S. In California, this permit program is administered by the RWQCBs. The NPDES General Construction Permit requirements apply to clearing, grading, and disturbances to the ground such as excavation. Construction activities on one or more acres are subject to a series of permitting requirements contained in the NPDES General Construction Permit. This permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) to be implemented during project construction. The project sponsor is also required to submit a Notice of Intent (NOI) with the

State Water Resources Control Board Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site.

Post-Construction Phase. In many Bay Area counties, including San Mateo County, projects must also comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit* (MRP) (Water Board Order No. R2-2009-0074). This MRP requires that all projects implement BMPs and incorporate Low Impact Development practices into the design that prevents stormwater runoff pollution, promotes infiltration, and holds/slows down the volume of water coming from a site. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors.

5.2.3 City of Menlo Park

City of Menlo Park General Plan

The following goals, policies, and programs from the City of Menlo Park's General Plan Open Space, Noise, and Safety Elements are relevant to the environmental factors potentially affected by the proposed project because adjacent land uses include open space and tidal habitat (City of Menlo Park 2016). However, the flow equalization facility is not classified into a zoning district and therefore is not specifically designated in the City's General Plan Land Use and Open Space Conservation Elements.

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue-generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
    - Policy LU-6.1: Baylands Preservation. Allow development near the Bay only in already developed areas. Policy LU-6.7: Habitat Preservation. Collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible.
    - Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the City's tree canopy and to promote sustainability and healthy living, particularly through increased trees and water-efficient landscaping in large parking areas and in the public right-of-way.
    - Program LU-6.D: Design for Birds. Require new buildings to employ facade, window, and lighting design features that make them visible to birds as physical barriers and eliminate conditions that create confusing reflections to birds.

  - Program LU-6.E: Don Edwards National Wildlife Refuge. Consider the most appropriate zoning designation for the Don Edwards San Francisco National Wildlife Refuge to achieve the preservation and protection of wildlife habitat and ecological values associated with the marshlands and former salt ponds bordering the San Francisco Bay.

- Goal OSC1: Maintain, Protect, and Enhance Open Space and Natural Resources.
  - Policy OSC1.1: *Natural Resources Integration with Other Uses.* Protect Menlo Park's natural environment and integrate creeks, utility corridors, and other significant natural and scenic features into development plans.
  - Policy OSC1.2: Habitat for Open Space and Conservation Purposes. Preserve, protect, maintain, and enhance water, water-related areas, plant and wildlife habitat for open space and conservation purposes.
  - Policy OSC1.3: Sensitive Habitats. Require new development on or near sensitive habitats to provide baseline assessments prepared by qualified biologists and specify requirements relative to the baseline assessments.
  - Policy OSC1.4: Habitat Enhancement. Require new development to minimize the disturbance of natural habitats and vegetation and require revegetation of disturbed natural habitat areas with native or non-invasive naturalized species.
  - Policy OSC1.5: Invasive, Non-Native Plant Species. Avoid the use of invasive, non-native species, as identified on the lists of invasive plants maintained at the California Invasive Plant Inventory and United States Department of Agriculture invasive and noxious weeds database, or other authoritative sources, in landscaping on public property.
  - Policy OSC1.15: Heritage Trees. Protect Heritage Trees, including during construction activities through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code – see below).

Bedwell Bayfront Park Master Plan

The Bedwell Bayfront Park Master Plan establishes goals to guide the future development and feature recommendations for additional access and expanded recreational uses (City of Menlo Park 2018). The Master Plan supports Goal LU-6 and OSC1 from the City of Menlo Park General Plan and Goal 4 of the Master Plan is to protect existing sensitive habitats and landfills systems.

City of Menlo Park Municipal Code

The City of Menlo Park Municipal Code contains all ordinances for Menlo Park. Title 16, Zoning, includes regulations relevant to biological resources in the project area as discussed below.

Bird-Friendly Design. Chapter 16.43.140 (6) requires all new construction, regardless of size, to implement the following bird-friendly design measures:

- No more than 10% of facade surface area shall have non-bird-friendly glazing.
- Placement of buildings shall avoid the potential funneling of flight paths towards a building facade.
- Bird-friendly glazing includes, but is not limited to opaque glass, covering of clear glass surface with patterns, paned glass with fenestration patterns, and external screens over non-reflective glass.
- Glass skyways or walkways, freestanding glass walls, and transparent building corners shall not be allowed.
- Transparent glass shall not be allowed at the rooflines of buildings, including in conjunction with green roofs.
- Use of rodenticides shall not be allowed.
- A project may receive a waiver from one (1) or more of the items listed in subsections (6)(A) to (F) of this section, subject to the submittal of a site-specific evaluation from a qualified biologist and review and approval by the planning commission. (Ord. 1024 § 3 (part), 2016).

Landscape Design Plan. Chapter 12.44.090(1)(G) states that the use of invasive and/or noxious plant species is strongly discouraged. Invasive species are defined as those plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. A noxious weed refers to any weed designated by the weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

Heritage Trees. Chapter 13.24, Heritage Trees, establishes regulations for the preservation of heritage trees, defined as:

- Trees of historical significance, special character or community benefit, specifically designated by resolution of the City Council;
- An oak tree (*Quercus* sp.), which is native to California and has a trunk with a circumference of 31.4 inches (diameter of 10 inches) or more, measured at 54 inches above natural grade; and
- All trees other than oaks, which have a trunk with a circumference of 47.1 inches (diameter of 15 inches) or more, measured 54 inches above natural grade, with the exception of trees that are less than 12 feet in height, which will be exempt from this section.

To protect heritage trees, Section 13.24.025 requires that a tree protection plan prepared by a certified arborist be submitted for any work performed within a tree protection zone, which is an area ten times the diameter of the tree. Furthermore, all tree protection plans should be reviewed and approved by the Director of Community Development or his or her designee prior to issuance of any permit for grading or construction.

The removal of heritage trees or pruning of more than one-fourth of the branches or roots within a 12-month period requires a permit from the City's Director of Public Works or his or her designee and payment of a fee. The Director of Public Works may issue a permit when the removal or major pruning of a heritage tree is reasonable based on a number of criteria, including condition of the tree, need for removal to accommodate proposed improvements, the ecological and long-term value of the tree, and feasible alternatives that would allow for tree preservation.

5.3 PROJECT IMPACTS

5.3.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, the implementation of the project or its alternatives would have a significant environmental impact related to biological resources if it would:

(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 CDFW or USFWS;

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;

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

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

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

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

The following impact discussion covers all project features and phases/stages of construction. While the supporting Biological Resources Report focuses on FERRF site specifically, relevant impact discussions and mitigation measures would apply to off-site improvements including the IPS (pump station) and the recycled water distribution lines.

5.3.1.1 Treated RO Concentrate (Effluent)

The recycled water facility includes a potential bayside outfall for the disposal of remainder RO concentrate (also called RO effluent) generated from the water recycling process. While the effluent will be stored in Pond 3 as a first alternative, the District will seek a permit to dispose of effluent into the bay under certain conditions such as when the ponds are at capacity. The water recycling process includes processing treated domestic wastewater with a membrane bioreactor (MBR) and reverse osmosis (RO) to further purify secondarily treated wastewater to tertiary

treated (recycled water) standards. All the typical constituents found in treated wastewater will be present in the effluent and the flow is expected to average 0.025 MGD or 25,000 gallons/day (0.05 MGD maximum). For comparison, the nearby Palo Alto Wastewater Treatment Plant and Silicon Valley Clean Water Facilities discharge up to 39 MGD and 29 MGD of effluent, respectively (San Francisco Regional Water Quality Control Board Order No. R2-2017-0041 and National Pollutant Discharge Elimination System No. CA0038849). Concentrations of the constituents will depend on wastewater levels and the efficiency of the wastewater treatment process. Further analysis will be needed for certain metals such as arsenic, copper, lead, nickel, mercury, selenium, and zinc, which are likely to be present at detectable levels. Other constituents potentially present at detectable levels may include antimony, chromium, acrolein, chlorobenzene, chloromethane, toluene, bis(2-ethylhexyl) phthalate, and ammonia.

If improperly treated, the wastewater effluent can also include:

- Fine solids;
- Excessive organic material;
- Excessive nutrients (mainly nitrogen and phosphorus);
- Human pathogens;
- Toxic organic chemicals; or
- Metals.

Other physical characteristics of wastewater effluent that could adversely affect marine organisms include pH, salinity, and temperature, all of which may alter water chemistry (NRC 1993; Judd 2010; Naidoo and Olaniran 2014).

Discharge of excessive levels of nutrients into the Bay generally have not resulted in harmful effects since the San Francisco Bay has long been recognized as a nutrient-enriched estuary that has exhibited resistance to some of the symptoms of nutrient over enrichment, such as high phytoplankton biomass and low dissolved oxygen. The Bay's resistance to high nutrient loads results from its high turbidity, strong tidal mixing, and large filter-feeding clam populations, all of which limit the efficiency with which abundant nitrogen and phosphorous are converted into phytoplankton biomass. However, recent observations indicate that the Bay's resistance to high nutrient loads is weakening, and that conditions are trending toward increased productivity and potential impairment (Senn and Novick 2014).

When further treating secondary treated wastewater, MBR and RO processes can produce effluent of high enough quality to be discharged to coastal, surface, or brackish waterways or to be reclaimed for urban irrigation and other non-potable uses. The capabilities of MBR processes include efficient reduction of Biological Oxygen Demand (BOD), nitrification of ammonia (removal of ammonia), removal of solids, and de-nitrification (removal of nutrients) through microbial action and filtration. The capabilities of the RO process include removal of pathogens (viruses and bacteria), dissolved solids, organic pollutants, and metal ions (e.g., sodium).

Treated RO effluent is considered a point source discharge that requires an NPDES permit from the RWQCB and the U.S. EPA. In California, NPDES permits are also referred to as Waste

Discharge Requirements (WDRs). The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation programs to achieve water quality objectives. Any treated RO effluent discharge will be evaluated against the objectives set forth in the Basin Plan for over 126 priority pollutants and must meet water quality criteria set forth in any NPDES permits issued by the RWQCB. The permits may also include criteria for nutrients, particularly nitrogen, and salinity levels. In this case, the water quality criteria may be determined in collaboration with wildlife agencies in addition to the RWQCB. See Chapter 8, Hydrology and Water Quality, for additional discussion.

5.3.1.2 Ecotone Levee

An ecotone is a transition zone between natural communities. A community is composed of plant and animal species occupying a given area. Because the transition zone includes elements from adjacent communities, its structure and composition results in a unique ecosystem called an ecotone. The ecotone is the transition zone that supports plant and animal species from all adjacent communities, as well as those species adapted to the environment in the ecotone itself. An ecotone is often populated by a rich diversity of life. In general, the greater the contrast between adjoining communities, the greater diversity of species present (Cadenasso et al. 2003; Lindenmayer and Fischer 2006).

Between 70% and 93% of historic wetlands within San Francisco Bay Estuary have been lost due to agriculture, salt production, and urbanization. Conservation of existing wetlands is critical to preserving habitats for special-status species, fish, migratory birds, and protecting the seashore from erosion and flooding. Furthermore, there is increasing awareness of the important link between tidal wetlands, ecotones, and upland habitats. Ecotones and upland habitats play an important role in food web dynamics in tidal wetlands, provide important buffers to reduce human effects from adjacent urban areas that commonly border wetlands around the Bay, and they provide refuge for wetland animals during extreme high tides. Over the long term, ecotones and upland habitats could also provide substantial benefits because they could serve as critical areas for upland migration of wetlands, when considering predicted increases in rates of sea-level rise (Callaway et al. 2011).

Within the San Francisco Bay estuary, tidal wetlands with intact, undeveloped upland habitats contain the largest remaining populations of special-status species, including Salt marsh harvest mouse (*Reithrodontomys raviventris*) and California Ridgway's rail (*Rallus longirostris obsoletus*) (Sustaita et al. 2011; Whitcraft et al. 2011; Overton and Wood 2015), underlying the importance of natural ecotones in the persistence of these species. In addition, the San Francisco Bay estuary is one of the most important staging and wintering areas for migratory waterfowl and shorebirds in the Pacific Flyway (Harvey et al. 1992).

Currently, there is a very narrow transition zone between the top of the existing levee and the salt marsh on the north side of the FERRF (see Figure 2-5 through Figure 2-7 for Ecotone Levee Conceptual Designs). While the salt marsh is a natural community, the man-made levee is dominated by sparse, non-native vegetation and subject to regular human disturbance, which diminishes the habitat value of the levee. The project will create a wider upland transition zone,

planted with native vegetation, between existing salt marsh habitat and levee on the north side of the project site. The proposed approximately 3.5-acre ecotone levee will provide higher quality native upland refugia habitat as well as a natural wildlife corridor. With a projected sea level rise of up to 1.9 feet by 2050 under a high emissions scenario, the majority of the existing salt marsh habitat on the north side of the FERFF will be permanently inundated (completely under water), resulting in a permanent loss of wetlands in just 30 years. Construction of an ecotone levee would mitigate for the permanent loss of wetlands from projected sea level rise.

The use of ecotone levees has also been proposed as one of several natural measures to protect coastlines from the coastal flood hazard associated with climate change (Point Blue Conservation Science, et al. 2019). Global sea levels are rising as a result of climate change. With sea levels projected to rise up as much as 6.9 feet by 2100 under a high emissions scenario for greenhouse gases, vital infrastructure along the coast is at risk from tidal inundation as well as an increase in the frequency and magnitude of storm surges (Chen et al. 2017; Rahmstorf 2017; OPC 2018).

The San Francisco Bay Shoreline Adaptation Atlas defines an ecotone levee as a gentle slope or ramp (with a length to height ratio of 20:1 or gentler) bayward of a flood risk management levee and landward of a tidal marsh (SFEI and SPUR 2019). Ecotone levees can attenuate waves, provide high-tide refuge for marsh wildlife, and allow room for marshes to migrate upslope with sea level rise. In addition, levees wider than 80 feet, planted with dense vegetation between 1.6 and 3.3 feet tall, can provide measurable benefits to tidal marsh dependent birds, both in the short- and long-term (Wasson et al. 2013; SFEI and SPUR 2019).

The use of ecotone levees to mitigate for sea level rise is also consistent with the goals and objectives of the 2016 Comprehensive Conservation and Management Plan (CCMP) for the San Francisco Estuary (Estuary Blueprint) (San Francisco Estuary Partnership 2016). The CCMP was the result of a collaborative effort among 70 Bay and Delta agencies and organizations. One of the goals of the CCMP is to "*Bolster the resilience of Estuary ecosystems, shorelines, and communities to climate change"* and one of the action items of the CCMP is to:

> *"Protect areas between estuarine and terrestrial ecosystems (transition zones), and their ecosystem services, to help the Estuary adapt to rising sea levels. Integrate transition zones into baylands restoration and enhancement projects to provide both migration space and high water refugia."*

Within the San Francisco Bay estuary, ecotone levees may provide higher quality native upland refugia habitat for special-status species and migratory birds; and can increase the resilience of tidal habitat to climate change by allowing for sea level rise. An ecotone levee may also protect existing infrastructure adjacent to the Bay from future flooding caused by sea level rise.

5.3.2 Impacts to Special-status Plant Species

Coastal marsh milkvetch, Congdon's tarplant, Point Reyes bird's-beak, and saline clover have the potential to occur within the California annual grassland and northern coastal salt marsh habitats in the project area. Project development may affect these special-status plants due to direct disturbance of individuals and disturbance or destruction of suitable habitat. Direct impacts could include grading or filling areas supporting these species, trampling or crushing of

plants, and soil compaction. Indirect impacts could include increased mobilization of dust onto plants, which can affect their photosynthesis and respiration, or changes to hydrology supporting these plants within adjacent wetlands due to grading or construction in nearby habitats.

Conservation of CRPR 1B.1 and 1B.2 species is important because their populations contribute to preserving the genetic resources for the species and ensuring persistence of these rare species. For these four species, extirpation of any population in the San Francisco Bay region could negatively impact the species' genetic resources, and in the case of Point Reyes bird's-beak and saline clover, could represent a reduction. Implementation of Mitigation Measure BIO-1a, Pre-Activity Surveys for Special-Status Plants, and BIO-1b, Avoidance Buffers, would avoid and reduce impacts on special-status plants to a ***less than significant with mitigation incorporated***. Suitable habitat for these species is limited to the perimeter of the FERRF site, including the stormwater swale and the ecotone levee. The RWF is internal to the project site which is highly disturbed and does not provide breeding habitat for these rare plant species.

5.3.3 Impacts to Special-status Fish Species

Green sturgeon, longfin smelt, and steelhead may be present in tidally influenced habitat within and adjacent to the project area, particularly Flood Slough. Even though fish are expected to occur in the smaller tidal sloughs in the project area, the extent, depth, and width of these channels likely limits the number and size of fish that may occur in these sloughs. Because project activities are proposed to take place below the HTL during construction of the ecotone levee, the project may indirectly impact special-status fish and EFH through the degradation of surface or ground water quality due to erosion and transport of fine sediments, unintentional release of contaminants, and soil compaction from access and equipment in tidal areas.

During the construction of the ecotone levee, individuals of these species may also be directly impacted if they are present in the tidal sloughs during construction activities because they could be crushed or injured by personnel or equipment working in the sloughs. Approximately 0.13 acre of tidal sloughs will be impacted during construction of the ecotone levee. The acreage is based on the conceptual design for the ecotone levee and final acreages for temporary and permanent impacts will be finalized when the final design for the ecotone levee is completed. Permanent impacts will result in the loss of habitat for fish species regulated by FMPs as well as the loss of critical habitat for green sturgeon and steelhead.

Additionally, the project proposes installing sheet piles with a vibratory hammer or impact hammer along Flood Slough, which is along the western edge of the project area. The sheet piles will be installed above the HTL in terrestrial habitat; therefore, it is not expected that fish will be exposed to elevated levels of underwater sound produced during pile driving, and therefore will not be adversely impacted.

Physical characteristics of the RO effluent that could adversely affect marine organisms include pH, salinity, and temperature, all of which may alter water chemistry (NRC 1993; Judd 2010; Naidoo and Olaniran 2014).

Discharge of excessive levels of nutrients into the Bay generally have not resulted in harmful effects since the San Francisco Bay has long been recognized as a nutrient-enriched estuary, that

has exhibited resistance to some of the symptoms of nutrient over enrichment, such as high phytoplankton biomass and low dissolved oxygen. The Bay's resistance to high nutrient loads results from its high turbidity, strong tidal mixing, and large filter-feeding clam populations, all of which limit the efficiency with which abundant nitrogen and phosphorous are converted into phytoplankton biomass. However, recent observations indicate that the Bay's resistance to high nutrient loads is weakening, and that conditions are trending toward increased productivity and potential impairment (Senn and Novick 2014).

When treating secondary treated wastewater, MBR and RO processes can produce effluent of high enough quality to be discharged to coastal, surface, or brackish waterways or to be reclaimed for urban irrigation. The capabilities of MBR processes include efficient reduction of BOD, nitrification of ammonia (removal of ammonia), removal of solids, and de-nitrification (removal of nutrients) through microbial action and filtration. The capabilities of the RO process include removal of pathogens (viruses and bacteria), dissolved solids, organic pollutants, and metal ions (e.g., sodium).

Discharge of Treated RO effluent is considered a point source discharge that requires a National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board (RWQCB) and the Environmental Protection Agency (EPA). In California, NPDES permits are also referred to as waste discharge requirements (WDRs). The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation programs to achieve water quality objectives. Any treated RO effluent discharge will be evaluated against the objectives set forth in the Basin Plan for over 126 priority pollutants and must meet water quality criteria set forth in any NPDES permits issued by the Regional Water Quality Control Board. The permits may also include criteria for nutrients, particularly nitrogen, and salinity levels. In this case, the water quality criteria may be determined in collaboration with wildlife agencies in addition to the RWQCB.

Project-related impacts on EFH or individual green sturgeon, longfin smelt, and steelhead would be significant under CEQA. However, implementation of Mitigation Measures BIO-2a, BIO-2b, and BIO-2c will protect water quality and reduce impacts to these special-status fish species and EFH to ***less than significant***. Discharge of any treated RO effluent will require agency review and permits and must meet certain standards before discharge would be allowed.

5.3.4 Impacts to Salt Marsh Habitat Supporting Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew

Small numbers of salt marsh harvest mice and salt marsh wandering shrews may occur in pickleweed-dominated habitats in the norther portion of the study area, and on the levee slopes, particularly during high tide events. In the absence of protective measures, direct impacts ton the salt marsh harvest mouse and salt marsh wandering shrew could potentially occur as a result of installing sheet pile walls around the perimeter of the levees and construction of an ecotone levee in the northern portion of the project area. Indirect impacts may be caused by artificial lighting if it disrupts animal behavior, adversely impact breeding and foraging activities, or exposes animals to predation.

Project activities may result in the injury or mortality of salt marsh harvest mice and salt marsh wandering shrews as a result of crushing by equipment, vehicle traffic, grading, removal of vegetation, and worker foot traffic. Individuals that vacate the area because of increased levels of noise and disturbance may be exposed to increased competition from conspecifics already occupying the area to which they were displaced and increased levels of predation because of unfamiliarity with the new area or lack of sufficient cover. Project construction and the removal of salt marsh vegetation may expose individual mice and shrews to predation, particularly if construction activities occur during high or king tides, when cover for these species is very limited. Due to the rarity of these species, any of these project-related impacts on individual salt marsh harvest mice or salt marsh wandering shrews is assumed to be significant under CEQA.

The project will impact approximately 3.1 acres of tidal salt marsh habitat in the project area that is primary habitat for salt marsh harvest mouse and salt marsh wandering shrew. These acreages are based on the conceptual design for the ecotone levee and final acreages will be determined once the design is completed. This analysis assesses the impacts of the approximately 3.46-acre conceptual design area. The ecotone levee design has not yet been vetted with the resource agencies and the acreage may be revisited. The final design will be determined in coordination with the resource agencies during the permit process. Impacts to salt marsh habitat containing pickleweed would be considered significant due to the importance of pickleweed to these two rare mammals. However, the ecotone levee will immediately provide upland habitat and refugia for these species, and fits within the framework for resiliency in San Francisco Bay that protects salt marsh from sea level rise. Therefore, the ecotone levee will not significantly impact salt marsh harvest mouse or salt marsh wandering shrew. Protection measures are necessary during construction to avoid significant impacts to these species.

Even though there will be a net loss of salt marsh habitat, the newly created upland areas above the HTL will be restored with native plantings and salt marsh habitat, including tidal sloughs, will remain in the tidal zone at the base of the levee slope and will include plantings of native marsh vegetation salvaged prior to construction activities. The restoration design will create conditions that support diverse habitats, including tidal aquatic, estuarine wetland, bayside mesic scrub, and upland xeric scrub. The diverse habitats will provide higher quality native upland refugia habitat for salt marsh harvest mouse, salt marsh wandering shrew, California Ridgway's rail, and California black rail' and increase resilience of the tidal habitat to climate change by allowing for sea level rise while maintaining upland habitat and tidal sloughs.

The project is subject to permits from the USACE (in consultation with USFWS and NMFS), RWQCB, and BCDC. While the ecotone levee fulfills the goals of the Adaptation Atlas, and will restore saltmarsh by protecting it from sea level rise, it results in a near-term (30-year) loss of salt marsh. However, a benefit of the ecotone levee is that it expands the area of transitional habitat available to salt marsh species in this location in the immediate term, providing important refuge during extreme high tides and sea level rise. It counteracts the loss of salt marsh habitat in the near term with the eventual natural creation of salt marsh that would otherwise be converted to open water habitat with sea level rise.

The agencies that will review this project and issue permits for it will make the final determination of the mitigation value of the ecotone levee. The permits will require an approved mitigation and monitoring plan that would contain the following basic components:

- Description of the Impact and Mitigation
- Responsible parties
- Goals
- A detailed implementation plan, including, if appropriate, a schedule, financial assurances, construction drawings for a planting/restoration plan, soil amendments and other site preparation elements as appropriate, an irrigation plan, and maintenance requirements including weed control
- Monitoring requirements and a minimum monitoring period, with annual reports
- Contingency and adaptive management measures if restoration is not meeting performance standards

Implementation of Mitigation Measures BIO-3a through BIO-3j (Worker Environmental Awareness Program, No Pets, Food Trash Removal, Minimize Non-Daylight Work and Prepare Lighting Plan, Work During Extreme High Tides, Limit Vegetation Removal, Vegetation Removal Methods, Exclusion Fence, Artificial Lighting, and Prohibition of Plastic Mono-filament Netting) will ensure avoidance of impacts to salt marsh harvest mice and salt marsh wandering shrews, and will reduce impacts to these special-status mammal species to ***less than significant with mitigation incorporated.***

5.3.5 Impacts to California Ridgway's Rail and California Black Rail

The California Ridgway's rail is a year-round resident in the salt marsh and the open water channels in the project area. The status of the California black rail in the project area is less well understood, but this species has been known to occur in nearby marshes during the non-breeding season, and its presence during the breeding season cannot be ruled out. As a result, there is the potential for the project to result in direct and indirect impacts to California Ridgway's rail and California black rail. If individuals or nests of these species are present during construction activities in salt marsh habitat, individuals or nests may be crushed or injured by personnel or equipment. The project will result in the direct removal of tidal marsh nesting and foraging habitat for California black rail and Ridgway's rail. Construction activities may also result in the indirect disturbance of nesting and foraging California Ridgway's rails and California black rails due to the noise and activity of workers and equipment during project activities. The USFWS and CDFW recommend a buffer of 700 feet around rail nesting areas, and thus, the area in which potential disturbance of rails may occur includes all vegetated tidal marsh within 700 feet of the project footprint.

Noise may alter rail behavior in ways that result in injury, mortality, or reduced nesting success. Noise and other human disturbance could be disruptive to rail breeding efforts if they occur in or near occupied habitat during the breeding season. Disturbance could cause short-term effects such as failure to breed, nest abandonment, lower numbers of eggs, juvenile abandonment, and overall lower juvenile survivorship. If disturbed during the breeding season, rails could disperse, but may not successfully establish new breeding territories and breed. Loss of any female rails from a breeding site would be compounded by the loss of potential future progeny. Disturbance could also result in a reduction in foraging efficiency in foraging areas, increased movement or

flushing from cover, or altered activity patterns that reduce energy reserves and increase predation risk. Rails could be forced to adjust the boundaries of their territories or to disperse to other habitat areas. Potential impacts of the project on even one nest of either species would be significant under CEQA due to these species' rarity.

Construction Outside of the Nesting Season

The nesting season for these rails generally extends from February 1 through August 31. Outside of the nesting season (September 1 to January 31), Mitigation Measure BIO-2a is required to ensure that any foraging California Ridgway's rails or California black rails that are present on site when construction commences will be allowed to disperse before they could be killed or injured. Therefore, foraging individuals will not be directly lost due to construction activities. There would still be some potential for disturbance of foraging individuals of these species in the adjacent marsh as a result of noise or movement of humans during project construction. However, such impacts would have minimal direct effects due to habituation to the existing human activity in the vicinity (at the project site and at Bedwell Bayfront Park) and the large contiguous high-quality marsh habitat adjacent to the project area available foraging rails. Such effects would not result in substantial harassment or disturbance of individuals and would not result in a reduction in the populations of any of these species. However, sudden disturbance could cause rails to flush, making them more susceptible to predation, or could preclude them from using high-quality cover that might otherwise conceal them from predators. In particular, if construction were to occur during king tides, when concealing cover is limited, rails that are flushed due to project disturbance would be susceptible to predation. .

In addition to Implementation of Mitigation Measure BIO-2a, the implementation of Mitigation Measures BIO-3a (worker training), BIO-3b (no pets), BIO-3c (remove food trash), BIO-3d (minimize lighting impacts), BIO-3e (work during extreme high tides), BIO-3f (limit vegetation removal), BIO-3g (vegetation removal methods), BIO-3i (artificial lighting) and BIO-3j (prohibit plastic monofilament netting) would reduce impacts on foraging California black rail and California Ridgway's rail to ***less than significant with mitigation incorporated.***

Construction During the Nesting Season

Construction disturbance during the nesting season (February 1 through August 31) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. In addition, noise and increased construction activity could temporarily affect foraging behavior, potentially resulting in the abandonment of nest sites.

Implementation of Mitigation Measure BIO-4 (Pre-Construction/Pre-Disturbance Survey for California Black Rail and California Ridgway's Rail) would avoid impacts on active nests of California black rail and Ridgway's rail and reduce impacts to nesting rails to ***less than significant with mitigation incorporated.***

5.3.6 Impacts to Western Burrowing Owl

A burrowing owl was observed near a burrow at the FERRF during a March 2017 site visit and there is a documented occurrence from 2003 of burrowing owl from Bedwell Bayfront Park. No

burrowing owls were observed during several subsequent site visits in 2018, 2019, and 2020. However, the levees within the project area contain ground squirrel burrows that provide potential nesting, wintering, and foraging habitat for burrowing owls. If active burrowing owl nests are present on the project site at the time of construction, construction-related disturbance could result in injury or mortality of an owl. In addition, construction-related disturbance could lead to the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Even if burrowing owls are not breeding on the site, construction could result in injury or mortality of an owl if an occupied burrow is filled or compacted during construction. The project will temporarily impact the levees during construction, mainly from the movement of construction equipment and personnel and the installation of sheet piles. The installation of the sheet piles is not expected to remove or affect the existing burrows on the project site. While burrowing owls may be disturbed during construction the project does not remove burrowing owl breeding habitat. The ecotone levee may increase the area available to burrowing owls for forage, cover, and breeding in the short term until the ecotone levee gradually reverts to salt marsh due to sea level rise. Mitigation Measures BIO-3a, BIO-3b, BIO-5c, BIO-5d, and BIO-5a through BIO-5c will protect burrowing owl during construction and prevent significant impact to this species.

5.3.7 Impacts to White-tailed Kite

The white-tailed kite is a year-round resident in the project region. The blue gum and Australian pine trees found along the southern edge of the project area as well as just outside of the project area in Bedwell Bayfront Park provide suitable nesting habitat for white-tailed kite. The entire project area provides suitable foraging habitat for white-tailed kite.

Construction Outside of the Nesting Season

Impacts outside of nesting season (September 16 to January 31) will be less than significant since any foraging white-tailed kites will disperse, in response to construction activities, before they could be killed or injured. As a result, no direct disturbance of these species will occur.

There would still be some potential for disturbance of foraging individuals in the adjacent areas as a result of construction noise and/or movement of construction equipment and personnel. However, such impacts would have minimal effects due to the presence of nearby suitable foraging habitat. Such effects would not result in substantial harassment or disturbance of individuals and would not result in a reduction in the populations of white-tailed kites. Therefore, impacts to foraging white-tailed kites will be ***less than significant***.

Construction During Nesting Season

Project activities during the nesting season (February 1 to September 15) that cause a substantial increase in noise, movement of equipment, or human presence near active nests could result in the abandonment of active white-tailed kite nests with eggs or nestlings. However, adult birds are not expected to be killed or injured, as they could easily fly from the work site. The project is not expected to result in the loss of nesting habitat for white-tailed kite. Implementation of Mitigation Measures BIO-6a, Pre-Construction/Pre-Disturbance Surveys for Nesting Birds and

BIO-6b, Nesting Bird Protection would avoid impacts on active nests of white-tailed kite so that impacts would be to ***less than significant with mitigation incorporated***.

5.3.8 Impacts to American Falcon, Black Skimmer, California Brown pelican, California Least Tern, and Western Snowy Plover

American peregrine falcon, black skimmer, California brown pelican, California least tern, and western snowy plover are seen regularly in the project region and may fly through or forage in the project site. However, these species are unlikely to nest in the project site or immediate area because of the lack of suitable nesting habitat. All four species will only be temporarily displaced by construction noise and can forage in areas surrounding the project. Therefore, impacts to American peregrine falcon, black skimmer, California brown pelican, California least tern, and western snowy plover will be less than significant. In the unlikely event that any of these species nest in the project site, compliance with Mitigation Measure BIO-6a, Pre-Construction/Pre-Disturbance Surveys for Nesting Birds and Mitigation Measure BIO-6b, Nesting Bird Protection would reduce project impacts on these species to ***less than significant with mitigation incorporated***.

5.3.9 Impacts to Alameda Song Sparrow, Bryant's Savannah Sparrow, Loggerhead Shrike, Northern Harrier, San Francisco Common Yellowthroat, and Short-eared owl

The Alameda Song Sparrow, Bryant's Savannah Sparrow, loggerhead Shrike, northern harrier, San Francisco common yellowthroat, and short-eared owl (all California species of special concern) are associated with marsh habitats and are known to nest in or near the project area. These species are assessed together because the impacts of the proposed project on these nesting special-status bird species would be similar.

Construction Outside of the Nesting Season

Outside of the nesting season (September 16 to January 31), any foraging Alameda song sparrow, Bryant's savannah sparrow, loggerhead shrike, northern harrier, San Francisco common yellowthroat, and short-eared owl present on site when construction commences are expected to disperse to adjacent marsh areas before they could be killed or injured. As a result, no direct disturbance of these species is expected to occur.

There would still be some potential for disturbance of foraging individuals of these species in the adjacent marsh as a result of construction noise and/or movement of construction equipment and personnel. However, such impacts would have minimal effects due to the presence of nearby suitable foraging habitat. Such effects would not result in substantial harassment or disturbance of individuals and would not result in a reduction in the populations of any of these species. Therefore, impacts to these special-status birds will be ***less than significant***.

Construction During the Nesting Season

Construction disturbance during the typical nesting season defined by CDFW (February 1 to September 15) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. In

addition, noise and increased construction activity could temporarily impact foraging behavior, potentially resulting in the abandonment of nest sites. This would violate California Fish and Game Code.

Implementation of Mitigation Measures BIO-6a, Pre-Construction/Pre-Disturbance Surveys for Nesting Birds and BIO-6b, Nesting Bird Protection would avoid impacts on active nests of Alameda song sparrow, Bryant's savannah sparrow, loggerhead shrike, northern harrier, San Francisco common yellowthroat, and short-eared owl and reduce impacts to ***less than significant with mitigation incorporated***.

Loss of Habitat

The Installation of the sheet piles to protect the FERFF will not result in a permanent loss of habitat for birds. Based on the conceptual design the construction of the proposed ecotone levee will impact approximately 3.1 acres of tidal salt marsh habitat of the 6.0 acres of tidal salt marsh habitat in the project area. The acreage is based on the conceptual design for the ecotone levee and final impact acreages will be determined when the design for the ecotone levee has undergone resource agency review. The finished ecotone levee will retain 0.77 acre of tidal salt marsh and add 2.33 acres of native upland scrub habitat. The loss of salt marsh habitat in the near term will be offset when new salt marsh habitat is created under sea level rise conditions. Also, the loss of 2.33 acres of existing tidal salt marsh habitat is a small portion of the adjacent 500-acre Greco island tidal marsh complex.

The proposed ecotone levee will provide native upland refugia habitat for special-status species and migratory birds~~;~~, and increase the resilience of tidal habitat in the project area to climate change by protecting it against sea level rise. Even though there will be an immediate loss of salt marsh habitat, the marsh will be replaced with useable upland habitat, and eventually portions of the ecotone levee will transform back into marsh habitat as sea level rises, while important transitional upland habitat will also be protected. The ecotone levee will also protect the existing flow equalization facility and the proposed water recycling facility from flooding, which protects water quality in the Bay that birds also depend on. The change in habitat from salt marsh to transitional upland in this small area (approximately 2.33 acres converted to transitional upland) is less than significant, because it provides refuge for wildlife, including birds, during current high tides and provides resiliency against the loss of habitat to sea level rise.

Collision with Building Glass

Development of the proposed project involves the construction of new buildings. Glass windows and building facades can result in injury or mortality of birds due to collisions with these surfaces. Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (e.g., they see the glass as sky or vegetated areas) or when transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners). The majority of avian collisions with buildings occur within the first 60 feet of the ground (City of San Francisco 2011), where birds spend the majority of their time engaged in foraging, territorial defense, nesting, and roosting activities, and where vegetation is most likely to be reflected in glazed surfaces.

Even though the construction of buildings will occur in the developed portions of the study area, the adjacent marsh and open water habitats in the study area can potentially attract large numbers of birds, especially since the site is contiguous with the Don Edwards National Wildlife Refuge, a major stopover point along the Pacific Flyway. In addition, the wastewater detention ponds provide suitable foraging habitat and could attract large numbers of birds. Birds using these habitats to forage could fly over the study area at altitudes low enough for bird-strike mortality to occur.

Compliance with the bird-friendly design requirements such as those in Menlo Park Municipal Code Chapter 16.43.140 (6) will minimize the number of bird collisions with the new buildings and result in a less than significant impact. Mitigation Measure BIO-6c is included to assure compliance with the measures to reduce bird collision hazard. Therefore, the impact is considered ***less than significant with mitigation incorporated***.

5.3.10 Impacts to Nesting Birds

All migratory bird species and their nests are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Project activities must comply with the provisions of the MBTA and California Fish and Game Code (i.e., avoid take of protected nesting birds).

Construction disturbance, including the removal of trees and demolition of structures, during the avian breeding season (February 1 through September 15, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. In addition, noise and increased construction activity could temporarily impact foraging behavior, potentially resulting in the abandonment of nest sites. Two trees are anticipated for removal at the FERRF site as well as two trees at the IPS site. However, implementation of Mitigation Measures BIO-6a and BIO-6b, Pre-Construction/Pre-Disturbance Surveys for Nesting Birds and Nesting Bird Protection, respectively, and BIO-6c Reduce Collision Hazard, would avoid impacts on active nests of birds protected by the MBTA or California Fish and Game Code and reduce impacts to ***less than significant with mitigation incorporated***.

5.3.11 Impacts to Harbor Seals

There are known haul out sites or rookery sites for harbor seals near the project site and harbor seals are seen regularly in the project region. Therefore, harbor seals can forage or haul out within the project area at any time of the year. Harbor seals will only be temporarily displaced by construction activities and can forage or haul out in areas surrounding the project area. Also, harbor seals are not expected to be killed or injured, as they could easily move from the work site. In addition, the proposed project would not result in permanent substantial changes to the availability of foraging or haul out habitat after construction is completed. Therefore, impacts to foraging or resting harbor seals will be ***less than significant***.

5.3.12 Impacts on Wildlife from Artificial Lighting

Many animals, including special-status species, are extremely sensitive to light cues, which influence their physiology and influence their behaviors, particularly during the breeding season (de Molenaar et al. 2006). It is known that photoperiod (the relative amount of light and dark in a

24-hour period), is an essential cue triggering physiological processes such as growth, metabolism, development, breeding behavior, and molting in birds, mammals, and many other taxa, suggesting that increases in ambient light may interfere with these processes across a wide range of species and result in impacts on wildlife populations (Beier 2006; de Molenaar et al. 2006).

Artificial lighting may also indirectly affect mammals and birds by increasing the nocturnal activity of predators like owls, hawks, and mammals (Negro et al 2000, Longcore and Rich 2004, DeCandido and Allen 2006, Beier 2006). The presence of artificial light may influence habitat use by rodents and by breeding birds (Beier 2006; de Molenaar et al. 2006) by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality.

The proposed project includes the construction of a recycled water facility. The recycled water facilities include the construction of buildings and installation of influent and effluent piping in existing street rights-of-way and the pump station located at Marsh Road, and both the existing rights-of-way and pump station are adjacent to marsh habitat in Flood Slough.

If the proposed project includes the installation of lighting that illuminates marsh habitat and the adjacent levees, such lighting could potentially have adverse effects on special-status species in the wetlands and adjacent levee refugia habitat. Implementation of Mitigation Measure BIO-3i, Artificial Lighting**,** would reduce artificial lighting impacts on wildlife to ***less than significant with mitigation incorporated***.

5.3.13 Impacts on Native Species and Communities from Introduction or Spread of Invasive Species

Invasive plants degrade habitat quality for native plants and animals by altering vegetative structure and often reducing specific food and structural resources required by native animals. As a result, invasion of native habitats by non-natives results in adverse effects on both the native plants being displaced and native animals that would otherwise use those habitats. Because many invasive plants are able to easily colonize recently disturbed areas and/or tolerate repeated disturbance better than many natives, project construction activities, such as clearing and grading, could create conditions suitable for spreading of invasive plant species. In addition, bare upland soils left after construction of temporary staging areas could encourage growth of weedy species; and mulching or erosion control mixes could include and thus introduce invasive, non-native plant species.

In salt marsh habitat, invasive weeds, such as perennial pepperweed (*Lepidium latifolium*) or non-native cordgrass (*Spartina* sp.) could spread into marsh habitats when seeds are attached to vehicles, equipment, and clothing. The spread of pepperweed and other invasive plants can displace native marsh vegetation and reduce habitat quality of the salt marsh by reducing refugia and foraging habitat for native species.

The project area contains alkali Russian thistle (*Salsola soda*) and stinkwort (*Dittrichia graveolens),* both moderately invasive species (Cal-IPC 2020). Even though alkali Russian thistle is already present along the fringes of the salt marsh in the project area and stinkwort is present along the levees, project activities could cause both species to spread further into

previously unoccupied areas within the salt marsh and the upland areas of the proposed native ecotone, respectively. However, implementation of Mitigation Measure BIO-7a Integrate Invasive Plant Management into the Ecotone Levee Restoration Plan and BIO7-b Construction Measures to Minimize Invasive Plant infestations, would reduce potential invasive species-related impacts on sensitive habitats and the species they support to ***less than significant with mitigation incorporated***. Further, the project would comply with the City of Menlo Park Municipal Code, Chapter 12.44.090(1)(G), which discourages the use of invasive and/or noxious plant species for landscaping.

5.3.14 Impacts to Sensitive Communities

Sensitive natural communities in the project area include the *Sarcocornia pacifica* Alliance – Pickleweed Mats, which is found in the northern coastal salt marsh habitat within the project area. Impacts to pickleweed mats are discussed in Section 5.3.17 below.

5.3.15 Impacts to Jurisdictional Waters, Including Wetlands

The northern coastal salt marsh habitat present within the project area is subject to the regulatory jurisdiction of the USACE, RWQCB, BCDC, and will require CWA 401/404 permits, if impacted. The project proposes to install an ecotone levee to protect the flow equalization ponds from flooding under current conditions and due to sea level rise in the future. The ecotone levee would convert existing salt marsh habitat into native upland habitat at present, but over time would revert to salt marsh as water levels rise. The project also includes the installation of sheet piles along a section of existing levee (above the top of bank), and stormwater runoff will be discharged to an existing swale on the east property boundary that discharges to the bay. The recycled water facility includes an outfall in the bay to dispose of the remainder effluent from the RO process. Therefore, salt marsh habitat will be directly impacted by project activities, including trampling and removal of vegetation and placement of soil fill. The placement of fill material will result in the near-term loss of wetland habitat. Also, construction activities could cause the degradation of surface or ground water quality in bay waters due to erosion and transport of fine sediments or unintentional release of contaminants. Project-related impacts to tidal habitat would be considered significant under CEQA.

Construction activities could cause the degradation of surface water quality in bay waters due to erosion and transport of fine sediments or unintentional release of contaminants. Construction projects in California causing land disturbances that are equal to 1.0 acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the National Pollutant Discharge Elimination System (NPDES)/Construction General Permit. Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the NPDES/Construction General Permit require that the applicant utilize various measures including on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors. See Chapter 10, Hydrology and Water Quality, for additional information.

A stormwater management plan will be developed to ensure that, during rain events, construction activities do not increase the levels of erosion and sedimentation. This plan will include the use of erosion-control materials (e.g., baffles, fiber rolls, or hay bales; temporary containment berms) and erosion-control measures such as straw application or hydroseeding with native grasses on disturbed slopes; and floating sediment booms and/or curtains to minimize any impacts that may occur due to increased mobilization of sediments. Suitable erosion control, sediment control, source control, treatment control, material management, and non-stormwater management best management practices will be implemented.

A stormwater management plan will be developed to ensure that, during rain events, construction activities do not increase the levels of erosion and sedimentation. This plan will include the use of erosion-control materials (e.g., baffles, fiber rolls, or hay bales; temporary containment berms) and erosion-control measures such as straw application or hydroseeding with native grasses on disturbed slopes; and floating sediment booms and/or curtains to minimize any impacts that may occur due to increased mobilization of sediments. Suitable erosion control, sediment control, source control, treatment control, material management, and non-stormwater management best management practices will be implemented.

Accidental spills during construction could affect surface water quality. An accidental spill plan will be developed prior to construction and implemented as part of Mitigation Measure BIO-2c. The plan will describe what actions will be taken in the event of a spill. The plan will also incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall always be available on site. Containers for storage, transportation, and disposal of contaminated absorbent materials will be provided in the project site.

Also, in many Bay Area counties, including San Mateo County, projects must also comply with the RWQCB, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (Water Board Order No. R2-2009-0074). This permit requires that all projects implement BMPs and incorporate Low Impact Development practices into the design that prevents stormwater runoff pollution, promotes infiltration, and holds/slows down the volume of water coming from a site. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors. See Chapter 8 Hydrology and Water Quality for additional information.

During the construction phase, compliance with the requirements to control the discharge of stormwater pollutants under the NPDES Construction General Permit and Municipal Regional Stormwater NPDES Permit will reduce impacts to tidal habitat to a less than significant level**.** In addition, the project would require permits from the USACE, RWQCB, and BCDC for impacts on tidal habitat during construction.

The construction of the proposed ecotone levee will impact approximately 3.1 acres of tidal salt marsh habitat of the 6.0 acres of tidal salt marsh habitat in the project area. The finished ecotone will retain 0.77 acre of tidal salt marsh and add 2.33 acres of native upland scrub habitat. The loss of salt marsh habitat in the near term will allow new salt marsh habitat to be created under sea level rise conditions. Also, the loss of 2.33 acres of existing tidal salt marsh habitat is a small portion of the adjacent 500-acre Greco island tidal marsh complex. The impact acreages are based on the conceptual design for the ecotone levee and final acreages for temporary and permanent impacts will be determined when the design for the ecotone levee is completed, prior to obtaining permit applications from the resource agencies.

The proposed ecotone levee will provide higher quality native upland refugia habitat for special-status species and migratory birds; and increase the resilience of tidal habitat in the project area to climate change by allowing for sea level rise. Even though there will be an immediate loss of salt marsh habitat, the ecotone levee will allow upland areas to become inundated as water levels rise and transform back into marsh habitat, while still maintaining vital upland habitat. The ecotone levee will also protect the existing flow equalization facility and the proposed water recycling facility from future flooding caused by sea level rise, which are essential for protecting water quality in the Bay. The operation of the new water recycling facility will require a separate NPDES permit from the RWQCB and U.S. EPA for the discharge of effluent into jurisdictional waters (San Francisco Bay). In addition to compliance with the requirements of the NPDES permit, the project will also implement Mitigation Measure BIO-8, Water Quality Monitoring Plan, to reduce impacts on water quality from the discharge of treated RO effluent in Bay tidal waters and wetlands, and essential fish habitat to ***less than significant with mitigation incorporated***.

5.3.16 Impacts to Wildlife Movement

Because the site is isolated and surrounded by land uses that limit wildlife movement, construction-related activities in the study area will not have a significant impact on the movement of terrestrial wildlife regionally. It is also not expected to significantly effect wildlife movement around or through the site.

The salt marsh and levees in the study area function as a wildlife corridor, allowing species to move from the salt marsh into upland areas during high tide events. connecting natural areas along the coast. O other natural habitats (e.g., tidal sloughs) function as pathways for fish and bird species to move throughout the salt marsh within the study area. Grading and excavation activities as well as removal of vegetation in the salt marsh during the construction of the ecotone levee could restrict some wildlife species, particularly salt marsh harvest mouse and Ridgway's rail, from moving between suitable habitat patches during construction. This will be a temporary impact to wildlife movement. Salt marsh harvest mouse, Ridgway's rail, and other species will be able to access upland areas immediately adjacent to the study area at Bedwell Bayfront Park and along Flood Slough.

Once construction activities are complete, wildlife movement conditions in the developed areas of the site would be similar to pre-project conditions, and wildlife dispersal through the site is expected to return to existing conditions. The ecotone levee will include diverse native habitats, including tidal aquatic, estuarine wetland, bayside mesic scrub, and upland xeric scrub. The

diverse habitats will provide higher quality native upland refugia habitat and increase the quality of habitat of the salt marsh-levee wildlife corridor for several special-status species, including salt marsh harvest mouse, salt marsh wandering shrew, California Ridgway's rail, and California black rail. The ecotone levee will also increase resilience of the tidal habitat to climate change by allowing for sea level rise while maintaining an intact salt marsh-levee wildlife corridor. This impact is ***less than significant***.

5.3.17 Impacts Due to Conflicts with Local Policies

City of Menlo Park ConnectMenlo General Plan

The biological impacts described above address the project impacts related to habitat and species. The regulatory discussion contained in Section 5.2.3 discusses relevant ConnectMenlo General Plan policies. The proposed would be consistent with the listed land use and open space policies therefore impacts related to conflicts with the ConnectMenlo policies would be ***less than significant.***

Compliance with Municipal Code Chapter 13.24, Heritage Trees. Per City of Menlo Park Municipal Code Chapter 13.24, Heritage Trees, permits from the City's Director of Public Works or his or her designee and payment of a fee are required for the removal of any trees which meet the definition of heritage tree, as defined in Section 5.2.3 above. Although the project identifies four non-native trees for removal, the proposed plan does not currently identify any heritage trees to be removed. However, if the project requires the removal or pruning of trees protected by the City of Menlo Park municipal code, such impacts are considered potentially significant under CEQA, and the project would be required to comply with the City's heritage tree ordinance, including obtaining a permit from the City to remove protected trees and paying any applicable fee. Since it is expected that the project will comply with the local tree ordinance, impacts related to conflict with local policies or ordinances protecting heritage trees would be ***less than significant.***

5.3.18 Impact due to Conflicts with an Adopted Habitat Conservation Plan

The proposed project does not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan; therefore, there is ***no impact*** due to conflicts with an adopted habitat conservation plan.

5.4 CUMULATIVE IMPACTS

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. For the purposes of this cumulative impact analyses, the geographic region includes the tidal marshes in the South San Francisco Bay (South Bay), which is a vital component of the larger San Francisco Bay Estuary. The South Bay supports some of the most important wetland habitat remaining in the entire Bay Area for a number of wildlife species endemic to tidal salt marshes. The tidal marsh in the project area is part of the larger Greco tidal marsh complex.

There are several projects in the South Bay that could impact resources similar to those found in the project area, including (1) Bedwell Bayfront Park Master Plan, which provides a blueprint for the development of the park over the next 25 years including use and design priorities, (2) Bayfront Canal and Atherton Channel Flood Management and Restoration project, which involves the construction of two parallel underground box culverts and associated drainage connections to route a portion of peak flood flows from Bayfront Canal into managed ponds that are part of the Ravenswood Pond Complex portion of the South Bay Salt Pond (SBSP) Restoration Project, (3) The SAFER Bay Project: Strategy to Advance Flood Protection, Ecosystems and Recreation along San Francisco Bay (SAFER Bay). The San Francisquito Creek Joint Powers Authority (SFCJPA) proposed a regional project for the construction of new and/or improved flood risk reduction features along the Bay shoreline from the Menlo Park/Redwood City border south to San Francisquito Creek, and (4) the South Bay Salt Pond (SBSP) Restoration Project, which is a two-phase project that has restored tidal marsh habitat, reconfigured managed pond habitat, and maintained or improved flood protection. As part of the project, approximately 9,700 acres of tidal or muted tidal wetland and managed ponds have been created. The project is ongoing and involves the restoration of the Alviso-Island Ponds, Alviso-Mountain View Ponds, Alviso-A8 Ponds, and the Ravenswood Ponds. The Ravenswood Ponds are closest to the project site.

Because of the sensitivity of the tidal marsh and aquatic habitats and the species associated with these habitats, it is expected that all projects potentially affecting such resources will undergo CEQA review and that most, if not all, of the projects will be subject to permitting under Fish and Game Code 1602, Clean Water Act Section 404/401, and/or the FESA Section 7 consultation process at the least. Through these CEQA and permitting requirements, those cumulative projects are expected to avoid, minimize, and compensate for impacts to sensitive habitats and species, thus avoiding significant cumulative impacts. Further, provided that this project successfully incorporates the mitigation measures described in this chapter, the project will not contribute to any substantial cumulative effects on biological resources in combination with other projects in the South Bay. Even though the project will result in the near-term loss of tidal wetlands from the construction of the ecotone levee, the project will implement mitigation measures to avoid significant impacts from the loss of tidal wetland habitat by restoring or preserving existing wetlands.

Because ecotone levees are included as part of the San Francisco Bay Shoreline Adaptation Atlas and other regional plans, future projects along the Bay shoreline may incorporate ecotone levees into project designs to mitigate impacts from sea-level rise since ecotone levees can attenuate waves, provide marsh and upland habitats, and allow room for marshes to migrate upslope with sea level rise (SFEI and SPUR 2019). As these projects are implemented over time, the use of ecotone levees may result in the conversion of wetlands to uplands in the short term, resulting in the short-term cumulative loss of wetlands around the Bay. However, the upland areas of ecotone levees will convert back into wetlands with projected SLR, which ultimately protects existing wetlands from being converted to open water habitat in the next 50 to 100 years. With projected sea level rise, most of the tidal wetlands in the project area may be permanently loss by 2050. The construction of an ecotone levee will mitigate for the long-term loss of tidal wetlands in the project area from sea level rise. Even though the project will result in the near-term loss of tidal wetlands from the construction of the ecotone levee, the project ***will not result in cumulatively significant impacts*** on biological resources in the South Bay in the long-term.

5.5 MITIGATION MEASURES

Because the project specifications are still in the design phase and subject to change, the following mitigation measures assume project development could occur in any portion of the FERFF and adjacent areas in Bedwell Bayfront Park, paved rights of ways for the influent and distribution pipelines, and the influent pump station. However, this analysis assumes that the proposed alignments for the pipelines and influent pump house will be constructed within the existing street rights-of-way and avoid sensitive wetland or aquatic habitat.

Impact BIO-1: The proposed project may result in significant impacts to special-status plants due to disturbance or destruction of individuals or suitable habitat.

Mitigation Measure BIO-1a: Pre-Activity Surveys for Special-Status Plants. Prior to initial ground disturbance in grassland and wetland habitats and during the appropriate blooming period (Coastal marsh milkvetch and Point Reyes bird's-beak, June–October; Congdon's tarplant, May–November; saline clover, April–June), a focused survey for these four potentially occurring special-status plant species will be conducted within suitable habitat in the project footprint and a 50-foot buffer around the project footprint, where feasible. The purpose of the survey will be to assess the presence or absence of the potentially occurring species. If none of the target species are found in the impact area or the identified buffer, then no further mitigation will be warranted. If Point Reyes bird's-beak, Coastal marsh milkvetch, Congdon's tarplant, or saline clover individuals are found in the impact area, then Mitigation Measure BIO-1b will be implemented. The results of the survey will be documented.

Mitigation Measure BIO-1b: Avoidance Buffers. The project proponent, in consultation with a qualified plant ecologist, will take measures to protect all populations of special-status plant species found to occur within the project site or within 50 feet of the impact area to the extent feasible. Avoided special-status plant populations will be protected by establishing and observing the identified buffer between plant populations and the impact area. All such populations located in the impact area or the identified buffer, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around special-status plants to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities.

If complete avoidance is not feasible, then the appropriate resource agencies will be consulted to determine the appropriate measures to take, which may include salvage of seeds and/or plants, relocation of individual plants, and/or off-site preservation, enhancement, and management of occupied habitat for the species.

***Effectiveness*:** These measures would avoid or minimize impacts to special-status plants.

***Implementation*:** Qualified biologist (Mitigation Measure BIO-1a) and construction workers under supervision of a qualified biologist (Mitigation Measure BIO-1b).

***Timing*:** Prior to start of construction activities during appropriate bloom periods.

Reporting/Monitoring: The qualified biologist shall prepare a memo or letter report documenting the methods and results of the special-status plant surveys to be submitted to the District. If Mitigation Measure BIO-1b is required, the District or its contractor will maintain the avoidance buffers under the supervision of a qualified biologist. If avoidance is not feasible, the District will consult with CDFW to determine the appropriate mitigation measures.

Impact BIO-2: The proposed project could harm special-status fish, degrade surface or ground water quality, and will result in both permanent and temporary impacts to aquatic habitat during construction of the ecotone levee.

Mitigation Measure BIO-2a: Biological Monitoring During Construction in the Marsh. A qualified biological monitor will be present during all construction activities within the marsh or in vegetated areas within five (5) feet of the marsh to look for special-status animals that may be impacted by construction. For example, when construction personnel need to install the ecotone levee coffer dam and remove vegetation, the biological monitor will first inspect the vegetation to determine whether any salt marsh harvest mice or salt marsh wandering shrews are present. If any animals are present, they will be allowed to leave the area on their own, or the location of the in-marsh work will be adjusted to ensure that no impacts to individual mice or shrews occur at that time. The biologist will have stop-work authority if any individual of a federally listed species is detected in an area where it may be injured or killed by construction activities. The results of the monitoring will be documented. If found necessary by the agency approved biological monitor. Mitigation Measure BIO-2b will be implemented to include an approved dewatering plan and relocate any stranded fish found within the ecotone levee construction site. If recommended by the approved biologist, Mitigation Measure BIO-3h (exclusion fencing) will be implemented to include additional exclusion fencing along the coffer dam during ecotone levee construction. The biological monitor will also ensure that Mitigation Measure BIO-3h is implemented as necessary to protect species.

Mitigation Measure BIO-2b: Relocation of Stranded Fish. An agency approved dewatering plan shall be implemented if necessary, to complete the ecotone levee grading once the coffer dams are installed. If necessary, as the coffer dams are being placed, a qualified biologist will relocate any stranded fish to an area outside of the work area. The method of relocation will be determined by the qualified biologist, in consultation with NMFS, based on site conditions and species present. Implementation of this measure will avoid loss of fish due to stranding. The methods and results of fish relocation efforts will be documented.

Mitigation Measure BIO-2c: Measures to Protect Water Quality. During all construction in and near tidal aquatic habitat, standard BMPs will be used to minimize erosion and impacts to water quality as well as direct impacts to special-status fish. These are reported in the EIR and will be included in the SWPPP prepared for the project.

Compliance measures that protect water quality help reduce potential impacts to biological resources to less than significant.

Effectiveness: These measures required in a SWPPP would avoid or minimize potential impacts to special-status fish, and avoid and minimize erosion and impacts to water quality.

Implementation: Construction workers under the supervision of a qualified biologist (Mitigation Measure BIO-2a). A qualified biologist will relocate fish (Mitigation Measure BIO-2b). The District or its contractor will implement measures to protect water quality (Mitigation Measure BIO-2c).

Timing: Dewatering and relocation of fish will occur prior to construction activities in tidal aquatic habitat (Mitigation Measures BIO-2a and BIO-2b). Measures to protect water quality will occur for the duration of construction activities near tidal habitat (Mitigation Measure BIO-2c)

Reporting/Monitoring: A qualified biologist shall prepare a fish relocation plan to be submitted and approved by NMFS, and a separate memo or letter report documenting the results of fish relocation efforts to be submitted to the District and NMFS. The District or its contractor will maintain measures to protect water quality.

Impact BIO-3: The proposed project could harm salt marsh harvest mouse and salt marsh wandering shrew, and will result in both permanent and temporary impacts to tidal and upland habitats during construction of the ecotone levee. Additionally, if the proposed project includes the installation of lighting that illuminates marsh habitat and the adjacent levees, such lighting could potentially have adverse effects on special-status species in the wetlands and adjacent levee refugia habitat.

Mitigation Measure BIO-3a: Worker Environmental Awareness Training. A resource agency approved biologist will prepare a worker environmental awareness fact sheet with 1) the description and status of the species; 2) the habitat of the species; 3) the legal ramifications of impacting the species; 4) a list of measures being taken to reduce impacts on these species during project construction (including preconstruction surveys, minimizing trash that attracts predators, and other measures); and 5) what to do if the species are encountered. All construction personnel working on the site and in the pipeline alignments and pump station areas adjacent to wetlands will participate in a worker environmental awareness training conducted by a resource agency approved biologist, and will sign an acknowledgment that they have participated in the worker environmental awareness training.

Mitigation Measure BIO-3b: No Pets. No pets (e.g., dogs or cats) can be brought to the project site to avoid harassment, killing, or injuring of wildlife.

Mitigation Measure BIO-3c: Food Trash Removal. To minimize attraction of predators such as racoons and feral cats, all workers will be required to secure their food related trash and remove it daily. The site foreman shall assure that all food trash related to the construction work is secured and removed.

Mitigation Measure BIO-3d: Minimize Non-daylight Work; Prepare Lighting Plan. Project lighting during construction activities shall be limited in consideration of the potential impacts to special status species. If early morning, early evening, or night lighting is necessary during construction, a lighting plan shall be prepared in consultation with an agency approved biologist. 24-hour work that requires night lighting shall only be conducted with approval from the US Fish and Wildlife Service and the California Department of Fish and Wildlife due to potential impacts to species protected under FESA and CESA. See also Mitigation Measure BIO-3i Artificial Lighting regarding permanent site lighting.

Mitigation Measure BIO-3e: Work During Extreme High Tides. To avoid the loss of individual salt marsh harvest mice, salt marsh wandering shrew, California Ridgway's rail, and California black rail that may shelter in the work area during extreme high tides, an agency approved biological monitor shall be present when work around the perimeter of the FERRF site occurs during extreme high tides, such as King Tides. The agency approved biological monitor shall complete a pre-construction survey prior to construction activities in areas where extreme high tide has limited upland habitat available for refuge before approving construction to proceed.

Mitigation Measure BIO-3f: Limit Vegetation Removal. To avoid the loss of individual harvest mice and wandering shrews from any excavation, fill, or construction activities in suitable habitat, vegetation removal will be limited to the minimum amount necessary.

Mitigation Measure BIO-3g: Vegetation Removal Methods. Vegetation removal will occur under the supervision of a qualified biologist as noted in Mitigation Measure BIO-2a. The biologist will give consideration to requiring the vegetation be removed on a progressive basis, such that it allows species to find adjacent cover. The qualified biologist would also make specific recommendations with respect to the rate of vegetation removal (to ensure that any harvest mice or wandering shrews present are able to escape to cover that will not be impacted), and whether vegetation needs to remain in a certain area temporarily to facilitate dispersal of mice/shrews into habitat outside of the impact area.**Mitigation Measure BIO-3h: Exclusion Fence**. Following the hand-removal of vegetation, exclusion fencing will be erected around the outer boundary of the work area that is adjacent to harvest mouse/wandering shrew habitat that is to remain intact if the coffer dam design does not exclude species. This will define and isolate protected harvest mouse habitat. The installation of the fence will be supervised by a qualified biologist. This fencing will consist of heavy plastic sheeting or metal material that cannot be climbed by harvest mice, buried at least 4 inches below the ground's surface, and with at least 1 foot (but no more than 4 feet) above the ground. All supports for the fencing will be placed on the inside of the work area. A 4-foot buffer will be maintained free of vegetation around the outside of the exclusion fencing. The fencing will be inspected daily during construction, and any necessary repairs will be made within 24 hours of when they are found. If any breaks in the fencing are found, the qualified biologist will inspect the work area for salt marsh harvest mice and salt marsh wandering shrews. If any individuals are found, all work that could impact these individuals will cease until the individuals have left the impact area on their own.

Mitigation Measure BIO-3i: Artificial Lighting. During and after project construction, the spillover of lighting into the salt marsh habitat and adjacent levees will be minimized using low-intensity lighting or other appropriate low-dispersion lighting technology; orientation of lights so that they are placed on the perimeter of the work area and directed inward (rather than directing any lighting toward the marsh) and downward toward the ground; and shielding of lights from behind. Low-intensity lighting, downcast lighting, or other appropriate lighting technology will be incorporated into the project design where permanent lighting is to be placed within 200 feet of the salt marsh to reduce potential adverse effects on animals within this habitat.

Mitigation Measure BIO-3j: Prohibition of Plastic Monofilament Netting. Monofilament plastic netting, including in temporary and permanent erosion control measures (such as straw wattles), shall not be used.

Effectiveness: These measures would avoid or minimize impacts to salt marsh harvest mouse salt marsh wandering shrew, and other wildlife during construction of the ecotone levee, and restore impacted native marsh and upland habitats.

Implementation: Construction workers under the supervision of a qualified biologist (Mitigation Measures BIO-3a, BIO-3e, BIO-3f, BIO-3g and BIO-3h. The District or its contractor (Mitigation Measures BIO-3b, BIO-3c, BIO-3d, BIO-3i, BIO-3j).

Timing: Prior, during, and after construction activities near tidal marsh and adjacent upland habitats.

Reporting/Monitoring: A qualified biologist will submit the signed acknowledgment forms from the worker environmental awareness program to the District (Mitigation Measure BIO-3a). The District or its contractor will maintain the exclusion fence (Mitigation Measure BIO-3h). The district will ensure that low-intensity lighting, downcast lighting, or other appropriate lighting technology will be incorporated into the project design and this shall be shown on construction drawings (Mitigation Measure 3i).

Impact BIO-4: The proposed project could harm California black rail and California Ridgway's rail, and will result in both permanent and temporary impacts to tidal and upland habitats during construction.

Mitigation Measure BIO-4: Pre-Construction/Pre-Disturbance Survey for California Black Rail and California Ridgway's Rail. If construction activities occur during the nesting season (February 1 through August 31), a qualified biologist shall conduct protocol level surveys for California black rail and Ridgway's rail before initiation of any ground disturbing activities within the salt marsh habitat and a 700-foot buffer. Protocol surveys are required to be completed over several visits between January and April, and may significantly impact the construction schedule if they have not been completed in time. The qualified biologist will be experienced with the various calls, estimating distances to calls under field conditions, and the USFWS Ridgway's rail survey methodology (USFWS 2015). The qualified biologist shall submit the proposed

survey methods to CDFW and USFWS for review and approval prior to commencing the surveys. The results of the survey will be documented.

If an active nest is found within the survey area, the qualified biologist shall consult with CDFW and/or USFWS to determine the appropriate construction-free buffer zone (typically 700 feet) and/or other mitigation measures to be implemented. If no rail call centers or nests are found, then further mitigation is not required.

If Ridgway's rail is assumed present, then construction activities would need to avoid the breeding season each year (February 1 through August 31).

Effectiveness: These measures would avoid or minimize impacts to California black rail and California Ridgway's rail during construction activities.

Implementation: A qualified biologist(s) will submit the proposed survey methods to CDFW and USFWS and perform the pre-construction surveys. Construction workers under the supervision of a qualified biologist will establish buffers, if needed.

Timing: Prior to construction activities and during construction activities if buffers are needed.

Reporting/Monitoring: A qualified biologist shall prepare a letter report documenting the results of the survey. The District or its contractor will maintain any needed avoidance buffers under the supervision of a qualified biologist.

Impact BIO-5: The proposed project could harm burrowing owls, and will result in both permanent and temporary impacts to nesting, roosting, and foraging habitats during construction.

Mitigation Measure BIO-5a: Conduct Pre-construction Surveys for Burrowing Owls. Pre-construction surveys for burrowing owls will be conducted prior to the initiation of all project activities within suitable burrowing owl nesting and roosting habitat (i.e., grassland habitat and levees with burrows of California ground squirrels). Pre-construction surveys will be completed in conformance with the CDFW's 2012 guidelines (CDFG 2012), summarized as follows. An initial habitat assessment will be conducted by a qualified biologist to determine if suitable burrowing owl habitat is present. During the initial site visit, which will be conducted not less than 14 days prior to the onset of ground disturbing activities, a qualified biologist will survey the entire activity area and (to the extent that access allows) the area within 250 feet of the site for suitable burrows that could be used by burrowing owls for nesting or roosting. If no suitable burrowing owl habitat is present, no additional surveys will be required. If suitable burrows are determined to be present within 250 feet of work areas, a qualified biologist will conduct at least one additional survey to investigate each burrow within the survey area for signs of owl use and to determine whether owls are present in areas where they could be affected by proposed activities. The final survey will be conducted within the 24-hour period prior to the initiation of project activities in any given area. The results of the survey will be documented.

Mitigation Measure BIO-5b: Implement Buffer Zones for Burrowing Owls. If burrowing owls are present during the nonbreeding season (generally September 1 to January 31), a 150-foot buffer zone will be maintained around the occupied burrow(s), if feasible. If maintaining such a buffer is not feasible, then the buffer must be great enough to avoid injury or mortality of individual owls. During the breeding season (generally February 1 to August 31), a 250-foot buffer, within which no newly initiated project-related activities will be permissible, will be maintained between project activities and occupied burrows. Owls present between February 1 and August 31 will be assumed to be nesting, and the 250-foot protected area will remain in effect until August 31. If monitoring evidence indicates that the owls are no longer nesting or the young owls are foraging independently, the buffer may be reduced, or the owls may be relocated prior to August 31. If necessary, relocation of owls in any season will be completed by a qualified biologist in consultation with CDFW and likely by using one-way doors, which should be installed in all burrows within the impact area and left in-place for at least two nights. These one-way doors will then be removed and the burrows back-filled immediately prior to the initiation of grading.

Mitigation Measure BIO-5c: Monitor Owls During Construction to Determine Feasibility of a Reduced Buffer. As an alternative to Mitigation Measure 5b, which requires a 250-foot buffer around owl nests (assuming they have not been relocated), this measure provides for monitoring of owl behavior to determine if the size of the buffer can be reduced. Any owls occupying the study area are likely habituated to frequent human disturbance due to regular activity at the project site and in nearby Bedwell Bayfront Park. As a result, they may exhibit a tolerance of greater levels of human disturbance than owls in more natural settings, and construction within the standard 250-foot buffer during the nesting season may be able to proceed without disturbing the owls. Therefore, if nesting owls are determined to be present on the site, and project activities cannot feasibly avoid disturbance of the area within 250 ft of the occupied burrow during the nesting season (i.e., February 1 through August 31), under this measure a qualified biologist will be present during all activities within 250 feet of the nest to monitor the owls' behavior. If in the opinion of the qualified biologist, the owls are disturbed to the point of harm or possible reduced reproductive success, all work within 250 feet of the occupied burrow will cease until the nest is determined by a qualified biologist to no longer be active..

Effectiveness: These measures would avoid or minimize impacts to burrowing owls.

Implementation: A qualified biologist will perform the pre-construction surveys (Mitigation Measure BIO-5a and/or BIO-5c). Construction workers under the supervision of a qualified biologist will establish buffers, if needed (Mitigation Measure BIO-5b).

Timing: Prior to construction activities and during construction if buffers and monitoring are needed.

Reporting/Monitoring: A qualified biologist shall prepare a memo or letter report documenting the results of the survey and monitor any nesting owls (Mitigation Measures

BIO-5a and BIO-5c). The District or its contractor will maintain any needed avoidance buffers under the supervision of a qualified biologist (Mitigation Measure BIO-5b).

Impact BIO-6: The proposed project could result in temporary and permanent impacts to Alameda song sparrow, American peregrine falcon, black skimmer, Bryant's savannah sparrow, California brown pelican, California least tern, loggerhead shrike, northern harrier, San Francisco common yellowthroat, short-eared owl, western snowy plover, white-tailed kite, and other nesting birds protected by the MBTA and California Fish and Game Code. Glass in new buildings could increase collision hazard causing injury or death for these species.

Mitigation Measure BIO-6a: Pre-Construction/Pre-Disturbance Surveys for Nesting Birds.

Avoidance. To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code would be avoided. The nesting season for most birds in San Mateo County extends from February 1 through September 15.

Pre-Construction Surveys. If it is not possible to schedule construction activities between September 15 and January 31, then preconstruction surveys for nesting birds will be conducted by a qualified biologist to ensure that no nests would be disturbed during project implementation. These surveys will be conducted no more than five days prior to the initiation of any site disturbance activities and equipment mobilization in the BSA as well as the right of ways for the distribution pipelines and the influent pump station. If project activities are delayed by more than five days, an additional nesting bird survey will be performed. During this survey, the biologist will inspect all potential nesting habitats (e.g., shrubs, developed areas, structures, etc.) in and immediately adjacent to the impact area for nests. Active nesting is present if a bird is building a nest, sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys will be documented.

Mitigation Measure BIO-6b: Nesting Bird Protection. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist will determine the extent of a construction-free buffer zone to be established around the nest (typically up to 1000 feet for raptors and up to 250 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation. Within the buffer zone, no site disturbance and mobilization of heavy equipment, including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, demolition, and grading will be permitted until the chicks have fledged. Monitoring will be required to ensure compliance with MBTA and relevant California Fish and Game Code requirements. Monitoring dates and findings will be documented.

Mitigation Measure BIO-6c: Reduce Collision Hazard. The project design shall comply with measures such as those identified in Menlo Park Municipal Code Chapter 16.43.140(6) to minimize the number of bird collisions with new buildings.

Effectiveness: These measures would avoid or minimize impacts to nesting birds.

Implementation: A qualified biologist will perform the pre-construction surveys and nest monitoring, if needed (Mitigation Measures BIO-6a and BIO-6b). Construction workers under the supervision of a qualified biologist will establish buffers, if needed (Mitigation Measure BIO-6b). The District will assure compliance with BIO-6c.

Timing: Surveys for nesting birds will be conducted within 5 days prior to the start of construction.

Reporting/Monitoring: A qualified biologist shall prepare a memo or letter report documenting the results of the surveys and any needed nest monitoring (Mitigation Measures BIO-6a and BIO-6b). The District or its contractor will maintain any needed avoidance buffers under the supervision of a qualified biologist (Mitigation Measure BIO-6b).

Impact BIO-7: The proposed project could result in the introduction or spread of invasive plants, which can displace native marsh vegetation and reduce habitat quality of the salt marsh by reducing refugia and foraging habitat for native species, including special-status species.

Mitigation Measure BIO-7a: Integrate Invasive Plant Management into the Ecotone Levee Restoration Plan. Prior to the start of construction activities, measures to control invasive plant species shall be specified and integrated with the Habitat Mitigation and Monitoring Plan (HMMP) for the ecotone levee restoration, with the purpose of protecting restoration areas from being significantly impacted by invasive weeds. Invasive plant removal in the salt marsh and on the adjacent levees shall be limited to hand tools as specified in Measure BIO-3h, and shall be removed before grading starts. If specified in the HMMP for the restoration area, invasive species management will extend into developed areas of the parcel as needed to protect the restoration area.

Mitigation Measure BIO-7b: Construction Measures to Minimize Invasive Plant Infestations. The following measures shall be taken during construction to minimize invasive plant infestation and potential impacts of invasive plants on adjacent natural habitats, particularly the wetlands:

- All ground disturbing equipment used adjacent to native habitats will be washed (including wheels, tracks, and undercarriages) both before and after being used at the site. Worker personal gear, including boots, should also be cleaned and clear of plant material prior to entering the work area.
- All seeds and straw materials used on site shall be weed-free rice straw, and all gravel and fill material shall be certified weed free.

- The project will follow a Stormwater Pollution Prevention Plan as per the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ), to reduce stormwater runoff which can carry the seed of invasive plants to other locations.
- All disturbed soils within sensitive habitats and adjacent levee slopes will be stabilized and planted in accordance with the restoration plan prepared for the project as part of an approved ecotone levee project.
- Soil and vegetation removed from weed-infested areas will not be used in general soil stockpiles and will not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil will be disposed of off-site at a landfill or buried at least 2.5 feet below final grade.

Effectiveness: These measures would avoid or minimize impacts from the invasive plants.

Implementation: The District or its contractor, working with a qualified plant ecologist.

Timing: Prior to construction activities and during construction.

Reporting/Monitoring: Proof of invasive species removal in as-builts or a memo prepared by a biologist or restoration ecologist.

Impact BIO-8: The proposed project will result in both temporary and permanent impacts to jurisdictional waters and sensitive communities from the construction of the ecotone levee, installation of sheet piles along a section of existing levee, the discharge of stormwater runoff into an existing swale that discharges to the bay, and the disposal of the remainder effluent from the RO process into the bay.

Mitigation Measure BIO-8: Water Quality Monitoring Plan. The West Bay Sanitary District will develop a water quality monitoring plan in consultation with the EPA, which will consult with NMFS. The water plan will include an impact assessment, water quality standards and protections of those standards, monitoring methodology, and reporting requirements. The goal of the plan is to ensure that the discharge from the water recycling facility complies with the discharge requirements set by the regulatory agencies to protect Bay waters. Depending on the requirements of the regulatory agencies, the plan may include, for example, quarterly surface and effluent water monitoring for suspended solids, settable solids, ammonia, pH, and temperature. If required, the water quality monitoring plan will be submitted as part of the NPDES permit package.

Effectiveness: This measure would avoid or minimize impacts to jurisdictional waters from the discharge of treated RO effluent. The project will also comply with the requirements to control the discharge of stormwater pollutants under the NPDES Construction General Permit and Municipal Regional Stormwater NPDES Permit to minimize impacts to water quality during construction. In addition, the project would

require permits from the USACE, RWQCB, and BCDC for impacts on tidal marsh and aquatic habitat, and must adhere to permit requirements.

Implementation: The District or its contractor will prepare a water quality monitoring plan in consultation with the U.S. EPA.

Timing: The District or its contractor will submit a water quality monitoring plan as part of the permit applications to the regulatory agencies prior to construction.

Reporting/Monitoring: The District or its contractor will implement the monitoring conditions in an agency-approved water quality monitoring plan.

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CHAPTER 6 CULTURAL, HISTORIC, AND TRIBAL CULTURAL RESOURCES

Tom Origer & Associates conducted a cultural resources study for the proposed project (Tom Origer & Associates, November 2020) to meet the requirements of Section 106 of the National Historic Preservation Act, and those of the California Environmental Quality Act. The purpose of the report is to identify potential historical resources other than Tribal Cultural Resources, as defined in Public Resources Code [PRC] 21074 (a)(1)(A)-(B) and discussed in the Regulatory Context section). Tribal Cultural Resources are defined in Public Resources Code [PRC] 21074 (a)(1)(A)-(B). Because the report contains information about the locations of archaeological sites it is not being publicly circulated for the protection of these resources. An abstract of the report is presented in Appendix E.

Ward Hill, Architectural Historian and Denise Bradley, Cultural Landscape Historian prepared a Historical Resource Evaluation (HRE) to provide National Register of Historic Places and California Register of Historical Resources evaluations of the built environment resources within the FERRF (Hill & Bradley 2020). The evaluation of the built environment features within the FERRF was conducted for compliance with the California Environmental Quality Act (CEQA). Additionally, a National Register of Historic Places evaluation is provided to assist in any future Section 106 compliance that may be required. This report is provided in it its entirety as Appendix F.

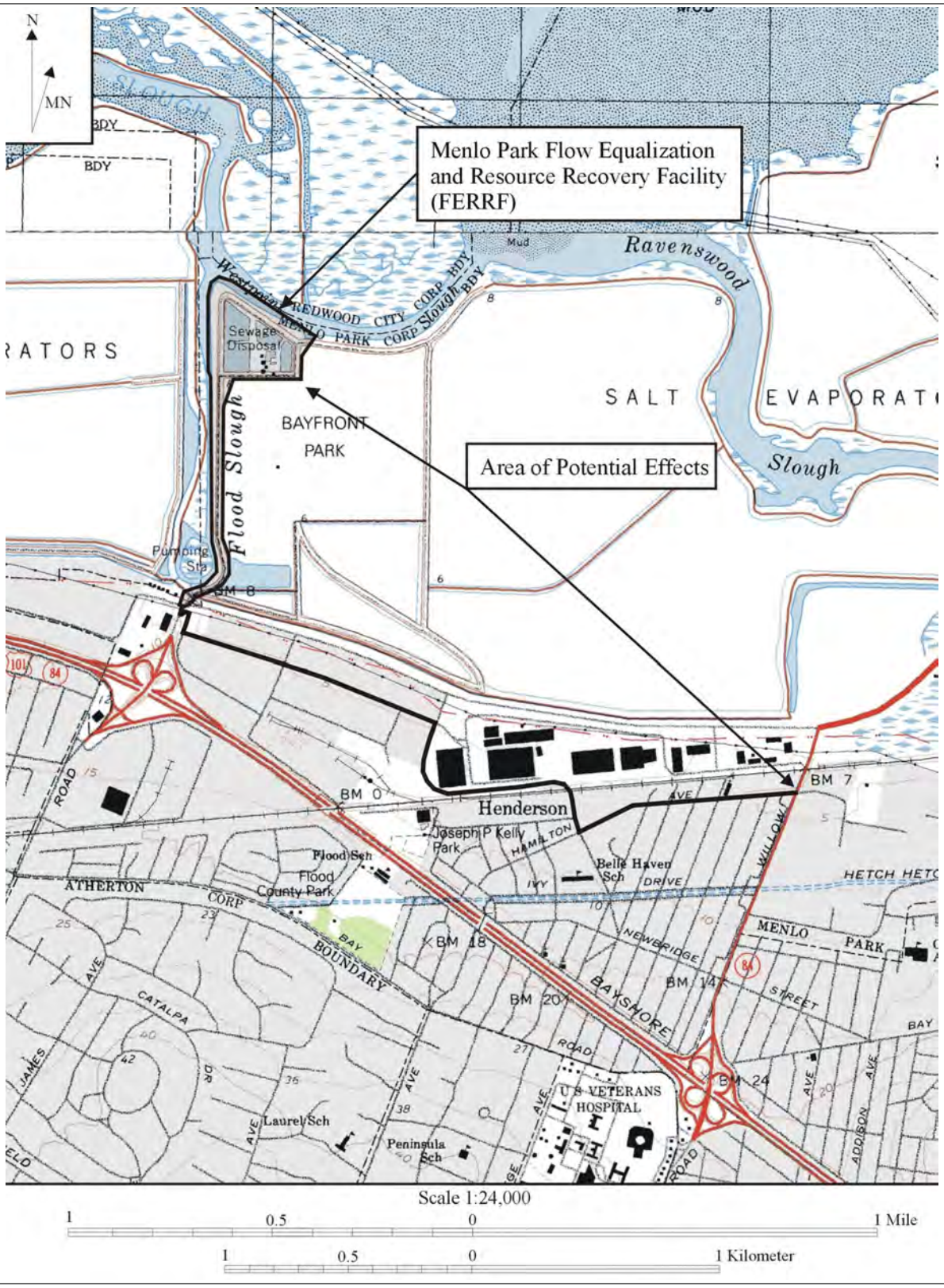
The findings of these reports are summarized in this Chapter.

6.1 ENVIRONMENTAL SETTING

6.1.1 Area of Potential Effects – Location and Description

The project is located in east-central San Mateo County in the city of Menlo Park. The APE lies on lands owned by the District, the City of Menlo Park, and the State Lands Commission. Lands owned by the City of Menlo Park will be used to improve drainage near the FERRF site in Bedwell Bayfront Park, property along the northern levee outside the FERRF boundary, and land outside the FERRF site entrance. State Lands Commission lands will also be impacted on the north side of the FERRF site where levee improvements are proposed.

The northern extent of the APE lies on filled bay muds near the southern end of San Francisco Bay. The southern extent of the APE lies on what would have been prior to development, the shore or just upslope of the shore of San Francisco Bay. The FERRF lies on an approximately 20-acre parcel. The influent wastewater pump station would be situated within an approximately 2,700-square foot area at the northwest corner of the intersection of Marsh Road and Bayfront Expressway. Pipelines would be either within these area footprints or would run down Marsh Road, Constitution Drive, Chilco Street, and Hamilton Avenue and totals 18,400 linear feet. Figure 6-1 shows the APE on the Palo Alto 7.5 USGS topographic map.



Source: F&L, 2020

Figure 6-1 Areas of Potential Effect

West Bay Sanitary District Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Facility Project

From the intersection of Marsh Road and Highway 84 going north, the geology of the APE consists of Bay Mud formed during the Holocene epoch (11,700 years ago to the present). Though other maps show this area as artificial fill, which would make sense given its location in relation to the former bay shore which would have followed closely along what is now Highway 84 (Origer 2020). All parts of the APE that are south of this point lie on basin deposits formed during the Holocene epoch. These basin deposits are comprised of fine silty clay to clay deposits (Origer 2020).

Soils within the APE are comprised of the Novato series, Urban land-Orthents, and Pits and Dumps (Origer 2020). Novato soils are very deep, poorly draining clays that are found in saltwater marshes along the edges of San Francisco Bay (Origer 2020).

Urban land-Orthents are places where asphalt, concrete, buildings, and other structures cover soil, or soils are that have been cut and filled for urban development. Included in the APE are places that have been reclaimed as well. Land containing Urban land-Orthents is used for homesite, urban, and recreational development (Origer 2020).

Land designated as Pits and Dumps are places that once were gravel pits, refuse pits, and rock quarries (Origer 2020). A portion of Marsh Road and the West Bay Sanitary District's FERRF lies on this land which was once a part of a landfill that was capped in the 1980s.

6.1.2 Prehistory

The concept of prehistory refers to the period of time before events were recorded in writing and vary worldwide. Because there is no written record, understanding of California prehistory relies on archaeological materials and oral histories passed down through generations. Prehistory in Central California is divided into three culture periods termed the Early, Middle, and Late Horizons.

Early occupants of the San Francisco Bay Area appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coeval with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

These horizons or periods are marked by a transition from large projectile points and millingslabs, indicating a focus on hunting and gathering during the Early Period, to a marine focus during the Middle Period evidenced by the number of shell mounds in the Bay Area. The Middle Period also saw more reliance on acorns and the use of bowl-shaped mortars and pestles. Acorn exploitation increased during the Late Period and the bow and arrow were introduced.

Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and hand-stones, and mortars and pestles; and locally darkened midden soils

containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones.

6.1.3 Ethnography

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups (the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families). The distribution and internal diversity of four of these groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, that is, the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region during the Archaic period, and there are hints of connections between certain branches of Hokan, such as that between Salinan and Seri, that suggest at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the Southwest and northwestern Mexico.

Linguistic evidence shows that between 10,000 and 4,000 years ago inhabitants in the area were Pre-Hokan speakers, and by 6,000 years ago Hokan languages had developed in the San Francisco Bay Area. Penutian (Utian) speakers likely began to migrate into the area from the lower Sacramento Valley about 4,000 years ago and established in the East Bay Area. Proto-Costanoan people likely originated in the East Bay Area, and early Costanoans spread to the peninsula by about 3,200 years ago.

At the time of European settlement, the project area was situated within the area controlled by the Ramaytush linguistic group of the Ohlone/Costanoan. The Ohlone/Costanoan were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Permanent villages were occupied throughout the year and satellite sites were visited to procure particular resources that were especially abundant or only seasonally available. Sites often were situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant.

Between 1777 and 1797, Spanish missionaries established seven missions in Costanoan territory disrupting Costanoan lifeways and cultural identities and decimated the population. It was estimated that Costanoans numbered 10,000 in 1770 and less than 2,000 in 1832 as new diseases were introduced, leading to higher mortality rates and lower birth rates.

6.1.4 History

Historically, the project area lies within the lands owned by Mission Santa Clara de Asis which was located nearly 15 miles southeast of the APE. The mission was moved five times, eventually to its current location on what is now the Santa Clara University campus after the Guadalupe River flooded twice and two earthquakes. The area around Menlo Park and nearby Palo Alto was used as the mission's sheep grazing ranch.

After secularization, the APE was located within the Las Pulgas land grant (General Land Office [GLO] 1856). The Rancho de Las Pulgas was initially granted to José Darío Argüello and known as "Cachanigtac" but was later known as Las Pulgas (the fleas in Spanish). The land consisted of 12 square leagues (over 69,000 acres). The western boundary of the land was disputed and in 1856 a patent for 32,240 acres was finally issued to Argüello's widow, his two sons, and the attorney who provided his services in the dispute, Simon Monserrate Mezes.

After the Rancho de Las Pulgas was divided up and sold to various landowners, a 1,700-acre portion of the land grant was sold to Dennis Oliver and D. C. McGlynn. They erected a gate with a wooden arch across its top at the corner of what is now Middle Avenue and El Camino Real. The arch read “Menlo Park” and was created in memory of their former home in Menlough, Ireland. Like many towns and cities in California, the advent of the railroad prompted the beginning of a community at the location of Menlo Park though the city of Menlo Park was not established until 1874.

In the early years of Menlo Park, it was a place where the wealthy chose to vacation. These families included governors, lawyers, railroad company owners, traders, and other business owners. These people constructed several large mansions and owned large tracks of land.

After the United States entered World War I, 7,200 acres were acquired by the United States Army to be used as a training camp. Camp Fremont was used only a little over a year, but the brief use of this camp prompted the construction of a great amount of infrastructure and paved streets. It also encouraged merchants to open shops to service the trainees. Many of these shops remained after the camp was disbanded.

Over the years, Menlo Park became a center for science and technology as the Stanford Research Institute and the United States Geologic Survey both had campuses in Menlo Park. Menlo Park’s proximity to Silicon Valley made it an ideal location for venture capitalists which took up shop along Sand Hill Road. There are now numerous technology companies within Menlo Park and in nearby cities.

Historic period site indicators generally include; fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

6.1.5 History of Solar Salt Industry

The HRE Report provides a comprehensive description of the history of the solar salt industry in San Francisco Bay and in the Menlo Park areas. See Appendix F for a complete discussion. A brief summary is presented below.

In 1850, the federally regulated Arkansas Swamp Lands Act was enacted which enabled states to reclaim land from swampland with the use of drainage or levees and allowed individuals who made those lands profitable to buy back the land from the state (Hill & Bradley 2020). After the implementation of the Arkansas Act, large swathes of the marshlands surrounding the Bay were bought to utilize for salt production. By the 1860s, salt producers had developed the salt-making technique that is still followed in principle today. This technique directed the inflow of San Francisco Bay water via a natural slough into a receiving pond; the water (brine) then moved

through a series of ponds where evaporation increased its salinity; the saturated brine was finally transferred into crystallizer beds where salt crystals formed and salt was harvested (Hill & Bradley 2020).

By the turn of the twentieth century, the industry had spread to the western shores of the Bay, and several plants—including the Leslie Salt Refining Company, Greco Salt Company, Redwood Salt Works, and West Shore Salt Company—operated in the vicinity of Redwood City during the early 1900s (Hill & Bradley 2020). The facilities of these plants were subsequently acquired by larger companies and ceased to operate as independent entities. The consolidation process of several small companies into a larger corporation lead to the incorporation of Leslie Salt Company in 1936 and Leslie Salt controlled the salt pond infrastructure (receiving ponds, concentrator ponds, crystallizer beds, ditch systems, pumps, washers, loading docks, etc.) of the South Bay from the smaller companies that it acquired.

There were two separate areas of concentrator ponds which supplied the crystallizer beds with concentrated brine. One was located west of the washer and ship loading terminal on the west side of Redwood Creek on Bair Island and in the vicinity of Belmont Slough. A second group of concentrator ponds—often referred to as the Ravenswood ponds after the Ravenswood Slough which provided inflow into the ponds—began east of Flood Slough (the slough separated these ponds from the crystallizer bed facility) and extended down the shoreline to just south of the Southern Pacific rail trestle below the Dumbarton Bridge. See Figure 6-2 for a map that identifies the Project Site in relationship to these components of the Redwood City Crude Salt Plant.

Based on a review of USGS maps and aerial photographs, levees were constructed to create the westernmost ponds in the Ravenswood pond complex between 1937 and 1941 (Hill & Bradley 2020). These two ponds were immediately east of Flood Slough, and the westernmost pond included the future location of the Menlo Park Sanitary District's sewage treatment plant (the Project Site). In 1942, the Menlo Park Sanitary District purchased 20 acres at the north end of the pond immediately east of Flood Slough, and by the mid-1940s had constructed a levee to separate their property from the larger pond.

In 1952, a sewage treatment plant was constructed on this property. In 1957, San Mateo County purchased the 15 acres adjacent to the south side of the sewage treatment plant for the Menlo Park Municipal Dump and began the process of infilling the remaining portion of this pond. Over the next three decades more of the remaining salt pond was filled to extend the dump to the south and then east to infill another pond. As the State enacted regulations to manage dumps and waste disposal sites, the original dump transitioned into an actively managed landfill (MIG 2018). The landfill was closed in 1982, and the process began for the conversion of the land to a public park. Construction of Bedwell Bayfront Park began in 1984 and was completed in 1995 (Hill & Bradley 2020).

The remaining salt ponds in the Ravenswood unit continued in operation through the early 2000s. In 2003, Cargill Salt, which had acquired all of the Leslie Salt Co.'s Bay Area solar salt facilities in 1978, transferred 15,100 acres of its Bayfront salt ponds in San Mateo, Alameda, and Santa Clara counties to the State of California and the federal government in conjunction with the South Bay Salt Pond Restoration Project, with a goal to restore and enhance a mix of wetland

habitats. Included in this transfer were the Redwood City Crude Salt Plant's salt concentrator ponds located east of Flood Slough (i.e., the Ravenswood ponds); these ponds became part of the Don Edwards San Francisco Bay National Wildlife Refuge. (The land where the former Leslie concentrator ponds had been located on Bair Island became part of the Bair Island Ecological Reserve.) Cargill's Redwood City barging and docking facilities were sold in 2003, and the majority of the equipment and facilities for the portion of the Redwood City operation located on the west side of Seaport Boulevard (i.e., related to the washer and the two loading towers) was dismantled and sold (Hill & Bradley 2020). In 2020, Cargill continued to operate the 1,400 acres of crystallizer beds to the west of Flood Slough and this site was the last remaining part of Leslie Salt Co.'s Redwood City Crude Salt Plant (shown on Figure 6-2) that remained in operation.

6.1.6 Historic Background – West Bay Sanitary District

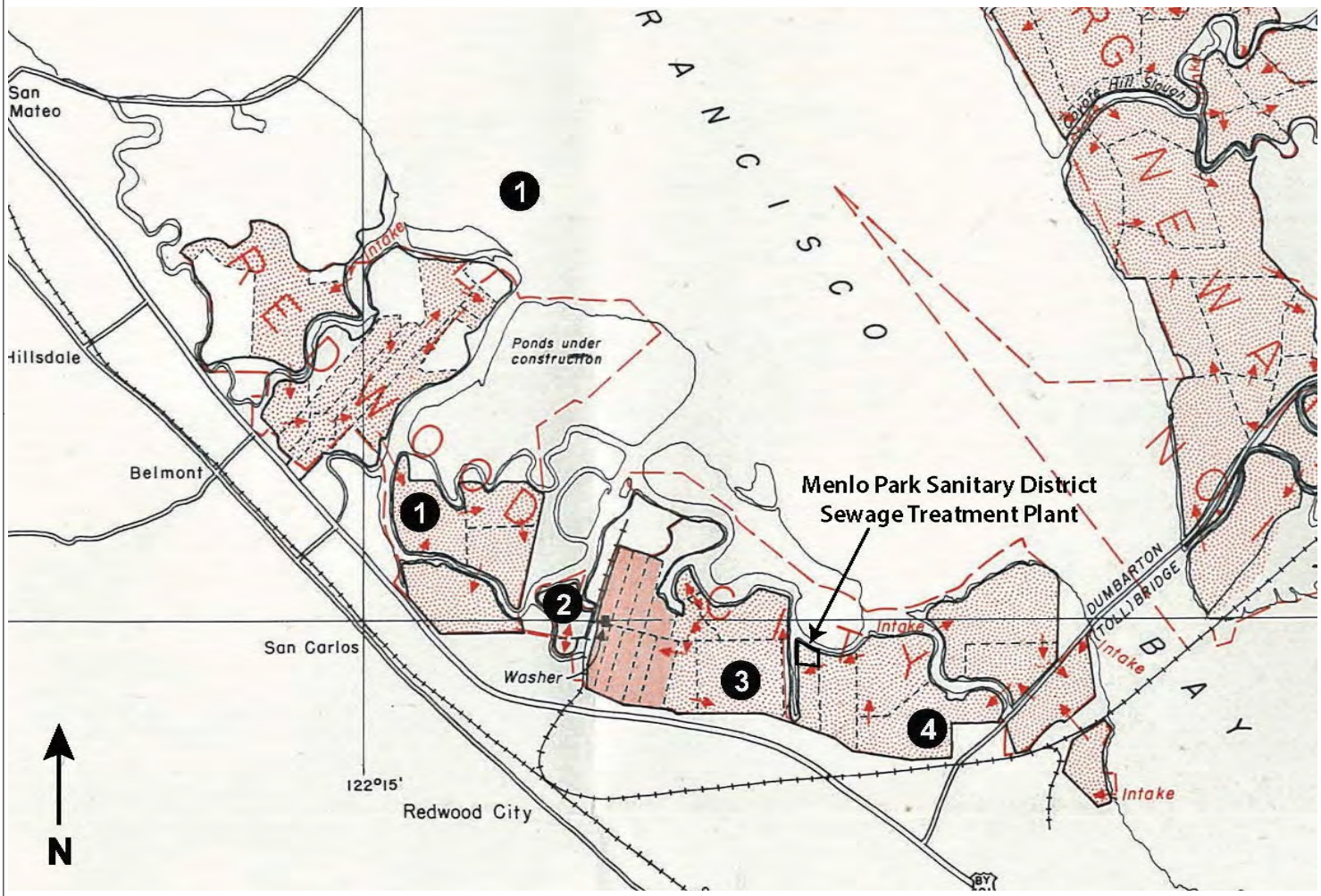
The HRE Report provides a comprehensive description of the history the West Bay Sanitary District. See Appendix F for a complete discussion. A brief summary is presented below.

Menlo Park developed as a community to serve country estates which were built in the vicinity during the latter part of the nineteenth century. The District was created in 1902 under the name Menlo Park Sanitary District. As the population of the Bay Area expanded significantly in the post-World War II period, dumping raw sewage in San Francisco Bay was recognized as an important public health issue. In March 1946, the California State Board of Health announced it would no longer issue permits allowing dumping of untreated sewage in San Francisco Bay after January 1, 1947. Many cities around the Bay continued illegally dumping untreated sewage in the Bay until they could construct the sewage treatment plants to comply with the Board of Health requirements. Menlo Park Sanitary District was one of four San Mateo county sewage districts that was cited by the State Board of Health for this practice in January 1948.

The District had known of the sewage contamination problem since before the war and had suggested internally the need for a treatment plant as early as 1933. In 1942, the District had purchased 20 acres adjacent to Flood and Westpoint sloughs from Leslie Salt Company anticipating the ban on releasing untreated sewage in the Bay. However, their plans to build a sewage treatment plant were delayed by World War II and by obtaining financing (the first bond issue was voted down). The new sewage treatment facility was designed in 1950-51 and facility was completed in October 1952. In 1981, the District's name was changed to the West Bay Sanitary District.

6.1.7 Site History

Until the late 1930s, the FERRF site was part of the tidal marshlands of the San Francisco Bay. Between 1937 and 1941, levees were constructed to create two large ponds to the east of Flood Slough and south of Westpoint Slough. In 1942, the Menlo Park Sanitary District, purchased 20 acres of land at the north end of the pond that was on the east side of Flood Slough from Leslie for the purpose of building a sewage treatment plant.



Source: F&L, 2020

Figure 6-2 Components of Redwood City Crude Salt Plant

By 1946, a levee had been added to the south side of this parcel separating it from the remaining portion of the salt pond to the south. Construction of the District's sewage treatment plant began in May 1951, and the new sewage treatment plant was completed and put into operation in October 1952. Access to the facility was via a road that ran along the top of a levee on the east side of Flood Slough (Marsh Road). The new facility included inlet works, pretreatment tanks, chlorination building, pump house, sedimentation tanks, and an outlet pipe to the Bay that emptied into Westpoint Slough. To the west of these structures were the District's Operations Building and two digester structures. Two large two large sludge beds were to the west of these features.

A second group of sedimentation tanks were added immediately west of the original tanks between 1961 and 1968. A warehouse was added during the same period to the west of the new sedimentation tanks and north of Digester No. 2.

Between 1968 and 1973, four flow equalization basins were excavated at the property to provide storage for the District's wastewater. These basins occupied the open land that surrounded the sewage treatment plant. Two basins (Ponds 1 and 2) were located along the western portion of the property; they were separated by an earthen berm located along the north side of Pond 1 and the south side of Pond 2. An open channel at the west end of the berm connected the flow between the two basins. A third basin (Pond 3) occupied the land north of the sewage treatment plant, and a fourth basin (Pond 4) occupied the land to its east.

The sewage treatment facility was decommissioned in 1980 after the formation of the South Bayside Systems Authority (renamed Silicon Valley Clean Water in 2014) and the redirection of wastewater to the new Redwood City Wastewater Treatment Plant.

Between 1987 and 1991, the opening in the earthen berm between Ponds 1 and 2 was closed and flow between the two basins was facilitated via a pipe through the berm

In early 2018, Pond 4 was filled and in 2020 a large mound of soil was added to its north end. In 2018-19, a small native plant nursery, operated by the non-profit organization Save the Bay, was added to land at the south end of the former Pond 4 site.

6.1.8 Cultural Landscape Features

The HRE Report presents a description of the property, a description of the cultural landscape features, and a description of the buildings and structures on the site. Appendix B of the HRE Report contains a figure showing the location of the site features (HRE Appendix B Figure 7), representative photographs of the features (HRE Appendix Photos 1-34), and the location of the photographs (HRE Appendix Figure 8). HRE Report Appendix C also presents DPR523 Records for the FERRF property.

The HRE Report presents a description of the cultural landscape features including the function of the FERRF, pump stations, the ponds, levees, site security (see Chapter 6 of the HRE Report for description). Below is a summary of the on-site buildings and structures evaluated for their status as historic structures.

Buildings and Structures

The FERRF property contains buildings and structures associated with the decommissioned Menlo Park Sanitary District's Sewage Treatment Plant which was in operation from 1952 to 1980. These features are arranged in two groupings to the east of Pond 1. The Main Building complex has five buildings; the Diversion Box, two cylindrical Digesters, the Operations Buildings, and a metal warehouse. These building are arranged on a north/south axis that is approximately 100 feet to the east of Pond 1. The open space between the pond and this row of structures is used for parking and circulation. The second group of structures consists of the various tanks and wastewater treatment structures; inlet works, pre-treatment tanks, and sedimentation tanks) which is located east of the main buildings and is also on a north/south axis. A small pump house and chlorination building are included in this second group. The open space between the main buildings and treatment structures is used for parking and storage.

6.1.9 Archival Study Findings

The Ohlone/Costanoan tribe that occupied the APE was the Puichon which occupied the land between lower San Francisquito Creek and Lower Stevens Creek. There are no specific references for any ethnographic villages being located within a half-mile of the APE.

A review of 19th and 20th-century maps shows no development within the APE until 1862, when several farms are shown. The only development shown is fence lines. The 1897 USGS map shows a small portion of Marsh Road is present near the intersection of Marsh Road and Highway 84 but no other buildings or structures are shown within the APE.

The 1941 USACE map shows that the portion of the APE that was once marshland is now reclaimed. There are is a levee around the north and west part of the FERRF property and Marsh Road is shown on a levee. A spur to the Southern Pacific Railroad and a portion of the Southern Pacific Railroad crosses the APE at this time as well. Hamilton Avenue was also constructed by this point. The surrounding area shows evidence of development by this point though very little is shown near the APE.

After 1953, the sewer treatment plant is shown (though aerial photos show this was built in the 1940s). Post-World War II develop is clear throughout Menlo Park and the surrounding area, though there is still a lack of development where much of the proposed pipelines within the APE are to go.

There are little to no structures within the APE shown throughout time, and the only buildings are the remains of the decommissioned sewer treatment plant at the FERRF.

6.1.10 Field Survey Findings

Cultural Resources Report: An intensive field survey of the APE was completed by Eileen Barrow (Tom Origer & Associates) on November 9, 2020. Ground visibility ranged from excellent to poor, with vegetation, imported soils, and asphalt being the primary hindrances. Both sides of the roads along the APE were examined to look for archaeological deposits that could extend under the road. Because much of the APE is covered with asphalt the yards of adjacent properties were examined to look for archaeological deposits A hoe was used, when

necessary, to remove vegetation and duff to examine the ground surface. No archaeological resources were found within the APE.

HRE Report: Intensive field surveys were conducted of the buildings, structures, and cultural landscape features on the FERRF property on October 26, 2020. Field notes and photographs were taken to aid in the preparation of the description and the evaluation of the property. All photographs used in the report and DPR523 record were taken by Hill and Bradley on that day.

6.1.11 Native American Heritage Commission Sacred Lands File Search

In 2017, as part of an early constraints analysis for the project, MIG requested a search of the Native American Heritage Commission's (NAHC) Sacred Lands File (SLF) search for known tribal resources in the FERRF site and a one-half mile radius surrounding the FERRF site. In 2017, the project did not include an RWF so only the FERRF site was included in the search and did not include the off-site infrastructure locations (IPS and pipeline alignments). The search was returned with negative results and outreach to local tribal representatives did not identify any tribal resources.

A second SLF search was requested to support this EIR effort which included both the FERRF site, all off-site areas, and the area within a ½ mile radius of the project. Outreach was made to five tribes identified by the NAHC. The NAHC replied with a letter dated September 1, 2020, which indicated that the Sacred Lands File had information about the presence of Native American cultural resources in the immediate project area. A list of additional contacts was provided. Outreach to the tribes indicated that Native American burials were found at recent projects in the area.

6.1.12 California Historic Resource Inventory System Searches

In 2017 a records search of the FERRF site was requested of the California Historic Resource Inventory System (CHRIS) through the Northwest Information Center (NWIC) for known historic and archaeological resources within the project area and within a one-half mile radius of the site. NWIC provided one NHRP evaluation (P-41-002351) within a half mile radius of the project site (Hall & Bradley 2020). This NRHP evaluation was prepared in 2007 by the U.S. Fish and Wildlife Service for the seven surviving Ravenswood salt ponds. This evaluation concluded that the Ravenswood salt ponds lack adequate integrity to convey a clear association with the solar salt industry and thus are not eligible under NRHP criteria as a historic property.

A second CHRIS search was conducted by Tom Origer & Associates in 2020 and included not only the FERRF site but also all the off-site areas of the project that were not included in the 2018 search. A review was completed of the archaeological site base maps (NWIC File No. 20-0792) and records, survey reports, and other materials on file at the NWIC. Sources of information included but were not limited to the current listings of properties on the National Register, California Historical Landmarks, California Register, and California Points of Historical Interest as listed in the Office of Historic Preservation's *Historic Property Directory* (2012) and the *Built Environment Resources Directory* (2019).

The CHRIS search results found that the following cultural resource studies were previously conducted within the project's APE: (Archaeological Consulting and Research Services, Inc.

1977; Carrico and Cooley 2000; Dietz 1973, 1976; Goodrich and Holson 2000; Harris and Zogg 2010; Kaptain 2009, 2012a; Kozakavich and Marritt-Smith 2008; Offermann 1985; Shoup 2012, 2016; Templar 2018a; Whitaker *et al.* 2009). Archival research also determined that 16 additional studies have been conducted adjacent to and within a half-mile of the APE.

There are two resources documented within the APE, both of which are associated with the project site. These resources include the decommissioned Menlo Park Wastewater Treatment Plant and the levees that protect this and the FERRF facility. Three resources have been recorded adjacent to the APE (P-41-002351, P-41-002404, and P-41- 002419) and nine resources have been recorded within a half-mile of the APE (Table 6-1). Two of the adjacent resources are buildings and the remaining resource is a district; therefore, none of these resources have the potential to extend into the APE.

Table 6-1 Resources Adjacent to or within a Half Mile of the APE Location

Author	**Date**	**P#**
Crawford	2015	41-002470
Garlinghouse	2015	41-002415
Gerow	1987	C-155
Kaijankoski	2019	41-000282
Kaptain	2012b	41-002292
Murphy	2016	41-002450
Shoup	2015	41-002419
Speulda-Drews and Valentine	2014	41-002404
Van Buren *et al.*	2002	41-002076
Whitaker	2008a	41-000160
Whitaker	2008b	41-000244
Wickert	1990	41-001515

The CHRIS search results found no specific references for any ethnographic villages being located within a half-mile of the APE.

Review of the State Land Commission Shipwreck Database showed that two shipwrecks, the City of Glendale and the Morgan Shell, had the potential to be within the APE. According to a study conducted by the United States Army Corps of Engineers, the City of Glendale may not

have sunk, but was just damaged. The Morgan Shell was reportedly salvaged except for the engine block. The suggestion is that both of these wrecks are closer to Redwood City.

The Office of Historic Preservation has determined that structures in excess of 45 years of age could be important historical resources, and former building and structure locations could be important archaeological sites. Archival research included an examination of 19th and 20th-century maps and aerial photographs to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area. A search of both the CRHR and the NRHP for listed historic properties and sites was conducted; none were located on the project site.

One building located outside the APE at 550 Hamilton Avenue was evaluated and determined that it was ineligible for listing on the National Register of Historic Buildings but has not yet been evaluated for its eligibility for inclusion on the California Register or any local listings.

6.1.13 AB 52 Consultation

AB 52 provides for consultation between lead agencies and Native American tribal organizations during the CEQA process. No Native American tribes have contacted the District under AB 52, and thus no consultation was made with local tribes for this project.

6.2 REGULATORY SETTING

Federal, state, and local laws and regulations governing cultural resources exist to protect cultural, historic, and from damage and destruction. Violation of these laws and regulations would constitute a significant impact to cultural and paleontological resources. The laws and policies that pertain to the cultural resources potentially present on the project site or affected by the project are discussed below.

6.2.1 California Environmental Quality Act

CEQA establishes statutory requirements for the formal review and analysis of projects. CEQA recognizes archaeological resources as part of the environment. A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (PRC §21084.1).

CEQA guidelines (15064.5(b)(2)) state that the significance of a historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that conveys its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources (CRHR).

6.2.1.1 Historical Resources

Pursuant to CEQA Guidelines Section 15064.5 (a) the term “historical resources” includes the following:

- A resource listed or determined to be eligible by the State Historical Resources Commission for listing, in the CRHR (PRC §5024.1, 14 CCR, §4850 et seq.).
- A resource included in a local register of historical resources, as defined in Public Resources Code Section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1 (g), shall be presumed historically or culturally significant. Public agencies must treat any such resource as significant 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 may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC §5024.1, Title 14 CCR, §4852) including the following:

    a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b. Is associated with the lives of persons important in our past;
    c. Embodies the distinctive characteristics of type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    d. Has yielded, or may be likely to yield, information important in prehistory or history.

- The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC §5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC §5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined by Public Resources Code Section 5020.1(j) or 5024.1.

6.2.1.2 Unique Archaeological Resources

Pursuant to CEQA Guidelines Section 21083.2(g), a unique archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The resource must also be at least 100 years old, possess "substantial stratigraphic integrity" (i.e., is substantially undisturbed); and the resource involves "important research questions that historical research has shown can be answered only with archaeological methods."

To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required (PRC §21083.2(c)). If it is proven that an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment, and no further CEQA review is required (14 CCR §15064.5(d)).

6.2.2 National Register of Historic Places Criteria

The National Historic Preservation Act (NHPA) of 1966, as amended, administers the National Register of Historic Places (NRHP), which sets forth evaluation criteria described in 36 CFR Part 60.4. The following criteria are designed to guide the states, federal agencies, and the Secretary of the Interior in evaluating potential entries for the NRHP. The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that:

A. Are associated with events that have made significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction;

D. Have yielded, or may be likely to yield, information important in prehistory or history.

The question of integrity is another factor that must be addressed when determining the eligibility of a resource for listing in the NRHP. The Secretary of the Interior describes integrity as "the ability of a property to convey its significance." A property must retain certain intact physical features in order to convey its significance under one or more of the NRHP criteria. Integrity is judged on seven aspects; location, design, setting, workmanship, materials, feeling, and association.

If a particular resource meets one or more of these criteria and retains sufficient integrity to convey its historical significance, it is considered as an eligible "historic property" for listing in the NRHP. Additionally, unless exceptionally significant under *Criteria Consideration G: Properties That Have Achieved Significance Within the Past Fifty Years*, a property must be at least 50 years old to be eligible for listing.

6.2.3 California Register of Historical Resources

The California Office of Historic Preservation (OHP) administers California Register of Historic Resources (CRHR), which was established in 1992 though amendments to the Public Resources Code, as an authoritative guide to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected from substantial adverse change. The CRHR includes resources that have been formally determined eligible for, or listed in,

- The NRHP;
- State Historical Landmark Number 770 or higher;
- Points of Historical Interest recommended for listing by the State Historical Resources Commission;
- Resources nominated for listing and determined eligible in accordance with criteria and procedures adopted by the State Historical Resources Commission; and
- Resources and districts designated as city or county landmarks when the designation criteria are consistent with CRHR criteria.

A resource also has to be at least 50 years old and must possess several of the seven aspects of integrity to be eligible for listing in the NRHP and/or the CRHR. Integrity is defined as "…the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." The seven levels of integrity are location, design, setting, materials, workmanship, feeling, and association. Resources that are listed in the NRHP are automatically eligible for the CRHR (PRC §5024.1(c)).

Both NRHP and CRHR evaluations must be made within an appropriate historic context. A historic context includes three components: a time period, place, and event. A historic context is developed through one or more research themes to help identify the resource's significance at the local, state, or national level. A resources' integrity is based on its ability to convey its significance through data requirements. Data requirements can best be described as evidence found within the archaeological record that conveys the resource's historical significance. If the appropriate data requirements are lacking, the resource arguably lacks significance and is therefore not an eligible resource.

6.2.4 California Public Resources Code

6.2.4.1 Section 5020.1

California Public Resources Code (PRC) Section 5020.1(q) states that substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be materially impaired.

6.2.4.2 Section 5097.5

Section 5097.5 of the PRC states, "it is illegal for any person to knowingly and willfully excavate or remove, destroy, injure, or deface cultural resources." Furthermore, the crime is a misdemeanor punishable by a fine not to exceed $10,000 and/or county jail time for up to one year. In addition to a fine and/or jail time, the court can order restitution, and restitution will be granted of the commercial and archaeological value of the property.

6.2.4.3 Sections 5097.9

Under Section 5097.9 of the PRC, a state policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.91 of the PRC established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

6.2.5 California Health and Safety Code

Health and Safety Code Section 7050.5 regulates procedures in the event of human remains discovery. Pursuant to Public Resources Code Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the County Coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are determined to be Native American, the County Coroner is required to contact the NAHC. The NAHC is responsible for contacting the most likely Native American descendent, who would consult with the local agency regarding how to proceed with the remains.

6.2.6 Penal Code Section 622.5

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

6.2.7 Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

6.2.8 California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection Act (NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," the California NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The act also provides a process for non–federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

6.2.9 Assembly Bill 52

Assembly Bill (AB) 52 specifies that a project that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requests in writing to the lead agency, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. AB 52 specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The bill makes the above provisions applicable to projects that have a notice of preparation or a notice of negative declaration filed or mitigated negative declaration on or after July 1, 2015. AB 52 amended Sections 5097.94 and adds Sections 21073, 21074, 2108.3.1., 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to the PRC, relating to Native Americans.

6.2.10 City of Menlo Park

Several proposed project features occur on land owned by the City of Menlo Park. The Open Space / Conservation Element of the City's General Plan (City of Menlo Park, 2013) contains the following goal and policies to protect cultural resources:

- Goal OSC3: Protect and enhance historic resources; protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.
    - OSC3.1: Prehistoric or Historic Cultural Resources Investigation and Preservation. Preserve historical and cultural resources to the maximum extent practical.
    - OSC3.2: Prehistoric or Historic Cultural Resources Protection. Require significant historic or prehistoric artifacts be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation, and to ensure compliance with local, State and Federal regulations.
    - OSC3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either on site or through appropriate documentation as a condition of removal. Require that when a development

project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.

- OSC3.4: Prehistoric or Historic Cultural Resources Found During Construction. Require that if cultural resources, including archaeological or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.
- OSC3.5: Consultation with Native American Tribes. Consult with those Native American tribes with ancestral ties to the Menlo Park city limits regarding General Plan Amendments and land use policy changes.
- OSC3.6: Identification of Potential Historic Resources. Identify historic resources for the historic district in the Zoning Ordinance and require design review of proposals affecting historic buildings.

6.3 PROJECT IMPACTS

6.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G Environmental Evaluation Checklist, the project would have a significant impact to cultural, historic, or tribal cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

  a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or

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

6.3.2 Impacts to Historical Resources

The Historic Resource Evaluation Report (Hill & Bradley 2020) analyzed the project's potential impacts on historic resources and determined that there are no historic resources on the project site or in the immediate vicinity of any of the off-site project features. The Historic Resources Evaluation Report made the following findings:

Criterion A/1: Event

None of the features, individually or collectively, on the FERRF property appear to be significant under NRHP/CRHR Criterion A/1 for their association with an event in history.

Association with the History of Wastewater Management in the Bay Area

The Menlo Park Sanitary District's sewage treatment plant was originally constructed in 1952 as a sewage treatment plant in response to a regulation enacted by the California State Board of Health in 1946 that prohibited dumping of untreated sewage in the San Francisco Bay. The sewage treatment operations on the property ended in 1980. With the exception of the sludge beds (removed post-1980), the property retains all of its features that were in use during its operation (1952-1980) and retains its integrity. However, the property is not significant under NRHP/CRHR Criterion A/1 for its association with history of wastewater management in the Bay Area. It was one of many such facilities constructed around the San Francisco Bay during the post-World War II era. It was not the first or largest of the Bay Area's wastewater treatment plants, and it played no significant role in the history of the development of wastewater treatment in the Bay Area.

The flow equalization basins (Ponds 1, 2, and 3) were constructed between 1968 and 1973, and are approaching the 50 years of age criteria for evaluation under the NRHP and CRHR. These basins are one of many facilities around the San Francisco Bay associated with the continued development of wastewater treatment and management in the late twentieth century, and they are not significant under NRHP/CRHR Criterion A/1 in association with this history. Additionally, they do not meet the criteria for significance under NHRP Criterion Consideration G for properties that have achieved significance in the past 50 years.

Association with the History of Menlo Park

The FERRF property played no significant role and represents no significant milestone in Menlo Park history. The property is not significant under NRHP/CRHR Criterion A/1 for its association with the history and development of Menlo Park.

Association with the History of Solar Salt Production in the South Bay

The potential significance of the two external levees along the north and west sides of the FERRF property is derived from their association with the South Bay's solar salt industry. These two levees were constructed in the late 1930-early 1940s as part of a levee system that enclosed a 90-acre salt concentrator pond on the east side of Flood Slough; the pond extended from Westpoint Slough southward to the end of Flood Slough. This pond was part of a larger complex

of salt concentrator ponds east of Flood Slough, often referred to as the Ravenswood ponds or unit, which were used to create the initial brine stage in the solar salt production process.

The significance of the Ravenswood unit in association with the history of the solar salt industry in the South Bay was documented in a NRHP evaluation prepared in 2007 by the U.S. Fish and Wildlife Service. This evaluation noted that the ponds were originally part of an extensive system of approximately 35 evaporation ponds that were used to create the initial brine stage of the process. Today, only seven ponds remain extant, and these are no longer connected with the process of evaporative salt production. This evaluation concluded that the Ravenswood salt ponds lack adequate integrity to convey a clear association with the solar salt industry and thus are not eligible for listing in the NRHP as a historic property.

Similarly, the levees along the north and west sides of the FERRF property no longer retain any of the seven aspects of integrity (i.e., location, design, materials, workmanship, feeling, setting, and association). The levees and the land uses and activities associated with these levees no longer convey a connection or association with the solar salt production. The original design of the levee system enclosing a large salt concentrator pond is non-extant. The construction of the Menlo Park Sanitary District's sewage treatment plant in 1952 and the operation of the county dump between 1957 and 1982 (today the site of the Bedwell Bayfront Park) resulted in the infill of the majority of the pond.[14] Additionally, the levee that ran along the east side of the pond (and the east side of the FERRF property and through what is now Bedwell Bayfront Park) is no longer extant. In summary, due to this lack of integrity, the two levees along the north and west sides of the FERRF are not eligible for listing in the NRHP or CRHR under Criterion A/1.

Criterion B/2: Person

None of the features, individually or collectively, within the West Bay Sanitary District FERRF property are significant under NRHP/CRHR Criterion B/2 for their association with a person who is significant to the history of the region.

Criterion C/3: Design/Construction

None of the features, individually or collectively, within the West Bay Sanitary District FERRF property are significant under NRHP/CRHR Criterion C/3 for their design or construction.

Buildings and structures associated with the West Bay Sanitary District's FERRF and its decommissioned Sewage Treatment Plant are all common examples of their type and are not significant for their design or construction.

The three flow equalization basins (Ponds 1, 2, and 3) are common examples of their type and are not significant for their design or construction. Additionally, they do meet the criteria of significance under NRHP Criterion Consideration G as a property that has achieved significance within the past 50 years.

[14] Two small ponds (ca. 1960-1968) which together cover approximately 13 acres remain between the south side of Bedwell Bayfront Park and the expressway; the levees for these two ponds were created between 1960 and 1968.

The external levees along the north and west sides of the West Bay Sanitary District FERRF are common examples of the type of levee that was constructed in association with solar salt pond production during the early-to-mid twentieth century. The levees are not significant for their design or construction, and, as described under Criterion A/1, the levees lack integrity.

Criterion D/4: Information Potential

Criterion D/4 typically applies to archaeological resources. None of the features—individually or collectively—within the West Bay Sanitary District FERRF appear to be significant under NRHP/CRHR Criterion D/4 for the potential to yield information important to history or prehistory.

Based on the finding of the Historic Resource Evaluation Report the project would have a ***less than significant impact*** on historic resources.

6.3.3 Archaeological Resources

The Tom Origer & Associates report concluded that there are no know archaeological resources within the APE.

A significant impact would occur if ground-disturbing activities (e.g., grading, excavation, grubbing, trenching etc.) associated with project construction disturb, damage, or destroy previously unknown buried prehistoric features and deposits that could be considered significant resources. Therefore, the proposed project has the potential to adversely impact previously undiscovered archeological resources. Implementation of Mitigation Measure CUL-1 would reduce potential impacts to undiscovered archeological resources to ***less than significant with mitigation incorporated***.

6.3.4 Human Remains

The cultural resources searches did not reveal any known burials on the site or in the APE. However, previous discoveries of human remains have been found in vicinity, and with the NAHC notation of the area being considered sensitive in nature, there is some potential, although unlikely for discovery of human remains when construction project features in soils other than fill materials (IPS and distribution pipelines). By obeying existing codes and regulations and implementation of Mitigation Measure CUL-1 the impact is considered ***less than significant with mitigation incorporated***.

6.3.5 Tribal Cultural Resources

The 2020 SLF records search was returned with positive results and subsequent outreach to the tribes identified by the NAHC resulted in additional information being provided on recent discovery of Native American burials encountered at construction sites in the project vicinity. Soils within the APE consist of artificial fill and Bay Mud formed during the Holocene epoch (11,700 years ago to the present) around the FERRF site, while all parts of the APE south of Hwy 84 lie on basin deposits formed during the Holocene epoch. These basin deposits are comprised of fine silty clay to clay deposits. The bay soils have a high potential of preserving

artifacts that may be present. Native soils would therefore have a higher potential of containing Native American sites.

CEQA clearly addresses how Native American artifacts are to be considered. There exists the potential for some Native American artifacts to not be considered unique archaeological resources under the normal CEQA guidelines. However, it is possible for a lead agency to determine that an artifact is considered significant to a local tribe, and thus make it a significant resource under CEQA.

Mitigation Measure CUL-1 would be enacted to help protect and safeguard buried archaeological resources, including TCRs. Included in the mitigation measure is compulsory archaeological training for construction crews and the requirement to call an archaeologist if potential archaeological resources are discovered. Provisions are made for Native American tribal monitoring if archaeological resources are determined to be Native American in origin. The mitigation measure includes language that all Native American tribal finds are to be considered significant until the lead agency has enough evidence to consider an artifact, or other find that is not be eligible for listing, not significant. Because of the project's proximity to known Native American burial sites, Mitigation Measure CUL-1f is recommended to provide cultural resource training to construction crews and archaeological and Native American monitoring for all ground disturbing activities along the Hamilton Avenue section of the recycled water distribution pipeline, With implementation of these two mitigation measures, the project impact to Tribal Cultural Resources would be ***less than significant with mitigation incorporated***.

6.4 CUMULATIVE IMPACTS

The project would not have adverse impacts on known historic, cultural, or tribal cultural resources. The District would implement mitigation measure CUL-1 to safeguard buried archaeological resources. In the event buried resources are encountered during project construction, the project archaeologist would determine the best method to mitigate impacts on resources found to be present. The project would not have a cumulative effect on buried archaeological, tribal, or paleontological resources. The project's cumulative impact on cultural resources would be ***less than significant***.

6.5 MITIGATION MEASURES

Impact CUL-1: Project construction could cause potential disturbance of previously unknown prehistoric, archaeological, or tribal cultural resources, or human remains, during project construction.

Mitigation Measure CUL-1a: Inadvertent Discovery. In the event archaeological resources are unearthed, all soil disturbing work shall be halted within 60 feet of any discovery. An archaeologist who meets the Secretary of the Interior's Standards for Archaeology must be contacted and the requirements under 36 CFR 800.13 followed. Work shall not commence in the vicinity of the inadvertent discovery until a qualified archaeologist completes a significance evaluation of the find(s) pursuant to Section 106 of the National Historic Preservation Act (36 CFR 60.4). If artifacts are found during

construction, construction worker training shall be provided to all crews doing earthwork/soil moving activities.

If a newly discovered resource is, or is suspected to be, Native American in origin, a Native American cultural monitor will be retained, as directed by the NAHC. If archaeological resources are found on the northern western segment of the project site (pipeline alignments in Chilco Street, Constitution Drive, Bayfront Expressway crossing, Marsh Road, and IPS) archaeological monitoring will be instigated for those segments. No further ground disturbing work shall be allowed to continue until the archaeologist has fully evaluated the find and approves work to continue. Dependent on the evaluation by the archaeologist, archaeological excavation and recordation may be required before construction can continue. An Archaeological Resource Treatment Plan (ARTP) will be written in consultation with the District.

Mitigation Measure CUL-1b: Tribal Resources. It is possible for a lead agency to determine that an artifact is considered significant to a local tribe, and thus considered a significant resource under CEQA, even if it would not otherwise be considered significant under CEQA. As such, all Native American artifacts (tribal finds) shall be considered as a significant Tribal Cultural Resource, pursuant to PRC 21074 until the lead agency has enough evidence to make a determination of significance.

Mitigation Measure CUL-1c: Human Remains. The following actions are promulgated in the CEQA Guidelines Section 15064.5(d) and pertain to the discovery of human remains. If human remains are unearthed during construction, the County Coroner will be notified immediately, and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). All applicable laws pertaining to the discovery of human remains will be followed.

Mitigation Measure CUL-1d: Plan Details. All project plans shall clearly state that ground disturbing activities have the potential for the discovery of human remains.

Mitigation Measure CUL-1e: Construction Monitoring on Hamilton Avenue. Archaeological and Native American monitoring shall be instigated for all ground disturbing activities along the Hamilton Avenue section of the recycled water distribution pipeline. An archaeologist who meets the Secretary of the Interior's Standards for Archaeology shall be present at the project site during ground disturbing activities, including machine or hand excavation. No ground disturbing activities, with the exception of road surface removal, shall be allowed to take place if the archaeologist is not present. An archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased.

Mitigation Measure CUL-1f: Toothless Buckets. All excavator machinery on Hamilton Avenue shall use toothless buckets during ground disturbing activity to allow the monitoring archaeologist to more clearly identify archaeological features, if present.

Effectiveness: These measures would minimize impacts to unknown prehistoric and historic cultural and tribal resources, and human remains.

Implementation: West Bay Sanitary District and its Contractors.

Timing: Prior to the start of project construction and ongoing throughout ground moving activity.

Monitoring: The District shall ensure mitigation measure language is placed on all construction bid and construction documents. The archaeologist shall, if applicable, prepare a written record of survey results, archaeological discovery, and evaluation methodology to be submitted to the District and the Northwest Information Center. The Native American monitor shall, if applicable, record tribal resources for submittal to the Native American Heritage Commission.

6.6 REFERENCES

California Legislative Information. 2020. Public Resources Code, Division 5. Parks and Monuments, Chapter 1 State Parks and Monuments, Article 2 Historical Resources. Accessed November 11, 2020. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5024.1

City of Menlo Park. 2013. City of Menlo Park General Plan Open Space/ Conservation, Noise and Safety Elements. Adopted May 21.

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Templar, R. 2018a. Historic Resource Evaluation for the West Bay Sanitary District Levee Project. Document S-50507 on file at the Northwest Information Center, Sonoma State University, Rohnert Park.

_____ 2018b. Primary Record for P-41-002650. Document on file at the Northwest Information Center, Sonoma State University, Rohnert Park.

_____ 2018c. Primary Record for P-41-002651. Document on file at the Northwest Information Center, Sonoma State University, Rohnert Park.

Tom Origer & Associates. 2020. Cultural Resources Study for the Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Project, Menlo Park, San Mateo County, California. Prepared by Eileen Barrow, M.A. Prepared for MIG, San Jose, California.

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CHAPTER 7 GEOLOGY AND SOILS

7.1 ENVIRONMENTAL SETTING

This section is based on geotechnical information related to the project site including:

- Pre-Design Geotechnical Investigation and Report Draft Technical Memorandum (DCM Consulting, Inc. 2013);
- Mat foundation recommendations for a warehouse currently being permitted on the FERRF site (BAGG 2018);
- Draft Geotechnical Consultation, WBSD Levee Improvements Project (BAGG 2020a); and
- Personal Communication regarding geologic setting information for the proposed project (BAGG 2020b).
- Personal Communication regarding geologic impacts (BAGG 2020c).
- MenloConnect EIR (2016)

7.1.1 Regional Geology

The project site is located in the San Francisco Bay Area which lies within the Coast Ranges geomorphic province, a series of discontinuous northwest trending mountain ranges, ridges, and intervening valleys characterized by complex folding and faulting. The FERRF site is located along the southwestern edge of the San Francisco Bay within the limits of marshland associated with tidal sloughs and channels. To the south, San Francisquito and Los Trancos Creeks form the boundary between San Mateo and Santa Clara Counties. The foothills of the northern Santa Cruz Mountains are separated from the main mass of the mountains by two northwest-striking faults, the San Andreas and Pilarcitos, which are located to the southwest. The adjoining areas are divided into three structural blocks juxtaposed along these faults. The site is located on the San Francisco Bay Block which lies to the east of the San Andreas fault. The Pilarcitos Block is situated between the San Andreas and the Pilarcitos faults and the La Honda Block, which includes the main mass of the Santa Cruz Mountains, lies beyond the Pilarcitos fault to the west. The western boundary of the La Honda structural block is marked by the Seal Cove-San Gregorio fault (BAGG 2020a, BAGG 2020b).

Pre-late Pleistocene Cenozoic rocks of the foothills have been compressed into northwest-striking folds, which have been overridden by Mesozoic rocks along southwest-dipping, low angle faults. Coarse- to fine-grained late Pleistocene and Holocene alluvial and estuarine deposits, eroded from the foothills and comprising the alluvial plain located along the eastern foothills of the mountains, are essentially un-deformed. Most of the alluvial plain and some parts of the marshland that borders the Bay along its western side have been reclaimed and filled to allow the construction of residential and commercial development. A large marsh area to the west of the site has been diked off and utilized as salt evaporating ponds, and the area to the east has been filled to form Bedwell Bayfront Park (BAGG 2020a, BAGG 2020b).

7.1.2 Faulting and Seismicity

The FERRF site and proposed influent and distribution pipelines are not situated within the limits of the Alquist-Priolo Earthquake Fault Zone (AP Zone) established by the CGS around active faults and where detailed evaluation and characterization of fault activity and potential for ground surface rupture is required. Three, northwest-trending major earthquake faults that comprise the San Andreas fault system, extend through the Bay Area. They include the San Andreas fault, the Hayward fault, and the Calaveras fault, respectively located about 11 km to the southwest, approximately 18 km northeast of the FERRF site, and about 28 km to the east-northeast. One of the many traces of the Monte Vista – Shannon fault zone is also mapped about 13 km southwest of the FERRF site. This fault is a splinter fault off the main trace of the San Andreas (BAGG 2020a, BAGG 2020b).

Table 7-1 Significant Earthquake Scenarios

Fault	Approximate Distance from FERRF Site (kilometers)[1]	Direction from FERRF Site	Probability of $M_W \geq 6.7$ within 30 Years[2]
San Andreas (Entire)	11	SW	33%
San Andreas (Peninsula)	11	SW	9%
Monte Vista – Shannon	13	S-SW	1%
Hayward –Rogers Creek	18	NE	32%
San Gregorio	26	SW	5%
Calaveras	28	NE	25%

[1]USGS Fault files from Google Earth, and CGS Fault Activity Map of California

[2]Working Group on California Earthquake Probabilities, 2014.

While the site is not within the Alquist-Priolo Earthquake Fault Zone designated by the California Geological Survey, the San Andreas and Hayward faults are believed to be the principal seismic hazards in this area because of their activity rates and proximity to the site. The Working Group on California Earthquake Probabilities has estimated that the probability for a major earthquake (MW 6.7 or greater) within 30 years on the nearby San Andreas fault is about 33 percent and about 32 percent on the Hayward fault. They also estimate there is a 72% chance there will be a magnitude 6.7 or greater earthquake somewhere within the Bay Area within the next 30 years (BAGG 2020a, BAGG 2020b).

7.1.3 Site Geology and Soils

The FERRF site area has been mapped to be underlain by Holocene-age (younger than 11,000 years [USGS, 2006]) younger Bay mud deposits. However, fill has been placed atop these Bay mud deposits and basin excavations have been made to allow for the construction for the existing facility.

The FERRF site is bordered to the west by Flood Slough, the northeast by Westpoint Slough and on the south and east sides by reclaimed and filled marshland which is now Bedwell Bayfront Park. The site is located outside (east of) the former shoreline of the San Francisco Bay in an area that used to be blanketed chiefly by marshland crossed by anastomosing and meandering tidal channels and sloughs in a modern brackish to saline estuary and lagoon-like setting. Brabb et al. (1994) describes the young Bay mud deposits as follows:

> *Bay mud (Holocene) – Water-saturated estuarine mud, predominantly gray, green and blue clay and silty clay underlying marshlands and tidal mud flats of San Francisco Bay, Pescadero, and Pacifica. The upper surface is covered with cordgrass (Spartina sp.) and pickleweed (Salicornia sp.). The formation also contains a few lenses of well-sorted, fine sand and silt, a few shelly layers (oysters), and peat. The mud interfingers with and grades into fine-grained deposits at the distal edge of Holocene fans, and was deposited during the post-Wisconsin rise in sea-level, about 12 ka to present (Imbrie and others, 1984). Mud varies in thickness from zero, at the landward edge, to as much as 40 meters near north County line.*

Previous borings and cone penetrometer tests (CPT) revealed the thickness of Bay Mud underlying the fill at the FERRF site ranges from about 10 to 20 feet. The young Bay mud is underlain by more consolidated old Bay mud and alluvial deposits and the bedrock depths in this general area are greater than about 290 feet in depth.

DCM Consulting, Inc. previously directed three boring and six cone penetration tests (CPTs) throughout the site. The sampling revealed five to ten feet of fill underlain by 13 to 19 feet of Young Bay Mud deposits which generally conforms with BAGG's previous findings.

The FERRF site area consists of a combination of relatively level areas and basin excavations. The larger basins are respectively up to about four and five acres in area and occupy the northwest and southwest quadrants of the site. The basin side slopes are up to 12 feet in height with gradients of up to two feet horizontal to one foot vertical (2H:1V) and are comprised of artificial fill in the upper portion of the slope and partially consolidated Bay Mud in the lower portion. The outboard levee side slopes that are bounded by Flood Slough on the west and Westpoint Slough on the northeast sides of the site are about 5 feet in height with gradients of ranging from about 2H:1V to 3H:1V trending down to marshland areas. The west and northeast side slopes are covered with grassy vegetation with sparse riprap and concrete rubble. Artificial fill is described as follows (BAGG 2020a, BAGG 2020b):

> *Artificial Fill (Historic) – Loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 meters in places. Some is compacted and quite firm, but fill*

made before 1965 is nearly everywhere not compacted and consists simply of dumped materials.

7.1.4 Liquefaction, Lateral Spreading, and Unstable Soils

Liquefaction occurs when loose, saturated sandy soils lose strength and flow like a liquid during earthquake shaking. Ground settlement often accompanies liquefaction. Soils most susceptible to liquefaction are saturated, loose, silty sands, and uniformly graded sands.

Lateral spreading is a failure within a nearly horizontal soil zone (possibly due to liquefaction) that causes the overlying soil mass to move toward a free face or down a gentle slope. Generally, effects of lateral spreading are most significant at the free face or the crest of a slope and diminish with distance from the slope.

The project site lies within a potential liquefaction zone, as defined by CGS Seismic Hazard Zone Maps for the Palo Alto Quadrangle (CGS 2006). Previous boring analyses for the future warehouse noted estimated static settlement for the prefabricated metal building would be on the order of about three inches total and about 1.5 inches differential between columns and walls (BAGG 2018).

The FERRF site soils are noted as Young Bay Mud and older alluvium (Old Bay Clay) as well as levee fill composed of mixed clays with sand gravel that are stiff in place, indicative of a reasonably well compacted fill circa the 1960s. Levee fills are directly underlain by Young Bay Mud. The Young Bay Mud is soft to very soft in consistency, about 15-20 feet thick and underlain by medium stiff to stiff Old Bay Clay (alluvium). The technical reports prepared for the FERRF site note the primary geotechnical constraint is the presence of very weak, highly compressible Young Bay Mud that are under the site.

7.1.5 Landsliding

The project site located along the shoreline at or very near sea level and is not located in a mapped landslide hazard area (CGS 2020). However, the site consists of a levee system intermingled with basins with high, steep side slopes that are a slope stability concern during a design level earthquake.

7.1.6 Expansive Soils

Expansive soils shrink and swell as a result of moisture changes. This can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. Therefore, construction of at-grade improvements would need to consider the potential impacts of expansive soil. The DCM report (2013) notes earthwork construction on, within and with Young Bay Mud would require chemical improvement and stabilization with lime treatment to reduce the plasticity index and increase the stability of the soil.

7.1.7 Paleontological Resources or Unique Geologic Feature

The following discussion is from the Menlo Connect General Plan:

"Paleontological resources, or fossils, are any evidence of past life, including remains, traces, and imprints of once-living organisms preserved in rocks and sediments and provide information about the history of life on earth dating back billions of years ago. According to the Society of Vertebrate Paleontology, significant paleontological resources include fossils of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils. Fossils are nonrenewable paleontological resources that are afforded protection by federal, State, and local environmental laws and regulations (Paleontological Resources Preservation Act). Accordingly, the potential of a particular area to produce a valuable paleontological resource is largely dependent on the geologic age and origin of the underlying rocks.

The natural geology of the [ConnectMenlo] study area is comprised of Pleistocene-age (10,000 to 2.6 million years ago) alluvial fan deposits and Holocene-age (less than 10,000 years ago) levee deposits. These geologic deposits are likely to underlie the artificial fill or disturbed soil located directly under the urbanized and developed areas of the city, which is typical of urbanized areas. A summary of each of the three areas is described below.

Artificial Fill

Artificial fill is an engineered mixture of sand, silt and gravel used to prepare areas for urban development and are sourced from natural geologic deposits, but have been excavated, reworked, and transported to their present location; Artificial fill would not comprise any significant fossil records that could contribute to science or natural history, and would not contain unique or significant paleontological resources.

Holocene Levee Deposits

Holocene levee deposits are loose, moderately to well-sorted sandy or clayey silt that border stream channels, usually both banks, and slope away to flatter flood plains and basins. Holocene-age (less than 10,000 years ago) deposits are considered too young to have fossilized the remains of organisms (fossilization processes take place over millions of years). These alluvial deposits contain vertebrate and invertebrate fossils of extant, modern taxa, 10 of which are generally not considered significant paleontological resources. In addition, there is no record of fossils from such young deposits within San Mateo County in the University of California Museum of Paleontology collections database.

Pleistocene Alluvium

Pleistocene alluvium is characterized by sequences of sand, silt, and gravel that form gently sloping surfaces. These deposits originated from modern stream courses, which now deposit their sediment loads closer to the bay and in narrow stream valleys. Stabilized alluvial fan deposits are old enough to have stiffened and preserved the remains of Pleistocene organisms; therefore, could have high potential for producing paleontologically significant resources.

The University of California Museum of Paleontology database records show that similar deposits have yielded vertebrate fossils at eight different locations in San Mateo County. These include fossils from a bison, mammoth, camel, horse, sloth and moose, as well as one bird species. The fossils were found in locations along the Pacific coast as well as along Skyline Drive in South San Francisco and along Middlefield Road in San Mateo County. However, the

database did not have specific information on the location of the non-coastal fossils, and the presence and extent of paleontological resources beneath the [ConnectMenlo] study area is unknown" (Menlo Park 2016).

No previous geotechnical studies for the FERRF site specifically noted the presence of or potential for paleontological resources or unique geologic features. The project could encounter soils including Young Bay Mud (Holocene-age) and Old Bay Clay/alluvium (Pleistocene-age).

7.2 REGULATORY SETTING

7.2.1 Federal Uniform Building Code

The federal Uniform Building Code provides seismic design standards that have been established to reduce structural problems that could occur during major earthquakes. In 1998, the code was revised as follows:

- Upgrade the level of ground motion used in the seismic design of buildings.
- Add site amplification factors based on local soil conditions.
- Improve the way ground motion is applied in detailed design.

7.2.2 Alquist-Priolo Earthquake Fault Zoning Act (1972)

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. In accordance with this law, California Geological Survey (CGS) maps active faults and designates Earthquake Fault Zones along mapped faults. Three basic types of faults exist: active, potentially active, and inactive. Historic- and Holocene-age faults are considered active, Late Quaternary- and Quaternary-age faults are considered potentially active, and pre-Quaternary–age faults are considered inactive. These classifications are qualified by the condition that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations to determine that building setbacks should be established. Any project that involves the construction of buildings or structures for human occupancy is subject to review under Alquist-Priolo, and any structures for human occupancy must be located at least 50 feet from any active fault.

7.2.3 California Building Code (2019)

The State of California provides minimum standards for building design through the California Building Code (CBC). The CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions unique to California. The 2019 California Building Standards Code (CCR, Title 24) was published July 1, 2019, with an effective date of January 1, 2020.

7.2.4 California Public Resources Code Section 5097.5

Section 5097.5 of the California Public Resources Code provides that no person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any paleontological site, including fossilized footprints, paleontological feature, situated on public lands.

7.2.5 City of Menlo Park

The City of Menlo Park's Safety Element (Adopted May 21, 2013) contains the following relevant policies addressing geology and seismicity:

Policy S1.2 - Location of Public Improvements. Avoid locating public improvements and utilities in areas with identified flood, geologic and/or soil hazards to avoid any extraordinary maintenance and operating expenses. When the location of public improvements and utilities in such areas cannot be avoided, assure that effective mitigation measures will be implemented.

Policy S1.4 Inter-Jurisdictional Cooperation. Continue to improve inter-jurisdictional cooperation in regard to public safety concerns related to natural hazards, disaster response and mitigation.

Policy S1.6 Design and Location of Utilities. Monitor appropriate location, design, construction, maintenance and inspection standards for utility systems traversing hazard areas within the City limits. This would include evaluation and upgrading outdated systems and infrastructure, coordination with the State Public Utilities Commission and locating new utility systems away from potential hazard areas.

Policy S1.7 Hazard Reduction. Continue to require new development to reduce the seismic vulnerability of buildings and susceptibility to other hazards through enforcement of the California Building Standards Code and other programs.

Policy S1.13 Geotechnical Studies. Continue to require site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability as shown on the State and/or local geologic hazard maps or identified through other means.

Policy S1.14 Potential Land Instability. Prohibit development in areas of potential land instability identified on State and/or local geologic hazard maps, or identified through other means, unless a geologic investigation demonstrates hazards can be mitigated to an acceptable level as defined by the State of California.

7.2.6 Menlo Park Municipal Code

The City of Menlo Park Municipal code contains all ordinances for Menlo Park. Title 12, Building and Construction, includes relevant regulations to geology and seismic stability.

Chapter 12.04, Adoption of Codes includes that the City has adopted all parts of the most recent triennial edition of the California Code of Regulations, Title 24 except Part 9, California Fire Code (Menlo Park 2016). Together they are referred to as the building code of the City. In

addition, Chapters 12.06 through 12.18 of the Municipal Code implement certain amendments tot eh City's building code (Menlo Park 2016).

The City of Menlo Park Public Works Department, Engineering Division also oversees new development occurring within the City. They review construction-related stormwater control and treatment measures, landscaping plans and grading and drainage plans. Grading and drainage plans are required for projects creating more than 500 square feet of impervious surfaces as well as the inclusion of erosion and sedimentation control details and impervious surface worksheets to evaluate potential changes in impervious areas.

7.3 PROJECT IMPACTS

7.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G Environmental Evaluation Checklist, the project would have a significant impact to geology and soils if it would:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking;

iii) Seismic-related ground failure, including liquefaction; or

iv) Landslides.

b) Result in substantial soil erosion or the loss of topsoil;

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

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

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

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

7.3.2 Rupture of a Known Earthquake Fault

There are no Alquist-Priolo mapped earthquake faults crossing the FERRF site or any of the proposed pipeline alignments (CGS 1974). Because there are no known active faults that cross

under the site, as shown in the Alquist-Priolo Earthquake Fault Map, the potential for fault rupture to occur at the site is considered low. The impact is considered ***less than significant***.

7.3.3 Strong Seismic Ground Shaking

The project is located in the San Francisco Bay Area, which is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in this area and strong to violent ground-shaking in the Project area can be expected as a result of a major earthquake on one of the faults in the region. All new structures included in the project would be designed in accordance with the 2019 California Building Code. The preservation of any existing infrastructure to remain specifically to support elements of this project may require seismic retrofitting as determined by a structural engineer.

A site-specific, design level, geotechnical engineering investigation is in the process of being completed which will address the geologic and soil impacts related to the project. Based on the findings of the geotechnical engineering investigation and preliminary analyses conducted thus far, the project would be feasible from a geotechnical standpoint. Additionally, the noted potential impacts in this chapter can be fully mitigated by implementing the recommendations presented in the geotechnical report.

With Mitigation Measure GEO-1, the District would prepare a site-specific geotechnical investigation and incorporate all recommendations into project plans and specifications. With the implementation of this measure, Impact GEO-1 would be rendered a ***less than significant impact with mitigation***.

7.3.4 Seismic Related Ground Failure including Liquefaction

The potential for seismic related ground failure due to liquefaction is considered to be low because liquefiable sands were encountered in minor isolated deposits deep below the site ground surface; from 27 to 32 feet below the ground surface near the northeast corner of the site and from 36 ½ to 39 ½ feet below the ground surface at southeast corner of the site. The overburden pressure of young and old bay deposits which are predominantly clayey in nature would help inhibit potential ground surface manifestations such as liquefaction induced sand boils and lateral spreading. The impact is considered ***less than significant***.

The potential of slope instability of the perimeter levees and basin side slopes from a design level earthquake is addressed in Section 7.3.5 Landsliding, below.

7.3.5 Landsliding

The project is not located in an identified landslide hazard area (CGS 2017). As discussed in 7.3.4 above, there is a potential for landsliding at the project site in the form of levee bank failures on the west and northeast sides of the site due to seismic ground shaking once proposed fills are added. The site levees and landward basins have side slopes up to about 20 feet in height with gradients of up to two horizontal to one vertical (2H:1V) and are underlain by relatively low strength, Young Bay Mud deposits. Given the subsurface conditions and high steep side slopes, the levees are marginally stable under static conditions in their existing configurations. However, the project would include raising the levee grades by a few feet and also adding additional fill to

the northeast side of the site to create an ecotone levee. The added surcharge would reduce static safety factors while also making the perimeter levees more prone to slope instability during a design level earthquake.

To address slope instability during a major seismic event and to improve safety factors, sheetpiling advanced through the fill and Young Bay Mud and into the underlying old bay deposits is proposed on the western and northeastern sides of the site. A single row of sheet piles is proposed on the west side of the western levee and a row of sheet piles is planned on each side of the northeastern levee. The double row on the northeastern levee is to address both global and localized instability due to surcharges imposed by raising the height of the levee and adding fill for the beach-like feature. A single row is proposed on the west side since the only the levee height will be increased but no beach-like feature is planned. The sheetpiling would need to penetrate at least 5 feet into the older bay deposits. A detailed slope stability analysis and discussion would be included in the design-level geotechnical investigation for the project

As noted above, Mitigation Measure GEO-1 requires the District to prepare a site-specific geotechnical engineering investigation and incorporate all recommendations into project plans and specifications. With the implementation of this measure, Impact GEO-1 would be rendered a ***less than significant impact with mitigation***.

The Noise Chapter in this EIR addresses potential impacts from vibration during construction, see Chapter 10.

7.3.6 Erosion and Loss of Topsoil

A SWPPP will be developed for the project that will include temporary erosion control BMPs to be installed during construction, such as bio-degradable fiber rolls and silt fences installed on newly graded slopes. In addition, bare soils may be planted or seeded with native vegetation to facilitate long term erosion control of the site. See Section 2.3 BMPs and Chapter 8, Hydrology and Water Quality. The impact is considered ***less than significant***.

7.3.7 Unstable Soils or Geologic Unit Resulting in On- or Off-site Landslide, Lateral Spreading, Subsidence, Liquefaction or Collapse

The potential for lateral spreading, subsidence, sand boils and other liquefaction induced ground surface manifestations are considered to be low (Pers. Comm. BAGG 2020c). The impact is considered ***less than significant***.

7.3.8 Expansive Soils

Expansive soils are present at the site but would not have an adverse impact on the project provided the recommendations presented in the design level geotechnical report are adhered to. The impact is considered ***less than significant with mitigation measure*** GEO-1.

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

The project does not propose the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. There would be ***no impact*** from use of septic tanks or alternative wastewater disposal systems.

7.3.10 Unique Paleontological Resource or Site or Unique Geologic Feature

Young Bay Mud is present at the FERRF site and underlain by Old Bay Clay. Young Bay Mud is from the Holocene age (last 10,000 years). "The potential for finding paleontological resources in Young Bay Mud is considered to be low but cannot be ruled out entirely. The formation is too young to find fossils, however, there are beds of sea shells scattered throughout the Bay Mud. The shells are not considered to be fossils" (Pers. Comm, BAGG 2020c). Old Bay Clay /alluvial fan deposits are Pleistocene age (10,000 to 2.6 million years ago and have the potential to yield fossils and paleontological resources. As noted above, paleontological resources have been found at eight locations in San Mateo County. The locations were along the Pacific Coast as well as along Skyline Drive in South San Francisco and along Middlefield Road in San Mateo County. No specific information was available for non-coastal fossils and the presence and extent of paleontological resources beneath the ConnectMenlo General Plan study area was noted as unknown (City of Menlo Park 2016). Project activities could unearth soils that could yield paleontological resources. Mitigation Measure GEO-2 would ensure that if discovered, paleontological resources would be protected. Implementation of Mitigation Measure GEO-2 would reduce potentially significant impacts to ***less than significant***.

7.4 CUMULATIVE IMPACTS

Geologic and soils hazards are largely site specific, although San Mateo County in general is subject to potential regional geologic and soils risks. The magnitude of this risk would be dependent on the site-specific conditions present at each project area. Regardless of the potential risk, each cumulative project would be required to implement design and construction practices intended to reduce and or avoid site-specific geologic and soils risks (either through compliance with general plan policies and local building code, or through the implementation of site-specific mitigation measures developed as a result of required site investigations). The project site is in a shoreline location adjacent to an existing park/closed landfill. Significant grading in areas adjacent to the site from new development in the immediate area is not anticipated. Mitigation included to address geological conditions and site soils would render the site-specific risks posed by local and regional hazards such as ground shaking, liquefaction, and other soils and geologic-related conditions less than significant for each project and would prevent significant cumulative impacts from occurring. The cumulative impacts of the project would be ***less than significant***.

7.5 MITIGATION MEASURES

Impact GEO-1: The project has the potential to create or exacerbate existing conditions related to seismic ground shaking, seismic-related ground failure, slope stability, and expansive soils.

Mitigation Measure GEO-1: Geotechnical Engineering Investigation. A site-specific Geotechnical Engineering Investigation shall be prepared for the project and all recommendations shall be included in project plans and specifications.

Effectiveness: Inclusion of recommendations contained in a site-specific geotechnical report would ensure the project does not result in creation of or exacerbation of existing site conditions related to seismic ground shaking, seismic-related ground failure, and expansive soils.

Implementation: The District shall prepare a site-specific geotechnical investigation for the project and all recommendations shall be included in the project's final design and plans and specifications.

Timing: The report shall be prepared in advance of the final design plans and specifications.

Monitoring/Reporting: The geotechnical engineering investigation report shall be submitted to the District for review.

Impact GEO-2: Project construction could unearth paleontological resources, including fossils.

Mitigation Measure GEO-2: Paleontological Resources. If paleontological resources are discovered during construction, ground-disturbing activities shall halt immediately until a qualified paleontologist can assess the significance of the discovery. Depending on determinations made by the paleontologist, work may either be allowed to continue once the discovery has been recorded, or if recommended by the paleontologist, recovery of the resource may be required, in which ground-disturbing activity within the area of the find would be temporarily halted until the resource has been recovered. If treatment and salvage is required, recommendations shall be consistent with Society of Vertebrate Paleontology guidelines and current professional standards.

The District will ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.

Effectiveness: This measure would reduce impacts on paleontological resources to less than significant.

Implementation: The District and/or its contractor(s) shall implement this measure in the event any paleontological resources are discovered.

Timing: During all earth disturbing phases of Project construction.

Monitoring: If paleontological resources are uncovered, a report shall be prepared by the qualified paleontologist describing the find and its deposition.

7.6 REFERENCES

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CHAPTER 8 HYDROLOGY AND WATER QUALITY

The analysis contained in this section is based on a technical memorandum prepared for the project by Balance Hydrologics, Inc. (November 2020) that is included as Appendix G of this EIR.

8.1 ENVIRONMENTAL SETTING

8.1.1 Regional Hydrology

The FERRF site is bounded by Westpoint Slough on the north, Flood Slough on the west, and Bedwell Bayfront Park on the south and east. The influent wastewater pump station (IPS) site is located adjacent to the confluence of the Bayfront Canal and Flood Slough, and the distribution pipelines will be constructed in several of the road right-of-ways nearby.

The average annual rainfall in the vicinity of the project is approximately 17 inches. Most of this precipitation falls during the winter rainy season, October through April, with the heaviest rainfall typically occurring in December, January, and February.

Both the FERRF site and IPS site are located at the downstream end of the Atherton Creek watershed, which is a highly urban watershed running through Atherton, Redwood City, Menlo Park, Woodside, and unincorporated parts of San Mateo County. The watershed flows in its historical position from its headwaters near Interstate 280 to Alameda de las Pulgas. The creek is highly engineered and flows through a concrete channel to El Camino Real and then a combination of concrete channels, storm drains, and culverts to San Francisco Bay. Elevations in the watershed range from roughly 400 feet at the upstream end, to sea level at the downstream end.

Historically, the FERRF site was marshland within a complex dendritic tidal channel system at the margin of San Francisco Bay (see Figure 2 in the Balance Hydrologics report in Appendix G). With very subtle changes in elevation, Westpoint Slough (formerly identified as West Point Slough) is at a local tidal watershed divide of Westpoint Creek where its channel fills and drains with the tide and connects with Ravenswood Slough at high tide. By 1930, drainage improvements at the site and vicinity included dredging Flood Slough to the bay shore at Marsh Road, as well as levee building and placement of artificial fill (see Figure 3 in Appendix G). The tidal watershed divide in Westpoint Slough also appears to have been dredged and diked. Currently, Westpoint Slough comprises the water feature formerly identified as Westpoint Creek, which has its confluence with Redwood Creek (see Figure 4 in Appendix G). The shoreline along Westpoint Slough includes Northern Coastal Saltmarsh wetland and tidal sloughs. Westpoint Slough forms the south and west shore of Greco Island. Greco Island and areas to the east and south of Bedwell Bayfront Park are part of Don Edwards National Wildlife Refuge, a 30,000-acre wetland/shoreline area across the southern end of San Francisco Bay.

Flood Slough has its confluence with Westpoint Slough. Cargill Industrial Saltworks owns and operates salt ponds (evaporators) to the west of Flood Slough, and the FERRF site and Bedwell Bayfront Park are to the east of the slough. Flood Slough terminates at the limit of historical marshlands at the ‘Bayfront’. Flood Slough conveys stormwater from Atherton Channel and

Bayfront Canal through a five-gate tide control structure (the Bayfront Canal Tide Gates) at the eastern terminus of Bayfront Canal, adjacent to Marsh Road (Horizon, 2019). The intended use of the tide gates is to prevent Bay water in Flood Slough from flowing back into Bayfront Canal. The tide gates close automatically when tide levels in the Bay are high, preventing storm flow from emptying into Flood Slough. Flood Slough also conveys stormwater through a Caltrans culvert from a 4,000-ft channel along the north side of Bayshore Expressway.

The drainage area above the Bayfront Canal tide gates is 9.5 square mile area which includes sections of the cities of Menlo Park and Redwood City, the towns of Atherton and Woodside and unincorporated areas of San Mateo County (see Figure 1 in Appendix G). The Bayfront Canal begins in Redwood City by Douglas Court and runs west to east along the southern edge of the salt ponds owned and operated by Cargill, Inc. The Atherton Channel, which runs along the jurisdictional boundary between Redwood City and the Menlo Park between Florence Street and Haven Court, joins the Canal a few hundred feet west of Marsh Road. The combined flow from the Atherton Channel and the Bayfront Canal empty into Flood Slough through the tide gate control structure, operated and maintained by the City of Redwood City.

The drainage areas along the Bayfront Canal are subject to frequent flooding due to conveyance issues associated with capacity during large storm events as well as flow restrictions when tide levels are high (City of Menlo Park Staff Report Number 17-204-CC). Chronic flooding occurs in the East Bayshore area located along the Canal in Redwood City and at the Atherton Channel in the Haven Avenue and Marsh Road area of Menlo Park. The flooding typically results in road closures.

The Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project (Horizon 2019) is designed to provide adequate flood conveyance capacity and effectiveness during times of peak flood flow to protect residences and businesses in the communities south and southwest of the Bayfront Canal. The project involves the construction of two parallel underground box culverts and associated drainage connections to route a portion of peak flood flows from Bayfront Canal into managed ponds that are part of the Ravenswood Pond Complex portion of the South Bay Salt Pond (SBSP) Restoration Project.

8.1.2 Tidal Dynamics

Tidal wetlands are the margins of the estuary that are periodically inundated by tides and include all habitats within the elevation range between the lowest and highest tides (a.k.a. the “tidal frame”). Structural diversity and species richness increase landward of the estuarine ecosystem boundary. They include the following areas that influence habitat types:

- Intertidal mudflats form below the mean tide level (MTL) to the mean lower low water (MLLW). Mudflats are frequently inundated by tide water, and the mud is worked by tidal action. At the upper portion of the mudflat to mean high water (MHW), a low marsh of Pacific cordgrass (*Spartina foliosa*) generally develops.
- Regularly inundated tidal marsh plains develop from MHW to mean higher high water (MHHW) comprising a wide middle marsh zone dominated by perennial pickleweed (*Salicornia virginica*) and a high marsh zone dominated by saltgrass (*Distichlis spicata*), with a complex network of dendritic tidal channels reaching into the marsh. Tidal marsh

plains serve as critical habitat and refugia for several species, most notably the salt marsh harvest mouse (*Reithrodontomys raviventris*) and the California black rail (*Laterallus jamaicensis corturniculus*). It also serves as a buffer from landward intrusions of human influences including cats and dogs and predators such as the red fox.

- Infrequently inundated and spatially variable transition zones form at the edge of the high marsh and upland habitats. Responding to annual rainfall and storm surges as well as a rising sea level, the landward boundary of the high marsh generally shifts from year to year within the transition zone.

To evaluate if current and/or historical Section 10 waters occur within the area of the FERRF site, surveys were conducted to establish the MHW at the site (MIG, 2020). Section 10 of the Rivers and Harbors Appropriation Act of 1899 applies to "navigable waters of the U.S. and includes all waters subject to the ebb and flow of the tide, of which the MHW is taken as the shoreward jurisdictional limit of tidal waters." Based on data reported for the National Oceanic and Atmospheric Administration (NOAA) Dumbarton Bridge Station (No. 9414509), the MHW was calculated to be 6.80 feet relative to NAVD88 datum (MIG, 2020), or 8.00 feet relative to MLLW datum.

The tidal prism inundating the mudflats and tidal marsh plains of Westpoint Slough and Flood Slough at high tide drains to the Bay at low tide. Broad bayside mudflats are exposed at low tide from Redwood Point to Ravenswood Point, including the mouth of Redwood Creek, along Greco Island, and the mouth of Ravenswood Slough. Westpoint Slough and Flood Slough drain to single-thread channels at low tide, exposing mudflats on the bed of the sloughs and with the marsh channels (see Figures 8, 9, and 10 in Appendix G). At the FERRF site, the entire reach of Westpoint Slough along the north shore of the property, the location of the proposed ecotone levee, is situated at the uppermost portion of the tidal watershed of Westpoint Slough and drains west toward Redwood Creek and not directly toward the mouth of Ravenwood Slough; the tidal watershed divide is beyond the location of the proposed ecotone levee.

8.1.3 Site Hydrology

As stated above, the project includes improvements to the FERRF site, a new influent pump station, and associated influent/distribution pipelines.

The existing drainage system on-site at the FERRF was originally part of the decommissioned on-site wastewater treatment plant. An existing 30-inch pipeline served as the decommissioned wastewater treatment plant effluent outfall and stormwater drain for impervious areas surrounding the wastewater treatment plant, which originates approximately 20 feet east of the WWTP, and drained the impervious area of this plant to an outfall into Westpoint Slough. There is also an existing ditch in Bedwell Bayfront Park, along the south and eastern portion of the FERRF site that conveys stormwater from Bedwell Bayfront Park and discharges to Westpoint Slough.

Besides the decommissioned treatment plant elements, the FERRF site is largely unpaved. The only impervious areas at the site are the remnant WWTP facilities and a portion of the entrance driveway into the site.

The FERRF site is generally flat. Surface elevations (excepting the equalization basins) are approximately 8 to 12 feet above mean sea level (AMSL) on the western portion of the site while the eastern portion of the site is roughly 10 to 17 feet AMSL. The levees on the west and north of the site vary between 10 and 12 feet AMSL. The equalization basins' floor elevation (bottom depth) is approximately 3 to -3 feet AMSL.

With earthen levees on the north and west Bayside boundaries of the property, the site provides temporary storage of sewer flows within three open air basins, having a combined storage capacity of approximately 23.5 million gallons (MG). Basin 1 serves as the primary location for handling excess flows during maximum flow events (e.g., during a storm event) (see Figure 2-1 in Project Description). If the Regional Plant (in Redwood City) were to shut down for some unforeseen reason during a storm event, it would not take long for Basin 1 to fill up and overflow into Basin 2. Events that require the use of Basin 2 are uncommon but do occur. The last time Basin 2 was used for overflow purposes was approximately 12 years ago. Historically, Basins 2 and 3 were connected, but this is no longer the case; only Basins 1 and 2 are connected under current conditions.

The proposed location of the IPS is already paved, and the proposed alignments of the influent/distribution pipelines are along already paved road rights-of-way.

8.1.4 Soils and Groundwater

The proposed project is located within the Santa Clara Valley Groundwater Basin, a structural depression extending southeastward from San Francisco, and lying between the Diablo Range on the northeast and the Santa Cruz and Gabilan ranges on the southwest. Mid-Pleistocene uplift and large-scale block faulting – generally controlled by movement along the Hayward fault and the San Andreas fault – has elevated older consolidated sedimentary and igneous basement rocks, forming the boundaries of the basin. The San Francisco Bay occupies the central portion of the geologic trough, and streams draining the mountain watersheds have deposited alluvial fans and flood plains within the basin. Glacial stages globally during the Pleistocene have changed the base level for the streams, fluctuating as much as 400 feet. During the interglacial stages, when the depression was partially inundated, extensive blue clay layers were deposited, while extensive gravel and sand layers and other water-bearing materials were deposited during glacial stages of lowered sea level. This depositional environment (or stratigraphic facies) resulted in a series of interfingering aquifers and aquicludes of limited extent which are poorly correlated locally within the basin.

The Department of Water Resources (DWR) has divided the Santa Clara Valley Groundwater Basin into four subbasins: Niles Cone (No. 2-009.01), Santa Clara (No. 2-009.02), San Mateo Plain (No. 2-009.03), and East Bay Plain (No. 2-009.04). The proposed project site is located within the San Mateo Plain Subbasin on artificial fill and bay mud (Holocene) deposits. These alluvial deposits are characterized as water-saturated estuarine mud, predominantly gray, green and blue clay and silty clay underlying marshlands and tidal mud flats of the San Francisco Bay (Brabb and others, 2000, USGS MF-2332; Atwater and others, 1977, USGS Prof. Paper 1014). By 1930, drainage improvements at the site and vicinity included dredging Flood Slough to the Bay shore at Marsh Road, levee improvements, and artificial fill. Sand and gravel aquifers at depth are located beneath the FERRF site (see Figure 11 in Appendix G), and were the source of

groundwater for the former Menlo Park Wastewater Treatment Plant, which operated from 1952 to 1980. Water was used in treatment processes, cleaning equipment and floors of buildings, and for sprinklers. Other wells in the area also identify deep clay which function to confine underlying aquifers.

Two monitoring wells are located onsite near the existing equalization basins: one at the north point of the site near Basin 2 (MW-1) and the other at the south center portion of the site near the southeast corner of Basin 1 (MW-2). On May 26, 2020 Balance measured depth to water (DTW) in the monitoring wells: DTW in MW-1 was 10.3 ft with a stickup of 2.3 ft, and DTW in MW-2 was 7.8 ft with a 2.0 ft stickup at 11:07 AM. Neither of the wells had WCRs on file at DWR.

Bay mud has very low hydraulic conductivity (Helley and Lajoie, 1979) – commonly on the order of 10^{-6} centimeters per second (cm/sec) – and is considered an aquiclude. Marsh soils in the area (such as on Greco Island) are classified as Novato Series. The Novato series consists of very deep, very poorly drained soils that formed in alluvium deposited along the margin of bays, in tidal marshes with slopes of 0 to 2 percent. Novato soils are characterized with a permeability of 0.06 to 0.2 inches per hour (in/hr).

8.2 REGULATORY SETTING

This section describes the federal, state, and local regulatory context to be considered for the proposed project, and addresses hydrology and water quality concerns, including development strategies, stormwater pollution prevention plans, and stormwater management practices.

8.2.1 U.S. Clean Water Act Section 402

The Clean Water Act (CWA) authorizes the U.S. Environmental Protection Agency to regulate water quality in California by controlling the discharge of pollutants to water bodies from point and non-point sources through the National Pollution Discharge Elimination System (NPDES). In San Mateo County, as with the rest of the Bay Area, NPDES permits are administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB Region 2), a division of the State Water Resources Control Board (SWRCB). The San Francisco Bay Basin Water Quality Control Plan (RWQCB Region 2 Basin Plan adopted November 5, 2019) is the master policy document that drives the management of water quality and NPDES permits.

NPDES permits are adopted to address the water quality and flow-related impacts of stormwater runoff. It is a comprehensive permit, which regulates activities related to construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. It also requires a public education program, implementing targeted pollutant reduction strategies, and a monitoring program to help characterize local water quality conditions and to begin evaluating the overall effectiveness of the permit's implementation. Phase I of the NPDES program covered discharges from industrial sites, construction sites larger than five acres, and municipal separate storm sewer systems (MS4s) serving populations of more than 100,000 people.

Discharge of RO Concentrate to Westpoint Slough

An NPDES permit would be required for the proposed discharge of RO Concentrate to Westpoint Slough. Five beneficial uses of wetland areas are identified in the Basin Plan for Bair Island, Belmont Slough, and Redwood City Area, which would apply to Westpoint Slough. These are:

- Estuarine habitat (EST). Uses of water that support estuarine ecosystems, including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds), and the propagation, sustenance, and migration of estuarine organisms.
- Preservation of rare and endangered species (RARE). Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
- Water contact recreation (REC1). Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
- Noncontact water recreation (REC2). Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where water ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Wildlife habitat (WILD). Uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.

The Basin Plan describes water quality objectives and effluent limitations which take into account the identified beneficial uses. The water quality objectives define appropriate levels of environmental quality and are used to control activities that can adversely affect aquatic systems. Objectives for pollutant concentrations and physical/chemical conditions represent the maximum amount of pollutants that can remain in the water column without causing any adverse effect on organisms using the aquatic system as habitat, on people consuming those organisms or water, and on other current or potential beneficial uses. For the pollutant concentrations of RO Concentrate estimated for the proposed project (Table 8-2), the Basin Plan identifies (but is not confined to) effluent limitations as listed in Table 8-1.

Table 8-1 Water Quality Objectives Identified in Basin Plan Applicable for Westpoint Slough

Pollutant	4-day Average (ug/L)	1-hr Average (ug/L)	Reference
Arsenic, Total	36	69	Table 3-3 of Basin Plan
Copper, Total	6.9	10.8	Table 3-3A of Basin Plan
Lead, Total	8.1	210	Table 3-3 of Basin Plan
Nickel, Total	11.9	62.4	Table 3-3A of Basin Plan
Mercury, Total	0.025	2.1	Table 3-3 of Basin Plan
Selenium, Total	none	none	Table 3-3 of Basin Plan
Zinc, Total	81	90	Table 3-3 of Basin Plan
Cyanide, Total (as CN)	2.9	9.4	Table 3-3C of Basin Plan
Note: Water quality objectives may be updated in December 2020.			

Industrial Stormwater Water Discharge

The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for stormwater associated with industrial activities discharging to waters of the United States. The IGP includes facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 Code of Federal Regulations part 403.

The IGP requires that each facility notify the state, prepare, and implement a Stormwater Pollution Prevention Plan (SWPPP), and monitor to determine the amount of pollutants leaving the site. Although the plan does not have to be submitted to the Water Board it must be available at each facility. The permitted company must submit an annual report to the RWQCB. For the project SWPPP, the District proposes to use standard specifications from the City of Menlo Park Stormwater Pollution Prevention Program, San Mateo County's Construction BMPs, and California Stormwater Quality Association (CASQA) BMP handbook.

Municipal Storm Water Discharge

Regardless of Industrial General Permit requirements and compliance, any development regulated under the relevant MS4 permit would need to also comply with the municipal NPDES C.3 regulations to include low impact development (LID) and stormwater treatment controls for projects resulting in 10,000 square feet of new or replaced impervious surface.

Each of the incorporated cities and towns in San Mateo County share a common municipal NPDES permit. On November 19, 2015, the San Francisco Bay RWQCB issued the most

updated NPDES Permit No. CAS612008 (Order No. R2-2015-0049) to implement the Municipal Regional Stormwater Permit (MRP) for all Bay Area communities, including the San Mateo Permittees. The requirements of the MRP address subjects such as erosion and sedimentation reduction, general stormwater pollution prevention, post-construction best management practices and controls incorporation, impervious surface minimization, sensitive area restoration and protection, and watershed planning.

The goal of Provision C.3 is for the Permittees to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of LID techniques.

Stormwater Water Discharge for Construction Sites

Dischargers whose projects disturb one (1) or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ.

Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP), identifying potential sources of pollution and specifying runoff controls during construction for the purpose of minimizing the discharge of pollutants in stormwater from the construction area. The SWPPP should contain a site map which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list best management practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Construction-related BMPs are a set of specific guidelines for reducing pollutants (including sedimentation and turbidity) in stormwater discharges and runoff both during construction and post-construction. Countywide standard BMPs can be found in the County of San Mateo Watershed Protection Program's Maintenance Standards (County of San Mateo 2004) and through guidance published by the San Mateo Countywide Water Pollution Prevention Program.

Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The permit also includes post-construction standards with the requirement for all construction sites to match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems is maintained. This "runoff reduction" approach is analogous in principle to Low Impact Development (LID) and serves to protect related watersheds and water bodies from both hydrologic-based and pollution impacts associated with the post-construction landscape.

8.2.2 U.S. Clean Water Act Section 401

Under the auspices of the CWA, the USACE administers permitting programs that authorize impacts to "waters of the United States" including "wetlands" and "other waters." Such impacts may not be permitted until the SWRCB, acting through its regional boards, certifies that the activities covered by the permit will not violate water quality standards. Certification must be consistent with the requirements of the federal CWA, CEQA and CESA, and with the SWRCB's mandate to protect beneficial uses of waters of the state.

The San Francisco Bay RWQCB has adopted the USACE policy that there shall be "no net loss" of wetlands. Thus, prior to waiving or certifying water quality, the RWQCB requires a proposed project to ensure there are no impacts on existing wetlands, or, if such impacts are unavoidable, that they are fully mitigated.

8.2.3 California Porter-Cologne Act

The Porter-Cologne Act requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State (any surface water or groundwater, including saline waters) to file a report of discharge" with the local RWQCB by submitting an application for waste discharge. The RWQCB determines if a project should be regulated pursuant to this act based on the likelihood that it would pose any "threat" to water quality. The San Francisco Bay RWQCB considers the placement of clean fill in waters of the State to constitute "pollution," because it can potentially alter existing water quality, which may adversely affect its beneficial uses.

8.2.4 McAteer-Petris Act and Bay Conservation and Development Commission

As described in Chapter 5, Biological Resources, the BCDC is the management and regulatory agency for the McAteer-Petris Act. BCDC has jurisdiction over San Francisco Bay and includes tidal areas up to mean high tide, including all sloughs, and in marshlands up to five feet above mean sea level; a shoreline band consisting of territory located between the shoreline of the Bay and 100 feet landward and parallel to the shoreline, salt ponds, managed wetlands, and certain waterways that are tributaries to the Bay. For further discussion of BCDC and the Bay Plan, see Chapter 5, Biological Resources, and Chapter 9, Land Use.

8.2.5 California Fish and Game Code

Existing stream channels in California are protected under sections 1600-1603 of the State Fish and Game Code. These regulations specify that it is a landowner's responsibility to obtain a state permit before undertaking any modifications within an existing stream channel up to the top of bank. Stream channels are defined by the California Department of Fish and Wildlife (CDFW) as exhibiting evidence of scour, having a definable bank, or having or being capable of supporting riparian vegetation.

8.2.6 California Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires governments and water agencies with management responsivities in medium- and high-priority sub-basins to halt

groundwater overdraft through development of a Groundwater Sustainability Plan (GSP). The proposed project site overlies the Santa Clara Valley - San Mateo Plain subbasin (no. 2-009.03), which has a "very low" SGMA prioritization. As such, an exclusive groundwater management agency (GSA) has not been formed, nor has a groundwater management plan (GSP) been developed for the subbasin.

8.2.7 San Mateo Countywide Water Pollution Prevention Program

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), formerly known as the San Mateo Countywide Stormwater Pollution Prevention Program (STOPPP), combines the countywide program and local programs while providing regional support and oversight for the local programs. The SMCWPPP was established to reduce pollutant discharge in stormwater runoff and minimize pollution of surface water resources (local creeks, San Francisco Bay, the Pacific Ocean). As part of this program, the comprehensive plan includes guidance on pollution reduction activities for construction sites, industrial sites, illegal discharges, and illicit connections, new development, and municipal operations. The program also includes public education efforts, pollutant reduction strategies, and a monitoring program. These local programs are now in force in all major cities in San Mateo County.

8.2.8 City of Menlo Park Stormwater Pollution Prevention Program

The City of Menlo Park adopted an ordinance to control the discharge of pollutants into storm sewers for protecting water quality pursuant to the Clean Water Act. In order to implement the Federal Regulatory requirements, the City requires that all contractors and subcontractors undertake all practicable specified measures to reduce pollutants.

The ordinance recommends construction materials handling and disposal practices for construction sites and the City provides a list of recyclers and disposal services to guide contractors/subcontractors in safe and non-polluting methods of disposal. The City of Menlo Park enforces the ordinance, the violation of which can constitute a misdemeanor to be charged and prosecuted as provided by City code. Further information on roadwork/paving and heavy equipment operation can be found in Section 2.3 and Table 2-4 in the Project Description of this EIR.

8.3 PROJECT IMPACTS

8.3.1 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the impact of the proposed project on hydrology and water quality would be considered significant if it would:

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

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

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

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

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

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

iv. impede or redirect flood flows.

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

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

8.3.2 Surface Water Quality

Construction

During construction, clearing and grading of the project levees would increase the potential for increased turbidity and sedimentation in Westpoint and Flood sloughs. Sedimentation may degrade slough habitat and reduce flow capacity, potentially inducing or exacerbating flooding. Other pollutants that might impact surface water quality during project construction include petroleum products (gasoline, diesel, kerosene, oil, and grease), hydrocarbons from asphalt paving, paints, solvents, and litter.

Because the project would disturb more than one acre of land, the applicant is required to prepare a Stormwater Pollution Prevention Plan (SWPPP), per NPDES general construction permit requirements through the State Water Resources Control Board (SWRCB). The SWPPP would address potential erosion and sedimentation issues through a project-specific erosion control plan, as well as other best management practices (BMPs) to reduce the potential for sediment, pollution, and other contamination from on-site construction activities. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or the Caltrans Stormwater Quality Handbook Construction Site BMPs Manual. Section 2.3 and Table 2-4 in the Project Description outline the BMPs that are included in this project, including District Standard Specification C2.11 Stormwater Pollution Prevention Program and City of Menlo Park's Stormwater Control Ordinance. Proper implementation of the project-specific SWPPP would reduce the potential construction-related water quality impacts to ***less than significant*** during the construction phase.

Operations

The proposed new Bayfront RWF would increase on-site impervious area and includes construction of an off-site influent pump station and off-site influent and distribution pipelines. No new impervious surfaces created by the project would discharge stormwater off-site, with the exception of the drainage ditch that outfalls at the northeast corner of the FERRF site, which borders the FERRF property line.

The Statewide Industrial General Permit requires that each facility notify the state, prepare, and implement a Stormwater Pollution Prevention Plan (SWPPP), and monitor to determine the amount of pollutants leaving the site. For the project SWPPP, the District proposes to use standard specifications from the City of Menlo Park Stormwater Pollution Prevention Program, San Mateo County's Construction BMPs, and California Stormwater Quality Association (CASQA) BMP handbook (see Table 2-4 and Section 2.3 of the Project Description of this EIR).

Additionally, the project would also need to comply with the municipal NPDES C.3 regulations to include low impact development (LID) and stormwater treatment controls. These would include erosion and sedimentation reduction, general stormwater pollution prevention, post-construction best management practices and controls, impervious surface minimization, sensitive area restoration and protection, and watershed planning.

Grit (solids) from the initial screening of the influent wastewater would be collected, compacted, and stored on site until hauled to an off-site sanitary landfill. Waste sludge, washwater, and cleaning solutions would be discharged to the existing sanitary sewer and conveyed to the treatment plant.

RO concentrate is proposed for discharge to two location: a) to Basin 3, which has a capacity of 3.5 MG, and when Basin 3 reaches capacity, b) to Westpoint Slough (see below). RO concentrate in Basin 3 would be managed to achieve approximately 50 percent solids then hauled to an off-site sanitary landfill. RO concentrate within Basin 3 is not proposed for discharge to Westpoint Slough.

The proposed project would result in ***less than significant impacts*** to water quality during the operational phase.

8.3.3 Discharge of RO Concentrate to Westpoint Slough

The pollutant concentrations of copper, nickel, mercury, zinc, and cyanide estimated for project RO concentrate exceed Basin Plan objectives applicable to Westpoint Slough for those pollutants (Table 8-2); copper and cyanide exceed both 1-hour and 4-day objectives. These elevated concentrations thus suggest that dilution within the tidal prism of Westpoint Slough and circulation to the Bay would be required to lower pollutant levels to acceptable levels. As described in the environmental setting above, the tidal prism inundating the mudflats and tidal marsh plains of Westpoint Slough and Flood Slough at high tide drains to the Bay at low tide. Westpoint Slough and Flood Slough drain to single-thread channel at low tide, exposing mudflats on the bed of the sloughs and marsh channels (see Figure 8-1). Intertidal mudflats form below the mean tide level (MTL) which is 4.40 ft at the Redwood City tide gage on Redwood Creek.

Source: Balance Hydrologics, 2020

Figure 8-1 RO Concentrate Outfall and Tides

Table 8-2 Estimated Pollutant Concentrations of RO Concentrate Relative to Basin Plan Objectives

Pollutant	Projected Pollutant Concentrations of RO Concentrate (Table 1)[1]		Water Quality Objectives in Basin Plan (Table 2)[2]		Remarks
	Estimated 95th Percentile (ug/L)	*Estimated Average Concentration (ug/L)*	*4-day Average (ug/L)*	*1-hr Average (ug/L)*	
Arsenic	7.0	5.0	36	69	Not exceeding Basin Plan objectives
Copper	55	37	6.9	10.8	Exceeds both 1-hr and 4-day objectives
Lead	1.4	0.93	8.1	210	Not exceeding Basin Plan objectives
Nickel	27	20	11.9	62.4	Exceeds 4-day objective
Mercury	0.041	0.025	0.025	2.1	Exceeds 4-day objective
Selenium	4.000	2.4	None	None	Not Applicable
Zinc	95.3	72	81	90	95th percentile exceeds both objectives
Cyanide	22	14	2.9	9.4	Exceeds both 1-hr and 4-day objectives

Notes:

[1] Estimates of projected pollutant concentrations based on data from SVCW. Data from the District's Sharon Heights RWF indicate District flows may result in lower concentrations. Additional treatment processes are also available to lower concentrations and remove certain constituents of concern from the RO concentrate discharge stream.

[2] Water quality objectives may be updated in December 2020.

Based on aerial photos, a rough area of the mudflats of Westpoint Slough and Flood Slough is about 350 acres, not including marsh channels. The estimated MTL prism of Westpoint Slough (350 acres by 4.4 ft) is roughly 500 million gallons (MG). Furthermore, the design maximum daily discharge of RO concentrate is 50,000 gallons, which is 0.01 percent of the MTL prism of Westpoint Slough. The dilution in Westpoint Slough at MTL would be roughly 10,000 times the maximum daily discharge of RO concentrate, which suggests that dilution and circulation to the Bay would be suitable.

This first-order analysis is considered a conservative analysis because it does not include the tidal prism above MTL, which would inundate the tidal marsh plain and its species richness.

Maximum dilution and circulation to the bay would conceivably be achieved during the outgoing tide, therefore preliminary analysis indicates the discharge of RO concentrate to Westpoint Slough would have a ***less than significant impact*** on water quality given positive results of modeling to achieve an acceptable protocol for discharge.

Further modeling of the slough would be necessary to further assess the potential water quality impacts and would assess concentrations of all water quality objectives in the Basin Plan. An outcome of the modeling would be to identify optimal tidal conditions for discharge of RO concentrate. The modeling is done as part of the RWQCB permitting process and prior to the final project design when projected pollutant concentrations are confirmed and additional treatment processes could be identified, as necessary, to reduce pollutant loads to meet Basin Plan Objectives. Final design, operation, and monitoring is dictated through agency permits.

8.3.4 Groundwater Quality, Supply, and Recharge

The proposed project site overlies the Santa Clara Valley - San Mateo Plain subbasin (No. 2-009.03), which has a “very low” SGMA prioritization. As such, an exclusive groundwater management agency (GSA) has not been formed, nor has a groundwater management plan (GSP) been developed for the subbasin. Based on the lithologic log on the drillers WCR for the on-site well and other wells and borehole data (Brabb and others, 2000; Iwamura, 1995; Atwater and others, 1977), the proposed project site overlies thick deposits of bay mud and clay, as illustrated in Figure 11 in the technical report in Appendix G. Confined aquifers at depth would likely receive recharge from upgradient unconfined areas to the west or are at the fringe of broad basin aquifers underlying the Bay and extending to the East Bay such as the Newark Aquifer and Centerville Aquifer.

Increases in impervious area at the project site could incrementally decrease stormwater recharge which could impact recharge to the underlying aquifer. However, the small increase in impervious cover at the project site is unlikely to impact recharge to a significant degree in comparison to the rest of the watershed size and land use. In addition, with very low hydraulic conductivity, the clay aquicludes function to confine or semi-confine the aquifers at depth and potentially isolate the aquifers from overlying surface waters. As illustrated in Figure 11 (see Appendix G), recharge likely occurs somewhere upgradient in an unconfined aquifer zone.

One water well exists on site. The groundwater from the well was used in treatment processes, cleaning equipment and floors of buildings, and for sprinklers, but not for potable use. There is

no record of destruction if the well in the DWR online files. The well draws groundwater from sand and gravel aquifers interfingered in clay aquicludes below 144 feet of clay (see Figure 12 in Appendix G). With very low hydraulic conductivity, the clay aquicludes function to confine or semi-confine the aquifers at depth and potentially isolate the aquifers from overlying surface waters. As illustrated in Figure 11 in Appendix G, recharge likely occurs somewhere upgradient in an unconfined aquifer zone. The yield of the well was not recorded on the driller's WCR but identified as 30 gallons per minute (gpm) in USGS Open File Report 75-43 (Wood, 1975). Currently, the site is supplied with potable water by the City of Menlo Park and as part of the future warehouse currently being permitted at the site, the existing water supply pipe to the site will be upgraded to a 6-inch diameter pipe.

Given these physical limitations, the proposed project would have a ***less than significant impact*** on the aquifer groundwater quality, supply, or recharge.

8.3.5 Stormwater Drainage, Erosion, and Siltation

The proposed project would increase the impervious area at the site by a total of approximately 14,113 square feet (approximately 13,620 square feet for the FERRF and approximately 493 square feet for the influent wastewater pump station). The influent and distribution pipelines would create no new impervious area since they will be installed in already existing paved road rights-of-way. This change represents an approximately 13% increase in impervious area on-site. That said, no new impervious surfaces created by the project would discharge stormwater off-site, with the exception of the ditch draining at the northeast corner of the FERRF site, which borders the eastern FERRF property line (the "eastern ditch").

Due to the proposed one-way check valves that are planned to be installed at the outlet of the eastern ditch, Bay waters will not be able to flow back on site (including during high tide events). In addition, the existing stormwater drainage system remaining from the decommissioned on-site wastewater treatment plant and discharge outfall to Westpoint Slough would be capped. As a result, on-site drainage would either a) flow into the existing ditch on the eastern boundary of the site or b) discharge into one of the three existing flow equalization basins. According to information provided on current FERRF operations, the last time Basin 2 was used for overflow purposes after Basin 1 was full was approximately 12 years ago. As such, the existing on-site basins are feasible to use for stormwater runoff.

Stormwater from the post-project layout would be directed into the eastern ditch (and then into Westpoint Slough) or into one of the large basins on-site, and there is adequate storage on-site for the increase in stormwater runoff. No off-site stormwater systems would be impacted as a result of this project. The Bayfront RWF is a facility that requires coverage under the Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP). The IGP requires that all Dischargers develop, implement, and retain onsite a site-specific SWPPP to control and monitor the amount of pollutants leaving the site. Although the plan does not have to be submitted to the Water Board it must be available at each facility. The permittee must submit an annual monitoring report to the RWQCB. For the project SWPPP, the District proposes to include, as appropriate, standard specifications from the City of Menlo Park Stormwater Pollution Prevention Program, San

Mateo County's Construction BMPs, and California Stormwater Quality Association (CASQA) BMP handbook as appropriate.

The project includes appropriate sizing and design of all stormwater drainage features to ensure that runoff from new impervious surfaces does not adversely impact existing stormwater flows by increasing the rate or velocity of runoff that could result in impacts associated with flooding, drainage or erosion. Improvements to the eastern ditch, including maximizing its cross-sectional geometry, would allow for it to have proper capacity for these redirected flows (in addition to the off-site flows that are already directed to it), and therefore reduce the risk of localized flooding to below the level of significance. Therefore, the project would have a ***less than significant impact*** on stormwater drainage.

8.3.6 Flood Risk

Proposed Levees Improvement

In order to receive FEMA certification, the project proposes to protect the site from flooding and sea level rise by installing sheet pile walls around the northern and western perimeters of the facility, raising the grades of the northern portion of the perimeter access road within the property, and building an ecotone levee to promote shoreline resiliency.

Approximately 3,400 linear feet of sheet piles (large metal plates) would be placed along the western and northern portions of the FERRF site, with a short, approximately 200-foot section extending onto Menlo Park land at the site's Marsh Road entrance. The sheet piles would be vibrated into the ground approximately 30 feet deep, while leaving the top of the sheet pile at a height of 15 feet (North American Vertical Datum of 1988, or NAVD88) elevation.

On the northern perimeter of the project (adjacent to Westpoint Slough), an ecotone levee would be installed. Ecotone levees are nature-based ramps that provide a gradual transition zone between tidal marshes and flood risk management levees. They are designed to provide high-tide and wetland-upland transition zone habitat, protection against storm surge (i.e., wave attenuation), and resiliency against long-term sea level rise. The proposed ecotone levee would be located along the northern perimeter of the FERRF site, with a height of 15 feet (NAVD88), and slopes ranging from 20:1 (horizontal to vertical) to 10:1. The sheet piling on this side of the site would be completely buried so that the ecotone levee would blend with the site levee.

The design elevation of 15 feet (NAVD88) for both the sheet pile levees and the ecotone levees would be an increase from the existing levee elevations which range from 10 to 12 feet (NAVD88).

On-Site Flood Risk

FERRF Site

No riverine/upland water sources are present in the vicinity of this project, and as such, riverine/upland flooding is negligible. To our knowledge, there is no record of flooding history for Westpoint Slough, Flood Slough, or to the adjacent salt ponds. However, due to the proximity to the coast, the project is subject to flooding from San Francisco Bay.

The project area is located within a Federal Emergency Management Agency (FEMA)-defined Special Flood Hazard Area (FEMA 2012), Zone AE (see Figure 13 in Appendix G). Zone AE is defined as an area subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods with base flood elevations (BFEs) provided. The BFE is defined by FEMA as the computed elevation to which floodwater is anticipated to rise during the base flood. The base flood is defined as the 100-year flood, or the "one-percent annual chance flood."

The effective Flood Insurance Rate Map (FIRM) panel in the project vicinity specifies a BFE of 12 feet (NAVD88). The current design elevation of both the sheet pile levees and the ecotone levee is 15 feet NAVD88. In addition to the FEMA-defined BFE in the vicinity of the project, it should be verified that the following considerations are taken in account when finalizing the design elevation of the project levees: future (50-year) sea level rise projections, local geotechnical settlement, tidal dynamics, storm surge, wave runup, erosion rate and potential, as well as FEMA levee design criteria (including freeboard).

Flooding from the San Francisco Bay is a potentially significant impact that can be mitigated through appropriate design of the proposed project levee improvements (i.e., taking into account the above considerations). Additionally, FEMA certification of the levees should be obtained prior to provision of the grading permit and the start of construction.

Final design of the proposed levee improvements would include consideration of future (50-year) sea level rise projections, local geotechnical settlement, tidal dynamics, storm surge, wave runup, erosion rate and potential, as well as FEMA levee design criteria (including freeboard). Therefore, the impact is ***less than significant***.

Influent Pump Station Site

The Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project IS/MND document (Horizon 2019) shows that the influent pump station site is currently flooded during the 25-year design storm event. The top of the wet well will be designed above the 100-year flood elevation, therefore impacts at the IPS site due to flooding are ***less than significant***.

Off-Site Flood Risk

The elevations of the levees for the adjacent salt ponds (to the west of Flood Slough) range from 10 to 12 feet (similar to the existing condition of the project levees). During an extreme event under existing conditions, both the project and the adjacent salt ponds have a risk of flooding due to the 100-year FEMA BFE. The proposed project levee improvements are being designed to avoid this flood risk.

Due to the storage available in the slough system and San Francisco Bay generally, flooding risk to the nearby salt ponds caused by the project is ***less than significant***.

8.3.7 Release of Pollutants in Flood Hazard, Tsunami, or Seiche, Zone

A tsunami is a wave or series of waves that occurs following an earthquake, landslide, or volcanic eruption at sea. Tsunamis grow in height as they move over shallow waters and may

result in coastal flooding. Although infrequent, tsunamis have been observed in San Francisco Bay since 1868, ranging in depth from 4 inches to 15 feet (Basin 2020). Although the project site is located on the Bay margin, the site is located outside of the tsunami inundation area (see Figure 14 in Appendix G). Therefore, there is no risk of release of pollutants due to a tsunami.

A seiche is a standing wave in enclosed or partially enclosed body of water, such as a lake, bay (i.e., San Francisco Bay) or estuary, which oscillates back and forth from one side of the waterbody to the other. Seiches may be triggered by moderate or large submarine or onshore earthquakes. Due to the project's proximity to the San Francisco Bay, the project area could experience seiche or seiche-related effects during seismic activity. The severity of the seiche energy would likely be decreased upon reaching the northern levee of the project due to the buffer of nearby islands (i.e., Greco Island). Also, all components of the proposed project are protected by the proposed levee improvements (described above).

As noted previously, the project includes levee improvements to FEMA flood protect the site, a project benefit for existing conditions related to the release of pollutants in a flood, tsunami or seiche zone. Final design of the levee improvements would be based on a site-specific geotechnical report (as required in Mitigation Measure GEO-1) include future (50-year, to year 2070) sea level rise projections, local geotechnical settlement, tidal dynamics, storm surge, wave runup, erosion rate and potential, as well as FEMA levee design criteria (including freeboard). The impact from risk of release of pollutants due to flood hazard or seiche is ***less than significant***.

8.3.8 Water Quality or Groundwater Quality Control Plan

The proposed project site overlies the Santa Clara Valley - San Mateo Plain subbasin (no. 2-009.03), which has a "very low" SGMA prioritization. As such, an exclusive groundwater management agency (GSA) has not been formed, nor has a groundwater management plan (GSP) been developed for the subbasin. As noted above, the project is required to obtain a discharge permit from the RWQCB. Initial estimates show that the dilution in Westpoint Slough at MTL would be roughly 10,000 times the maximum daily discharge of RO concentrate, which suggests that dilution and circulation to the Bay would be suitable. Further modeling done as part of the permitting process and prior to final design would ensure pollutant loads meet Basin Plan objectives and that the impact is ***less than significant***.

8.4 CUMULATIVE IMPACTS

The cumulative context to assess project impacts includes development within the Atherton watershed in the vicinity of the project site, and potential impacts to downstream sloughs and the San Francisco Bay. The project site lies at the downstream most end of the landward watershed, and the upstream portion of the tidal watershed (see Figure 1 in Appendix G).

The watershed is used as the geographic unit for cumulative analysis based on the concept that many water quality problems, like the accumulation of pollutants or nonpoint source pollution, are best addressed at the watershed level. In addition, California's regulatory framework for protection of water quality focusses on the watershed.

The proposed project could, in conjunction with other projects within the watershed, contribute urban runoff pollutants to downstream receiving waters, resulting in degradation of water quality delivered to the San Francisco Bay. The proposed project would incorporate BMPs, per NPDES requirements, to control and/or treat stormwater runoff. Similarly, other developments within the watershed would be required to comply with these regulations. Because the existing facility includes no BMPs, the proposed project would likely improve stormwater quality relative to existing conditions, even with the proposed small increases in impervious area relative to the watershed areas. As such the cumulative impact of the project related to surface water quality is less than significant.

As part of the project's compliance with the Municipal NPDES stormwater permit, the project will incorporate BMPs that will minimize the potential impact to groundwater recharge. As such the project would result in a less than significant cumulative impact to groundwater recharge. Increases in impervious area at the proposed project site could incrementally decrease stormwater recharge which, combined with similar increases due to other potential future projects within the watershed, could cumulatively impact recharge to the underlying aquifer. The small increase in impervious cover at the project site is unlikely to cumulatively impact recharge to a significant degree in comparison to the rest of the watershed size and land use.

In addition, the proposed project site overlies thick deposits of bay mud and clay with very low hydraulic conductivity. As such, the proposed project is unlikely to affect the aquifer groundwater quality. The proposed project would have no cumulative impacts on groundwater supply, recharge, and quality.

Although the proposed project includes an increase in impervious areas on-site, the new impervious surfaces created by the project are designed to be contained on-site or drain to the eastern ditch, adjacent to the FERRF property line. In addition, the site is at the downstream end of the stormwater system. As such, the project would not result in cumulatively considerable impacts to the storm water drainage system resulting in flooding and/or loss of capacity.

The elevations of the levees for the adjacent salt ponds (to the west of Flood Slough) range from 10 to 12 feet (similar to the existing condition of the project levees). During an extreme event condition under existing conditions, both the project and the nearby salt ponds have a risk of flooding due to the 100-year FEMA BFE. The proposed project levee improvements are being designed to avoid this flood risk for the project site.

Additionally, the Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project is designed to provide adequate flood conveyance capacity and effectiveness during times of peak flood flow to protect residences and businesses in the communities south and southwest of the Bayfront Canal.

Due to the storage available in the slough system and San Francisco Bay generally, and the relatively small site area, the loss of the project site from the flood plain is not expected to increase flood risk in adjacent areas, and would result in a ***less than significant cumulative impact***.

8.5 MITIGATION MEASURES

No potentially significant impacts have been identified. No mitigation is required.

8.6 REFERENCES

Balance Hydrologics. 2020. Memorandum. CEQA Hydrology and Water Quality Section for the Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled water Facility Project, Menlo Park, CA. November 12.

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CHAPTER 9 LAND USE AND PLANNING

9.1 ENVIRONMENTAL SETTING

The proposed project is located within the City of Menlo Park as shown in Figure 1-1 of this EIR. The project site comprises three locations: The FERRF site and areas adjacent to the site just outside the property line, the proposed influent pump station site, and the influent and distribution pipeline network within paved street rights-of-way. Together these areas encompass approximately 31 acres of land. The following provides a discussion of each of these three locations. Figure 2-4 in the Project Description of this EIR shows photographs of the project sites and immediate vicinity. The photos show the Bayshore location of the FERRF site and the urban setting of the IPS and the pipeline routes. The project would be located within lands under various ownerships including the City of Menlo Park, public rights-of-way, and California State Lands Commission.

9.1.1 FERRF Site

The majority of project activities occur within and adjacent to the District's FERRF, an approximately 20-acre site (APN 055-400-010), northwest of the City's Bedwell Bayfront Park. The site is bound by Westpoint Slough and Greco Island, part of Don Edwards National Wildlife Refuge in Redwood City to the north, Flood Slough and Cargill Industrial Salt Works salt ponds in Redwood City to the west, and Bedwell Bayfront Park (including portions of the Bay Trail) in Menlo Park to the south and east.

The ecotone levee will require the use of adjacent lands including:

- 1.06 acres of land owned by the City of Menlo Park (APN 055-400-490); and
- 2.05 acres of land managed by the State Lands Commission (APN 055-400-170).

The State Lands Commission has prepared the Significant Lands Inventory (report) for the California Legislature as a general identification and classification of those unconveyed State school lands and tide and submerged lands which possess significant environmental values. The SLC has identified Westpoint Slough as part of the Significant lands inventory (SLC 2020).

Additionally, the storm ditch improvements in the northeast corner of the FERRF site (0.27 acre) and the FERRF entrance driveway work (0.4 acre) will occur on City of Menlo Park land (right-of way or part of Bedwell Bayfront Park). As mentioned previously, features within the park adjacent to the FERRF include a paved roadway, the Bay Trail as well as other park trail routes, the landfill GCCS and flare and several leachate extraction pumps (Menlo Park 2018).

The FERRF site is "unclassified" according to Menlo Park General Plan land use and zoning regulations.

9.1.2 IPS Site

The IPS site (APN 055-170-310) is located at the intersection of Marsh and Haven Avenue/Bayfront Expressway. The IPS site is within the Public/Quasi-Public land use and P-F

Public Facilities zoning district according to the Menlo Park land use and zoning maps. Land uses surrounding the site include the SVCW pump station to the west, Flood Slough to the north, Bedwell Bayfront Park, South Bay Salt Pond restoration ponds, Menlo Park Duck Pond, and Bayfront Expressway to the east and business park uses to the south of Bayfront Expressway and Haven Avenue.

9.1.3 Pipelines

The recycled water distribution pipeline alignments would be constructed in roadway rights-of-ways on Marsh Road, Bayfront Expressway, Constitution Drive, Chilco Street, and Hamilton Avenue in the City of Menlo Park. Influent and distribution pipelines would be located within the road right-of-way for Marsh Road connecting from the influent pump station to the Bayfront RWF. The road is paved with varying widths of unpaved shoulders to the east and west of the roadway. Flood Slough and Bedwell Bayfront Park abut Marsh Road to the east and west, respectively.

Significant redevelopment in the North Bayshore area has occurred in recent years with the adoption of the most recent 2016 ConnectMenlo General Plan Land Use and Circulation Elements and M-2 Area Zoning Update (Menlo Park 2016). This General Plan redesignated areas designated as Industrial/Business Park to the Light Industrial, Mixed-Use Residential and Office land use designations. Existing uses along the alignment are largely office/light industrial uses along Constitution Drive, office, railroad right-of-way, and single-family residential uses along Chilco Street, and single-family and multi-family uses along Hamilton Avenue, and commercial uses at the intersection of Hamilton and Willow Road. In addition to the Bayfront Expressway (SR 84) and Willow Road (SR 114) crossings, the pipeline alignment would also cross railroad right-of-way on Chilco Street as well as a high-pressure natural gas line on Hamilton Avenue at Sevier Avenue.

9.2 REGULATORY SETTING

9.2.1 State and Regional

9.2.1.1 State Lands Commission

The SLC was established in 1938 and manages four million acres of tide and submerged lands and the beds of natural navigable rivers, streams, lakes, bays, estuaries, inlets, and straits. These lands, often referred to as sovereign or Public Trust lands, stretch from the Klamath River and Goose Lake in the north to the Tijuana Estuary in the south, and the Colorado River in the east, and from the Pacific Coast three miles offshore in the west to Lake Tahoe in the east, and includes California's two longest rivers, the Sacramento and San Joaquin.

The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subdivision (c); 6009.1; 6301; 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust Doctrine. Through its

actions, the Commission secures and safeguards the public's access rights to natural navigable waterways and the coastline and preserves irreplaceable natural habitats for wildlife, vegetation, and biological communities.

On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. On navigable non-tidal waterways, including lakes, the state holds fee ownership of the bed of the waterway landward to the ordinary low-water mark and a Public Trust easement landward to the ordinary high-water mark, except where the boundary has been fixed by agreement or a court.

Prior to the start of project construction, the District must obtain a lease from the SLC for the construction of the ecotone levee that occurs within SLC's jurisdiction. Leases are granted when they are consistent with SLC policies, practices and procedures, conducive to public access, consistent with environmental safeguards and policies of the State, and in the best interests of the state of the State.

9.2.1.2 McAteer-Petris Act and Bay Conservation and Development Commission

As described in Chapter 5, Biological Resources, the BCDC is the management and regulatory agency for the McAteer-Petris Act. BCDC has jurisdiction over San Francisco Bay and includes tidal areas up to mean high tide, including all sloughs, and in marshlands up to five feet above mean sea level; a shoreline band consisting of territory located between the shoreline of the Bay and 100 feet landward and parallel to the shoreline, salt ponds, managed wetlands, and certain waterways that are tributaries to the Bay.

BCDC is responsible for granting or denying permits for any proposed fill (e.g., earth or any other substance or material, including pilings or structures placed on pilings, and floating structures moored for extended periods of time); extraction of materials; or change in use of any water, land, or structure within the Commission's jurisdiction. Any impacts to tidal marsh and the Shoreline Band lands will require a permit from the BCDC. The BCDC can grant a permit for a project if it finds that the project is either (1) necessary to the health, safety, and welfare of the public in the entire Bay Area, or (2) is consistent with the provisions of the McAteer-Petris Act and the Bay Plan (described below).

9.2.1.3 The Bay Plan

The BCDC has prepared the Bay Plan (BCDC 2020) which establishes policies to guide future uses of the Bay and shoreline and provides maps that apply these policies to the Bay and its shoreline. The Bay Plan articulates BCDC's goals in the regulation of bay and shoreline uses, and to regulate filling of the Bay according to policies applied at a regional level.

Table 9-1 presents the relevant Bay Plan policies that apply to the proposed project and the project's consistency with these policies. Where appropriate, Table 9-1 refers readers to specific chapters where additional information regarding impacts related to stated policies is provided.

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Table 9-1 Project Consistency with Bay Plan Policies

Resource Area/Policy	Project Consistency
Climate Change	
Policy No. 2: When planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared…based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection…for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment. Policy No. 3: Where such assessments show vulnerability to public safety, projects "should be designed to be resilient to a mid-century sea level rise projection" and an "adaptive management plan" should be prepared if it is likely the project will remain in place longer than mid-century.	WBSD has designed the levee improvements to meet FEMA 100-year storm event requirements and the 50-year sea level rise projections. The proposed heights of the ecotone levee and sheet pile are based on San Mateo County Sea Level Rise and Overtopping Analysis for San Mateo County's Bayshore, developed using the BCDC's Adapting to Rising Tides Methodology (May 2016). As the mid-century period approaches the WBSD will continue to evaluate the site's flood protection and would plan and implement additional flood protection based on FEMA and BCDC flood and sea level rise projections current at that time.
Policy No. 4: Safety of Fills. Structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by qualified engineers. The policy states that, "[a]dequate measure should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project….New projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, be built so the bottom floor level of structures will be above a 100-	The purpose of the project is to protect the site from 100-year flood conditions and 50-year sea level rise. The proposed heights of the ecotone levee and sheet pile are based on San Mateo County Sea Level Rise and Overtopping Analysis for San Mateo County's Bayshore, developed using the BCDC's Adapting to Rising Tides Methodology (May 2016). Final design of the ecotone levee would be based on a site-specific geotechnical report (Mitigation Measure GEO-1) and an analysis of wave, sheer, and sediment transport of the design.

Resource Area/Policy	Project Consistency
year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity.	
Shoreline Protection	
Policy No. 2: Equitable and culturally-relevant community outreach and engagement should be conducted to meaningfully involve nearby communities for all shoreline protection project planning and design processes – other than maintenance and in-kind repairs to existing protection structures or small shoreline protection projects – in order to supplement technical analysis with local expertise and traditional knowledge and reduce unintended consequences. In particular, vulnerable, disadvantaged, and/or underrepresented communities should be involved. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action.	The project site is immediately surrounded by recreational and open space uses or commercial development. The closest residential neighborhood is along the distribution pipeline alignment along Chilco Street and Hamilton Avenues. Disadvantaged communities are located south of SR 84 for areas east of Willow Road and south of the Dumbarton Rail Corridor for areas west of Willow Road. The District prepared and widely circulated the Notice of Preparation including notice of a public scoping meeting for this EIR by publishing mailings to surrounding properties, posting the Notice on the District's website, and filing it with the San Mateo County Clerks Office. A public scoping meeting held via Zoom on June 2, 2020. District outreach will be conducted via social media.
Policy No. 5: All shoreline protection projects should evaluate the use of natural and nature-based features such as marsh	The project includes the construction of an ecotone levee to promote shoreline resiliency and is therefore consistent with

Resource Area/Policy	**Project Consistency**
vegetation, levees with transitional ecotone habitat, mudflats, beaches, and oyster reefs, and should incorporate these features to the greatest extent practicable. Ecosystem benefits, including habitat and water quality improvement, should be considered in determining the amount of fill necessary for the project purpose. Suitability and sustainability of proposed shoreline protection and restoration strategies at the project site should be determined using the best available science on shoreline adaptation and restoration.	this policy. Mitigation measures presented in Chapter 5 Biological Resources outline long-term requirements to ensure the success of the vegetative plantings on the ecotone levee.
Policy No 7: The Commission should encourage pilot and demonstration projects to research and demonstrate the benefits of incorporating natural and nature-based techniques in San Francisco Bay.	The ecotone levee can be considered a pilot /demonstration project to promote shoreline resiliency. The project would be consistent with this policy.
Water Quality	
Policy No 2: Water quality in all parts of the Bay should be maintained at a level that will support and promote in the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan, San Francisco Bay Basin and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board	Project construction and operation will require permits from various state agencies including the State and Regional Water Quality Control Boards, SLC, USACE, and BCDC. Permit requirements such as construction stormwater controls and discharge requirements ensure water quality is maintained throughout the Bay. The project would be consistent with this policy.

Resource Area/Policy	Project Consistency
should be the basis for carrying out the Commission's water quality responsibilities.	
Policy No. 3: New projects should be sited, designed, constructed and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain non-polluting materials; and (c) applying appropriate, accepted and effective best management practices, especially where water dispersion is poor and near shellfish beds and other significant biotic resources.	A flood hazard currently exists at the site as the levees do not meet FEMA 100-year flood control requirements. The project would construct levee improvements to flood protect the site with FEMA certified levees/protection, thereby reducing and existing hazard. The proposed flood improvements also prevent the movement of pollutants off-site. The project is considered consistent with this policy. The project includes the construction of an outfall pipe that would discharge the RO Concentrate to the Bay. This disposal method is discussed in Chapter 8, Hydrology and Water Quality. The projected constituents are also presented in Chapter 8. Before BCDC and other regulatory agencies would issue a permit for the outfall and discharge to the Bay, the District would have to prepare permit applications demonstrating that the concentrate is consistent with water quality standards or policies presented in the Basin Plan and Bay Plan and that no impacts to water or biological resources would occur.
Policy No. 7: Whenever practicable, native vegetation buffer areas should be used in place of hard shoreline and bank erosion	The project includes the construction of an ecotone levee and appropriate wetland and upland vegetation plantings. The District will utilize a partnership with Save the Bay to grow restoration plantings for the site. No plantings are planned on

Resource Area/Policy	**Project Consistency**
control methods (e.g., rock riprap) where appropriate and practicable.	the outboard side of the western sheet pile due to the lack of available land area without encroaching on the slough. The project is considered consistent with this policy.
Fish, Other Aquatic Organisms and Wildlife Findings	
Policy 1: To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.	The project incorporates an ecotone levee to provide natural resiliency to sea level rise, to protect the wastewater site from flooding, and to prevent wastewater overflow into the Bay under flood conditions. The ecotone levee is identified as a potentially suitable adaptation method in the San Francisco Bay Shoreline Adaptation Atlas in this specific location. The ecotone levee is designed to minimize the amount of fill necessary, but it will require fill of existing salt marsh to extend current upland habitat into the marsh. Over time, with sea level rise to 2070, the ecotone levee will revert to marsh and will maintain adjacent upland habitat to benefit terrestrial marsh species. Without the ecotone levee there would be less marsh and more open water habitat with sea level rise in this location. The project is considered consistent with this policy.
Policy No. 2: Any proposed fill, diking, or dredging project should be thoroughly evaluated to determine the effect of the project on tidal marshes and tidal flats, and designed to minimize, and if feasible, avoid any harmful effects.	Construction of the ecotone levee would require the placement of fill in tidal areas. The project's hydrologic effects are evaluated in the Hydrology and Water Quality and Biological Resources chapters. Mitigation measures and BIO-2a-c, 3a-j, 4, 7a-b, and 8 are proposed to reduce impacts to less than

Resource Area/Policy	Project Consistency
	significant levels. The project is considered consistent with this policy.
Policy No. 3: In reviewing or approving habitat restoration projects or programs the Commission should be guided by the best available science, including regional goals, and should, where appropriate, provide for a diversity of habitats for associated native aquatic and terrestrial plant and animal species.	An ecotone levee is shown as a shoreline adaptation at the proposed project's location in the San Francisco Bay Shoreline Adaptation Atlas. Design of the ecotone levee will utilize best-available science for the promotion of biological function. The design includes estuarine wetland and bayside scrub habitats. The project is consistent with this policy.
Policy No. 5: The Commission may permit fill or a minimum amount of dredging in wildlife refuges necessary to enhance or restore fish, other aquatic organisms and wildlife habitat, or to provide appropriately located public facilities for wildlife observation, interpretation, and education.	The project does not propose fill within a wildlife refuge. The project is considered consistent with this policy.
Policy No. 6: Allowable fill for habitat projects in the Bay should (a) minimize near term adverse impacts to and loss of existing Bay habitat and native species; (b) provide substantial net benefits for Bay habitats and native species; and (c) be scaled appropriately for the project and necessary sea level rise adaptation measures in accordance with the best available science. The timing, frequency and volume of fill should be determined in accordance with these criteria.	The ecotone levee is identified as a potentially suitable adaptation method in the San Francisco Bay Shoreline Adaptation Atlas in this specific location. The ecotone levee is designed to minimize the amount of fill necessary, but it will require fill of existing salt marsh to extend transition habitat into the marsh. Over time, with sea level rise, the ecotone levee will revert to marsh and will maintain transition habitat to benefit terrestrial marsh species. Without the ecotone levee the adjacent habitat is projected to be under water by 2070. The

Resource Area/Policy	**Project Consistency**
	scale is appropriate to the site to minimize impacts to biological resources and maintain critical function of the FERRF. Mitigation measures presented in Chapter 5, Biological Resources, reduce project impacts to less than significant levels. The project is considered consistent with this policy.
Policy No. 7: Sediment placement for habitat adaptation should be prioritized in (1) subsided diked baylands, tidal marshes, and tidal flats, as these areas are particularly vulnerable to loss and degradation due to sea level rise and lack of necessary sediment supply, and/or in (2) intertidal and shallow subtidal areas to support tidal marsh, tidal flat, and eelgrass bed adaptation. In some cases, sediment placement for a habitat project in deep subtidal areas may be authorized if substantial ecological benefits will be provided and the project aligns with current regional sediment availability and needs.	The fill for the ecotone levee proposed is located in tidal marsh land that has been identified as vulnerable to loss and degradation due to sea level rise, and that is potentially suitable for the site as identified in the San Francisco Bay Shoreline Adaptation Atlas. It is therefore consistent with this policy.
Tidal Marshes and Tidal Flats	
Policy No. 1. Tidal marshes and tidal flats should be conserved to the fullest possible extent. Filling, diking, and dredging projects that would substantially harm tidal marshes or tidal flats should be allowed only for purposes that provide substantial public benefits and only if there is no feasible alternative.	The ecotone levee is identified as a potentially suitable adaptation method in the San Francisco Bay Shoreline Adaptation Atlas in this specific location. While the ecotone levee is designed to minimize the amount of fill necessary in tidal marsh, it will require fill of existing salt marsh to provide additional transition zone habitat between the marsh and upland areas in the near term. Over time, with sea level rise to 2070,

Resource Area/Policy	Project Consistency
	the ecotone levee will revert to marsh and still maintain a transition zone to benefit marsh species, in turn providing public benefit. Without the ecotone levee the marsh is projected to be under water by 2070. There are feasible alternatives, but they do not provide the same long term habitat benefits provided by an ecotone levee. The sheet piles are not proposed to be placed in tidal marshes or tidal flats. Those proposed for the west side of the project site are designed to be fitted with habitat for aquatic species under sea level rise conditions when the small strip of existing marsh is permanently inundated. The project is considered consistent with this policy.
Policy No. 2. Any proposed filling, diking, or dredging project should be thoroughly evaluated to determine the effect of the project on tidal marshes and tidal flats, and designed to minimize, and if feasible, avoid any harmful effects	See Response above under Fish, Other Aquatic Organisms and Wildlife Findings, Policy No. 2.
Policy No. 3. Projects should be sited and designed to avoid, or if avoidance is infeasible, minimize adverse impacts on any transition zone present between tidal and upland habitats. Where a transition zone does not exist and it is feasible and ecologically appropriate, shoreline projects should be designed to provide a transition zone between tidal and upland habitats.	The project includes construction of an ecotone levee to provide a larger transition zone under current conditions and maintain a transition zone under year 2070 projected sea level rise conditions. The project is considered consistent with this policy.

Resource Area/Policy	**Project Consistency**
Policy No. 8. The level of design; amount, duration, and extent of monitoring; and complexity of the adaptive management plan required for a habitat project should be consistent with the purpose, size, impact, level of uncertainty, and/or expected lifespan of the project. Habitat projects should have a funding strategy for monitoring and adaptive management of the project, commensurate with the level of monitoring and adaptive management that is required for the project, to demonstrate that the applicant has considered costs and identified potential funding sources for any necessary monitoring and management.	Once the design is complete, the project proponent and the living shoreline/ecotone levee design consultant will work with the resource agencies to determine an appropriate framework for a monitoring plan and an adaptive management plan that is consistent with the purpose, size, impact, level of uncertainty and/or expected lifespan of the project. The restoration monitoring and adaptive management plans include securing partnerships with Save the Bay and San Francisco Bay National Estuarine Research Reserve (SF NERR) to identify funding, research opportunities and long term maintenance solutions and will be established as part of the project and in coordination with the resource agencies. The project is subject to permits from the USACE, USFWS, RWQCB, and BCDC that will require a Habitat Mitigation and Monitoring Plan which will be reviewed and approved by agency staff as part of the permit process.
Recreation	
Policy 6: To enhance the appearance of shoreline areas, and to permit maximum public use of the shores and waters of the Bay, flood control projects should be carefully designed and landscaped and, whenever possible, should provide for recreational uses of channels and banks.	The FERRF does not allow public access to the site for safety reasons and the project does not permanently affect existing public access around the site. The District is open to the possibility for limited supervised educational tours at the FERRF Site, working with the City to provide educational signage or an overlook near the storm ditch.

Resource Area/Policy	Project Consistency
Public Access	
Policy 1: A proposed fill project should increase public access to the Bay to the maximum extent feasible, in accordance with the policies for Public Access to the Bay.	See Recreation, Policy 6 discussion above.
Policy 2: In addition to the public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources. In these cases, in lieu access at another location preferably near the project should be provided. If in lieu public access is required and cannot be provided near the project site, the required access should be located preferably near identified vulnerable or disadvantaged communities lacking well-maintained and convenient public access in order to foster more equitable public access around the Bay Area.	The FERRF does not allow public access to the site for safety reasons. Other than during construction, the project would not interfere with use of the Bay Trail, nor would it interfere with access to Flood Slough and Westpoint Slough from the water. The District is open to the possibility for limited and supervised access to the proposed ecotone levee for educational / demonstration purposes. Because unregulated public access to the project levees would be a public safety hazard, the project is considered consistent with this policy.

Resource Area/Policy	**Project Consistency**
Policy 6: 6. Public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding.	See Recreation, Policy 6 discussion above.
Other Uses of the Bay and Shoreline	
Policy No. 7: Whenever waterfront areas are used for sewage treatment or wastewater reclamation plants, the plants should be located where they do not interfere with and are not incompatible with residential, recreational, or other public uses of the Bay and shoreline.	Wastewater treatment operations began at the FERRF site at the same time the adjacent landfill was developed. The site continues to be used for flow equalization and the landfill has since closed and reverted to recreational use. The continued use of the FERRF site for wastewater treatment operations is not considered incompatible given the site's existing and historic use. The project is considered consistent with this policy.
Appearance, Design, and Scenic Views	
Policy 1: To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.	The ecotone levee would be designed and maintained to support wetland and transition zone vegetation which would be a visual benefit of the project. As stated above, unregulated public access to the project levees would be a public safety hazard, however the District is open to limited supervised

Resource Area/Policy	Project Consistency
	access for educational purposes. The project is considered consistent with this policy.
Policy 2: All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commission's concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.	The proposed ecotone levee as viewed from the Bay and opposite shore, would maintain the natural appearance of an earthen slope. The proposed sheet pile wall on the western perimeter of the site preserves views along the length of Flood Slough and out toward Westpoint Slough and the East Bay. The project is considered consistent with this policy.
Policy 4: Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline.	Location of the proposed Bayfront RWF structures are limited by the existing features on the site. The project is considered consistent with this policy.
Policy 8: Shoreline developments should be built in clusters, leaving areas open around them to permit more frequent views of the Bay. Developments along the shores of tributary waterways should be Bay-related and should be designed to preserve and enhance views along the waterway, so as to provide maximum visual contact with the Bay.	See response to Policy 2, above.

Resource Area/Policy	**Project Consistency**
Fills in Accord with the Bay Plan	
A proposed project should be approved if the filling is the minimum necessary to achieve its purpose, and if it meets one of the following three conditions: a. The filling is in accord with the Bay Plan policies as to the Bay-related purposes for which filling may be needed (i.e., ports, water-related industry, and water-related recreation) and is shown on the Bay Plan maps as likely to be needed; or b. The filling is in accord with Bay Plan policies as to purposes for which some fill may be needed if there is no other alternative (i.e., airports, roads, and utility routes); or c. The filling is in accord with the Bay Plan policies as to minor fills for improving shoreline appearance or public access.	Fill required for the ecotone levee is consistent with Bay Plan policies as described above. The levee is identified as a potentially suitable adaptation at the proposed location in the San Francisco Bay Shoreline Adaptation Atlas, which BCDC participated in developing as a member of the regional advisory committee. A major conclusion of the Bay Plan related to justified fills states substantial public benefits are provided by, "Restoring, enhancing, or creating ecosystems that provide habitat for native fish, other aquatic organisms, or wildlife; enhance coastal resilience; and provide services such as water filtration, carbon sequestration, protection of shorelines from flooding and erosion, and raising the surface elevation of subsided land. Fill for these purposes will be especially important to facilitate the adaptation of habitats to rising sea level."
Filling for Public Trust Uses on Publicly Owned Property Granted in Trust to a Public Agency by the Legislature	
Policy 1: Filling should be approved if the filling is undertaken on land granted in trust by the Legislature to a public agency and the Commission finds that the filling and use proposed on the fill	See Response above for Fills in Accord with the Bay Plan.

Resource Area/Policy	Project Consistency
are consistent with the Public Trust Doctrine, the terms of the legislative trust grant, and with a Special Area Plan for the area that the Commission has found: a. Is necessary to the health, safety, and welfare of the public in the entire Bay Area; and b. Provides for major shoreline parks, regional public access facilities, removal of existing pile-supported fill, open water basins, increased safety of fills, mechanisms for implementation, enhanced public views of the Bay, and other benefits to the Bay, all of which exceed the benefits that could be accomplished through BCDC's permit authority for individual projects through the application of other Bay Plan policies.	
Mitigation	
Policy 1: Projects should be designed to avoid adverse environmental impacts to Bay natural resources such as to water surface area, volume, or circulation and to plants, fish, other aquatic organisms and wildlife habitat, subtidal areas, or tidal marshes or tidal flats. Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. Finally, measures to compensate for unavoidable adverse impacts to the natural resources of the Bay should be required. Mitigation is not a substitute for meeting the other requirements of the McAteer-Petris Act.	In designing the ecotone levee, the District considered all relevant agency recommendations and BMPs in the design and maintenance of the project to reduce or avoid impacts to Bay natural resources. See the Hydrology and Water Quality and Biological Resource chapters for a detailed discussion of potential impacts and mitigation measures. The Bay Plan allows filling if it is consistent with Bay Plan policies. Because the EIR includes mitigation measures reducing all identified impacts to less than significant levels and because the project is consistent with other Bay Plan

Resource Area/Policy	**Project Consistency**
Policy 2: Individual compensatory mitigation projects should be sited and designed within a Baywide ecological context, as close to the impact site as practicable, to: (1) compensate for the adverse impacts; (2) ensure a high likelihood of long-term ecological success; and (3) support the improved health of the Bay ecological system. Determination of the suitability of proposed mitigation locations should be guided in part by the information provided in the Baylands Ecosystem Habitat Goals report. Policy 3: For major and appropriate minor projects that require compensatory mitigation, communities surrounding both the project and the compensatory mitigation site should be meaningfully involved in an equitable and culturally-relevant manner. In particular, vulnerable, disadvantaged, and/or underrepresented communities should be involved. This should include consultation with the community in the identification and prioritization of potential projects, and in the monitoring and programming of a mitigation site. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action. Policy 4: When determining the appropriate location and design of compensatory mitigation, the Commission should also consider potential effects on benefits provided to humans from Bay natural resources, including economic (e.g., flood protection, erosion control) and social (e.g., aesthetic benefits, recreational opportunities) benefits and whether the distribution of such benefits is equitable.	policies, the project is considered consistent with this policy. The District notes that BCDC may impose additional conditions on the project in order to find it consistent with Bay Plan policies.

Resource Area/Policy	Project Consistency
Policy 5: The amount and type of compensatory mitigation should be determined for each mitigation project based on a clearly identified rationale that includes an analysis of: the probability of success of the mitigation project; the expected time delay between the impact and the functioning of the mitigation site; and the type and quality of the ecological functions of the proposed mitigation site as compared to the impacted site. Policy 6: To increase the potential for the ecological success and long-term sustainability of compensatory mitigation projects, resource restoration should be selected over creation where practicable, and transition zones and buffers should be included in mitigation projects where feasible and appropriate. In addition, mitigation site selection should consider site specific factors that will increase the likelihood of long-term ecological success, such as existing hydrological conditions, soil type, adjacent land uses, and connections to other habitats. Policy 7: Mitigation should, to the extent practicable, be provided prior to, or concurrently with those parts of the project causing adverse impacts. Policy 8: When compensatory mitigation is necessary, a mitigation program should be reviewed and approved by or on behalf of the Commission as part of the project. Where appropriate, the mitigation program should describe the proposed design, construction and management of mitigation areas and include: a. Clear mitigation project goals; b. Clear and measurable performance standards for evaluating the success of the mitigation project, based	

Resource Area/Policy	**Project Consistency**
on measures of both composition and function, and including the use of reference sites; c. A monitoring plan designed to identify potential problems early and determine appropriate remedial actions. Monitoring and reporting should be of adequate frequency and duration to measure specific performance standards and to assure long-term success of the stated goals of the mitigation project; d. A contingency plan to ensure the success of the mitigation project, or provide means to ensure alternative appropriate measures are implemented if the identified mitigation cannot be modified to achieve success. The Commission may require financial assurances, such as performance bonds or letters of credit, to cover the cost of mitigation actions based on the nature, extent and duration of the impact and/or the risk of the mitigation plan not achieving the mitigation goals; and e. Provisions for the long-term maintenance, management and protection of the mitigation site, such as a conservation easement, cash endowment, and transfer of title. Policy 9: Mitigation programs should be coordinated with all affected local, state, and federal agencies having jurisdiction or mitigation expertise to ensure, to the maximum practicable extent, a single mitigation program that satisfies the policies of all the affected agencies.	

Resource Area/Policy	Project Consistency
Policy 10: If more than one mitigation program is proposed, the Commission should consider the cost of the alternatives in determining the appropriate program, as well as equitably consider the priorities and concerns of surrounding communities. Policy 11: To encourage cost effective compensatory mitigation programs, especially to provide mitigation for small fill projects, the Commission may extend credit for certain fill removal and allow mitigation banking provided that any credit or resource bank is recognized pursuant to written agreement executed by the Commission. Mitigation bank agreements should include: (a) financial mechanisms to ensure success of the bank; (b) assignment of responsibility for the ecological success of the bank; (c) scientifically defensible methods for determining the timing and amount of credit withdrawals; and (d) provisions for long-term maintenance, management and protection of the bank site. Mitigation banking should only be considered when no mitigation is practicable on or proximate to the project site. Policy 12: The Commission may allow fee-based mitigation when other compensatory mitigation measures are infeasible. Fee-based mitigation agreements should include: (a) identification of a specific project that the fees will be used for within a specified time frame; (b) provisions for accurate tracking of the use of funds; (c) assignment of responsibility for the ecological success of the mitigation project; (d) determination of fair and adequate fee rates that account for all financial aspects of the mitigation project, including costs of securing sites, construction costs, maintenance costs, and administrative costs; (e) compensation for time lags between the adverse impact and	

Resource Area/Policy	**Project Consistency**
the mitigation; and (f) provisions for long-term maintenance, management and protection of the mitigation site.	

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9.2.2 Local

As a sanitary district organized and operating under the Sanitary District Act of 1923 (Cal. Health & Safety Code §6500, et seq.), WBSD has independent authority to "acquire, plan, construct, reconstruct, alter, enlarge, law, renew, replace, maintain, and operate … water recycling and distributions systems" within its jurisdictional boundaries and is not subject to certain local land use plans, policies, and regulations (i.e., general plan, zoning, and building codes). Nevertheless, in the interest of working cooperatively with local jurisdictions, this EIR references, describes, and presents Menlo Park land-use plans, policies, and regulations in the regulatory discussion and for the impact analysis.

9.2.2.1 San Mateo Local Agency Formation Commission (LAFCO)

The Local Agency Formation Commission (LAFCO) is a state mandated local agency established in every county to oversee the boundaries of cities and special districts. San Mateo LAFCO has jurisdiction over the boundaries of the 20 cities, 22 independent special districts, and many of the 33 active county and city governed special districts serving San Mateo County.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. LAFCOs' primary charge is to act on local agency boundary changes and to adopt spheres of influence for local agencies. Among the purposes of LAFCOs are the discouragement of urban sprawl and the encouragement of the orderly formation and development of local agencies.

LAFCO has responsibility in the following areas affecting local government in the county:

1. To discourage urban sprawl and encourage the orderly growth and development of local government agencies;
2. To prevent premature conversion of agricultural and open space lands;
3. To review and approve or disapprove proposals for changes in the boundaries and organization of the 20 cities, 24 independent special districts and approximately 44 county-governed special districts plus incorporations of cities and formations of special districts;
4. To establish and periodically update spheres of influence--future boundary, organization and service plans--for the county's cities and special districts; and
5. To perform and assist in studies of local government agencies with the goal of improving efficiency and reducing costs of providing urban services

The project proposes to expand recycled water services provided by WBSD, therefore, the project requires San Mateo County LAFCO authorization pursuant to Government Code 56824. This application shall include a resolution of application from the District, a plan for service, and appliable fees and application materials. The District will coordinate with LAFCO prior to submitting an application. LAFCO may not take action on an application until the EIR is certified by the District.

9.2.2.2 City of Menlo Park General Plan and Zoning Ordinance

General plans are required by state law to guide land use and development within the City over a specified time frame. The General Plan consists of seven required "elements" listed in Government Code Section 65302 including land use, circulation, housing, conservation, open space, noise, and safety. The City of Menlo Park's General Plan is a comprehensive, long-term document guiding the physical development of the City and lands within its sphere of influence.

The City's Land Use Element (2016) includes policies and programs to ensure redevelopment in the Bayfront area promotes sustainability and complete neighborhoods, encourages healthy communities, and addresses climate change. The following are relevant goals and policies from the Land Use Element:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
    - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
    - Policy LU-1.5 Adjacent Jurisdictions. Work with adjacent jurisdictions to ensure that decisions regarding potential land use activities near Menlo Park include consideration of City and Menlo Park community objectives.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
    - Policy LU-6.6: Public Access. Protect and support public access to the Bay for the scenic enjoyment of open water sloughs, and marshes, including restoration efforts and the Bay Trail.
    - Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" water (recycled/nonpotable water sources such as graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses as feasible.
    - Policy LU-7.6: Sewage Treatment Facilities. Support expansion and improvement of sewage treatment facilities to meet Menlo Park's needs, as well as regional water quality standards, to the extent that such expansion and improvement are in conformance with other City policies.

The Menlo Park Zoning Ordinance (Title 16 of the Municipal Code) is the primary tool used to regulate development and implement the land use designations of the General Plan. The Zoning Map establishes the various zoning districts in Menlo Park, and the Zoning Ordinance specifies the specific regulations and development standards for future development within that zone.

As noted above, the FERRF is Unclassified under City of Menlo Park land use and zoning designations. Lands affected by the project, surrounding the FERRF are located within the FP-Flood Plain District and the IPS site is within the Public/Quasi-Public land use and P-F Public Facilities zoning district.

The Public/Quasi-Public land use designation provides for uses such as government offices, fire stations, schools, churches, hospitals, public utility facilities, sewage treatment facilities, reservoirs, and similar and compatible uses. The maximum FAR shall not exceed 30 percent. The City recognizes that it does not have the authority to regulate development by federal, State, or other certain governmental agencies, but notes they will work cooperatively with these agencies in an effort to ensure their development is consistent with City goals and plans (Menlo Park 2016b).

Chapter 16.49 of the City's zoning code specifies the development regulations for the P-F Public Facilities District. The proposed use of the IPS site falls within the Conditional Use permitted category (16.49.030(2)) which requires a use permit for all facilities of any public utility. The zoning restricts the FAR to 30 percent, except that 60 percent may be allowed with use permit approval on sites with lot area of two (2) acres or less, inclusive of contiguous parcels within the P-F zoning district, and provides that additional regulations may be required by the planning commission.

Municipal Code Section 13.18.020 requires that any work, construction of any facility, make any excavation or fill any excavation, store materials and/or vehicles in or upon any real property in which the City has an interest, whether by title, easement, right-of-way, license or otherwise, without first obtaining an encroachment permit from the Public Works Director.

9.2.3 Bedwell Bayfront Park Master Plan

The Bedwell Bayfront Park Master Plan (February 2018) establishes goals to guide the future development and provides recommendations for additional access and expanded recreational uses. Goal 4 of the plan is to protect existing sensitive habitats and landfill systems.

Figure 19 in the Park Master Plan depicts several improvements in the areas where the proposed project activities occur. These include:

- New landscape screening vegetation and a proposed 10-foot-wide wheelchair accessible section Bay Trail (asphalt) in the vicinity of the northwest corner of the park, near the southwest corner of the FERRF property, and
- A gravel paved 10-foot-wide wheelchair accessible section of the Bay Trail as in the vicinity of the methane recovery/landfill flare facility and continuing north and east along the northeastern property boundary.
- A summit viewpoint and seating area at the existing "point of interest" along the Great Spirit Path in the northwest corner of the park.

9.3 PROJECT IMPACTS

9.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G Environmental Evaluation Checklist, the project would have a significant impact to land use if it would:

- Physically divide and established community; or
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

9.3.2 Physically Divide Established Communities

The project features occur on already developed sites (FERRF and IPS) and where improvements are proposed off-site project features (pipelines and pump station) would be at ground level or underground and would not prevent the movement of people within a community. Temporary impacts due to road or lane closures are anticipated during construction of pipelines. However, these impacts would be temporary for the duration of construction and would allow for emergency vehicles and would not restrict access to commercial or residential properties. The project would not physically divide an established community. The impact is considered ***less than significant***.

9.3.3 Significant Environmental Effects Due to Conflicts with Land Use Plans, Policies or Regulations

City of Menlo Park Plans and Policies. The proposed Bayfront RWF and IPS improvements occur on parcels that are currently in use for water treatment, storage, or transmission facilities, and therefore do not conflict with existing land use designations and are consistent with the General Plan land use policies for Menlo Park. Areas adjacent to the FERRF affecting City of Menlo Park land within Bedwell Bayfront Park would not permanently impact park uses. Construction activities will temporarily affect recreational access within the park near the FERRF boundary, however these impacts are temporary for the duration of construction and access would be restored (see Section 12.4.8 for additional information) following project completion.

The project's construction and operational impacts associated with other resources addressed in this document such as air quality, biological resources, hydrology and water quality, noise, etc. are addressed in those respective chapters of this document. As noted in the Project Description (Section 2.5), the project will require conditional use permits for project activities on the FERRF and IPS sites, encroachment permits, and street work permits from the City of Menlo Park. The District and the City of Menlo Park are jointly working on a Memorandum of Agreement (MOA) regarding several issues related to this project and District operations.

State Lands Commission. Construction of the ecotone levee will require a lease agreement from the SLC prior to the start of construction. Development on SLC jurisdictional lands includes the placement of fill to create an ecotone levee, a climate change adaptation strategy identified as

potentially suitable for the site in the San Francisco Bay Shoreline Adaptation Atlas (SFEI and SPUR 2019) to provide for shoreline resiliency (i.e., the long term maintenance of tidal and habitat values) along the outboard side of the northern FERRF levee given the anticipated 50-year sea level rise. Numerous mitigation measures contained in the Biological Resources chapter address impacts to habitats and special status species. The project does not restrict existing public access as there is none currently available from the landward side. The sloughs in the immediate area will remain accessible to water recreation following project implementation. The project is generally considered in the best interest of the state because it maintains tidal and habitat values while protecting the site from the 100-year flood event and anticipated sea level rise.

BCDC Bay Plan. Project activities within BCDC's jurisdiction include the placement of fill, placement of sheet piles, storage or discharge of RO concentrate, and construction of the ecotone levee at the FERRF site.

The project is generally consistent with the policies of the Bay Plan as described in Table 9-1, above. The following describes the general conformance with Bay Plan policies, based on the BMPs and mitigation measures included in this EIR.

- Climate Change – The project has been specifically designed to meet the 100-year flood hazard and 50-year sea level rise projections. The proposed heights of the ecotone levee and sheet pile are based on San Mateo County Sea Level Rise and Overtopping Analysis for San Mateo County's Bayshore, developed using the BCDC's Adapting to Rising Tides Methodology (May 2016). Final design will be based on a wave runup, sheer, and sediment transport analysis to ensure the project is designed accordingly.
- Shoreline Protection – The District will conduct outreach and engagement to nearby vulnerable, disadvantaged, and/or underrepresented communities throughout the development of the project. The District will conduct outreach via social media advertisements which can be targeted by zip code or neighborhood. The policy directs the evaluation of natural/nature-based shoreline protection; the project is the construction of an ecotone levee, which is specifically cited in the policy. Additionally, the project can be considered a pilot/demonstration project to construct a resilient shoreline.
- Water Quality – The project includes BMPs to protect water quality during construction. The project will be designed and permitted by state (General Construction and Industrial Facilities Permits), regional (RWQCB), SLC, USACE, and local (City of Menlo Park) authorities to maintain water quality during construction and operation of the project. The proposed project's levee improvements would FEMA certify the FERRF site and remedy an existing water pollution hazard at the site. The policy states native vegetation should be used where practical and the project includes the planting of native vegetation on the ecotone levee slope.
- Fish and Other Aquatic Wildlife – The project includes numerous mitigation measures to protect fish and other aquatic wildlife from short term construction impacts. The proposed ecotone levee design is based on 50-year sea level rise projections and would address long-term conservation of habitat and species at the site. Hydrology impacts of the project are reduced to less than significant levels (see Hydrology and Water Quality,

Chapter 8). The project proposes the minimum amount of fill necessary to achieve the ecotone levee function on the northern side of the site. Without the proposed project, there would be no upland connectivity /transition on the FERRF site for species to utilize under 50-year sea level rise conditions. The scale of the levee improvements and proposed fill is appropriate to the site to minimize impacts to biological resources and maintain critical function of the FERRF.

- Tidal Marshes and Tidal Flats - The project results in short term impacts to tidal marshes in order to achieve a more resilient shoreline which preserves more habitat for species under future sea level rise conditions.
- Recreation: No public access currently exists on the FERRF site due to safety. The project involves temporary closure of trails in the area during construction, but access would be restored and no permanent impacts from the project would result.
- Other Uses of The Bay and Shoreline: The FERRF site is an existing WBSD storage facility. The continued use of the FERRF site for wastewater treatment operations is not considered incompatible given the site's existing and historic use.
- Appearance, Design, and Scenic Views. The project site is already developed with a FERRF, decommissioned WWTP facilities and a satellite corporation yard using some of the buildings and grounds for equipment and material storage, training exercises, pump repair workshop, Capital Improvement Project staging area, and Salt Marsh plant propagation area. The project includes construction of an ecotone levee which would maintain a natural appearance to the northern shoreline. Sheet pile is proposed on the western perimeter as limited space does not allow for an ecotone levee at that location. Orientation of the sheet pile wall is along the length of Flood Slough (as opposed to perpendicular to Flood Slough), would thereby maintain much of the view out toward the Bay.
- Fills in Accord with the Bay Plan. Fill required for the ecotone levee is consistent with Bay Plan policies as described above. It is identified in, and it therefore consistent with, the San Francisco Bay Shoreline Adaptation Atlas, which BCDC participated in developing as a member of the regional advisory committee.
- Filling for Public Trust Uses on Publicly Owned property Granted in Trust to a Public Agency by the Legislature.
- Mitigation. In designing the ecotone levee, the District The district considered all relevant agency recommendations and BMPs for the design and maintenance of the ecotone levee in order to reduce or avoid impacts to Bay natural resources. See the Hydrology and Water Quality and Biological Resource chapters for a detailed discussion of potential impacts and recommended mitigation. The Bay Plan allows fill if it is consistent with Bay Plan policies. Because the EIR includes mitigation measures reducing all identified impacts to less than significant levels and because the project is consistent with other Bay Plan policies, the project is considered consistent with this policy.

The BCDC may determine the proposed project, as described in this EIR, is consistent with the Coastal Act and/or impose additional conditions on the project as necessary to support its

issuance of a permit and the project's conformance with the McAteer-Petris Act and the Bay Plan.

The project does not conflict with City of Menlo Park existing zoning and land use designations as the IPS and FERRF sites are already in use by the District as public facilities. Pipeline alignments would not require general plan or zoning amendments as part of the project. Therefore, the project would not conflict with Menlo Park ConnectMenlo land use plan, land use policies, and zoning ordinances.

The project would not result in significant environmental effects due to conflicts with land use plans, policies or regulations and this impact is considered to be ***less than significant***.

9.4 CUMULATIVE IMPACTS

The proposed project is the continuation of use of the FERRF site for wastewater management and treatment by the WBSD. No changes to land use on the site or in the project vicinity would occur as a result of the proposed Bayfront RWF and its associated infrastructure. The construction of the ecotone levee would have short-term impacts to aquatic resources but would not be inconsistent with adopted plans and policies or result in a land use impact. Other shoreline levee repair or enhancement projects may occur in the project region. These projects would be designed, constructed, and maintained according to same regulations that apply to the proposed project and impacts to resources would be required to be mitigated. Regional levee improvement projects would not change existing land uses. Therefore, the project does not contribute to cumulative impacts of regional levee improvement projects. The project does not result in land use changes or impacts to adjacent land uses, therefore, the project's cumulative impacts on land use are ***less than significant***.

9.5 MITIGATION MEASURES

No potentially significant impacts were identified; therefore, no mitigation measures are required.

9.6 REFERENCES

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CHAPTER 10 NOISE AND VIBRATION

10.1 BACKGROUND INFORMATION ON ACOUSTICS AND VIBRATION

This section summarizes important background information regarding noise and vibration and provides context for evaluating the proposed project's noise effects.

10.1.1 Noise Definition; Sound Measurement, Characterization, and Propagation

Noise is defined as unwanted sound. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as "noisy" or annoying.

Sound levels are usually measured and expressed in decibels (dB). A dB is a unit of measurement that indicates the relative amplitude (i.e., intensity or loudness) of a sound, with 0 db corresponding roughly to the threshold of hearing for the healthy, unimpaired human ear. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dBs represents a ten-fold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 times more intense, etc. In general, there is a relationship between the subjective noisiness or loudness of a sound and its intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness. Due to their logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:

$$50\ decibels + 50\ decibels\ \neq 100\ decibels$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 * \ 10\log\left(10^{\left(\frac{50}{10}\right)} + \ 10^{\left(\frac{50}{10}\right)}\right) = 53\ decibels$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

Humans generally can hear sounds with frequencies between 20 and 20,000 Hz; however, most of the sounds humans are normally exposed to do not consist of a single frequency, but rather a broad range of frequencies perceived differently by the human ear. Instruments used to measure sound, therefore, include an electrical filter that enables the instrument's detectors to replicate human hearing. This filter, known as the "A-weighting" or "A-weighted sound level" filters our low and very high frequencies, giving greater weight to the frequencies of sound to which the human ear is typically most sensitive. See Table 10-1 for a list of the typical human response associated with certain A-weighted noise levels, as well as common noise sources capable of generating such noise levels.

Table 10-1 Typical Outdoor and Indoor Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	-110-	Rock Band
Jet flyover at 1,000 feet		
	-100-	
Gas lawn mower at 3 feet		
	-90-	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	-80-	Garbage disposal at 3 feet
Noise urban area, daytime		
Gas lawnmower, 100 feet	-70-	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	-60-	
		Large business office
Quiet urban daytime	-50	Dishwasher next room
Quite urban nighttime	-40-	Theater, large conference room
Quiet suburban nighttime		
	-30-	Library
Quite rural nighttime		Bedroom at night
	-20-	
		Broadcast/recording studio
	-10-	
Lowest threshold of human hearing	-0-	Lowest threshold of human hearing

Source: Caltrans 2013

Sound levels vary over time. To describe the time-varying nature of environmental noise, several sound descriptors are used. The L_{01}, L_{10}, L_{50}, and L_{90} descriptors are used to describe the sound levels exceeded 1%, 10%, 50%, and 90% of the time the measurement was performed. The continuous equivalent noise level (L_{eq}) descriptor is used to represent the average character of the sound over a period of time. The L_{eq} represents the level of steady-state noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. L_{eq} is useful for evaluating shorter time periods over the course of a day. The most common L_{eq} averaging period is hourly, but L_{eq} can describe any series of noise events over a given time period.

When considering environmental noise, it is important to account for the different responses people have to daytime and nighttime noise. In general, during the nighttime, background noise levels are generally quieter than during the daytime but also more noticeable due to the fact that household noise has decreased as people begin to retire and sleep. Noise exposure over the

course of an entire day is described by the day/night average sound level, DNL (or L_{dn}), and the community noise equivalent level, or CNEL, descriptors. Both descriptors represent the 24-hour noise impact on a community. For L_{dn}, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a 9-hour nighttime period (10 PM to 7 AM) and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to L_{dn}, except that it includes an additional 5 dBA penalty for noise events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during L_{dn} and CNEL calculations are intended to account for a receptor's increased sensitivity to noise levels during quieter nighttime periods.

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. The strength of the source is often characterized by its "sound power level." Sound power level is independent of the distance a receiver is from the source and is a property of the source alone. Knowing the sound power level of an idealized source and its distance from a receiver, sound pressure level at the receiver point can be calculated based on geometrical spreading and attenuation (noise reduction) as a result of distance and environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and shielding by terrain or barriers.

10.1.2 Noise Effects

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction;
- Interference with activities such as speech, sleep, learning, or relaxing; and
- Physiological effects such as startling and hearing loss.

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person's subjective reaction to a new noise source is to compare it to the existing environment without the noise source, or the "ambient" noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hertz (Hz)) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB

increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

10.1.3 Vibration

Vibration is the movement of particles within a medium or object such as the ground or a building. Vibration may be caused by natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humans (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency. Vibration amplitudes are usually expressed in peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. As with airborne sound, the groundborne velocity can also be expressed in decibel notation as velocity decibels (VdB), which is typically used to assess potential human annoyance (FTA 2018).

10.2 ENVIRONMENTAL SETTING

The WBSD's Menlo Park FERRF is located at 1700 Marsh Road, in the northern part of the City of Menlo Park, adjacent to Bedwell Bayfront Park. The City of Menlo Park's General Plan Noise Element identifies that major roadways, rail activity, aircraft, and stationary sources of noise are the major contributors to the City's ambient noise environment (City of Menlo Park 2013). The WBSD does not have its own general standards of significance for noise; however, since the proposed project is located in the City of Menlo Park, the WBSD considered the City of Menlo Park Municipal Code and General Plan as guidelines for project-specific noise standards of significance.

10.2.1 Existing Nosie Sources and Ambient Noise Levels

Ambient noise levels vary in the project area as follows:

- **FERRF Site:** The FERRF site generates noise from the use of pumps to fill and empty the equalization basins (during peak flow/maintenance periods only), access and use of the operations building by WSBD staff, and access and use of the small nursery operated by Save the Bay. The pumps used to fill and discharge the equalization basins are contained in a small building and do not operate continuously nor contribute substantially to the ambient noise environment near the FERRF. Similarly, access and use of the FERRF site by WBSD and nursery staff is not a substantial noise generating activity.
    - *Bedwell Park Landfill Gas Collection and Control System:* The City of Menlo Park operates a landfill gas collection and control system (GCCS) that includes a series of wells, pumps, and piping in Bedwell Park. This system is maintained under a vacuum (to control and direct the flow of landfill gas) by a series of blowers contained in a small building adjacent to the southeast corner of the FERRF site. The blowers direct the landfill gas to an enclosed ground flare that combusts the landfill gas to control emissions of methane and other pollutants. The current flare was installed in 2013 and is operated continuously in accordance

with Bay Area Air Quality Management District (BAAQMD) permit requirements (BAAQMD 2016 and City of Menlo Park 2018). A ground flare combusts gases at ground level. According to the U.S. EPA, noise, heat, and visible flame and/or smoke are undesirable effects of flare operation; however, the flame in an enclosed ground flare is generally not visible. Flares produce noise from the combustion of the gases, turbulence (mixing) of gases and air near the combustion point, and expansion of hot gases as they are released from the flare. The overall noise level generated by the flare is dependent on its capacity, design, and height. Ancillary equipment (e.g., blowers) may also contribute to noise levels during flare operations.

- **Bedwell Bayfront Park:** Bedwell Bayfront Park provides passive recreational opportunities (hiking, biking, etc.) and is limited to daytime use only. Parking areas for Bedwell Bayfront Park are located on the west side of the park (off Marsh Road). The park borders the FERRF and Bayfront Expressway (State Route (SR) 84) and is within 0.3 miles of U.S. Highway 101 (U.S. 101). Most of the park is outside the 60 CNEL noise contour associated with Bayfront Expressway and U.S. 101, the exception being the part of the park that is within approximately 0.25 miles of Bayfront Expressway (City of Menlo Park 2013 and 2016). For these reasons, the existing ambient noise level at Bedwell Park is assumed to be in the range of 60 to 65 CNEL adjacent to the FERRF/Bedwell Park landfill gas flare, along Marsh Road (which provides park access and parking), and at the park entrance on Bayfront Expressway. In the interior of the park, away from the FERRF site, the Bedwell Park landfill gas flare, and vehicle traffic, ambient noise levels are assumed to be in the range of 45 to 55 CNEL.
- **Influent Pump Station:** The new influent pump station would be located at the intersection of Bayfront Expressway and Marsh Road, within the 70 CNEL noise contour associated with Bayfront Expressway.
- **Influent / Distribution Pipeline Routes:** The new influent and distribution pipelines would be routed along Marsh Road (influent and distribution lines), Constitution Drive (distribution line), Chilco Street (distribution line), and Hamilton Avenue (distribution line). Traffic noise levels on these roadways range from 60 CNEL to 70 CNEL (City of Menlo Park 2013 and 2016).

10.2.2 Noise Sensitive Receptors

Noise sensitive receptors are buildings or areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. The City of Menlo Park's General Plan Noise Element considers residences, schools, places of worship and recreational areas to be sensitive noise receptors because these are areas where people are most likely to engage in activities that could be disturbed by noise, such as reading, studying, sleeping, recreating, etc. The sensitive noise receptors within 1,000 feet of the FERRF and/or the proposed influent pump station and influent/distribution pipeline routes include:

- Bedwell Bayfront Park, located adjacent to the FERRF;
- Users of recreational water features adjacent to the FERRF (e.g., Flood Slough, Westpoint Slough);

- Residential land uses along the Chilco Street distribution pipeline route south of the San Mateo County Transit District's Dumbarton Rail Corridor; and
- Residential, institutional, and park land uses along the Hamilton Avenue distribution pipeline route.

10.3 REGULATORY SETTING

10.3.1 Federal Noise and Vibration Regulations

No federal regulations apply to noise or vibration from the proposed project, but the Federal Transit Administration's (FTA's) 2018 *Transit Noise and Vibration Impact Assessment Manual* document sets groundborne vibration damage and annoyance criteria for general assessments. For damage, the criteria vary by the type of building exposed to potential vibrations. For annoyance, the criteria vary by the type of building being subjected to the vibrations, and the overall number of vibration events occurring each day. Category 1 buildings are considered buildings where vibration would interfere with operation, even at levels that are below human detection. These include buildings with sensitive equipment, such as research facilities and recording studios. Category 2 buildings include residential lands and buildings were people sleep, such as hotels and hospitals (this would include the proposed project). Category 3 buildings consist of institutional land uses with primarily daytime uses. The FTA standards vary for "frequent" events (occurring more than 70 times per day, such as a rapid transit project), "occasional" events (occurring between 30 to 70 times per day), and "infrequent" events (occurring less than 30 times per day). The FTA's vibration damage and annoyance criteria are summarized in Table 10-2 and Table 10-3.

Table 10-2 FTA Construction Vibration Damage Criteria

Building Structural Category	PPV, in/sec	Approximate VdB
I - Reinforced-concrete, steel or timber (no plaster)	0.5	102
II - Engineered concrete and masonry (no plaster)	0.3	98
III – Non-engineered timber and masonry buildings	0.2	94
IV – Buildings extremely susceptible to vibration damage	0.12	90
Source: FTA 2018		

Table 10-3 FTA Ground-Borne Vibration Impact Criteria for General Assessment

Vibration Land Use Category/Type[(A)]	Frequent Events	Occasional Events	Infrequent Events
Category 1 – Buildings where vibration would interfere with interior operations	65 VdB	65 VdB	65 VdB
Category 2 – Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3 – Institutional buildings with primarily daytime uses	75 VdB	78 VdB	83 VdB
Source: FTA 2018			

10.3.2 State Noise and Vibration Regulations

There are no state noise and vibration regulations that directly apply to the proposed project.

10.3.3 City of Menlo Park Municipal Code

Chapter 8.06, Noise, of the Menlo Park Municipal Code is intended to protect the peace, health and safety of Menlo Park citizens from unnecessary and unreasonable noise levels. While the code does specify a maximum daytime and nighttime noise level for receiving residential land uses of 60 and 50 dBA, respectively, it does not set limits for receiving industrial or commercial land uses. Code Section 8.06.040 exempts construction and deliveries from the City's sound level limits (for residential land uses), provided the activity occurs between 8 AM and 6 PM, Monday through Friday. Powered equipment used on a temporary basis during this time period, however, shall not generate noise in excess of 85 dB at a distance of 50 feet; however, no powered equipment is permitted to generate noise in excess of 85 dBA at distance of 50 feet from the source.

10.3.4 City of Menlo Park General Plan

The City of Menlo Park's General Plan Noise Element contains noise compatibility guidelines which apply to land uses within the City. Per Policy N1.2, the General Plan establishes 60 CNEL and 75 CNEL as the "normally acceptable" noise level limit for residential and recreational land uses such as golf courses, riding stables, and water recreation, respectively. The General Plan also contains the following policies that are relevant to noise:

- Protect existing residential neighborhoods and noise sensitive uses from unacceptable noise levels and vibration impacts (Policy N1.4).
- Design non-residential development to minimize noise impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration near rail lines and industrial uses (Policy N1.7).
- Preclude the generation of annoying or harmful noise on stationary noise sources, such as construction and property maintenance activity and mechanical equipment (Policy N1.8).

10.4 PROJECT IMPACTS

10.4.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, the proposed project would have a significant noise and vibration impact if it would:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generate excessive ground-borne vibration or ground-borne noise levels; or
- Expose people residing or working in the project area to excessive airport- or air-craft related noise levels.

With regards to the above thresholds of significance, the WBSD does not have its own general standards of significance for noise; however, since the proposed project is located in the City of Menlo Park, the WBSD considered the City of Menlo Park Municipal Code and General Plan as guidelines for project-specific noise standards of significance (see Section 10.3.3 and 10.3.4). In reviewing these standards, the WBSD considered: 1) the nature of the standard for the project (e.g., a 24-hour L_{dn} standard is not appropriate for a daytime construction event); 2) the general applicability of the standard (i.e., is the standard intended to apply to transportation noise sources or non-transportation noise sources such as a recycled water facility); 3) the ambient noise environment near the project; and 4) the sensitivity of the receiving land use (e.g., park use, residential use, commercial use, etc.).

- For temporary construction noise, the WBSD has determined the proposed project would have a significant impact if it would generate noise levels that exceed the standards established in:
  - City of Menlo Park Municipal Code Sections 8.06.040(a) (Construction Activities) or 8.06.040(b) (Powered Equipment); and
  - City of Menlo Park Municipal Code Section 8.06.030 (Noise Limitations)
- For permanent operational noise levels, the WBSD has determined the proposed project would have a significant impact if it would generate noise levels that exceed the standards established in:
  - City of Menlo Park Municipal Code Sections 8.06.030 (Noise Limitations) or 8.06.040(b) (Powered Equipment); or
  - City of Menlo Park General Plan Policy N1.2 (Land Use Compatibility Noise Standards).

Neither the WBSD nor the City of Menlo Park maintain general standards of significance for groundborne vibration; however, the City of Menlo Park's General Plan (Policy N1.7) generally references FTA guidelines for the control of vibration from non-residential development (See Section 10.3.1).

- For construction and operational ground-borne vibration and ground-borne noise, the WBSD has determined the proposed project would have a significant impact if it would generate ground-borne vibration or noise levels that exceed:
    - FTA standards for potential structural damage to buildings susceptible to vibration damage (0.12 PPV); and
    - FTA standards for residential land use annoyance or interference from occasional (75 VdB) or infrequent (80 VdB) vibration and noise-inducing events; or
    - FTA standards for institutional land use annoyance or interference from occasional (78 VdB) or infrequent (83 VdB) vibration and noise-inducing events.

10.4.2 Construction Noise Levels

Project construction would occur over an approximately 18- to 24-month period beginning as soon as the fourth quarter of 2021. Construction activities would include: sheet pile installation, dewatering, levee and ecotone levee improvements (including soil import and grading, as well as coffer dam installation), non-levee grading (e.g., entrance improvements), on-site stormwater infrastructure improvements, existing structure demolition, new building construction (recycle water facility, future warehouse, storage tanks), influent pump station construction, influent and distribution pipeline trenching and installation, and site restoration. These types of construction activities would generate noise and vibration from the following sources:

- Heavy equipment operations at different work areas. Some heavy equipment would consist of mobile equipment such as a loader, excavator, etc. that would move around work areas; other equipment would consist of stationary equipment (e.g., drill rig, impact or vibratory hammer/pile driver, dewatering pump) that would generally operate in a fixed location until work activities are complete. Heavy equipment generates noise from engine operation, mechanical systems and components (e.g., fans, gears, propulsion of wheels or tracks), and other sources such as back-up alarms. Mobile equipment generally operates at different loads, or power outputs, and produce higher or lower noise levels depending on the operating load. Stationary equipment generally operates at a steady power output that produces a constant noise level.
- Vehicle trips, including worker, vendor, and haul truck trips on roads used to access work areas. These trips would occur primarily on Bayfront Expressway and Marsh Road, as well as distribution pipeline routes (Constitution Drive, Chico Street, Hamilton Avenue).

The anticipated construction sequencing and phasing, phase duration, and typical equipment that would be used to conduct the work activities is summarized in Table 2-2. As shown in Table 2-2, concurrent heavy equipment operations would occur in different work areas at the same time over the course of each construction season. Heavy equipment operations would also occur at the same time as soil hauling activities. Since project-specific construction equipment make and model information is not available at this time, potential construction-related noise impacts can only be evaluated based on typical equipment noise levels. Table 10-4 presents the estimated, worst-case noise levels that could occur from the construction equipment anticipated to be used during project construction. The equipment assumptions are based on, and consistent with, information provided by the project engineer and California Emissions Estimator Model

(CalEEMod) equipment assumptions used to evaluate the proposed project's potential construction air quality impacts (see Chapter 4).

Table 10-4 Estimated Construction Equipment Noise Levels

Equipment	Noise Level at 50 feet, L_{max}[A]	Usage Factor[B]	Calculated Average Noise Levels (L_{eq})[C]			
			25 feet	50 feet	100 feet	150 feet
Auger Drill Rig	85	0.2	84	78	72	68
Backhoe	80	0.4	82	76	70	66
Boring Jack Power Unit	80	0.5	83	77	71	67
Bulldozer	85	0.4	87	81	75	71
Compact roller	80	0.2	79	73	67	63
Compressor	80	0.4	82	76	70	66
Concrete Mixer	85	0.4	87	81	75	71
Crane	85	0.16	83	77	71	67
Delivery Truck	84	0.4	86	80	74	70
Excavator	85	0.4	87	81	75	71
Front End Loader	80	0.4	82	76	70	66
Generator	82	0.5	85	79	73	69
Horizontal Boring Hydraulic Jack	80	0.25	80	74	68	64
Impact Hammer / Pile Driver	101	0.2	100	94	88	84
Vibratory Hammer / Pile Driver	101	0.2	100	94	88	84
Man Lift	85	0.2	84	78	72	68
Paver	85	0.5	88	82	76	72
Pneumatic tools	85	0.5	88	82	76	72
Pumps	77	0.5	80	74	68	64
Roller	85	0.2	84	78	72	68
Scraper	85	0.4	87	81	75	71
Tractor	84	0.4	86	80	74	70
Vacuum Truck	85	0.4	87	81	75	71

Sources: Caltrans 2013 and FHWA 2010.

(A) L_{max} noise levels based on the higher of manufacturer's specifications or actual noise level measurement unless otherwise noted.

(B) Usage factor refers to the amount of time the equipment produces noise over the time period.

(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels derived by: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

Sheet Pile Wall Installation

This construction phase is anticipated to involve the use of a vibratory hammer/pile driver, as well as other typical equipment such as an auger drill rig, excavator, loader, and dozer. As shown in Table 10-4, the noise levels associated with the use of typical construction equipment during this phase (e.g., auger drill rig, loader) would be 85 dBA L_{max} and 76 to 81 dBA L_{eq} at a distance of 50 feet for each individual piece of construction equipment. The typical construction equipment used during this phase, therefore, will meet the 85 dBA standard at 50 feet specified in City Municipal Code Sections 8.06.040(a)(4) and 8.06.040(b)(1).

As shown in Table 10-4, the use of a vibratory hammer/pile driver would generate noise levels 50 feet from pile driving operations up to 101 dBA L_{max} and and 94 dBA L_{eq}. These noise levels would exceed the 85 dBA L_{eq} standard set for powered equipment by the City's Municipal Code; however, Municipal Code Section 8.06.040 permits construction activities to occur outside permitted times provided the activities do not exceed 60 dBA at any residential property during the daytime or 50 dBA at any residential property during the nighttime. As shown in Figure 2-9, sheet pile wall installation would occur around the northern and western perimeter of the FERRF and, therefore, would generally only impact the FERRF site, an industrial land use that is not noise sensitive. The exception to this would be the southern and eastern ends of the sheet pile wall, where pile driving operations could potentially occur within 50 feet of Marsh Road and/or publicly accessible trails within Bedwell Bayfront Park. Under worst case conditions, potential pile driving noise levels would drop below 85 dBA L_{max} approximately 250 feet from individual pile locations, while noise levels would drop below 85 dBA L_{eq} approximately 150 feet from individual pile locations. In no case would the use of a vibratory hammer/pile driver generate noise levels at a residential property that exceed 60 dBA during the daytime or 50 dBA during the nighttime. The use of this equipment, therefore, will meet the City's overarching noise standards identified in Section 8.06.040 of the Municipal Code.

Levee, Ecotone Levee, and Storm Drain Improvements

These activities would primarily occur along the northern (levee improvements) and eastern (storm drain improvements) perimeter of the FERRF site. This construction phase would also include the use of a vibratory hammer/pile driver to install the coffer dam, as well as typical equipment such as an excavator, loader, dozer, roller, and backhoe. As shown in Table 10-4, the noise levels associated with the use of this typical construction equipment would be 85 dBA L_{max} and 76 to 81 dBA L_{eq} at a distance of 50 feet for each individual piece of construction equipment. The typical construction equipment used during this phase, therefore, will meet the 85 dBA standard at 50 feet specified in City Municipal Code Sections 8.06.040(a)(4) and 8.06.040(b)(1). Consistent with the analysis provided for the use of a vibratory hammer/pile driver during sheet pile wall installation (see above), the use of a vibratory hammer during levee, ecotone levee, and storm drain improvements could generate noise levels above 85 dBA L_{eq} within 150 feet of equipment operating areas but would not generate noise levels at a residential property that exceed 60 dBA during the daytime or 50 dBA during the nighttime. Therefore, all pieces of equipment operating during this phase would be consistent with the City's overarching noise standards identified in Section 8.06.040 of the Municipal Code.

This construction phase would also involve up to approximately generate approximately 4,032 total heavy-duty hauling truck trips along Bayfront Expressway and Marsh Road adjacent to Bedwell Park. These trips would occur over an approximately one- to two-month period. Caltrans' considers a doubling of traffic volumes to result in 3 dBA increase in traffic noise levels. Bayfront Expressway is a major regional expressway with high levels of traffic; truck trips associated with fill import would not substantially change noise levels on Bayfront Expressway, nor are there sensitive land uses adjacent to the expressway (other than the southern part of Bedwell Bayfront Park, which is already within the 65 CNEL contour for the expressway). Once on Marsh Road, trucks would be travelling at low speed (10 to 20 miles per hour) due to the presence of speed bumps and for safety reasons, which would reduce noise levels associated with fill import activities both along Marsh Road and in the interior of the park. In addition, park topography would serve to shield much of the interior of the park from truck noise levels.

Recycled Water Facility, Recycled Water Storage Tanks

Demolition, grading, and building construction activities associated with the Bayfront RWF facilities and potential warehouse would occur within the FERRF site, in the general vicinity of publicly accessible trails within Bedwell Bayfront Park. This construction phase would include the use of typical equipment such as an excavator, loader, dozer, roller, and backhoe, and may require the use of an impact pile driver or vibratory hammer/pile driver. As described above, the use of an impact or vibratory hammer/pile driver and typical equipment would not generate noise levels at a residential property that exceed 60 dBA during the daytime or 50 dBA during the nighttime. Therefore, equipment operating during this phase would be consistent with the City's overarching noise standards identified in Section 8.06.040 of the Municipal Code.

FERRF Entrance / Marsh Road Grade Improvements / Influent Pump Station

This construction phase would include the use of typical equipment such as an excavator, loader, dozer, roller, and backhoe that will meet the 85 dBA standard at 50 feet specified in City Municipal Code Sections 8.06.040(a)(4) and 8.06.040(b)(1). Furthermore, there are no sensitive noise receptors located near the park entrance that could be impacted by construction of the influent pump station.

Influent/Distribution Pipelines

Pipeline construction would occur along Marsh Road (influent and distribution pipeline), Chilco Constitution Drive (distribution pipeline), Chilco Street (distribution pipeline), and Hamilton Avenue (distribution pipeline). Most of 15,800 linear feet of pipeline construction would occur adjacent to commercial, light industrial, and land uses that are not noise-sensitive; however, approximately 3,250 linear feet of pipeline construction along Chilco Street and Hamilton Avenue would occur in residential areas. Pipeline construction would include the use of typical equipment such as an excavator, loader, dozer, and backhoe. In addition, pipeline construction may require the use of alternative, trenchless methods of construction that may require excavation of pits or use of different equipment, such as jack and bore or horizontal directional drilling methods. As shown in Table 10-4, both the typical and potential trenchless pipeline

installation methods will involve construction equipment that will meet the 85 dBA standard at 50 feet specified in City Municipal Code Sections 8.06.040(a)(4) and 8.06.040(b)(1).

Construction Noise Best Management Practices

As described above, project construction activities will meet City Municipal Code standards for construction equipment noise levels at residential lands; however, certain construction activities such as sheet wall pile installation near publicly accessible trails in Bedwell Bayfront Park and pipeline installation along Chilco Street and Hamilton Avenue, could temporarily generate construction noise levels that intrude upon noise-sensitive land uses. To reduce the potential for project construction activities to generate intrusive noise levels, the WBSD has incorporated the following BMPs into the proposed project:

Construction Noise Control Best Management Practices. To reduce potential noise levels associated with construction of the proposed project, the West Bay Sanitation District and/or its designated contractor, contractor's representatives, or other appropriate personnel shall:

- *Restrict and Post Work Hours.* Construction hours shall generally be limited to the hours of 8 AM to 6 PM, Monday to Friday, as set forth in the City of Menlo Park Municipal Code (Section 8.06.040(a)(1). The West Bay Sanitation District shall only permit work outside of these hours if such work is necessary and/or essential to achieve engineering design standards or specifications (e.g., a continuous concrete pour that cannot be interrupted), avoid forecasted work interruptions (e.g., forecasted high winds that prohibit equipment operations or rain that requires storage or covering of materials and structures), or address unsafe working conditions (e.g., inspections reveal an immediate danger).. All noise generated during nighttime work shall comply with the 50 dBA limit for residential properties as specified in the City of Menlo Park Municipal Code Section 8.06.030(a). The WBSD shall post a sign containing the permitted hours of construction activities at all entrances to the construction site upon the commencement of construction pursuant to City Municipal Code Section 8.60.040(a)(3).
- *Reduce Equipment Noise Levels Near Residential Areas.* The West Bay Sanitation District shall ensure that equipment operated within 250 feet of residential areas does not generate a noise level that exceeds 85 dBA at a distance of 50 feet. This BMP may be documented by an equipment specific sheet or documented empirical evidence of equipment noise levels.
- *Construction Notification for Bedwell Bayfront Park Users.* During sheet pile wall, levee / ecotone levee improvement, and recycled water facility construction phases, the West Bay Sanitation District shall post signs at Bedwell Bayfront Park parking areas and along trails directly adjacent to the FERRF site warning of potential temporary elevated noise levels during construction. Signs shall be posted at trail heads in parking areas, and on trail segments within 250 feet of the FERRF property boundary.
- *Pre-Construction Notification to Residential Land Uses.* Provide residences along pipeline routes written notice of the type and duration of planned construction activities. This notice shall be provided at least one week prior to the start of work activities within 500 feet of impacted residences, and shall include the name and phone number of a

designated West Bay Sanitation District staff person responsible for handling construction-related noise complaints.

- *Staging Areas.* Pipeline installation staging areas shall be located away from sensitive residential areas as much as feasible.
- *Construction equipment care, siting, and design measures*. The following construction equipment care, siting, and design measures shall apply during construction activities:
  - Heavy equipment engines shall be covered and exhaust pipes shall include a muffler in good working condition. Pneumatic tools shall include a noise suppression device on the compressed air exhaust.
  - All stationary noise-generating equipment such as pumps, compressors, and welding machines shall be located as far from sensitive receptors/property lines as practical.
  - The West Bay Sanitation District shall connect to existing electrical service at staging areas and other work areas as feasible to avoid the use of stationary, diesel- or other alternatively-fueled power generators.
  - No radios or other amplified sound devices shall be audible beyond boundary of work areas.

Conclusion

As described above, most individual pieces of construction equipment would meet the City of Menlo Park's 85 dBA standard for powered equipment. Although impact and/or vibratory hammers/pile drivers may exceed this noise level, the use of this equipment would not exceed the City's noise standard for residential land uses (60 dBA during the daytime and 50 dBA during the nighttime) and, therefore, would be consistent with the City's Municipal Code. The WBSD has also incorporated BMPs into the project that further reduce potential noise from construction activities. These BMPs generally restrict work hours in accordance with those specified in the City's Municipal Code, require staging and stationary noise sources to be located as far from sensitive receptors and land uses as possible, provide warning and advance notice of work activities near sensitive land uses, and require equipment controls to reduce overall construction noise levels. The proposed project's construction activities and equipment noise levels would be consistent with Menlo Park Municipal Code Sections 8.06.030 (Noise Limitations), 8.06.040(a) (Construction Activities), and 8.06.040(b) (Powered Equipment). The proposed project's temporary construction noise levels, therefore, would be a ***less than significant impact***.

10.4.3 Construction Vibration Levels

Construction activities have the potential to result in varying degrees of ground vibration, depending on the specific construction equipment used and activities involved. Vibration generated by construction equipment spreads through the ground and diminishes with increases in distance. The effects of ground vibration may be imperceptible at low levels, result in low rumbling sounds and detectable vibrations at moderate levels, and can disturb human activities such as sleep and vibration sensitive equipment at high levels. Ground vibration can also

potentially damage the foundations and exteriors of existing structures even if it does not result in a negative human response.

The proposed project's construction work areas are, in general, not located near structures or land uses that could be particularly sensitive to ground-borne vibration or ground-borne noise. Most construction activities would occur at or near the FERRF site, adjacent to Bedwell Bayfront Park. The most significant source of vibration from construction activities at the FERRF would be the use of a vibratory hammer/pile driver (at sheet pile, ecotone levee and, potentially, RWF work areas) or an impact hammer/pile driver (potentially at RWF work areas); however, the WBSD would pre-drill pile locations with an auger drill rig. Although this pre-drilling activity would not remove soil, it would loosen subsurface soils and make it easier for the sheet or column pile to be vibrated or pushed through the soil. This would reduce vibration transmission from pile driving activities and shorten the amount of time the vibratory pile driver would operate in any single location. The few structures that are in and near the FERRF site, including levees, decommissioned facilities, and equalization basins, are not considered to be particularly susceptible to ground-borne vibration. The preservation of existing, essential infrastructure at the FERRF site is a priority for the West Bay Sanitation District. Any existing infrastructure that would remain specifically to support elements of the proposed project would be evaluated by a project structural engineer for potential adverse effects from construction and seismic vibrations and, if necessary, retrofitted to ensure facilities remain structurally sound In addition, visitors to the park would not remain in one place; rather, they would move throughout the park and, therefore, would not be exposed to prolonged or sustained ground-borne vibration levels.

In contrast, the installation of distribution pipeline along Constitution Drive, Chilco Street, and Hamilton Avenue would occur near commercial and residential buildings, typically within 30 to 50 feet of these buildings. The groundborne vibration levels generated by the type of equipment that would be used to construct the proposed project are shown in Table 10-5. Potential construction source vibration levels were estimated using reference vibration levels documented and contained in the FTA's Transit Noise and Vibration Impact Assessment document and Caltrans' Transportation and Construction Vibration Guidance Manual (FTA 2018 and Caltrans 2020).

Table 10-5 Typical Construction Equipment Ground-borne Vibration Levels

Equipment	Peak Particle Velocity (in/sec) (A)			Velocity Decibels (VdB)(B)		
	25 feet	50 feet	100 feet	25 feet	50 feet	100 feet
Small bulldozer	0.003	0.001	0.001	58	49	39.9
Jackhammer	0.035	0.016	0.008	79	70	60.9
Loaded truck	0.076	0.035	0.017	86	77	67.9
Large bulldozer	0.089	0.042	0.019	87	78	68.9
Impact Hammer / Pile Driver (typical)	0.644	0.300	0.140	104	95	85.9
Impact Hammer / Pile Driver (upper)(C)	1.518	0.708	0.330	112	103	93.9
Vibratory Hammer / Pile Driver (typical)	0.170	0.079	0.037	93	84	74.9
Vibratory Hammer / Pile Driver (upper)(C)	0.734	0.342	0.160	105	96	86.9

Sources: Caltrans 2020 and FTA 2018

(A) Estimated PPV calculated as: PPV(D)=PPV(ref)*(25/D)^1.1 where PPV(D)= Estimated PPV at distance; PPVref= Reference PPV at 25 ft; D= Distance from equipment to receiver; and n= ground attenuation rate (1.1 for dense compacted hard soils).

(B) Values for 25 feet are reference values contained in Caltrans 2020 and FTA 2018. Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30Log(D/25) where Lv(D)= estimated velocity level in decibels at distance, Lv(25 feet)= RMS velocity amplitude at 25 f; and D= distance from equipment to receiver. All distances are lateral distances and do not consider changes in topography.

(C) Although presented for information purposes, these upper range of vibration levels are not considered representative of the project because the WBSD would pre-drill at pile locations.

As shown in Table 10-5, specific vibration levels associated with typical construction equipment are highly dependent on the type of equipment used. For structural damage, the use of typical equipment during pipeline installation (bulldozer, jack hammer, trucks) would produce PPV levels up to 0.089 in/sec at 25 feet and 0.042 in/sec at 50 feet. These PPV values are well below the FTA standards for potential structural damage to buildings susceptible to vibration damage (0.12 PPV). For human annoyance and interference responses, the use of typical equipment during pipeline installation would produce VdB levels between 78 VdB (at 50 feet) to 87 VdB (at 25 feet), presuming there is no change in elevation between the disturbed surface and the building pad and no change in subsurface conditions between the road right of way and the building foundation (which is unlikely). Although distribution pipeline construction activities may generate perceptible ground-borne vibration levels at structures within 50 feet of the pipeline route, these levels would not be excessive because they would be intermittent (not occur every day), limited in duration (lasting a few hours or days since equipment would move along the pipeline route and not operate in the same location for a prolonged amount of time), occur during the daytime only (when receptors would not be sleeping and, therefore, are considered less sensitive to vibration levels), and would not damage buildings or structures. For these

reasons, the proposed project's construction activities would have a ***less than significant impact*** from ground-borne vibration.

According to the FTA, ground-borne noise that may accompany building vibration is usually perceptible only inside buildings and typically is only an issue at locations with subway or tunnel operations where there is no airborne noise path or for buildings with substantial sound insulation such as a recording studio (FTA 2018). These conditions do not exist in the project area. Therefore, the proposed project's construction activities would have a ***less than significant impact*** from ground-borne noise.

10.4.4 Construction Noise and Vibration Effects on Wildlife

As described in Sections 10.4.2 and 10.4.3, the proposed project's construction activities would generate short-term noise and vibration from the use of heavy equipment. Although construction activities would not result in a significant temporary increase in ambient noise levels or excessive ground-borne vibration levels, work activities may result in noise and vibration that could affect sensitive marine species that use the tidal sloughs surrounding the FERRF.

The potential for the proposed project to result in construction noise or vibration that adversely impacts sensitive marine species is low for several reasons. Air-borne noise does not readily transmit across the air/water boundary. This means that potential noise and vibration impacts would be greatest for disturbances occurring underground or directly in water; however, the proposed project generally does not include such activities. Although ecotone levee improvements would occur below the high tide line, work areas would be isolated from tidal waters by berms or other water control structures and dewatered to allow construction to occur. Sheet piles will occur above the high tide line, under similar dewatered conditions. Thus, construction activities will not occur directly in the tidal sloughs. Sheet piles may encounter groundwater at depth, which could partially transmit noise and vibration to adjacent bay waters. The WBSD is proposing to pre-drill holes with an auger, reducing the amount of force needed to drive the pile and associated noise and vibration. Finally, the limited extent, shallow depth, and narrow width of the sloughs surrounding the FERRF likely limit the number and size of fish that may occur in these sloughs (MIG 2020). For these reasons, although fish may avoid suitable habitat areas close to the project site during construction due to noise, the proposed sheet pile installations will not involve peak or cumulative sound levels high enough to injure or kill fish. The impact is considered ***less than significant***.

10.4.5 Operational Noise Levels

As described in Section 10.2.1, the FERRF site produces minimal noise from pumps and other WBSD operations; however, the closed landfill GCCS at Bedwell Bayfront Park operates continuously in accordance with BAAQMD permit conditions. The proposed Bayfront RWF and influent pump station would add new pumps, fans, and other noise generating equipment and activities to the FERRF site and other areas. The potential for this equipment to generate a permanent substantial increase in the ambient noise environment in excess of the standards contained in the City of Menlo Park Municipal Code and/or General Plan is described below.

Bayfront RWF

The Bayfront RWF would include motors for conveyors, washers, and compactors (associated with initial grit and sediment removal), pumps for flows to and from equalization, anoxic, and aeration basins, mixers to agitate the anoxic basin, blowers to provide oxygen to aerobic and membrane basins, fans to move fouled air through the odor control system, and distribution pumps to provide recycled water to the WBSD system. This equipment would generally be small, between 3 and 25 horsepower; the largest piece of equipment would be the 100-horsepower distribution pump. All of this equipment would be electric-powered, and most would be housed within the new buildings (e.g., headworks building, operations and laboratory building). Equipment that may be located outside of buildings (e.g., anoxic basin mixers, pipelines carrying flows, odor control stacks, etc.) would be setback at least 25 feet and partially or fully shielded from the shared property line with Bedwell Bayfront Park by the proposed buildings or recycled water storage tanks.

The Bayfront RWF would also include an approximately 175 to 200-kilowatt, diesel-fueled backup generator to provide power during emergency or other unplanned power outages. Although the WBSD has not identified a specific on-site location or make and model for this generator, typical generators with a power output rating of 175- and 230-horsepower can produce noise levels of approximately 91 to 99 dBA at a distance of 23 feet without an enclosure (Generac 2011, Caterpillar 2012, HiPower 2012).

The Bayfront RWF's motors, pumps, and fans, etc. would generally operate continuously. In contrast, the backup generator would run only during emergency or other unplanned power outages. Generator testing may occur for approximately 30 minutes to several hours per month and approximately 20 to 30 hours per year.

The FERRF and proposed Bayfront RWF are not located near any residential areas and, therefore, do not have the potential to exceed the City's Municipal Code or General Plan standards for residential land uses. Bedwell Bayfront Park is a passive recreational land use. The City's General Plan establishes 70 CNEL as the normally acceptable noise limit for playgrounds and neighborhood parks and 75 CNEL as the normally acceptable noise limit for golf courses, riding stables, water recreation, and cemeteries. The normal operation of the Bayfront RWF would not generate noise levels that exceed either of these standards or otherwise substantially increase ambient noise levels because equipment would be contained within buildings and setback and shielded from FERRF property lines. During power outages, the prolonged use of an approximately 200-kilowatt backup generator could exceed these standards and otherwise increase ambient noise levels within the parts of Bedwell Bayfront Park located near the FERRF property line; however, the WBSD has incorporated the following BMPs into the proposed project to ensure backup generator noise does not exceed City General Plan standards or otherwise substantially increase noise levels within Bedwell Bayfront Park:

> **Backup Generator Noise Control Best Management Practices.** To reduce potential noise levels associated with the Bayfront Recycled Water Facility's backup generator, the West

Bay Sanitation District and/or its designated contractor, contractor's representatives, or other appropriate personnel shall:

- *Install a Natural Gas or Propane-Fueled Backup Generator.* If feasible, the West Bay Sanitation District shall install a natural gas or propane-fueled backup generator instead of a diesel-fueled generator.
- *Install the Backup Generator away from Property Boundaries.* The West Bay Sanitation District shall install the backup generator as far away as feasible from Flow Equalization and Resource Recovery Facility's property boundaries. At a minimum, a 50-foot setback from property lines shall be provided for the generator.
- *Shield and/or Enclose Backup Generator.* The West Bay Sanitation District shall install the backup generator with manufacturer's shielding or otherwise enclose the generator such that generator noise levels do not exceed 75 dBA at a distance of 25 feet.

Influent Pump Station

The proposed Bayfront RWF influent pump station would be located near the entrance to Bedwell Bayfront Park, at the intersection of Marsh Road and Bayfront Expressway. The pump station would be adjacent to an existing Silicon Valley Clean Water pump station, within the 70 CNEL noise contour associated with Bayfront Expressway (City of Menlo Park 2013). The pump station would include two, approximately 10- to 20-horsepower submersible pumps. These pumps would not generate noise levels at off-site locations that could exceed City standards.

Conclusion

As described above, the proposed Bayfront RWF facilities are not located near residential lands and, therefore, have no potential to exceed City noise standards for residential land uses. The operation of Bayfront RWF motors, pumps, and other equipment would generally occur within buildings and away from property lines and would not increase ambient noise to levels that exceed City standards for Bedwell Bayfront Park. Although the proposed diesel-fueled backup generator could exceed General Plan standards, the generator would be used during emergency and other unplanned power outages only. The WBSD has incorporated BMPs into the project that reduce potential generator noise levels within Bedwell Bayfront Park. These BMPs require the generator to be shielded or enclosed such that noise levels do not exceed 75 dBA at 25 feet, and to be setback from the FERRF property line by at least 50 feet. These BMPs would reduce potential generator noise levels to less than 70 dBA at FERRF property lines, consistent with General Plan's lowest noise and land use compatibility standard for recreational land uses. The proposed project's operational noise levels, therefore, would be a ***less than significant impact***.

10.4.6 Operational Vibration Levels

Once constructed, the proposed project would involve operation of pumps, fans, a backup generator, and other equipment at the FERRF as well as the operation of an influent pump station at the intersection of Marsh Road and Bayfront Expressway.

The pumps and fans that would be located at the FERRF site would range in size from approximately 2 to 100 horsepower; the back-up generator could be up to 200 kilowatts in size.

This equipment would be secured to mounts and located within buildings and would not generate substantial ground-borne vibration levels outside the FERRF site boundary.

The influent pump station would include two, 10- to 20-horsepower submersible pumps located below grade. These pumps would also be secured to mounts and would not generate substantial ground-borne vibration levels outside the pump station.

Finally, the influent and distribution pipelines would be located below ground and would not include equipment that would generate substantial ground-borne vibration levels.

For the reasons described above, the proposed project would not generate significant ground-borne vibration or ground-borne noise levels during operation. This impact would be ***less than significant***.

10.4.7 Airport- and Aircraft-Related Noise Levels

The proposed project does not have the potential to expose people working at the FERRF to excessive, airport-related noise levels because there are no public or private airstrips or airports within two miles of the FERRF, nor is the FERRF located within any noise-impacted or other planning area associated with an airport land use compatibility plan. The closest airports to the FERRF are Palo Alto Airport (approximately 3.7 miles southeast of the FERRF boundary) and San Carlos Airport (approximately 3.9 miles northwest of the FERRF boundary). The project has ***no impact*** related to aircraft-related noise.

10.5 CUMULATIVE IMPACTS

The proposed project would involve construction activities at the existing FERRF site, at the entrance to Bedwell Bayfront Park at the intersection of Marsh Road and Bayfront Expressway, and along influent and distribution pipeline routes including Marsh Road, Constitution Drive, Chilco Street, and Hamilton Avenue. For the purposes of this cumulative noise and vibration impact analysis, the geographic context is limited to the extent the potential noise impacts caused by the proposed project that could combine with other relevant cumulative developments. Although construction and operational noise may, theoretically, be audible far from the source, in practice ambient noise from wind and other land uses is substantially louder than construction equipment operating ¼ mile away (1,320 feet) or further. Therefore, the geographic context is limited to the area within ¼ mile of the proposed construction work areas and the influent pump station and Bayfront RWF facilities (once operational). The primary roads used to access the FERRF site (Bayfront Expressway and Marsh Road) are also included in the geographic context for cumulative noise impacts.

The proposed project would not result in any potentially significant construction noise impacts requiring mitigation. Construction activities in and adjacent to FERRF boundaries would be located more than ¼ mile from any cumulative project and would not combine with construction noise levels from the projects listed in Section 12.3. Construction activities at the influent pump station could combine with construction-related noise from the South Bay Salt Pond Restoration Project and the Bayfront Canal and Atherton Channel Flood Management and Restoration Project; however, the South Bay Salt Pond Restoration Project generally only involves truck trips

near the influent pump station, and the Bayfront Canal and Atherton Channel Flood Management and Restoration Project is estimated to be complete before the proposed project begins. The construction of the proposed influent pump station would not involve substantial prolonged construction work that would not result in a cumulatively considerable temporary increase in ambient noise levels even if combined work activities do occur. Influent and distribution pipeline installation, particularly along Constitution Drive, Chilco Street, and Hamilton Avenue may occur within ¼ mile of the proposed Facebook, East Bayfront, and West Bayfront projects listed in Section 12.3. Pipe installation would proceed linearly along the pipeline route and would not result in sustained noise levels in any one location. In addition, pipeline installation would occur within the road right-of-way. The magnitude of any potential combined noise levels along pipeline installation routes is unlikely to be substantially different than each individual project due to variations in equipment operating cycles and the fact that pipeline installation will typically involve less overall construction activity than a larger development project. This impact is considered less than significant.

The proposed project would not result in any potentially significant noise impacts. The potential noise levels from the Bayfront RWF could combined with noise levels from the Bedwell Bayfront Park landfill GCCS; however, Bayfront RWF equipment would primarily be located inside buildings or otherwise shielded from property lines. In addition, the proposed backup generator for the Bayfront RWF would be limited to a noise level of 75 dBA at a distance of 25 feet and would be required to be set back from FERRF property lines by at least 50 feet. All Bayfront RWF equipment is anticipated to be located at least 200 feet from the landfill GCCS. At this distance, noise levels from the Bayfront RWF are anticipated to be at least 10 dB less than the GCCS, which would not result in a cumulative noise impact.

The proposed project would not generate significant vehicle traffic that would result in a cumulative considerable increase in off-site noise levels on the roads used to access the FERRF.

The project would not result in potentially significant construction or operational vibration impacts. Typical ground-borne vibrations generated by construction and mechanical equipment dissipate and are not perceptible within several hundred feet of the activity. Due to this, there is little to no potential for vibrations from the proposed project to combine with vibrations from the projects listed in Section 12.3. Thus, this cumulative impact would be ***less than significant***.

10.6 MITIGATION MEASURES

No potentially significant impacts have been identified. No mitigation is required.

10.7 REFERENCES

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CHAPTER 11 ALTERNATIVES

CEQA Guidelines Section 15126.6 states that an EIR shall describe a range of reasonable alternatives to a project or location of the project which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project. An EIR's discussion of alternatives does not need to consider every conceivable alternative but must foster informed decision making and public participation. CEQA intends for the alternatives discussion to focus on alternatives that are capable of avoiding or substantially reducing any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives.

An EIR is not required to consider alternatives that are infeasible (CEQA Guidelines Section 15126.6). A lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. Factors that may be taken into account when considering feasibility include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.

11.1 PLANNING STUDIES AND IDENTIFICATION OF THE PROPOSED PROJECT

11.1.1 Levee Improvements

The District prepared a Levee Improvements Constraints Technical Memorandum (January 2018) that evaluated four different alternatives for improving the existing levees around the FERRF site. The memorandum evaluated the following alternatives: levee addition (non-FEMA certifiable), levee replacement (FEMA certifiable), levee addition and internal fill (non-FEMA certifiable), and perimeter sheet pile and levee addition (FEMA certifiable).

The District then participated in an Interagency Meeting on August 9, 2018 to solicit early comments on the levee improvement alternatives from regulatory agencies. Staff from USACE, USFWS, the NOAA, NMFS, and the RWQCB attended. Each agency provided substantive advice regarding information to include in permit applications. Additionally, NMFS requested that the application analyze the feasibility of restoring the outboard side of the levee to wetland. All agencies agreed that a living shoreline concept should be evaluated.

The RWQCB asked questions about existing operations and specific alternatives to the project. A Clean Water Act 404 (b) (1) analysis must be included in the permit application. The RWQCB indicated that the future plans for the existing buildings and infrastructure should be addressed in the CEQA document and provided advice regarding the sea level rise analysis. The RWQCB noted that it cannot issue a permit until CEQA is complete, and that if the project is not within USACE jurisdiction, the RWQCB would require the project to obtain Waste Discharge Requirements.

At the second Interagency Meeting on July 11, 2019, the District introduced the ecotone levee concept along the northern shoreline and identified that a recycled water facility would be constructed at the FERRF. The meeting was attended by staff from the USACE, NMFS,

USFWS, RWQCB, and SLC. The agencies again provided substantive advice regarding information required in the permit applications and issues to address in the CEQA analysis.

11.1.2 Bayfront Recycled Water Feasibility Report May 2019

The District prepared a Bayfront Recycled Water Feasibility Report (2019) to update and refine the recycled water market in the Bayfront area; evaluate wastewater diversion locations, supply alternatives, and distribution alternatives; identify a recommended project, including target customers, planning level design criteria, and planning level cost estimate as well as prepare an implementation plan for the recommended project, including schedule, construction financing plan, and preliminary environmental review.

The District reached out to various stakeholders including meetings with the City of Menlo Park, BAWSCA, the County of San Mateo, and other potential customers in the Bayfront area. Other entities consulted include Caltrans.

The feasibility report noted an increased interest in recycled water following the recent surge in development in the Bayfront area. The feasibility report only considered the FERRF site as the future location of the Bayfront RWF because the entire flow from the WBSD collection system converges at the FERRF, plus the site has available space to construct the new Bayfront RWF.

The proposed project (evaluated as Alternative A in the feasibility report) was ultimately selected as the recommended project and remains consistent with the proposed Bayfront RWF except the facility size was increased from a maximum daily flow of 0.4 MGD to a maximum daily flow of 1.0 MGD. The demand for recycled water in planned developments along the distribution path are currently 0.4 MGD. In order to accommodate other existing buildings that would want to connect once the RWF and distribution system is in place the RWF would be sized so immediate expansion will not be necessary. The 1.0 MGD size is the peak flow that the facility could produce in one day if needed in the middle of the summer. The RWF would not be able to run at peak capacity for long periods of time and the estimated average flow is 0.5 MGD.

11.2 PROJECT OBJECTIVES

The District's objectives for the proposed project are to:

- Provide FEMA certified levee improvements to the FERRF to protect the facility and San Francisco Bay water quality in a 100-year flood event and guard against projected 50-year sea level rise estimates.
- Maintain the FERRF site's existing function and preserve maximum flow equalization storage at the site.
- Incorporate an ecotone levee (living shoreline) on a portion of the site to promote shoreline resiliency and avoid the loss of wetlands and upland habitat caused by climate change.
- Provide a 1.0 MGD Bayfront RWF to provide recycled water to address demand and provide an additional revenue stream to the District.

- Improve the existing ditch that serves as storm drainage along the eastern portion of the parcel to allow storm water to drain to the slough while not allowing bay water to infiltrate the property.
- Decommission the existing outfall/drainage system for the retired treatment plant at the discharge point and reconfigure onsite stormwater drainage to drain to the on-site ponds.

11.3 CONSIDERED AND REJECTED ALTERNATIVES

An EIR should identify any alternatives that were considered by the lead agency but were not compared to the proposed project in the EIR and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are: 1) failure to meet most of the basic project objectives (see above); 2) infeasibility; 3) inability to avoid significant impacts.

Below is a discussion of alternatives considered and rejected based upon one or more of these factors.

11.3.1 Alternative Location for RWF

Other locations for the Bayfront RWF were considered infeasible because the District does not currently own other property that could accommodate such a facility, and an alternate location would require new land acquisition and likely require additional influent pipelines or an additional pump stations to reroute influent flows. Although it is theoretically possible the District could acquire an alternative site for the Bayfront RWF, the District has not identified any such funding or pursued an alternative site given the engineering, financial, and logistical challenges of finding and establishing an RWF at a new site. This alternative is economically unviable and lacks available infrastructure; therefore, it was considered infeasible and rejected from further consideration.

11.3.2 Raising Existing Levees with Fill and Installing Limited Sheet Piling

This alternative was evaluated as Alternative 1 in the 2017 Constraints Analysis. This alternative proposed to place approximately 45,000 CY of fill on the existing levees surrounding (north, west, east, and much of the south perimeters) the site to raise the levees to an elevation above the FEMA flood zone and to account for sea level rise. Limited sheet piling (approximately 450 linear feet) would also be installed in the southwest corner of the facility around the existing FERRF pump station and piping, where fill would conflict with these facilities. In this alterative, the levees would not be FEMA certified. Settlement of the underlying soft Bay Mud was noted as a concern, which would require additional fill to build up the levees even higher to account for it. This alternative was rejected because it would not meet a primary objective to achieve FEMA certification for the existing facility.

11.3.3 Reconstructing the Levees and Installing Limited Sheet Piling

This alternative was evaluated as Alternative 2 in the 2017 Constraints Analysis. This alternative proposed to completely reconstruct the levees (approximately 45,000 CY fill) surrounding the site (north, west, east, and much of the southern perimeters) to an elevation above the FEMA

flood zone and to account for sea level rise. Again, limited sheet piling (approximately 450 linear feet) would be installed in the southwest corner of the facility around the existing FERRF pump station and piping, where fill would conflict with these facilities. Complete reconstruction would involve the demolition of the existing levees so the new levees could be constructed to specific engineering design. In this alterative, the levees would be able to obtain FEMA certification. This alternative was rejected due to greater biological impacts and additional fill associated with total reconstruction of the levees along the western and northern perimeters of the site and loss of wetlands due to rising sea level under climate change conditions and that ponds would not be available for wastewater storage for an extended period of time.

11.3.4 Raising an Interior Portion of the Facility with Fill

This alternative was evaluated as Alternative 3 in the 2017 Constraints Analysis. This alternative would raise an interior portion of the facility with placement of approximately 10,000 CY fill to an elevation above the FEMA flood zone and to account for sea level rise. The alternative added fill on the interior portion of the facility to raise it above the FEMA flood zone as well. In this option, exterior levees would still be raised by either Alternative 1 or Alternative 2 mentioned above (including 45,000 CY of fill and 450 linear feet of sheet pile) as the storage basins would still require levee protection. This alternative was rejected because it does not reduce potential impacts of Alternatives 1 or 2.

11.3.5 RO Concentrate Discharge to Sanitary Sewer

RO concentrate discharge to the sanitary sewer system is considered infeasible due to potential downstream influent impacts to the SVCW Regional Treatment Plant as well as added costs for pumping. The proposed project does not have significant impacts related to the RO concentrate discharge; therefore, this alternative was rejected from further consideration.

11.4 ALTERNATIVES CONSIDERED

Pursuant to CEQA Guidelines Section 15126.6, the rationale for selecting the alternatives presented in this EIR is to attempt to feasibly attain most of the basic project objectives while avoiding or substantially lessening the significant effects of the project. As presented in Table S-1and described in the document, the proposed project would have potentially significant impacts on Aesthetics, Biological Resources, Cultural Resources and Tribal Cultural Resources, and Geology and Soils. The No Project Alternative presented below is required by CEQA. The Flood Protection through Sheet Pile Only and Bayfront RWF Alternative and Reduce Size of Ponds to Accommodate Ecotone Levee Alternative are considered in order to evaluate reducing or eliminating some of the biological impacts from construction of the ecotone levee.

It is important to note that the proposed project's incorporation of flood improvements, including construction of an ecotone levee, is proposed to address an existing condition that, if left unaddressed, would result in the loss of wetlands and upland habitats over time due to sea level rise. With a projected sea level rise of up to 1.9 feet by 2050 under a high emissions scenario, the majority of the existing salt marsh habitat on the north side of the FERFF will be permanently inundated, resulting in a permanent loss of wetlands in just 30 years. Construction of an ecotone levee would avoid this otherwise permanent loss of wetlands from projected sea level rise. This

future loss of wetlands is an impact of climate change on the project site under existing conditions.

The inclusion of an ecotone levee as part of the project was in response to regulatory agency interest during the first interagency meeting as noted above in Section 11.1.1, above. The use of ecotone levees to mitigate for sea level rise is also consistent with the goals and objectives of the 2016 Comprehensive Conservation and Management Plan (CCMP) for the San Francisco Estuary (Estuary Blueprint) (San Francisco Estuary Partnership 2016), and the project location is identified in the SFEI Shoreline Adaptation Atlas as being potentially suitable for such an adaptation feature. The District could construct FEMA certified levees without including an ecotone levee in the project but chose to include the feature as part of the project because of agency interest. Including an ecotone levee in the project is actually a benefit of the project as it provides an opportunity to avoid, over the long term, the effects of sea level rise which are unrelated to the District's need to provide flood protection.

The project also addresses an existing potential for the site to result in an unregulated discharge of wastewater pollutants due to the site's location within the FEMA flood plain. Achieving FEMA certification of the surrounding levees would prevent potential water quality impacts due to the FERRF's existing function of storing raw wastewater when needed to prevent overflows within the system. This existing hazardous condition will remain present at the site until levee improvements occur and FEMA certification is received.

11.4.1 No Project

CEQA Guidelines Section 15126.6(e) requires the consideration of a No Project Alternative. Under the No Project Alternative, the proposed project, consisting of levee improvements including placement of fill, sheet piles, and an ecotone levee to FEMA certified flood protection standards and planning for 50-year sea level rise at the FERRF site; constructing and operating a new Bayfront RWF, including a new off-site influent pump station and influent and distribution pipelines; improving a drainage ditch, and capping/rerouting FERRF on-site stormwater, would not occur. All features of the current FERRF site and adjacent areas, IPS site, and road right of way would remain unchanged. There would be no change to the FERRF site plan, including grading and drainage improvements. For an unknown length of time, the FERRF would continue to operate the existing FERRF site to store wastewater flows on an as needed basis, and the District would not flood protect the site or provide a recycled water facility. It is theoretically possible the District could acquire an alternative site for the Bayfront RWF, however, the District has not identified any such funding or pursued an alternative site given the engineering, financial, and logistical challenges of finding and establishing a RWF at a new site. If flood protection and sea level rise improvements are not made to the FERRF site, it could succumb to flooding and potentially release pollutants into the Bay.

Change in Impacts – The No Project Alternative would eliminate potentially significant impacts to aesthetics, biology, cultural/tribal resources, and geology and soils associated with construction of the proposed project. Mitigation in this EIR would reduce all of these impacts to a less than significant level. Under the No Project Alternative, these mitigation measures would not be necessary.

The FERRF site would remain susceptible to a 100-year flood, which could potentially release pollutants into the bay. The flooding and pollutant discharge potential would increase over time given anticipated sea level rise. Over the long term, wetland and upland habitat along the northern levee would be permanently lost to sea level rise. The flooding, discharge, and wetland losses are all impacts of climate change on the project site that would not be addressed under the No Project Alternative.

Obtain Objectives – The No Project Alternative would not meet any of the basic objectives of the project (see Section 11-2 Objectives, above).

The No Project Alternative would avoid all significant environmental effects of the project; however, because the No Project Alternative would not meet any of the project objectives, this EIR has identified an environmentally superior alternative among the other alternatives per CEQA Guidelines Section 15126.6(e)(2).

11.4.2 Flood Protection through Placement of Sheet Pile Only and Bayfront RWF Alternative

This Flood Protection through Placement of Sheet Pile Only and Bayfront RWF Alternative approach to flood protection was identified as Alternative 4 in the Constraints Analysis (2017). This alternative would install approximately 3,400 linear feet of sheet pile around the entire facility (all four sides, except the entrance road would be raised with fill to elevation 15) to an elevation above the FEMA flood zone and to account for sea level rise. In this alternative, the sheet piles would be FEMA certified. This alternative also includes the construction of the Bayfront RWF as presented in the proposed project, but it does not include the construction of the ecotone levee.

Change in Impacts – The Flood Protection through Placement of Sheet Pile Only and Bayfront RWF Alternative would lessen biological impacts of Impact BIO-2 Impacts to Special Status Fish and aquatic habitat and eliminate the need for certain biological resources mitigation measures related to the proposed project's ecotone levee construction, including Mitigation Measures BIO-2a, Dewatering of Tidal Sloughs, and BIO-2b, Relocation of Stranded Fish. Additionally, this alternative would reduce impacts related to introduction of invasive species and eliminate the need for Mitigation Measure BIO-7a Integrate Invasive Plant Management into the Ecotone Levee Restoration Plan.

The Flood Protection through Sheet Pile Only and Bayfront RWF Alternative would result in a reduced project footprint in sensitive salt marsh harvest mouse and salt marsh wandering shrew habitat (Impact BIO-3) in the northern levee area and would thus reduce the area requiring the implementation of BIO-3f Limit Vegetation Removal and BIO-3g Vegetation Removal Methods.

This Alternative would change views of the site by placing sheet pile, a non-natural, man-made feature, around almost the entire perimeter of the site at elevations three to five feet above existing grades and visible from both on land and from the water.

Potentially significant impacts to visual character or quality (Impact AES-1; increased impact), light and glare (Impact AES-2; same), special-status plants (Impact BIO-1; reduced impact), surface water quality of aquatic habitat (Impact BIO-2; reduced impact), sensitive species and

upland and tidal habitat impacts (Impact BIO-3; reduced marsh impact and Impact BIO-4; reduced marsh impact), burrowing owls (Impact BIO-5; reduced near term), nesting birds (Impact BIO-6; same), invasive plants (BIO-7; reduced), and jurisdictional waters (Impact BIO-8; reduced ecotone levee impacts) accidental discovery and monitoring (Impact CUL-1; same), geotechnical design (Impact GEO-1; same), and paleontological resources (GEO-2; same) would remain.

Impacts of Climate Change: Over the next 30 to 50 years with anticipated sea level rise, the existing wetlands along the FERRF's northern levee would be converted to open water habitat, and upland habitat would convert to tidal habitat until such time as sea water would begin to inundate the lower portions of the sheet pile under ever increasing durations as the seas rise. With a projected sea level rise of up to 1.9 feet by 2050 under a high emissions scenario, the majority of the existing salt marsh habitat on the north side of the FERFF will be permanently inundated, resulting in a permanent loss of wetlands in just 30 years. This is an impact of climate change on the Flood Protection through Placement of Sheet Pile Only and Bayfront RWF Alternative and is identical to the No Project Alternative. Construction of an ecotone levee, as included in the proposed project, would avoid the permanent loss of wetlands from projected sea level rise.

Obtain Objectives – This alternative would meet most of the project objectives including providing FEMA certified flood improvements to the site, maintaining the site's existing function and maximum storage, providing an RWF, improving the existing drainage ditch, and decommissioning the existing outfall/drainage system and rerouting on-site drainage. This alternative does not meet the stated objective to incorporate an ecotone levee to promote shoreline resiliency.

The Flood Protection through Sheet Pile Only and Bayfront RWF Alternative would not eliminate any identified potentially significant environmental impacts of the proposed project. All impacts would still remain potentially significant, though some would be reduced, and all but three identified mitigation measures would still be required. Mitigation Measures BIO-2a, Dewatering of Tidal Sloughs, BIO-2b, Relocation of Stranded Fish, and BIO-7a Integrate Invasive Plant Management into the Ecotone Levee Restoration Plan would not be required for this alternative. The Flood Protection through Sheet Pile Only and Bayfront RWF Alternative could still obtain most, but not all, of the project objectives.

It is imperative to note, as stated above, the effects of climate change at the site under this alternative would, over the long term, result in a complete loss of tidal wetland and upland habitat along the northern levee without the implementation of an ecotone levee. Therefore, this alterative is not considered the environmentally preferred alternative.

11.4.3 Reduced Size of Ponds to Accommodate Ecotone Levee Alternative

The Reduced Size of Ponds to Accommodate Ecotone Levee Alternative would utilize some or all of existing Ponds 2 and 3 to accommodate an ecotone levee and relocated northern perimeter levee. This Alternative could involve FEMA certified flood control through the placement of a sheet pile wall and/or a reconstructed engineered FEMA certified northern levee. Placement of sheet pile would still be required along the western perimeter of the site as well as fill at the

FERRF site entrance and northeastern corner at Bedwell Bayfront Park. The perimeter access road is required for pond access and maintenance, and therefore would be located along the adjusted northern perimeter. A Bayfront RWF would be accommodated on site. The overall area of disturbance would be greater than the proposed project; however, it likely would reduce or avoid the placement of fill in tidal slough and wetland habitat. In addition, reconstruction of the northern levee would likely increase the duration of construction.

Change in Impacts – The Reduced Size of Ponds Alternative would likely avoid or substantially lessen the placement of fill in the area north of the existing northern levee within wetland and tidal habitat and would thus result in a reduced project footprint in sensitive habitat. Therefore, the Reduced Size of Ponds Alternative would reduce the area requiring the implementation of BIO-3f, Limit Vegetation Removal, BIO-3g, Vegetation Removal Methods .

Potentially significant impacts to visual character or quality (Impact AES-1; same), light and glare (Impact AES-2; same), special-status plants (Impact BIO-1; same), surface water quality of aquatic habitat (Impact BIO-2; same), sensitive species and upland and tidal habitat impacts (Impact BIO-3; same and Impact BIO-4; same mitigation measures, reduced area of marsh impact), burrowing owls (Impact BIO-5; same), nesting birds (Impact BIO-6; same), invasive plants (BIO-7; same), jurisdictional waters (Impact BIO-8; same mitigation measures, reduced area of marsh impact), accidental discovery and monitoring (Impact CUL-1; same), geotechnical design (Impact GEO-1; same), and paleontological resources (GEO-2; same) would remain.

This Alternative would result in a new significant unavoidable water quality impact by removing wastewater storage capacity the District is contractually obligated to provide to prevent overflows of raw sewage from SVCW and from within the District's service area. By contract (currently in place through 2024), the District is obligated to reserve available capacity in Pond 1 for SVCW overflows. During a severe storm event, the SVCW could overflow raw wastewater into Pond 1. Pond 1 accommodates about 8 to 10 MG of raw wastewater storage. If the regional treatment plant were to shut down by some unforeseen reason during a storm event, it would not take long for Pond 1 to fill up and overflow into Pond 2, which has an available capacity of 10 MG. Such an event occurred about 12 years ago. The District is also bound by contract to have Pond 2 available as an overflow to Pond 1 for the Regional Treatment Plant flows. Reducing or eliminating Pond 2 could have significant water quality impacts to the San Francisco Bay as the redundant storage is necessary to prevent sewer overflows from entering the Bay. The Peak Hour Demand is 22 MGD, and together Ponds 1 and 2 currently provide this capacity while accommodating freeboard considerations. Even if, in the future, the FERRF is no longer contracted to provide overflow capacity to SVCW, the District is still obligated to prevent overflows within its service area, and the storage is needed for this function.

Impacts of Climate Change: Over the next 30 to 50 years with anticipated sea level rise, the existing wetlands along the FERRF's northern levee would be converted to open water habitat, and upland habitat would convert to tidal habitat. Provision of an ecotone levee under this alternative would preserve long-term habitat functions by providing areas adaptable to rising tides and maintaining upland habitat acreage in the long term under ever increasing sea levels. Additionally, climate change and the increased frequency of extreme weather events may also increase the number of occasions that Pond 1 and Pond 2 would be used to accommodate raw wastewater storage.

Obtain Objectives – This alternative would meet most of the project objectives including providing FEMA certified flood improvements to the site, incorporating an ecotone levee to promote shoreline resiliency, providing a Bayfront RWF, improving the existing drainage ditch, and rerouting on-site drainage. This alternative does not meet the stated objective to maintain the site's existing function and preserve maximum flow equalization storage.

The Reduced Size of Ponds to Accommodate Ecotone Levee Alternative would not eliminate any identified potentially significant environmental impacts of the proposed project. All impacts would still remain potentially significant, though some would be reduced, and all but two identified mitigation measures would still be required. Mitigation Measures BIO-2a, Dewatering of Tidal Sloughs, and BIO-2b, Relocation of Stranded Fish would not be required for this alternative. The Reduced Size of Ponds to Accommodate Ecotone Levee Alternative could still obtain most, but not all, of the project objectives. This alternative results in a new significant unavoidable water quality impact. Given that the Reduced Size of Ponds to Accommodate Ecotone Levee Alternative would introduce a new significant unavoidable environmental impact, this alternative is not considered to be the environmentally superior alternative under CEQA Guidelines Section 15126.6(e)(2).

11.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The purpose of the alternatives analysis is to identify project alternatives that "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project[.]" (CEQA Guidelines Section 15126.6(a)). The discussion above presents alternatives to the proposed project based on the identified potentially significant impacts.

The Proposed Project Alternative is considered the environmentally superior alternative. This alternative would allow the District to obtain all of the project objectives and preserve habitat functions on the northern levee under anticipated sea level rise conditions. Identified alternatives resulted in reduced severity of some impacts identified for the proposed project; however, the alternatives all introduced new significant impacts. Even though the project would result in the near-term loss of tidal wetlands from the construction of the ecotone levee, the project would implement mitigation measures to avoid significant impacts from the loss of tidal wetland habitat by restoring or preserving existing wetlands.

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CHAPTER 12 CEQA REQUIRED ASSESSMENTS

12.1 SIGNIFICANT AND UNAVOIDABLE IMPACTS

The analysis contained in Chapters 3 – 10, and 13 does not contain any identified significant impacts that cannot be reduced to less than significant levels through the implementation of mitigation measures. Therefore, this EIR does not identify any significant and unavoidable impacts.

12.2 GROWTH INDUCEMENT

Development of the North Bayshore area allowed under the 2016 ConnectMenlo General Plan Land Use Element and Circulation Element was approved prior to the proposed project's provision of recycled water to the area and therefore proposed development allowed by the Land Use Element was not contingent upon the provision of recycled water to off-set potable water use.

12.3 CUMULATIVE PROJECTS AND IMPACTS

CEQA requires that an EIR evaluate a project's cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of other related past, present, and reasonably foreseeable future projects. As set forth in the CEQA Guidelines, the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. As stated in CEQA, "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable" (Public Resources Code §21083(b)).

According to the CEQA Guidelines:

> "Cumulative impacts refer to two or more individual effects which, when considered together, are considerable and which compound or increase other environmental impacts.
>
> a. The individual effects may be changes resulting from a single project or a number of separate projects.
>
> b. The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable, foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (14 CCR §15355).

In addition, as stated in CEQA Guidelines, it should be noted that:

> "The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable" (14 CCR §15064(h)(4)).

A list of other major proposed projects proximal to the WBSD FERRF site was developed through searches of Menlo Park and City of Redwood City Planning Department.

The following projects were considered for the cumulative impact analysis:

Regional

- The SAFER Bay Project: Strategy to Advance Flood Protection, Ecosystems and Recreation along San Francisco Bay (SAFER Bay). The San Francisquito Creek Joint Powers Authority (SFCJPA) proposed a regional project for the construction of new and/or improved flood risk reduction features along the Bay shoreline from the Menlo Park/Redwood City border south to San Francisquito Creek.

Menlo Park

- The South Bay Salt Pond Restoration Project. Two-Phased, 15,100 acres of former salt-evaporation ponds restoration. (Multiple locations, specifically the Ravenswood Pond Complex).
- Bayfront Canal and Atherton Channel Flood Management and Restoration Project: 7.51-acre flood conveyance improvements.

Completed Projects

- 3639 Haven Ave: 394-unit apartments.
- 3645 Haven Avenue: 146-unit apartments.
- Menlo Gateway: 241,251 SF office / 250 room hotel.
- 162-164 Jefferson Drive: 259,920 SF office.
- 777 Hamilton Avenue: 195-unit apartments.
- 1200 Willow Road: 90 senior housing units.

Facebook-Specific Projects (located on Facebook campus)

- CitizenM Hotel: 240 room hotel - pending study session review
- MPK Building 23: 180,108 SF office - opened 2016.
- MPK Building 20: 433,555 SF office - opened 2015.
- MPK Buildings 21 & 22: 1,137,200 SF office / 200 room hotel (Building 21 is open, Building 22 is under construction).
- Facebook Willow Village (East of Willow Road, near intersection with Hamilton): 1,735 residential units, 1,750,000 SF office, 200,000 SF retail, 250-room hotel.

Proposed Eastern Bayfront:

- 1345 Willow Road: 140 multi-family units.

- 1350 Adams Court: 260,000 SF R&D.
- 1075 O'Brien Drive: 100,000 SF office R&D/Life Science.
- 1105 O'Brien Drive: 132,218 SF R&D/Life Science.

Proposed West Bayfront:

- Hotel Moxy 3723 Haven Avenue: 167 hotel rooms.
- Menlo Gateway 105-155 Constitution Drive: 495,052 SF office.
- 111 Independence Drive: 105 multi-family dwelling units.
- Menlo Portal Project (115 Independence Drive and 104-110 Constitution Drive): 327,970 SF, 335-unit apartments, and 34,819 SF office.
- Menlo Uptown: 141 Jefferson Drive, 180-186 Constitution Drive: 483 dwelling units / 2,000 SF commercial.

Cumulative impact analyses are provided for each environmental discipline in their respective chapters (Chapters 3 through 10, and 12), or below under Impacts Found to be Not Significant. The EIR has ***not identified any cumulatively significant impacts and no significant unavoidable impacts***.

12.4 IMPACTS FOUND TO BE NOT SIGNIFICANT

Using Appendix G to the CEQA Guidelines, the District has determined the proposed project would clearly result in no impact or a less than significant impact to the resources described below.

12.4.1 Agricultural and Forestry Resources

Convert Prime Farmland, Conflict with Williamson Act Zoning: The project area is located along the shoreline in the northern portion of the City of Menlo Park. The FERRF site is surrounded by baylands as well as a local park that was formerly a landfill. The FERRF site has road access, disturbed surfaces, and built facilities. This area including the proposed IPS and influent and distribution pipeline routes are not zoned for agricultural use under the Menlo Park General Plan, and implementation of the proposed project would not result in the conversion of Farmland to a non-agricultural use or result in the loss of agricultural land. The proposed project would not impact Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project site is mapped as "Urban and Built-Up Land," and entirely surrounded by "Other Land" on the 2014 San Mateo County Important Farmland Map developed by the California Department of Conservation (CDOC), Division of Land Resource Protection's Farmland Mapping and Monitoring Program (CDOC, 2016). The project site is not under a Williamson Act contract, nor is the project site mapped within the coastal zone (California Coastal Commission, 2018).

Forest or Timber Land: The site is not zoned as forest land, timberland, or timberland production zone, and would not convert forest land to a non-forest use.

The proposed project would have ***no impact*** and ***no cumulative impact*** on agricultural or forestry resources.

12.4.2 Energy

Construction activities associated with the proposed project would require the use of heavy-duty, off-road equipment and construction-related vehicle trips that would combust fuel, primarily diesel and gasoline. Heavy-duty construction equipment would be required to comply with CARB's airborne toxic control measures, which restrict heavy-duty diesel vehicle idling to five minutes. Since petroleum use during construction would be temporary and needed to conduct development activities, it would not be wasteful or inefficient.

Wasteful or Inefficient Energy Use: Once construction activities have concluded, the site would feature a new Bayfront RWF that would treat influent from the WBSD's service area. As described under Section 12.4.3.3, Impact Discussion, below, the "purple pipe" water provided by the new facility would have fewer imbedded GHG emissions (and energy consumption) associated with its treatment and supply, compared to the potable water that is currently supplied to properties the Bayfront RWF would provide service to. The WBSD estimates the proposed Bayfront RWF would save approximately 50 million gallons of potable water on an annual basis from having to be conveyed from Hetch Hetchy Reservoir and treated for use in the Bay Area (WBSD 2019). Although the proposed facility would consume more energy at the site than current conditions, it would not do so in a wasteful, inefficient, or unnecessary way. The project would have a less than significant impact on energy use.

Conflict with State or Local Plans: The proposed project would not conflict with a state or local plan for renewable energy or energy efficiency and there would be no impact.

Cumulative Impacts: The proposed project, as well as other on-going and planned projects in the San Francisco Bay Area, are well supplied by energy resources, including diesel and gasoline fuels, as well as electricity and natural gas. The project's cumulative impact on energy resources would be less than significant.

The proposed project would not result in a ***less than significant impact*** with regard to energy use and would have a ***less than significant cumulative impact***.

12.4.3 Greenhouse Gas Emissions

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as greenhouse gases (GHGs). This section provides information on the environmental and regulatory GHG setting pertaining to the proposed project and the amount of GHG that could be emitted by the project.

12.4.3.1 Environmental Setting

Many chemical compounds found in the earth's atmosphere exhibit a GHG property. GHG allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, some of it is reflected back towards space as infrared radiation (heat). GHG absorb this infrared radiation and trap the heat in the earth's atmosphere. GHG that contribute to climate regulation are a different

type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880) and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800's to 411 ppm in September 2020 (NOAA 2020). The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare. The six common GHG are described below.

- **Carbon Dioxide (CO_2)**. CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.
- **Methane (CH_4)**. CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.
- **Nitrous Oxide (N_2O)**. N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.
- **Sulfur Hexafluoride (SF_6)**. SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.
- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)**. HFCs and PFCs are generated in a variety of industrial processes. Although the amount of these gases emitted into the atmosphere is small in terms of their absolute mass, they are potent agents of climate change due to their high global warming potential.

GHG can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Most often, GHG emissions associated with projects are referred to in terms of metric tons of carbon dioxide equivalent, or $MTCO_2e$. Black carbon consists of particles emitted during combustion; although a particle and not a gas, black carbon also acts to trap heat in the Earth's atmosphere.

12.4.3.2 Regulatory Setting

The State of California has numerous regulations and executive directives aimed at reducing GHG emissions. In 2005, for instance, the governor issued Executive Order S-3-05, establishing statewide GHG emissions reduction targets. Executive Order S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels (CalEPA 2006). In 2006, Assembly Bill (AB) 32, the California Global Warming Solutions Act, was signed into law. AB 32 codifies the statewide GHG emission reduction targets and required CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline, which was approved in 2008 and updated in 2014 and 2017.

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, sets a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. By directing state agencies to take measures consistent with their existing authority to reduce GHG emissions, this order establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign Senate Bill (SB) 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target to reduce GHG emissions by 40 percent below 1990 levels by 2030 a requirement as opposed to a goal. AB 197 gives the Legislature additional authority over the CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the state's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

On December 14, 2017 CARB adopted the second update to the Scoping Plan, the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update; CARB 2017). The primary objective of the 2017 Scoping Plan Update is to identify the measures needed to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030), as established under Executive Order B-30-15 and SB 32. The 2017 Scoping Plan Update identifies an increasing need for coordination among state, regional, and local governments to achieve the GHG emissions reductions that can be gained from local land use planning and decisions. It notes emission reduction targets set by more than one hundred local jurisdictions in the state could result in emissions reductions of up to 45 million $MTCO_2e$ and 83 million $MTCO_2e$ by 2020 and 2050, respectively.

12.4.3.3 Impact Discussion

The BAAQMD maintains a 10,000 $MTCO_2e$ operational GHG threshold for stationary sources (BAAQMD 2017).[15] The 10,000 $MTCO_2e$ GHG threshold was established by the BAAQMD to align a project's GHG emissions with state-wide goals for 2020. Since the proposed project is estimated to become fully operational by 2024 (i.e., four years after 2020) at the very earliest, the

[15] The BAAQMD CEQA Air Quality Guidelines define stationary-source projects as, "land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate" (BAAQMD 2017).

10,000 $MTCO_2e$ threshold is not directly applicable to the proposed project. Instead, an interpolated project-specific goal of 6,000 $MTCO_2e$ is applied for the purposes of this analysis, since it takes the BAAQMD's recommended 2020 threshold and adjusts it downward for the State's next codified GHG reduction goal for 2030 (i.e., 40% below 1990 levels by 2030; SB 32).[16]

The BAAQMD has not adopted a threshold of significance for construction related GHG emissions. The BAAQMD's CEQA Air Quality Guidelines do, however, encourage lead agencies to quantify and disclose construction-related GHG emissions, determine the significance of these emissions, and incorporate BMPs to reduce construction-related GHG emissions. Accordingly, construction related GHG emissions are amortized over the lifetime of the proposed project (presumed to be a minimum of 30 years). This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc.

The proposed project would generate GHG emissions from both short-term construction and long-term operational activities. Construction activities would generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the project site during the activities presented in Table 2-2 and discussed in Section 4.3.3.1. Construction activities would cease to emit GHGs upon completion, unlike operational emissions that continue year after year until the Bayfront RWF constructed as part of the project closes or ceases operation. Once operational, the proposed project would generate GHG emissions from area, mobile, energy, water/wastewater use and treatment, solid waste, and wastewater treatment sources. GHG emissions from construction and operation of the proposed project were estimated using CalEEMod, version 2016.3.2, based on default data assumptions contained in CalEEMod, with the project-specific modifications described in Section 4.3.3.[17,18] In addition to the default sources estimated in CalEEMod, GHG emissions were also estimated separately for electricity consumption from fan and pump operation at the new Bayfront RWF, as well as potential N_2O emissions that could occur during evaporation of the Reverse Osmosis (RO) concentrate. The proposed project's estimated GHG emissions are shown below in Table 12-1.

[16] The 6,000 $MTCO_2e$/yr goal was developed by taking the 10,000 $MTCO_2e$/yr threshold, which was the threshold to reduce land us sector emissions back to 1990 levels and reducing it by 40 percent (10,000 $MTCO_2e$/yr * (1 - 0.4) = 6,000 $MTCO_2e$/yr). This linear reduction approach oversimplifies, but demonstrates the progress required to meet GHG reduction requirements under SB 32. The District is not adopting nor proposing to use 6,000 $MTCO_2e$ as a CEQA GHG threshold for general use; rather, it is only intended for use on this project as a means to provide context for whether the project would directly or indirectly generate GHG emissions that may have a significant effect on the environment.

[17] Emissions from fan and pump electricity consumption were estimated by multiplying the equipment's horsepower by the number of hours in a year (this assumes the equipment would operate continuously throughout the year), converting the annual power consumption (currently in horsepower-hours) to electricity units (i.e., watts), and multiplying through by the GHG intensity emission factors used for CO_2, CH_4, and N_2O in CalEEMod. See Appendix B for a list of these components and calculations.

[18] The annual N_2O emissions from wastewater processing were derived by taking the peak daily influent treated (million gallons per day), determining what the annual throughput would be, and then utilizing equations contained in the CalEEMod technical appendix to estimate N_2O emissions associated with wastewater effluent. See Appendix B for these calculations.

Table 12-1 Estimated Project GHG Emissions

Source	GHG Emissions (MT/YR)			
	CO_2	CH_4	N_2O	TOTAL[A]
Area	<0.0[B]	0.0	0.0	<0.0[B]
Energy	42.2	<0.0[B]	<0.0[B]	42.4
Mobile	7.7	<0.0[B]	0.0	7.7
Solid Waste	3.0	0.2	0.0	7.5
Water/Wastewater	5.2	0.1	0.0	8.2
Fans and Pumps	621.9	<0.0[B]	<0.0[B]	624.4
Effluent Evaporation	0.0	0.0	0.3	84.1
Sub-Total (Operational)	*680.1*	*0.3*	*0.3*	*774.2*
Amortized Construction	54.0	<0.0[B]	0.0	54.4
Total Project Emissions[C]	***734.1***	***0.3***	***0.3***	***828.6***
BAAQMD 2020 Threshold	--	--	--	10,000
Derived 2030 Emission Goal	--	--	--	6,000
Exceeds Threshold / Goal?	--	--	--	No

Source: MIG 2020 (see Appendix B of this EIR)

Note:

(A) $MTCO_2e$

(B) <0.0 does not mean emissions are zero; rather, it means emissions are greater than zero, but less than 0.05.

(C) Slight variations may occur due to rounding.

As shown in Table 12-1, the proposed project's GHG emissions would be substantially below the BAAQMD's 10,000 $MTCO_2e$ threshold, as well as the derived 6,000 $MTCO_2e$ project-specific goal that demonstrates progress toward meeting future state GHG emission reduction goals. It should be noted these emission estimates do not include potential methane emissions that could be generated from Bayfront RWF wastewater processing, because specific design information is not available for the facility at this time; however, even if some methane emissions were to be generated by the wastewater treatment process, these emissions would be not be substantial enough to cause the project to exceed either the 10,000 $MTCO_2e$ threshold or the 6,000 $MTCO_2e$ project-specific goal. The project would have a less than significant impact on GHG emission.

Conflict with Plan or Policy: The proposed project also would not conflict with or obstruct implementation of a plan, policy, or regulation for the purposes of reducing GHG emissions. Nearly all the specific measures identified in the 2017 Climate Change Scoping Plan would be implemented at the state level, with CARB and/or another state or regional agency having the primary responsibility for achieving required GHG reductions. The proposed project, therefore, would not directly conflict with any of the specific measures identified in the 2017 Climate Change Scoping Plan.

The project would also not conflict with Plan Bay Area 2040, since the project would generate a negligible amount of trips, and is not the type of development from which Plan Bay Area 2040 is

focused on reducing vehicles miles travel (i.e., primarily residential and commercial/retail projects). Furthermore, the proposed project would not conflict with the BAAQMD 2017 Clean Air Plan. As described in Section 4.3.2, the proposed Bayfront RWF would be consistent with the control measures in the 2017 Clean Air Plan, and would be subject to permitting by the BAAQMD, at which time specific sources of GHG emitted from the facility would be evaluated and equipment incorporated, if necessary, to capture and/or abate GHG emission from the wastewater treatment process. It is currently anticipated that this equipment would not be required, since the proposed project is not anticipated to produce substantial evaporative emissions (methane or otherwise) (Freyer and Laureta 2020).

Although not quantified or related to a plan, policy, or regulation for the purposes of reducing GHG emissions, it is worth noting that operation of a new Bayfront RWF reduces the amount of imbedded GHG emissions associated with potable water consumption in the area of Menlo Park the proposed Bayfront RWF would serve. Whereas the Bayfront RWF's service area is currently served by potable water service only, the proposed project would result in the availability of recycled water. The recycled water supplied by the proposed project would have a lower embedded GHG emission content associated with it than the existing potable water for two reasons. First, it would reduce the amount of energy needed to transport the water to the Bay Area from a regional source (e.g., from Hetch Hetchy Reservoir). As estimated by the WBSD, the proposed Bayfront RWF could reduce the quantity of water sourced from Hetch Hetchy Reservoir by approximately 50 million gallons on an annual basis (WBSD 2019). Second, it would reduce the amount of energy required to treat the consumed water, since recycled water does not have to be treated to the same degree as potable water and therefore consumes less energy during the treatment process (U.S. EPA 2017). Therefore, the proposed project could help reduce GHG emissions associated with the water consumed within its service area.

Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable. As described above, the proposed project's unmitigated GHG emissions would be below the BAAQMD's 2020 threshold and 2030 project-specific goal. The proposed project also would not conflict with or obstruct implementation of a plan, policy, or regulation for the purposes of reducing GHG emissions. The proposed project would not result in cumulatively significant impact with regard to GHG emissions, and there would be no impact regarding conflicting with plans, policies, or regulations.

The proposed project would not have a significant impact with regard to GHG emissions and would not have a cumulative impact. This impact would be ***less than significant*** with regard to GHG emissions.

12.4.4 Hazards and Hazardous Materials

The use and storage of hazardous materials are regulated at the local, state, and federal levels. The U.S. Environmental Protection Agency (U.S. EPA) sets national standards and delegates to States and local governments the responsibility for issuing permits and monitoring and enforcing compliance. At the state level, the Department of Toxic Substances Control (DTSC) regulates

cleanup of hazardous substances and wastes, oversees remedial investigations, protects drinking water from toxic contamination, and warns the public that could potentially be exposed to listed carcinogens. The RWQCB protects surface and groundwater quality from pollutants discharged or threatened to be discharged to the Waters of the State. The RWQCB issues and enforces the NPDES permits and regulates sources of groundwater contamination. The California Highway Patrol (CHP) /California Department of Transportation (Caltrans) have primary regulatory responsibility for the transportation of hazardous wastes and materials.

The FERRF property contains three open wastewater storage (flow equalization) basins, and existing warehouse, the remnants of a decommissioned WWTP, and a small native plant nursery operated by Save the Bay. Currently the FERRF does not require a Hazardous Materials Business Plan (HMBP) as there are no current operations on site that require such a plan.

Transport, Use, and Disposal of Hazardous Materials:

Construction: Project construction would occasionally require the routine transfer, use, storage, or disposal of hazardous materials. Chemicals that would be transported to and/or from, and used during construction may include fuels, solvents, paints, chemical coatings, lubrication oils, and grease. The District and/or contractors would comply with District Standard Specification C2.11 Stormwater Pollution Prevention (see Table 2-4) and with all relevant federal, State, and local statutes and regulations related to transport, use, storage, or disposal of hazardous materials during construction, and all materials designated for disposal would be evaluated for appropriate Federal and State hazardous waste criteria. The project is also required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ) which requires the filing of a Notice of Intent with the SWWRCB and preparation of a SWPPP.

Emissions associated with combustion engines during construction of the project could result in the emission of diesel particulate matter, which is considered a toxic air contaminant (TAC) by the BAAQMD. These air emissions are addressed in Section 4.3.5, Air Quality.

Operation: Operation of the Bayfront RWF would require the long-term routine transport and use of hazardous materials and substances for treatment, cleaning, and other operation and maintenance purposes. Chemicals used for Bayfront RWF operations include sodium hypochlorite, citric acid, aqueous ammonia, sodium hypochlorite, sulfuric acid, RO anti-scalant, sodium hydroxide, sodium bisulfite, ferric chloride, RO low pH cleaner, and RO high pH cleaner.

A new HMBP would be created for this site for Bayfront RWF operations. All of the chemicals would be stored in double containment to ensure protection in the event of an accidental spill, and the depth of the tanks relative to the surrounding terrain would afford extra protection in the event of an accidental spill. The chemicals listed above would be transported by truck to the Bayfront RWF. The proposed project would result in chemical delivery truck trips of approximately 24 trips per year. Separate from the proposed project, the District is in the process of permitting the constructing a new metal warehouse building located to the north of the Bayfront RWF and adjacent to an existing metal warehouse building (new metal building not

part of this project). The building would pre-fabricated and placed on a concrete slab and used to store vehicles, maintenance equipment and tools as their current warehouse is at capacity.

The project would have a ***less than significant impact*** on the transport, use or storage of hazardous materials.

Accident Conditions: Hazardous materials and handling are conducted according to state and federal requirements and therefore would not pose a significant risk to nearby receptors. The Bayfront RWF would have numerous overflow and passive bypass abilities to prevent spills onsite. Additionally, SCADA alarms will alert operators to scenarios where immediate response is needed. In case of loss of power, the operator will be notified and begin standby generator startup procedure. Overall, through compliance with relevant regulatory requirements and operational alarms, the proposed project would not result in a significant impact regarding hazardous materials handling, or accident conditions. This impact would be less than significant.

Proximity to Schools: The FERRF site is not within a quarter mile of a school. However, the distribution pipeline passes within a quarter mile of multiple schools including: The TIDE Academy, located at 150 Jefferson Drive, which is south of Constitution Drive, Belle Haven School, located at 415 Ivy Drive, which is approximately 600 feet south of where the proposed pipeline would meet the existing pipeline at Chilco and Hamilton, and Midpeninsula High School, located at 1340 Willow Road, which is approximately 900 feet south of the pipeline's proposed terminus at the intersection Hamilton Avenue and Willow Road. While the schools are located near to the pipeline, the pipeline would transport recycled water, and no hazardous materials use, transport, or storage is proposed. Standard BMPs are included in the project for the safe use, handling, and storage of hazardous materials during construction of the pipeline. Project impacts related to hazardous materials handling within a quarter mile of a school are ***less than significant*** and would have ***no cumulative impact***.

Government Code Section 65962.5 Hazardous Materials Sites: A search of the Department of Toxics Substances Control (DTSC) Envirostor database revealed the project site was previously subject to a screening evaluation by the DTSC, which was completed in 1987. The screening evaluated noted leached metals and uncategorized contaminants as pollutants of concern. The ponds were excavated, and the materials were disposed of at a landfill. The ponds have since been lined and have continued operation. The current status is "no further action" as of September 1985. Standard BMPs for the safe use, handling, and storage of hazardous materials during construction and operation of the project are anticipated. All spoils from excavation activities would be tested, and contaminated spoils would be hauled to a suitable offsite disposal area in compliance with federal, state, and local regulations.

Additional searches of the DTSC's Envirostor and the SWRCB's Geotracker databases revealed several sites mapped near to the FERRF site and along the distribution pipeline. These include:

- Bedwell Bayfront Park/Marsh Road Landfill (L10008021218)- Closed with monitoring as of September 1993; Potential contaminants of concern: Acetone, arsenic, benzene, copper, cyanide, DCA, DCE, ethylbenzene, mercury, nitrate, petroleum.

- 3723 Haven Ave Development (T10000012491) - Open: Assessment and Interim Remedial Action as of May 30, 2020. Potential contaminants of concern: Benzene, Dichloroetheylene, trichloroethane, and vinyl chloride.
- 188 Constitution Drive. Menlo Tech (SL0608198685) – Closed since January 25, 2005. Potential contaminants of concern: Copper.
- 188 Constitution Drive. MenloTech, Inc. (71002456, 70000160) – Open Cleanup as of October 21, 2019. Potential contaminants of concern: Copper and Compounds, lead, total chromium (1:6 ration CR VI:CR III).
- 300 Constitution Drive. TE Connectivity (CAD009125527) – Closed with monitoring as of September 26, 2012. Potential contaminants of concern: PCBs.
- 1470 Chilco. UPRR Easement, Former (SL0608151735) – Closed as of October 27, 2004. Potential contaminants of concern: Other petroleum.
- 507/511 Hamilton Avenue. Sunset Heading and Air Conditioning UST (T0608179055 and SL0608109540) – Closed as of October 27, 2004. Potential contaminants of concern: Gasoline, chlordane, PCBs.
- 519 Hamilton Avenue. Alaniz/Tim Hilleary Construction (SL0608139819) – Closed as of October 27, 2004. Potential contaminants of concern: Other insecticides, pesticides, fumigants, herbicides, waste oil including, motor, lubricants and hydraulic.
- 525 Hamilton Avenue. Tollner Painting (T0608143678) – Closed as of October 27, 2004. Potential contaminants of concern: Gasoline.
- 535 Hamilton Avenue. Former Segale Brothers Wood Products (SL0608119551) - Closed as of January 25, 2005. Potential contaminants of concern: Lead.
- 551/555 Hamilton Avenue. Roofing Contractor (SL0608164334) – Closed as of October 27, 2004. Potential contaminants of concern: Gasoline.
- 755 Hamilton Avenue. Allen Equipment Company (T0608100013) – Closed as of March 12, 1996. Potential contaminants of concern: Diesel.
- 735 Hamilton Avenue. Former Hollyburne Avenue (T10000005311) – Closed as of August 26, 2016. Potential contaminants of concern: Arsenic, copper.
- 777 Hamilton Avenue. Former Undeveloped Lot (T10000005313) – Closed as of August 26, 2016. Potential contaminants of concern: PCBs.
- 851 Hamilton Avenue. Former West Coast Screen (T10000005607) – Closed as of January 8, 2015. Potential contaminants of concern: Gasoline.
- 1401 Willow. Warehouse/Colombo Bakery (T0608100615) – Closed as of August 16, 1994. Potential contaminants of concern: Gasoline.

The FERRF facility itself, as well as a number of sites in the vicinity, are listed on databases compiled pursuant to Government Code Section 65962.5. Many of the closest site investigations (including the FERRF and the Bedwell Park Landfill) are listed as closed, indicating that they have been investigated and/or remediated to the satisfaction of the lead responsible agency (i.e., RWQCB, DTSC). Because of the FERRF site's designation as "closed" since September 1985,

project impacts related to being on a list compiled pursuant to Government Code 65962.5 (Cortese List) are considered ***less than significant*** and would have ***no cumulative impact***.

Airport Land Use Plan: There are no public or private airstrips or airports within two miles of the FERRF, nor is the FERRF located within any noise-impacted or other planning area associated with an airport land use compatibility plan. The project is closest to the Palo Alto Airport (approximately 3.7 miles southeast of the FERRF boundary). The project site is not within the Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace (Figure 6), Airport Safety Zones (Figure 7) or Airport Influence Area (Figure 8). The project is within the planning area for the San Carlos Airport which is a general aviation facility located approximately four miles northwest of the project site (City County Association of Governments of San Mateo County [C/CAG] 2015).

According to the San Carlos airport's Airport Land Use Compatibility Plan (ALUCP), the project is within airport influence Area A (C/CAG 2015, Exhibit 4-7). The ALUCP specifies development compatibility with the San Carlos Airport based on land use type and airspace proximity. The project is outside the Zone 6 boundary (traffic pattern zone), and project use is compatible with the San Carlos Airport (ALUCP, Table 4-4 Safety Compatibility Criteria). Based on the distance of the project from the airport runway and the compatibility of the project use, the project is consistent with the ALUCP. Therefore, the project impact and cumulative impact is considered ***less than significant***.

Adopted Emergency Response Plan: The County of San Mateo Emergency Office of Emergency Services is responsible for providing emergency services within the County and implementing the Emergency Operations Plan (San Mateo County Sheriff's Office 2015). Emergency response would be provided by the City of Menlo Park Police and Fire Departments. None of the project elements would have an effect on the County or City emergency operations plan. The City also has adopted an Emergency Operation Plan that assesses the potential losses associated with inadvertent or intentional releases of hazardous materials that could affect the public and identifies responsibilities for city departments and coordination with San Mateo County and regional emergency response providers.

Emergency vehicle access and access to private properties would be maintained during construction, and a Traffic Control Plan would be implemented to maintain safe vehicular, pedestrian and bicycle access to Bedwell Bayfront Park and all project areas at all times during construction. Therefore, the proposed project would result in a ***less than significant impact*** and ***less than significant cumulative impact*** to adopted emergency response plans or emergency evacuation plans.

Wildfire Hazards: As stated above in Section 12.4.11, Wildfire, the FERRF site and distribution pipeline is not within a designated Fire Hazard Safety Zone (FHSZ), and there are no FHSZ in the project vicinity. The facility would operate autonomously, and the project would not expose people or structures to a significant risk of loss due to fires. Therefore, the proposed project would result in ***no impact*** and ***no cumulative impact*** related to wildland fire hazards. For more information, see Section 12.4.11, Wildfire.

12.4.5 Mineral Resources

Mineral Availability: The San Mateo County General Plan (1986) identified the project area as a mineral site for salines. Salines are extracted annually from the seawater of the Bay to produce salt. Salt is recovered by evaporation of the Bay water in shallow ponds created from the marshlands along the Bay (BCDC, 2005). While salt evaporation ponds are located both east and west of the FERRF site along the Bay shoreline, the proposed project would not impact the functioning of these offsite resources or adversely affect saline production. There would be ***no impact*** regarding mineral production.

Mineral Resource Recovery Site: There are no active known mineral resource recovery sites located on or near the project site, and the proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (CDOC, 1983). The proposed project would have ***no impact*** and ***no cumulative impact*** regarding mineral resources or mineral availability.

12.4.6 Population and Housing

Induce Population Growth or Displace Housing: The project would create approximately 86 construction jobs (WBSD, personal communication), with at least 60 of those jobs needed during construction of the Bayfront RWF. It is anticipated that regional labor would be available to meet the construction workforce needs and during construction activities, there would be no population growth or increase. Maintenance of the Bayfront RWF would be conducted by one person for approximately two hours daily. The facility would be autonomous so there would be no operational employees present at the site full time.

While the project would not induce substantial population growth in the area directly (e.g., by proposing new homes and businesses), the project could indirectly (e.g., through the provision of recycled water), support future population growth by freeing up the potable water supply for new development. According to the 2016 ConnectMenlo General Plan Land Use and Circulation Element Update, the population increase in Menlo Park has been calculated and estimated at 15% growth between 2015-2040. Additionally, the project would support the growth policy to implement facilities and services to meet the needs of Menlo Park through increasing use of reclaimed water.

There is no housing proposed as part of the project, and the project would not displace any existing housing, necessitating the construction of replacement housing elsewhere. Therefore, the project impacts and cumulative impacts on population and housing would be ***less than significant***.

12.4.7 Public Services

Substantial Physical Impacts Associated with the Provision of New Governmental Facilities (Police, Fire, Schools, Parks, Other Facilities): The project is located in an urban area that is served by local fire, police, and public facilities. The site is equidistant between Redwood City Fire Station #11, located at 1091 Second Avenue, and Menlo Park Station #77 located at 1467 Chilco Street. The Menlo Park Police Department is located at 701 Laurel Street and would serve the project site.

The proposed project includes development of a recycled water facility, IPS, and influent and distribution pipelines and levee improvements. The project would not change existing demand for public services (e.g., fire and police, schools, parks, or libraries) because no population growth is expected from the proposed project. In addition, the facility would be autonomous and would only require one person daily to inspect the facility for maintenance needs for approximately two hours. Due to the facility's autonomy, the project would not substantially increase the need for new staff from any of public protection services entities (e.g., police and fire). No new residential housing is proposed as part of the project, therefore there would be no impacts or cumulative impacts to local schools or local parks. Temporary impacts to recreational uses at Bedwell Bayfront Park are addressed below, under Section 12.4.8, Recreation.

During construction, while workers are onsite, there could potentially be a temporary increase in demand for police and fire services. Temporary increases in demand would occur during construction of the levee improvements, which is anticipated to begin in early 2022 (pending receipt of all required permits), and construction of the Bayfront RWF, which is expected in early 2023. The construction schedule may change depending on the timing and availability of future funding. Operation of the project would not change the demand for any of the public services and would not require additional equipment or resources for those public service providers. The project impacts and cumulative impacts on public services would be **less than significant**.

12.4.8 Recreation

The site is adjacent to several recreational opportunities, including the City of Menlo Park's Bedwell Bayfront Park which adjoins the FERRF site to the south and east, a segment of the Bay Trail in Bedwell Bayfront Park, and potentially water-based recreation available to users of small water craft (kayaks, canoes, paddleboards) in the bay and adjacent sloughs.

Bedwell Bayfront Park is approximately 160 acres in size and was constructed on top of a closed sanitary landfill that had been operated by Menlo Park. The park supports open space uses such as hiking, running, bicycling, dog walking, bird watching, kite flying, and photography. Park facilities include bike and pedestrian trails, benches, restrooms and parking areas. Closed landfill infrastructure that remain operational at the site include the landfill gas collection and flare system and leachate monitoring network. Most of these landfill facilities are located underground, with the exception of the flare facility and above ground appurtenances (monitoring wells, sumps, etc.) associated with the gas collection and leachate monitoring networks.

The park contains a relatively flat 2.3-mile section of the Bay Trail around the perimeter of the park, providing a loop trail beginning and ending at the Park's entrance near Bayfront Expressway and Marsh Road. The Bay Trail is a bicycle and pedestrian trail that, when finished, will allow continuous travel around the shoreline of the San Francisco Bay. The interior of Bedwell Bayfront Park has elevated topography with small hills because of the closed landfill and some trails offer steep grades leading to several viewpoints. Most of the trails are unpaved.

Adjacent to the north of the site is Westpoint Slough, and to the west is Flood Slough. Both sloughs are accessible by non-motorized crafts (paddle boards, non-motorized boats, kayaks,

etc.) as part of the Bay Water Trail. This network is accessed by a launch point approximately one-mile northwest of the project site at Westpoint Harbor and accesses the sloughs around the site.

The Bay Trail section within Bedwell Bayfront Park is also a designated Class I Bikeway, which provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross flow minimized. The FERRF site is accessed via Bayfront Expressway, which has Class I bike facilities as well. Following the off-site distribution pipeline, where the pipeline is existing under Chilco Street (at Constitution Drive), there is a Class II Bike Lane, which provides one-way bike travel (Bike Lane). Constitution Drive and has Class II bike lanes. Beyond Chilco Street, there are no other formalized bike facilities along the distribution pipeline or the distribution pipeline's terminus at the intersection Hamilton Avenue and Willow Road.

Increase Use of Existing Parks or Construction/Expansion of Park Facilities: The project proposes storm drain improvements along the northeastern portion of the FERRF site that conveys stormwater from Bedwell Bayfront Park and discharges to Westpoint Slough. These activities would require temporary closure of the Bay Trail while improvements are made. The anticipated closure of the Bay Trail is one to two months, but the public could continue to access other trails within Bedwell Bayfront Park during that time. No permanent impacts are anticipated, and a traffic control plan would be created to clarify and guide traffic (see Section 12.4.9, Traffic and Transportation), including pedestrian and bicyclists within the park, and public rights-of-way during construction. Project maintenance and operation would not impact these recreational facilities.

Project implementation does not affect population or housing in the area; therefore, it would not result in increased use of existing neighborhood or regional parks or other recreational facilities such that significant physical deterioration of the facility would occur or be accelerated. Project impacts and cumulative impacts to recreation would be ***less than significant***.

12.4.9 Transportation

Transportation impacts are limited to construction-related traffic because project operation would only require one employee to check the site once daily. Project construction would generate traffic from construction workers, materials delivery and off-haul, and soil import/export. The Bayfront RWF will be an autonomous facility and monitored remotely with operational trips associated with maintenance personnel and materials deliveries. As part of the project Best Management Practices (BMPs) (see Table 2-4), the District is required to prepare a Traffic Control Plan to control the movement of equipment and materials to the FERRF site and protect the safety of the public using the surrounding open spaces.

Roadway Infrastructure: The primary access routes to the FERRF site are the US 101 and Bayfront Expressway (SR 84), via Marsh Road. North of SR 84 is the Marsh Road entrance to Bedwell Bayfront Park, which includes off- and on-ramps between US 101/Marsh Road and SR 84/Marsh Road in Menlo Park. Traffic volumes along the intersection of US 101 and SR 84, (approximately 3,500 feet south of the site) have seen an increase in traffic volumes related to Bayfront development. According to the Bayfront Canal and Atherton Channel Flood

Management and Restoration Project Initial Study/Mitigated Negative Declaration from July 2019 the Projected Average Annual Daily Traffic along this segment of SR 84 was estimated be approximately 69,000 vehicles by 2030 (County of San Mateo, 2019). The tops of the levees provide internal access through the site.

Circulation within the project site is provided by the levees which are accessible only to service vehicles for operations and maintenance activities at the FERRF site and are not open to the public.

Below is a list of relevant roadways in the project area:

- US 101 is a ten-lane interstate highway providing north-south access to bayside San Francisco Peninsula drivers.
- State Route 84/SR 84 (Bayfront Expressway) is a six-lane, east-west Expressway that connects the Peninsula to the east via the Dumbarton Bridge.
- Willow Road is an arterial four-lane roadway in the vicinity of proposed project improvements and provides north-south access through the City and provides access to the Dumbarton Bridge and the East Bay.
- Marsh Road is an east-west roadway that connects Bayfront Expressway with US 101 and Middlefield Road. Marsh Road has six motor vehicle lanes between Bayfront Expressway and US 101, and four motor vehicle lanes between US 101 and Fair Oaks Avenue. Marsh Road narrows to two lanes between Fair Oaks and Middlefield Road. There are no bicycle lanes on Marsh Road.
- Chilco Street is an east-west roadway with two lanes that connects Bayfront Expressway with the adjacent Belle Haven neighborhood. Bicycle lanes are provided on the portion of Chilco Road between Bayfront Express ay and the Dumbarton rail tracks. There are no sidewalks on the portion of Chilco Road between Constitution Drive and the Dumbarton rail tracks.
- Constitution Drive is a Mixed-Use Collector parallel to the Bayfront Expressway. It is a two-lane road with Class II bike lanes.
- Hamilton Avenue is a two-lane local road that has no bike facilities.

Transportation Facilities: There is a free commuter shuttle, the M3-Marsh Road Shuttle, operating between the San Mateo Transit District's Dumbarton Rail Corridor's Menlo Park station and the Marsh Road-area business parks including Constitution Drive, Chrysler Drive, Commonwealth Way, and Jefferson Drive in the vicinity of the proposed project improvements. The shuttle operates Monday through Friday, in the morning from 7:00 am to 10:30 am, and in the afternoon from 3 pm to 6 pm (Note: shuttle service and hours of operation may have changed as a result of COVID-19). There are several stops located along the distribution pipeline route or near the proposed IPS including the following locations:

- 110 Constitution Drive;
- Constitution Drive and Chrysler Drive;

- Constitution Drive and Chilco Street; and
- 3760 Haven Avenue.

The Traffic Control Plan developed for the project would coordinate construction activities in the area to maintain shuttle access to these locations, as well access for emergency vehicles operating out of the existing Menlo Park Fire Station #77 located on Chilco Street at the railway crossing. There are no other transit facilities in the project area.

Areas around the FERRF site are accessed by bicycle and pedestrian facilities, via the San Francisco Bay Trail, which runs parallel to SR 84 and around Bedwell Bayfront Park in the project area. Bedwell Bayfront Park is located at the end of Marsh Road and provides a network of bike paths and walking trails, ranging from old paved landfill roads, to unpaved bike/pedestrian paths, to narrow footpaths. Bedwell Bayfront Park also provides public recreational trails that overlook the FERRF and the Bay, the managed salt ponds and parts of the Don Edwards National Wildlife Refuge. There are bike lanes and hiking trails throughout the project area and along the distribution pipeline.

No permanent impacts would occur with regards to bike or pedestrian facilities. Temporary impacts would be temporary for the duration of construction.

Plan Consistency: Once construction on the site is complete and the Bayfront RWF is operational, the project would only generate one daily trip due to the FERRF being autonomous. The facility would be operated by one staff person to perform system checks and maintenance for approximately two hours per day with occasional delivery supplies or equipment maintenance.

Construction: During construction, there could be temporary disruptions and minor delays to vehicles, pedestrians, and bicyclists entering or exiting Bedwell Bayfront Park. The primary access route to the FERRF project site would be from Marsh Road at the entrance to Bedwell Bayfront Park, including the intersections of U.S. 101 off- and on-ramps/Marsh Road and SR 84/Marsh Road.

Table 2-4 in Project Description includes a standard BMP that the District and or it's contractor(s) shall prepare a Traffic Control Plan for construction activities. The BMP mandates that "Whenever the Contractor's operations affect normal conditions for traffic or for the public, the Contractor shall furnish, erect and maintain, at his expense, all fences, barricades, lights, signs and other devices necessary to prevent accidents or damage or injury to the public."

The project would create approximately 86 construction jobs, with at least 60 of those jobs needed during construction of the Bayfront RWF, as shown in Table 12-2. It is anticipated that regional labor would be available to meet the construction workforce needs.

Per Menlo Park Municipal Code section 8.06.040 Noise, Construction hours are permitted to occur between 8:00 a.m. and 6:00 p.m., Monday through Friday. No construction would occur on Saturday or Sunday.

Table 12-2 Summary of Project Construction Phases, Duration, and Equipment

Construction Activity	Months	Typical Equipment(A)	Workers(B)
1. Sheet Pile Installation	1	Excavator (1), Loader (1), Dozer (1), Water Truck (1), Auger Rig (1), Vibrational Hammer/Pile Driver (1)	10
2. Levee/Ecotone Levee and storm drain improvements	1 to 2	Excavator (1), Loader (1), Dozer (1), Water Truck (1), Roller (1), Backhoe (1), Vibrational Hammer/Pile Driver (1)	8
3. FERRF entrance/Marsh Road grade and utilities installation	3 to 6	Excavator (1), Loader (1), Dozer (1), Water Truck (1), Roller (1)	8
4. Recycled Water Treatment Plant	18	Excavator (2), Loader (2), Dozer (2), Water Truck (1), Roller (1), Mobile Crane (1), Impact or Vibrational Hammer / Pile Driver (1)	60
(D) The typical equipment list does not reflect all equipment that would be used during the construction phase. (B) Worker numbers are approximate and describe maximums for the noted phases			

Construction is planned to be sequential, and no phases would overlap. In total, the project would create approximately 86 construction jobs over the course of 27 months. The project would generate approximately 4,236 trips during project construction. The District estimates the project would require the import of approximately 32,250 cubic yards of fill for the levee improvements and raising grades in and around the site.

The traffic control BMP states that the plan "should consider the daily volume of on-haul, timing of trucks to limit/minimize hauling activities during peak traffic hours and address potential conflicts with recreational users at Bedwell Bayfront Park." Detours established during construction around active work areas would be temporary. Project impacts and cumulative impacts related to programs plans, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities are ***less than significant***.

CEQA Guidelines section 15064.3 subdivision (b) - Vehicle Miles Traveled: Per CEQA Guidelines section 15064.3(c) (Applicability), the provisions of section 15064.3 are applicable as of July 1, 2020. The Menlo Park City Council approved the VMT thresholds for incorporation into Transportation Impact Analysis (TIA) guidelines on June 16, 2020. The FERRF facility is autonomous and would generate two trips per day from the employee visiting the site for maintenance and operation. An additional 24 trips per year are anticipated for chemical deliveries. The two employee trips per day and 24-trips per year for chemical deliveries is below the 100 trips per day VMT screening criteria, and project impacts and cumulative impacts related to VMT would be ***less than significant***.

Emergency Access: Construction activities associated with the project would not affect service operations throughout the area, and the site would continue to be served for emergency response. All proposed roadway improvements have been designed for adequate site distance and emergency vehicle access (turning radii, etc.). In addition, the City would review fire department access during the encroachment permit process. The FERRF site is routinely used by police and fire crews during Urban Shield practice sessions and were adequate for the largest emergency response vehicles. The District also performs class A Commercial Driver's License training on the site and have found ample room for turning and backing up. The project could result in temporary lane or road closures, or otherwise substantially increase traffic on adjacent roadways, however, access for emergency vehicles and residents would be allowed and maintained throughout construction, therefore, impacts and cumulative impacts on emergency access would be ***less than significant***.

12.4.10 Utilities

Wastewater. The District provides wastewater collection and conveyance services for unincorporated San Mateo and Santa Clara counties, as well as the City of Menlo Park. The District conveys raw wastewater, through the Menlo Park Pump Station and force main, to the SVCW treatment facility in Redwood City for treatment and discharge to deep-water outfalls in the San Francisco Bay. Discharge of solids to SVCW from the proposed project would be in compliance with the SVCW NPDES permit, as discussed in Chapter 8, Hydrology and Water Quality. The proposed project would not cause SVCW to exceed the wastewater treatment requirements of the RWQCB and therefore the project impact and cumulative impact are ***less than significant***.

Water: The proposed project is the construction of levee improvements and a new Bayfront RWF, including influent and distribution pipelines to serve new recycled water customers. Water service is required to support a single restroom and lab facilities within the Bayfront RWF. The site is currently served by a 2-inch water line which is connected to a six-inch water main outside the FERRF site. The City of Menlo Park has indicated the site will require a 6-inch water line for fire suppression, therefore the existing 2-inch line will be replaced with a 6-inch water line. Implementation of the proposed project does not require new off-site water facilities or expansion of existing facilities beyond those evaluated in this EIR. The project impact and cumulative impact are ***less than significant***.

Stormwater. The FERRF site would have on site drainage routed to one of the existing site ponds, or to the existing storm drain ditch along the south and east perimeter of the site. No improvements are required to the local storm drain system.

An on-site stormwater collection system will be constructed for the Bayfront RWF in compliance with the San Francisco Bay MS4 Permit and the District's standard construction practices. Under the MS4 provisions, all projects are responsible for implementing low impact development (LID) techniques to address stormwater runoff through source control, site design, and stormwater treatment measures. Thus, impacts are expected to be less than significant. See Chapter 8, Hydrology and Water Quality, for additional information. The project impact and cumulative impact are ***less than significant***.

Solid Waste Generation. The project would generate solid waste during the construction phase which would either be recycled or disposed of at an appropriate solid waste handling facility. Solid waste from project activities would likely be hauled to Ox Mountain Landfill in unincorporated San Mateo County, which can accept up to 3,598 tons per day (CalRecycle 2020), has an estimated remaining capacity of approximately 18 million cubic yards, and anticipated closure date (based on existing rates of disposal, density, and cover usage) is 2038 (Republic Services 2019).

This projected rate of disposal would not exceed the permitted daily acceptance levels at Ox Mountain Sanitary Landfill and represents only a fraction of the daily maximum. The landfill would have sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs. The project impact and cumulative impact are ***less than significant***.

Solid Waste Federal, State and Local Regulations: Solid waste would be disposed of in accordance with all applicable federal, state, and local statutes and regulations. Once constructed, operation and maintenance activities would generate minimal solid waste. For this reason, implementation of the proposed project would not exceed permitted capacity at local landfills. The project impact and cumulative impact are ***less than significant***.

12.4.11 Wildfire

Wildfire Exacerbation and Associated Infrastructure: The site is not located in a Fire Hazard Severity Zone (FHSZ), per ABAG's Hazard Viewer Map (ABAG, 2019). The site is within a Local Response Area (LRA) and would be served by the local fire department (ABAG, 2019). The project consists of levee improvements and utility infrastructure that would provide recycled water and a pipeline distribution network. The project does not include new land uses or development that requires the installation or maintenance of associated infrastructure like water sources, utilities, roads, fuel breaks, emergency water sources and power lines. Any project improvements within the City of Menlo Park's jurisdiction would be subject for fire department review as part of the City's encroachment permit approval process. The project impact and cumulative impact are ***less than significant***.

Emergency Response: As discussed in Section 12.4.4, Hazards and Hazardous Materials, the County's "Operational Area" in the Emergency Operations Plan includes the project area, which is within the Cities of Menlo Park and Redwood City emergency response area. The site poses little fire risk and is adjacent to a heavily urbanized area that is accessible by emergency vehicles. None of the project elements would conflict with the County's or Cities' emergency operations plan. Therefore, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The project impact and cumulative impact are ***less than significant***.

Exposure of Structures or People: Additionally, the project proposes construction of an autonomous recycled water facility on a flat Bayshore site, and no habitable structures are proposed. There would be no risk of exposure of any structures of people to flooding or landslides as a result of runoff, post-fire instability or drainage changes. The project impact and cumulative impact are ***less than significant***.

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CHAPTER 13 NEPA CONSIDERATIONS

The District is seeking funding from the SWRCB Clean Water State Revolving Fund Program. The Clean Water State Revolving Fund Program is partially funded by the US EPA, therefore, the information provided below is intended to address the CEQA Plus (federal cross-cutting) requirements.

13.1 POTENTIAL CO-FUNDING SOURCES

Will the project potentially be co-funded by more than one federal agency?

☐ *No – No other federal agencies will provide funding for the project*

☒ *Yes – The project will potentially receive funding from more than one federal agency(s).*

The WBSD intends to seek funding from the State of California Water Resources Control Board through the Clean Water State Revolving Fund (CWSRF) which receives funding from the U.S. Environmental Protection Agency (U.S. EPA). The State of California has an Operating Agreement with the U.S. EPA to provide a framework for the State to administer U.S. EPA funding. WBSD may seek grant funding for construction of the ecotone levee from federal agencies other than the U.S. EPA.

13.2 UNITED STATES FOREST SERVICE, BUREAU OF LAND MANAGEMENT, AND OTHER FEDERAL LAND

Will the project be located on lands administered by the U.S. Forest Service, the Bureau of Land Management or other federal lands?

☒ *No – The proposed project will not be located on USFS, BLM, or any other federally managed land.*

☐ *Yes – The proposed project will be located on USFS, BLM, or other federally managed land.*

As described in this EIR, the project site is located on a privately owned parcel of land adjacent to San Francisco Bay in the City of Menlo Park, California. A detailed description of the project's environmental setting can be found in EIR Chapter 2, Project Description, Chapter 5, Biological Resources, and Appendix C Biological Resources Report. The project site is not near U.S. Forest Service land, U.S. Bureau of Land Management land, or other federal lands.

13.3 ENVIRONMENTAL ALTERNATIVE ANALYSIS

The California State Water Resources Control Board Clean Water State Revolving Fund (CWSRF) Programs require an environmental alternative analysis for projects that have a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report.

Please see Chapter 11, Alternatives, of this EIR for a discussion of the various alternatives studied as part of the project.

13.4 ARCHAEOLOGICAL AND NATIONAL HISTORIC PRESERVATION ACT

Will the project cause the irreparable loss or damage to a significant archaeological or historic resource or data through alteration of the terrain resulting from project construction or operation and require compliance under the Archaeological and National Historic Preservation Act (AHPA)?

☒ *No – The project construction will not cause an irreparable loss or damage of significant archaeological or historic resources or data through alteration of the terrain from project construction or operation. The project does not require compliance with the AHPA.*

☐ *Yes – The project construction will cause an irreparable loss or damage of a significant archaeological or historic resources or data through alteration of the terrain resulting from project construction and operation. The project requires compliance with the AHPA. Please explain or indicate where this information can be found [e.g., Historic Properties Identification Report (HPIR) (see the National Historic Preservation Act below), CEQA document, etc.].*

As described in **Error! Reference source not found.**, Cultural, Historic, and Tribal Cultural Resources, of this EIR, a Cultural Resources Report (Appendix E) and Historic Resource Evaluation Report (Appendix F) have been prepared for the proposed project. A CHRIS determined that there are no historic or cultural resources in the APE. A SLF search had positive results and communications with identified tribes resulted in additional information being gathered about recent Native American burials being found on the nearby Facebook Campus located at 1005 Hamilton Avenue in Menlo Park.

The Historical Resource Report evaluated the potential historical significance of the levees along the north and west sides of the West Bay Sanitary District FERRF property because of their past association with the South Bay's solar salt industry. The report concluded that these levees no longer retain any of the seven aspects of integrity (i.e., location, design, materials, workmanship, feeling, setting, and association) and are not eligible for listing in the NRHP or CRHR under Criterion A/1.

With the implementation of mitigation measures CUL-1 and CUL-2 requiring construction monitoring of pipeline construction in Hamilton Avenue and for procedures to be followed if any archaeological resources are detected during construction, the project would not cause the irreparable loss or damage to a significant archaeological or historic resource or data through construction or operation of the project.

13.5 CLEAN AIR ACT

Name of Air Basin: San Francisco Bay Area Air Basin

Local Air District: Bay Area Air Quality Management District

Is the project subject to a General Conformity determination?

☐ *No. The project is in an attainment or unclassified area for all federal criteria pollutants, and/or the project emissions are below the federal de minimis levels. The project is not subject to General Conformity determination.*

☒ *Yes. The project is in a nonattainment area or attainment area subject to maintenance plans for a federal criteria pollutant and project emissions are above the federal de minimis levels. The project is subject to General Conformity determination.*

The United States Congress adopted general conformity requirements as part of the Clean Air Act (CAA) Amendments in 1990, and the U.S. EPA implemented those requirements in 1993 (Sec. 176 of the CAA (42 U.S.C. § 7506) and 40 CFR Part 93, Subpart B). General conformity requires that all federal actions "conform" with the State Implementation Plan as approved or promulgated by the U.S. EPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain the national ambient air quality standards. Before a federal action is taken, it must be evaluated for conformity with the State Implementation Plan. All "reasonably foreseeable" emissions predicted to result from the action are taken into consideration. These include direct and indirect emissions and must be identified as to location and quantity. If it is found that the action would create emissions above de minimis threshold levels specified in U.S. EPA regulations (40 CFR § 93.153(b)), or if the activity is considered "regionally significant" because its emissions exceed 10 percent of an area's total emissions, the action cannot proceed unless mitigation measures are specified that would bring the proposed project into conformance.

General conformity applies in both federal nonattainment and federal air quality maintenance areas, including the site of the proposed project. Within these federally designated areas, the General Conformity Rule applies to any "federal action" not specifically exempted by the CAA or U.S. EPA regulations (i.e., any non-exempt activity by a federal governmental department, agency or instrumentality, or any activity that such an entity supports in any way, provides financial assistance for, or licenses, permits, or approves). This definition is broad enough to capture local agency approvals involving the receipt of federal funding, which may be pursued for the proposed project from the U.S. EPA, and potentially other federal sources.

An action cannot be in compliance with the General Conformity Rule unless the total direct and indirect emissions from the action for criteria pollutants are in compliance with all relevant requirements contained in the applicable State Implementation Plan (SIP). The U.S. EPA provides several methods to determine if an action conforms to a SIP including a statewide emission budget, emission offsets, and/or air quality modeling. The following analysis utilizes a modeling approach to determine if the proposed project would cause or contribute to new air quality violations or increase the frequency or severity of existing violations. This is consistent with the approach taken for evaluating the project's CEQA air quality impacts in Chapter 4, Air Quality.

As described in Chapter 4, Air Quality, of this EIR, the proposed project is located within San Francisco Bay Area Air Basin (SFBAAB), which is in "marginal" nonattainment for the 1997, 2008, and 2015 federal eight-hour ozone (O_3) standards and "moderate" non-attainment for the

2006 federal fine particulate matter ($PM_{2.5}$) standard (U.S. EPA 2020a). Volatile Organic Compounds (VOCs) / Reactive Organic Gases (ROG) are precursors to ozone. The SFBAAB is in designated as attainment or unclassified for all other federal criteria air pollutants and criteria air pollutant precursors, including carbon monoxide (CO), nitrogen dioxide (NO_2), and coarse particulate matter (PM_{10}).

The proposed project's emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2, utilizing default model assumptions with project-specific modifications made, as described in Section 4.3.3 of this EIR. Table 12-1 summarizes the proposed project's construction and operational criteria air pollutant emissions and compares them against the applicable *di minimis* thresholds (i.e., the thresholds identified for use under the General Conformity Rule).

Table 13-1 Estimated Project Criteria Air Pollutant Emissions

Scenario	Pollutant Emissions (Tons per Year)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Construction(A)	0.4	4.3	4.0	1.0	0.6
Operational(B)	0.5	<0.0(C)	<0.0(C)	<0.0(C)	<0.0(C)
Di Minimis Threshold	***100***	***100***	***100***	***100***	***100***
Threshold Exceeded?	No	No	No	No	No

Source: U.S. EPA 2020b, MIG 2020, see Appendix B.

(D) See Table 4-7; only the highest year's construction emissions are shown (i.e., 2023).

(E) See Table 4-8.

(F) <0.0 does not mean zero; rather, it means greater than zero, but less than 0.05.

As shown in Table 13-1, the results of the air quality modeling show that criteria air pollutant emissions would not exceed Federal General Conformity Rule significance thresholds (i.e., *di minimis* thresholds). Accordingly, the proposed project would be in compliance with the CCA.

13.6 COASTAL BARRIERS RESOURCES ACT

Will the project impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters?

☒ *No – The project will not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters,*

☐ *Yes – The project will impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets and near-shore waters.*

As described in Chapter 2, Project Description, and Chapter 5, Biological Resources, of this EIR, the project site is located at the edge of San Francisco Bay, in Menlo Park, California. The project is not near the Coastal Barrier Resources System.

13.7 COASTAL ZONE MANAGEMENT ACT

Is any portion of the project site located within the coastal zone? [NOTE: California's coastal zone generally extends 1,000 yards inland from the mean high tide line, but may extend further if the area is located in significant coastal estuarine, habitat, and/or recreational areas, or to a lesser extent if the area is located in a developed urban area or within a coastal zone of the San Francisco Bay Conservation and Development Commission (BCDC).]

☒ *No – The project is not within the coastal zone.*

☐ *Yes – The project is located within the coastal zone. Attach a copy of the coastal zone permit or coastal exemption, or indicate the status of the coastal zone permit below*

The California Coastal Commission manages development along the California coast except for San Francisco Bay, where the BCDC oversees development and is the designated coastal management agency. The project site is within BCDC jurisdiction and would require permitting through BCDC for the ecotone levee improvements and RO concentrate discharge. The WBSD intends to initiate a BCDC permit process after certification of the EIR.

13.8 FEDERAL ENDANGERED SPECIES ACT

Does the project involve any direct or indirect impacts from construction or operation activities that may affect federally listed threatened or endangered species, or their critical habitat, that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

☐ *No – The project will not have an impact on any federally listed species or their critical habitat.*

☒ *Yes – The project will have an impact on one or more federally listed species or their critical habitat.*

The proposed project may potentially impact the threatened Central California Coast steelhead (*Oncorhynchus mykiss*), the threatened North American green sturgeon (*Acipenser medirostris*), the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), the endangered California Ridgway's rail (*Rallus obsoletus obsoletus*), and the threatened western snowy plover (*Charadrius alexandrinus nivosus*). A discussion of project impacts and proposed mitigation measures to avoid or minimize impacts on federally listed species can be found in Chapter 5, Biological Resources, of this EIR and Appendix C Biological Resources Report. No FESA consultations with state or federal agencies have been conducted for the proposed project but the WBSD and its consultant team met with the USACE and the RWQCB for an interagency meeting as well as a site visit.

13.9 ENVIRONMENTAL JUSTICE

Does the project involve an activity that is likely to be of particular interest to or have particular impact upon minority, low-income, or indigenous populations?

☒ *No – The project is not likely to be of any particular interest to or have an impact on certain minority, low-income, or indigenous populations.*

☐ *Yes – The project is likely to be of particular interest to or have an impact on certain minority, low- income, or indigenous populations.*

The proposed project is located along the San Francisco Bay, in the northeastern portion of Menlo Park. The project site is located adjacent to the Bedwell Bayfront Park, sloughs, and salt evaporation ponds. The nearest receptors in proximity of the project site consist of park receptors, which are transient in nature (i.e., remaining at the park for a few hours at most on a day-to-day basis). The nearest, off-site, permanent structures in proximity of the project site are more than half-a-mile from the project site on Bayfront Expressway. The proposed project would result in the generation of toxic air contaminants, which would disperse in accordance with meteorological conditions present and in proximity of the project site. As detailed in Section 4.3.4.2 of this EIR, these operational TACs would not have the potential to expose receptors of any socioeconomic background to significant risks. The proposed project would not involve an activity that would be of particular interest to a minority, low-income, or indigenous population, nor would it impact the aforementioned portions of the population.

13.10 FARMLAND PROTECTION POLICY ACT

Is any portion of the project located on prime, unique, or important farmland?

☒ *No – The project is not located on and will not impact prime, unique, or important farmland.*

☐ *Yes – The project is located on and/or will impact prime, unique, or important farmland. Attach documents/assessments evaluating the conversion of prime/unique farmland and farmland of statewide/local importance to non-agricultural uses, as well as any consultation(s) conducted with relevant agencies.*

The proposed project's potential to impact prime, unique, or important farmland is described in Section 12.4.1. The project site is mapped as "Urban and Built-Up Land," and entirely surrounded by "Other Land" on the 2014 San Mateo County Important Farmland Map developed by the California Department of Conservation (CDOC), Division of Land Resource Protection's Farmland Mapping and Monitoring Program (CDOC, 2016). The project site is not under a Williamson Act contract, nor is the project site mapped within the coastal zone (California Coastal Commission, 2018). Implementation of the proposed project would not result in the conversion of Farmland to a non-agricultural use or result in the loss of agricultural land. The proposed project would not impact Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

13.11 FISH AND WILDLIFE COORDINATION ACTS

Will the project impact any bodies of water by impounding, diverting, deepening a channel, or otherwise controlling/modifying flow (including navigation and drainage)?

☐ *No – The project will not impact any bodies of water and will not require compliance with the FWCA.*

☒ *Yes – The project will impact a body of water and will require compliance with the FWCA. Consultation with the USFWS and the California Department of Fish and Wildlife will be required. Please discuss the potential project impacts to the water body or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.).*

The proposed project will potentially impact Waters of the U.S. and state, Essential Fish Habitat (EFH), and federally listed species as described below:

- **Waters of the U.S.** Approximately 6.00 acres of Waters of the U.S./state were mapped up to the project area (northern coastal salt marsh and tidal sloughs). The extent of Waters of the U.S. in the project area were verified by the USACE on April 23, 2020.
- **Essential Fish Habitat.** All tidal waters within the project area are designated EFH. In addition, all tidal waters in the project area occur within areas designated as Habitat Areas of Particular Concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish Fishery Management Plan (FMP).
- **Federally Listed Species.** The proposed project may potentially impact the threatened Central California Coast steelhead (*Oncorhynchus mykiss*), the threatened North American green sturgeon (*Acipenser medirostris*), the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), the endangered California Ridgway's rail (*Rallus obsoletus obsoletus*), and the threatened western snowy plover (*Charadrius alexandrinus nivosus*).

A Preliminary Delineation of Wetlands and Waters report was prepared for the project in February 2020. The extent of Waters of the U.S. in the project area were verified by the USACE on April 23, 2020. A discussion of project impacts and proposed mitigation measures to avoid or minimize impacts on navigable Waters of the U.S., wetlands, EFH, and federally listed species can be found in the Biological Resources Report (Appendix C) and Chapter 5, Biological Resources, of this EIR. No consultations with state or federal agencies have been conducted for the proposed project.

13.12 FLOOD PLAIN MANAGEMENT: EXECUTIVE ORDERS 11988, 12148, AND 13690

Is any portion of the project located within a 100-year floodplain as depicted on a floodplain map or otherwise designated by the Federal Emergency Management Agency? If a project is in a flood plain, documentation must be provided demonstrating the project reduces the risk of flood loss, minimizes the impact of floods on human safety, and restores and preserves the natural and beneficial values served by floodplains.

Required documents: Attach an official floodplain map that includes the project area. Please refer to the Federal Emergency Management Agency (FEMA) Flood Map Service Center for official floodplain maps: https://msc.fema.gov/portal. If the project area is unmapped by the FEMA, please explain below.

☐ *No – The project is not located within a 100-year floodplain*

☒ *Yes – The project or a portion of the project is located within a 100-year floodplain. Attach any reports (floodplains/hydrological assessment) completed for the project and provide information of any consultations completed with relevant agencies. Describe the floodplain and any proposed measures that will be implemented to minimize or avoid redirection of the flood flow by the project or indicate where this information can be found (e.g., floodplains/hydrological assessment, CEQA document, etc.).*

Figure 13-1 shows the project site within the FEMA 100-year flood zone. The existing levees surrounding the project site are not FEMA certified, and therefore require improvement/repairs to ensure the facility is protected from future floods and sea level rise. The proposed project includes flood protecting the site through the installation of sheet pile walls and construction of an ecotone levee around a portion of the site to meet current FEMA 100-year flood protection requirements. The proposed improvements are also intended to protect the site from the anticipated effects of sea-level rise. As the site has been protected from flooding since it was established in the 1950's, the levee improvements proposed under this project would not change the current flood plain or increase risk of flood flows in surrounding areas. The ecotone levee would be designed to provide flood control benefits as well as to provide a habitat transition zone under sea level rise conditions.

13.13 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Does the project involve any direct or indirect impacts from construction or operational activities or changes in water quality/quantity that may impact Essential Fish Habitat (EFH)?

☐ *No – The project will not impact EFH. Please explain or indicate where this information can be found (e.g., biological report/assessment, EFH impact assessment/evaluation, CEQA document, etc.).*

☒ *Yes – The project may impact EFH. Attach documentation (e.g., biological report/assessment) that includes an official USFWS list of all the fish species covered under the Magnuson-Stevens Fishery Conservation and Management Act that could occur where the project is located. Discuss the project's direct and indirect impacts (such as noise, vibration impacts, or modification of habitat) to EFH, and the mitigation measures that will be implemented to reduce or eliminate these impacts. Please indicate where more information can be found [e.g., page number(s) of the biological report/assessment, CEQA document, etc.]:*

The proposed project may potentially impact EFH. All tidal waters within the project area are designated EFH. In addition, all tidal waters in the project area occur within areas designated as Habitat Areas of Particular Concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish Fishery Management Plan (FMP). A discussion of project impacts and proposed mitigation measures to avoid or minimize impacts on EFH can be found in the Biological Resources Report (Appendix C) and Chapter 5, Biological Resources, of this EIR.

13.14 MIGRATORY BIRD TREATY ACT

Will the project impact protected migratory birds that are known or have a potential to occur on the project site, or the surrounding area?

☐ *No – The project will not impact protected migratory birds. Please explain, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.).*

☒ *Yes – The project may impact protected migratory birds.*

The proposed project may impact migratory birds protected by the Migratory Bird Treaty Act (MBTA). A discussion of project impacts and proposed mitigation measures to avoid or minimize impacts on migratory birds can be found in the Biological Resources Report (Appendix C) and Chapter 5, Biological Resources, of this EIR.

13.15 NATIONAL HISTORIC PRESERVATION ACT

- *Required documents: A Historic Properties Identification Report (HPIR) written by a cultural resources professional who meets the Secretary of the Interior's Professional Qualification Standards in Archaeology or Architectural History (www.nps.gov/history/local- law/arch_stnds_9.htm), as appropriate. The report must include a current records search (not older than five years) from the California Historical Resources Information System (CHRIS) (http://ohp.parks.ca.gov/?page_id=1068) extending to a half-mile beyond the Project's area of potential effects (APE), maps showing all recorded resources and surveys in relation to the APE, records of Native American outreach (http://nahc.ca.gov), and resource records from the CHRIS search and newly identified resources. Please contact State Water Board staff to receive additional details. Refer to the OHP website (under the Section 106 Submission Checklists header) for guidance regarding the information required to consult under Section 106: http://ohp.parks.ca.gov/pages/1071/files/106Checklist_Details.pdf.*

If the project is a type of activity that does not have the potential to cause effects to historic properties, a HPIR is not necessary. This decision is based on the type of activities, not on the presence or absence of historic properties.

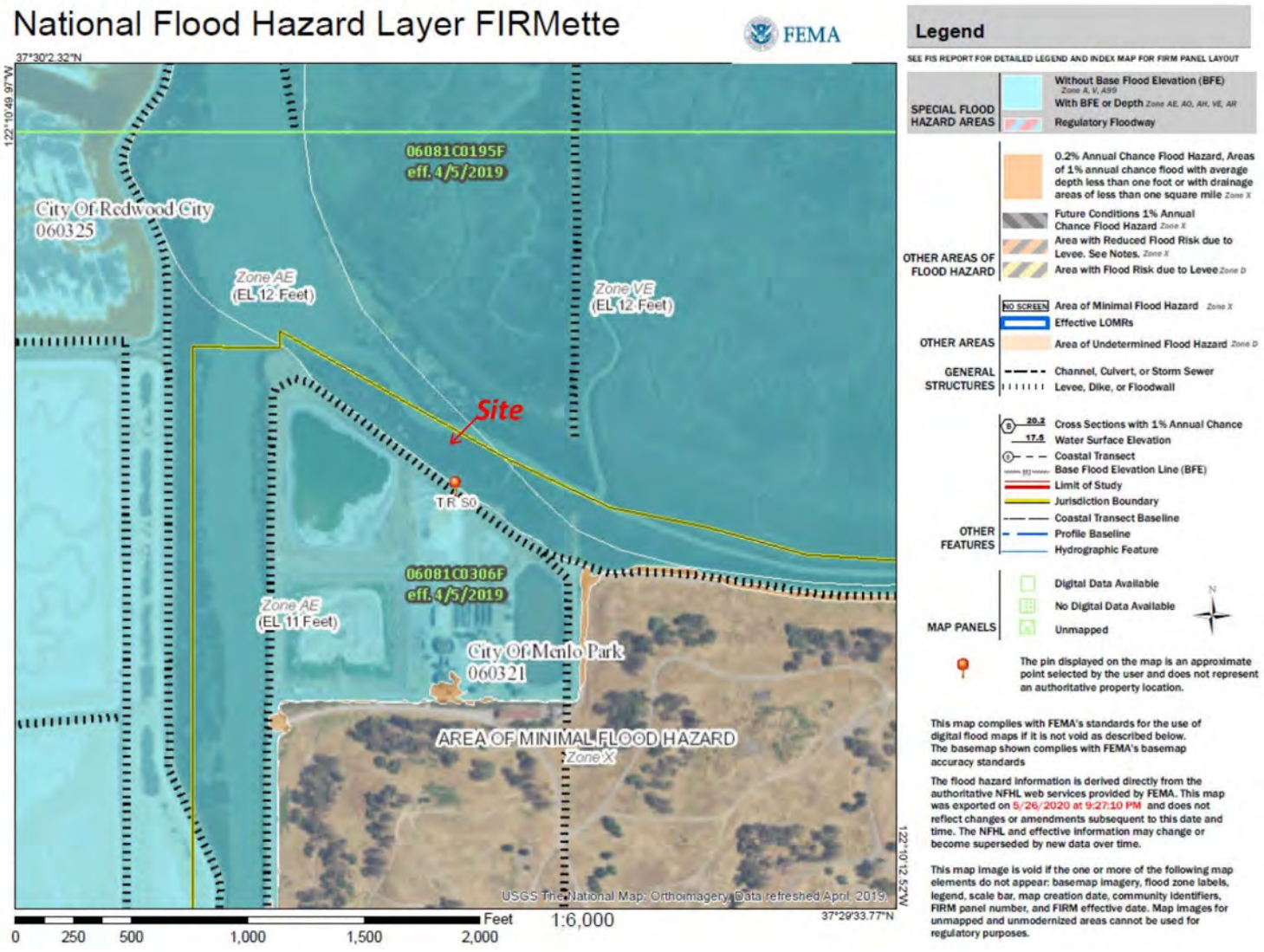
Identify the National Historic Preservation Act, Section 106 finding of effect contained in the cultural resources report:

☒ *No Historic Properties Affected*

☐ *No Adverse Effect to Historic Properties*

☐ *Adverse Effect to Historic Properties*

Provide a brief explanation for the above identified determination, or indicate where this information can be found (e.g., HPIR cultural report):



Source: FEMA, 10/12/2020

Figure 13 FEMA Flood Map

A Historical Resource Evaluation Report has been prepared for the project and is presented in Appendix F and summarized in **Error! Reference source not found.**, Cultural, Historic, and Tribal Cultural Resources, of this EIR. The HRE determined that the proposed project would not have an adverse impact on Historic Properties.

13.16 PROTECTION OF WETLANDS

Will any portion of the project be located in or potentially affect a wetland?

☐ *No – The project will not be located in and/or will not potentially affect a wetland. Please explain, or indicate this information can be found (e.g., wetland assessment/delineation report, biological report/assessment, CEQA document, etc.).*

☒ *Yes – The project will involve the construction of structures and/or one or more of the listed regulated activities in, under, or over navigable waters of the United States, and will require a Section 10 permit.*

The proposed project may impact Waters of the U.S., including wetlands. Approximately 6.00 acres of Section 10 and Section 404 other waters and wetlands were mapped in the project area, including 4.85 aces of northern coastal salt marsh on the project site. A Preliminary Delineation of Wetlands and Waters report was prepared for the project in February 2020. The extent of Waters of the U.S. in the project area were verified by the USACE on April 23, 2020. A discussion of project impacts and proposed mitigation measures to avoid or minimize impacts on wetlands and navigable Waters of the U.S. can be found in the Biological Resources Report (Appendix C) and Chapter 5, Biological Resources, of this EIR. The implementation of the mitigation measures would reduce impacts to less than significant levels.

13.17 RIVERS AND HARBORS ACTS, SECTION 10

Will the project involve the construction of structures or any other regulated activities in, under, or over navigable waters of the United States? (NOTE: Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway.)

☐ *No – The project is not located in or near navigable waters of the United States. There will be no construction of structures, modification of existing structures, or any other regulated activity work in, under, or over navigable waters of the United States.*

☒ *Yes – The project will involve the construction of structures and/or one or more of the listed regulated activities in, under, or over navigable waters of the United States, and will require a Section 10 permit.*

The proposed project involves disturbance of soils in navigable Waters of the U.S. Approximately 4.73 acres of current Section 10 waters were mapped up to the mean high water (MHW) elevation in the project area. A Preliminary Delineation of Wetlands and Waters report was prepared for the project in February 2020. The extent of Waters of the U.S. in the project

area were verified by the USACE on April 23, 2020. A discussion of project impacts and proposed mitigation measures to avoid or minimize impacts on navigable Waters of the U.S. can be found in the Biological Resources Report (Appendix C) and Chapter 5, Biological Resources, of this EIR.

13.18 SAFE DRINKING WATER ACT, SOLE SOURCE AQUIFER PROTECTION

Is the project located in an area designated by the U.S. EPA, Region 9, as a Sole Source Aquifer?

☒ *No – The project is not within the boundaries of a sole source aquifer.*[19]

☐ *Yes – The project is located in and/or will impact the below-marked Sole Source Aquifer:*

☐ *Fresno County Aquifer (Recharge Area or Streamflow Source Zone)*

☐ *Santa Margarita Aquifer, Scotts Valley*

☐ *Campo/Cottonwood Creek Aquifer*

☐ *Ocotillo-Coyote Wells Aquifer*

13.19 WILD AND SCENIC RIVERS ACT

Identify the watershed within the project location:

Will the project affect a wild and scenic river?

☒ *No – The project will not impact any of the wild and scenic rivers listed above. Please explain or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.).*

As described in Chapter 2, Project Description, the project is located at the edge of San Francisco Bay, in an urbanized area. No rivers are in the project vicinity.

☐ *Yes - The project will impact the below-marked wild and scenic river. Attach a map of the impacted wild and scenic river, and identify the relative project location.*

☐ Amargosa River	☐ Cottonwood Creek	☐ Klamath River	☐ Sespe Creek
☐ American River (Lower)	☐ Eel River	☐ Merced River	☐ Sisquoc River
☐ American River (North Fork)	☐ Feather River	☐ Owens River Headwaters	☐ Smith River

[19] Source: http://www.epa.gov/region9/water/groundwater/ssa.html.

☐ Bautista Creek	☐ Fuller Mill River	☐ Palm Canyon Creek	☐ Trinity River
☐ Big Sur River	☐ Kern River	☐ Piru Creek	☐ Tuolumne River
☐ Black Butte River	☐ Kings River	☐ San Jacinto River (North Fork)	

13.20 REFERENCES

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CHAPTER 14 EIR AUTHORS AND CONSULTANTS

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