# ADDENDUM

# TO THE

# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

# ETSU PHASE 1 PROGRAM

# PHASE IB – SECONDARY CLARIFIERS AND EFFLUENT FACILITIES PROJECT

## SCH NO. 2021030219

## September 2024


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# CHAPTER 1

# INTRODUCTION

## Background

Union Sanitary District's (USD) Enhanced Treatment and Site Upgrade ETSU Program was developed to meet the wastewater treatment and disposal needs for USD over the next 20 to 40 years. Phase 1 is the most immediate priority for the District's Alvarado Wastewater Treatment Plant. Through four projects (Phases 1A – Aeration Basin Modifications, 1A – Campus, 1B, and 1C), Phase I will provide for improvements to the aeration basins (ABs) and addition of AB 8, new secondary clarifiers, new effluent facilities, equalization, and replacement of the existing Administration and Control Buildings with a new campus layout.

A Program Initial Study/Mitigated Negative Declaration (IS/MND) was prepared in March 2021 (SCH No. 2021030219) for the Phase 1 Program.[1] A public hearing was held on March 22, 2021, and the IS/MND was adopted; the Program was approved by the USD Board of Directors on May 10, 2021. A Notice of Determination (NOD) was filed with the Alameda County Clerk Recorders Office and with the State Office of Planning and Research (OPR).

California Environmental Quality Act (CEQA) compliance for the first two Phase 1 projects, Phase 1A-Aeration Basin Improvements Project and Phase 1A-Campus Building Project, has been completed. The Aeration Basin Improvements project construction commenced in March 2022 and the Campus Building Project construction commenced in August 2022. The Phase 1A-Aeration Basin Improvements Project completion is anticipated in May 2027 and completion of Phase 1A-Campus Building Project is anticipated in February 2025. The third project, Phase 1B-Secondary Clarifiers and Effluent Facilities Project (Project), is the subject in this Addendum. The Phase 1B project construction is anticipated to take approximately 4-5 years. The IS/MND considered Phase 1B at a program level as design had proceeded only to a 30% level. Design has progressed with a 100% design anticipated to be completed in September 2024. Several refinements to the approved project have been identified which were not addressed in the IS/MND.

## Purpose of this Addendum

As discussed above, USD has further refined the approved Project components, and a modified Project is described in Chapter 2. Because USD has proposed these changes following the IS/MND adoption, an Addendum to the IS/MND is necessary to meet the requirements of the CEQA.

The CEQA Guidelines (Sections 15162 and 15164) allow that a lead agency may prepare an Addendum to a previously adopted IS/MND if minor technical changes or additions to the environmental evaluation are necessary, but none of the following occurs:

1. Substantial changes are proposed in the project which will require major revisions to the Environmental Impact Report or negative declaration due to the involvement of new significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous Environmental Impact Report or negative declaration due to involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous Environmental Impact Report or negative declaration was adopted, shows any of the following:

    a. The project will have one or more significant effects not discussed in the Environmental Impact Report;

    b. Significant effects previously examined will be substantially more severe than shown;

    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous Environmental Impact Report or Negative Declaration would substantially reduce one or more significant effects on the environments, but the project proponents decline to adopt the mitigation measure or alternative.

This Addendum documents that the proposed modifications to the approved Project do not trigger any of the conditions described above. Specifically, this Addendum concludes that the modified Project would not result in any new significant impacts not previously disclosed in the circulated IS/MND, nor would it result in a substantial increase in the magnitude of any significant environmental impact previously identified.

For these reasons, an Addendum to the adopted IS/MND is sufficient to meet the requirements of CEQA and CEQA-Plus. In accordance with the State Water Resources Control Board Clean Water State Revolving Fund Loan Program requirements, this Addendum will be circulated through the State Clearinghouse, adopted by USD, and a NOD filed with the Alameda County Clerk Recorders Office and OPR. USD must consider this Addendum, and the originally adopted IS/MND to make a decision on the modified Project.

## CHAPTER 2

## MODIFIED PROJECT DESCRIPTION

Design of the modified Phase 1B-Secondary Clarifiers and Effluent Facilities Project (Project) is proceeding with the 100% design anticipated to be completed by September 2024.[2] Ongoing design has resulted in several modifications to the approved Project which are addressed in this Addendum.

Figure 1 is the site plan of the Alvarado Wastewater Treatment Plant (WWTP). The figure shows the major features of the approved Project as included in the Initial Study/Mitigated Negative Declaration (IS/MND). These include four new secondary clarifier tanks, a return activated sludge (RAS)/waste activated sludge (WAS) pump station and mixed liquor distribution box, effluent facility, reclaimed water pump station, electrical distribution facility, and relocation of the effluent force main (not shown). The changes since the IS/MND was adopted include the addition of an off-site triangular parcel, the use of micropiles for structural support in lieu of conventional impact-driven piles, and the construction of an odor dispersion wall.

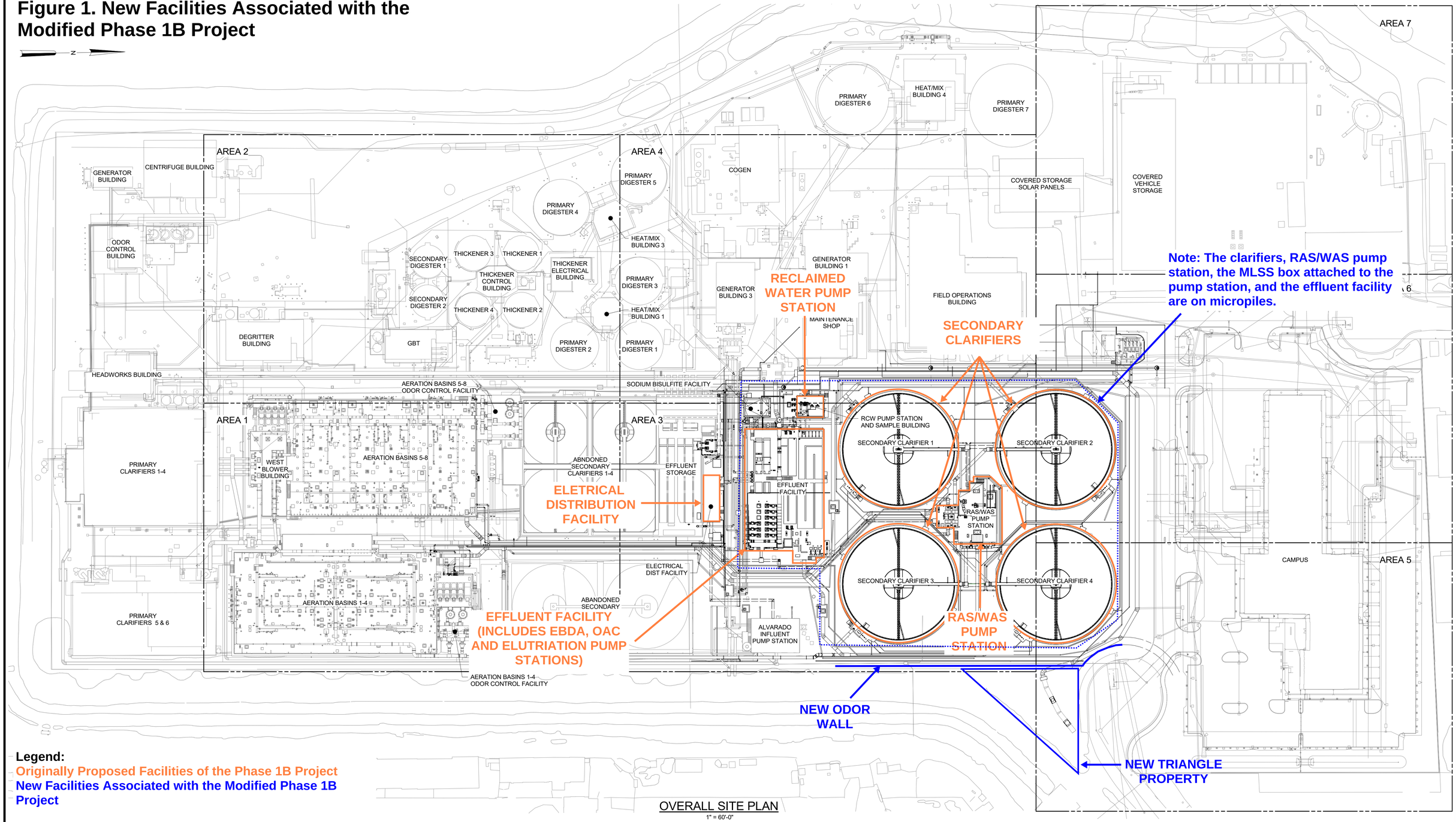
### Triangular Property

The 12,000 square foot triangular-shaped property shown on Figure 1 is outside the boundary of the WWTP and is owned by the Alameda County Flood Control and Water Conservation District (ACFC & WCD). In Table 1-7 of the IS/MND, relocation of the existing effluent force main was listed as one of the Phase 1B improvements. This activity requires connection of a new force main to the existing force main with a "tee-fitting" which was included in the IS/MND. However, it was not recognized in the IS/MND that the construction of this tee-fitting would require either a short-term or long-term disruption of the surface features. In order to address this disruption, USD has purchased the majority of the parcel outright and acquired a temporary construction easement for the remainder of the parcel. The surface features will be improved after installation of the tee fitting to improve the accessibility to the force main connection in order to maintain and monitor the connection over time.

### Micropiles

The IS/MND assumed the use of impact pile driving for deep foundations of Phase 1B structures based on a 30% design available at the time. Potential off-site noise and vibration issues identified in the IS/MND, however, prompted the engineering and geotechnical design team to evaluate deep foundation alternatives and the use of micropiles was recommended. With micropiles, impact pile driving is not needed. The installation of micropiles involves the use of a crane to support a long hollow auger (e.g., 4-inch diameter). The auger drills down to the depth of the pile, which will be at least 7 feet from the top of the Newark Aquifer. Concrete is then pumped through the auger to fill the hole as the auger is retracted. The overall effect is similar to typical concrete pours at a construction site with minimal noise and vibration.

# Figure 1. New Facilities Associated with the Modified Phase 1B Project




**Legend:**

**Originally Proposed Facilities of the Phase 1B Project**

**New Facilities Associated with the Modified Phase 1B Project**

OVERALL SITE PLAN
1" = 60'-0"

PRELIMINARY DRAWING DO NOT USE FOR CONSTRUCTION

| REV | ISSUED FOR | DATE | BY |
|---|---|---|---|

| | |
|---|---|
| PROJECT ENGINEER: | A. BRIGGS |
| DESIGNED BY: | Designer |
| DRAWN BY: | Author |
| CHECKED BY: | Checker |

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"


Hazen
HAZEN AND SAWYER
102 MISSION STREET, SUITE 500
SAN FRANCISCO, CALIFORNIA 94105


USD TRI-CITY WASTEWATER
TREAT PROTECT PRESERVE est.1918

ENHANCED TREATMENT AND SITE UPGRADE PROGRAM

PHASE 1B PROJECT

YARD PIPING
MECHANICAL
OVERALL SITE PLAN

| | |
|---|---|
| DATE: | 2023 |
| HAZEN NO.: | 20118-004 |
| CONTRACT NO.: | 1 |
| DRAWING NUMBER: | M20 |
| SHEET NUMBER: | |

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**Odor Dispersion Wall**

The IS/MND concluded the approved Project, as well as other Phase 1 projects, would have no impacts on odor either individually or cumulatively. As design progressed, however, USD elected to have an odor dispersion wall constructed along the eastern WWTP boundary adjacent to the secondary clarifiers location (Figure 1). The intent of the odor wall is to provide an extra margin of safety relative to control of odors that might be generated by the clarifiers. The odor dispersion wall measures approximately 300 feet in length. It will be 16 feet above grade and will be similar in size and style to the existing odor wall that runs along the eastern boundary of the site near the existing secondary clarifiers.[3] At this location, ornamental trees currently exist along the eastern WWTP boundary and their removal and restoration during Project construction was addressed in the IS/MND.

## CHAPTER 3

## EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter evaluates environmental impacts associated with the modified Phase 1B Secondary Clarifiers and Effluent Facilities Project (Project) based on the modifications described in Chapter 2. The Initial Study/Mitigated Negative Declaration (IS/MND) was prepared to comply with the California Environmental Quality Act (CEQA), the "CEQA-Plus" requirements of the State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund (SRF) Loan Program, and the Environmental Protection Agency's (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) Loan Program. CEQA-Plus requirements include providing necessary information to demonstrate compliance of a project with numerous federal laws and Executive Orders (Federal cross-cutting authorities). In the IS/MND, the approved Project has been considered compliant with all the cross-cutter requirements. Based on the analyses in this Addendum, the modified Project is also compliant with cross-cutter requirements.

## TOPICS DISMISSED FROM FURTHER ANALYSIS

The existing analysis in the Initial Study/Mitigated Negative Declaration (IS/MND) adequately addresses environmental conditions and potential impacts relevant to the following topics because either the nature, scale, and timing of the Project has not changed in ways relevant to the topic or there has not been a substantial change in the circumstances involving the topic on the Project site, nor the local environment surrounding the site.

- **Aesthetics.** An odor dispersion wall will be constructed along the eastern border of the secondary clarifiers, similar to the current odor dispersion wall. Existing ornamental trees will be replaced in kind to screen the wall and facility. Thus, screening of Alvarado Wastewater Treatment Plant (WWTP) operations will be maintained and an added margin of safety for potential odor control will be provided. Aesthetic impacts have been adequately analyzed. At the completion of the Phase 1B Project the wall and tree swill be similar to the existing wall and tree coverage and views will not be changed nor impacted. Further, the addition of the triangular parcel and the use of micropiles do not create any new aesthetic impacts.

- **Agriculture and Forest Resources.** The modified Project includes use of a 12,000 square foot triangle property outside the current WWTP boundary (Figure 1). The property contains dense grass cover and a non-native tree. There are no agricultural or forest lands in the vicinity of the WWTP, including the triangle parcel, so there are no new impacts with respect to the modified Project.

- **Cultural Resources/Tribal Cultural Resources.** The modified Project does not create any new impacts with respect to cultural and tribal cultural resources that were not already analyzed in the IS/MND. Mitigation Measure ARCH 2 stipulates intermittent ("spot-check") archaeological monitoring for Phase 1B but only for excavations below 6 feet.

- **Energy.** The modified Project does not create any new impacts associated with wasteful use of energy, renewable energy, or energy efficiency.

- **Greenhouse Gas (GHG) Emissions.** The modified Project includes construction of an odor dispersion wall that will generate negligible GHG emission. As discussed later in this chapter, the use of micropiles will only result in a 5% increase in construction emissions, but mobile emissions will decrease due to the use of fewer trucks. The Project modifications do not impact emissions, because the original analysis showed emissions that are well below the thresholds of significance, therefore, a 5% increase would not alter the conclusions in the IS/MND.

- **Hazards and Hazardous Materials.** The modified Project does not introduce new issues that impact hazards or hazardous materials. Therefore, there are no new significant impacts.

- **Hydrology and Water Quality.** The modified Project does not introduce new issues regarding hydrology and water quality. As with conventional piles, a distance of at least 5 feet will be maintained at the bottom of the micropiles and the Newark Aquifer. Any areas of surface disturbance to the triangular parcel during construction will be restored to pre-Project conditions in accordance with the storm water pollution prevention plan. Therefore, there are no new impacts regarding hydrology and water quality.

- **Land Use and Planning.** As with the approved Project, the modified Project will not divide an established community and is consistent with local land use plans and policies. Therefore, there are no new impacts regarding land use and planning.

- **Mineral Resources.** The modified Project does not impact mineral resources. No new impacts will occur.

- **Population and Housing.** The modified Project will not induce substantial population growth nor displace housing or people. Therefore, there are no new impacts regarding population and housing.

- **Public Services.** The modified Project will create no new impacts to public services.

- **Recreation.** The modified Project will not increase the use of local parks, nor will it involve construction of new facilities. Therefore, there are no new impacts regarding recreation.

- **Transportation/Traffic.** Truck traffic would be reduced with micropiles. In the IS/MND, it was assumed the use of conventional pile driving (1,000 piles) would require 500 trucks during the construction phase for equipment and supplies. With the need for 3,200 micropiles, the number of trucks would be reduced to less than 500 .[3] The additional truck traffic associated with construction of the odor wall would be negligible. As truck traffic

would be reduced overall with the modified Project, there would be no new impacts regarding transportation/traffic.

- **Utilities and Service Systems.** The modified Project does not impact utilities and service systems. No new impacts will occur.

- **Wildfire.** The Alvarado WWTP is not located within or near lands classified as very high fire hazard severity zones and the modified Project will have no new impacts relative to wildfire.

No additional analyses of the above elements are required. Other elements are considered below. The discussion below describes the environmental impacts of the modified Project as compared with the impacts of the approved Project as addressed in the IS/MND. This Addendum only addresses those resource areas that would be potentially affected by the proposed changes to the approved Project. As discussed below, no new significant environmental impacts were identified.

## AIR QUALITY

### Setting

The air quality setting relevant to the Project site, including applicable regulations and air quality conditions, has not changed since the adoption of the IS/MND in May 2021. The Bay Area Air Quality Management District (BAAQMD) maintains regional authority for air quality management in the Project area and vicinity. At the time of adoption of the IS/MND, the BAAQMD's 2017 Clean Air Plan (CAP) was the applicable air quality plan in place to protect public health and climate in the Bay Area.[4]

### Findings of Previously Adopted IS/MND

The adopted IS/MND included the following impact findings:

### No Impacts

- Creation of objectionable odors.

### Less than Significant Impacts

- Conflict with or obstruct implementation of the applicable air quality plan.

- Result in a cumulatively considerable net increase of any criteria pollutant in a non-attainment area.

**Less than Significant with Mitigation Incorporated**

- Expose sensitive receptors to substantial pollutant concentrations.

**Impacts Discussion[A]**

| Resource Category/ Significance Criteria: | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporation | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| **AIR QUALITY – Would the project:** | | | | | |
| 1) Conflict with or obstruct implementation of the applicable air quality plan? | ¨ | ¨ | ¨ | x | ¨ |
| 2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ¨ | ¨ | ¨ | x | ¨ |
| 3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ¨ | ¨ | ¨ | x | ¨ |
| 4) Expose sensitive receptors to substantial pollutant concentrations? | ¨ | ¨ | ¨ | x | ¨ |
| 5) Create objectionable odors affecting a substantial number of people? | ¨ | ¨ | ¨ | x | ¨ |

**1. Same Impact as Approved Project (Less than Significant)**

The IS/MND concluded that the approved Project would be consistent with and would not hinder implementation of the 2017 CAP.[4] As discussed below under Criteria 2 and 3, the modified Project could result in about a 5% increase in onsite construction emissions and a small reduction in emissions associated with on-road truck trips. Those small emission changes are within the air quality study parameters; thus, the impact relative to 2017 CAP consistency would be the same as identified in the IS/MND and would not result in any new or more significant impacts beyond those identified in the IS/MND.

**2. Same Impact as Approved Project (Less than Significant).**
**3. Same impact as Approved Project (Less Than Significant with Mitigation Incorporated).**

[A] This impact evaluation table is based on the 2021 CEQA Statute & Guidelines. However, project impacts were also reviewed using the most recent 2024 CEQA Statute & Guidelines and were determined to have less than significant impacts overall as the analysis based on the 2021 guidelines addresses all the more recent impacts.

As discussed in Chapter 2, the modified Project includes the addition of an off-site triangular property, the use of micropiles in lieu of conventionally driven impact piles, and installation of an odor dispersion wall along the eastern border of the WWTP at the secondary clarifiers location (Figure 1). Of these modifications, only the use of micropiles has air quality implications. In the air quality analysis completed by Yorke Engineering for the IS/MND in 2021, two items were considered: (1) off-road (construction) equipment, and (2) on-road truck trips.

For off-road equipment in the IS/MND, Yorke used the default equipment lists in CalEEMod for all phases of the Phase 1 Program. This amounted to a total of 5,400,000 horsepower-hours of equipment use. The default equipment did not include a pile driver because the type and amount of construction equipment was unknown at that time. With the modified Project, 3,200 micropiles would be needed. Micropiles would take about 80 days to install assuming 4 drill rigs installing 10 piles per rig per day.[2] Adding these design assumptions to the analysis, while leaving all the other default equipment in the analysis and using CalEEMod defaults for horsepower and load factor, there is an increase in the horsepower-hour total by about 5% for the modified Project. A 5% increase in construction equipment usage, and associated on-site construction emissions, would be negligible in terms of air quality impacts. As iterated above the Yorke 2021 Air Quality and GHG Emissions Analyses concluded that the construction and operational emissions of Phase 1 of the ETSU project were expected to remain well below BAAQMD CEQA air quality and GHG thresholds, therefore a 5% increase is not expected to alter the conclusions in the IS/MND.

The Yorke analysis considered on-road truck trips. Truck traffic would be reduced with micropiles. In the IS/MND, it was assumed the use of conventional pile driving (1,000 piles) would require 500 trucks during the construction phase for equipment and supplies. With the need for 3,200 micropiles, this number of trucks would be reduced to less than 500 .[3] This is a minor reduction in number of trucks given the much larger conservative number used in the evaluation of the Phase 1 Program, but air pollutant emissions would be reduced and air quality benefits would accrue.

In summary, the air quality analysis of the approved Project in the IS/MND was based on conservative assumptions. It can be estimated that micropiles will cause on-site equipment emissions to increase slightly, but the air quality impacts as defined by Criteria 2 and 3 would remain the same as identified in the IS/MND, and new or more significant impacts or mitigation measures beyond those identified in the IS/MND would not occur or be needed.

**4. Same Impact as Approved Project (Less Than Significant with Mitigation)**

The IS/MND concluded that the approved Project construction and operation emissions of criteria pollutants would be unlikely to expose sensitive receptors to substantial criteria pollutant concentrations. It is estimated that the micropiles will have on-site equipment emissions that will only result in a 5% increase in emissions and that mobile emissions will decrease due to lower

truck usage. Therefore, the modification to the project would not lead to substantial criteria pollutant concentrations since emissions would be well below the threshold of significance.

**5. Same Impact as Approved Project (No Impact)**.

The IS/MND concluded that the approved Project would have no impact relative to creation of objectionable odors. The modified Project, however, includes construction of an odor dispersion wall along the eastern WWTP boundary near the new secondary clarifier location (Figure 1). USD has opted to include the odor dispersion wall in the modified Project after the IS/MND was adopted to provide an added margin of safety with respect to odor control at the secondary clarifiers. The modified Project would be beneficial in nature. The odor impact would be the same as identified in the IS/MND, and would not result in any new or more significant impacts beyond those identified in the IS/MND.

## BIOLOGICAL RESOURCES

### Setting

The IS/MND of the approved Project contained separate biological resource assessments (BRAs) for on-site and off-site biological impacts. During review of USD's SRF loan application by SWRCB staff after the IS/MND was adopted, it was requested that the two BRAs be combined into one BRA. This task was completed and the revised BRA was submitted to the SWRCB in support of the USD's SRF loan application. The revised BRA is also included as Appendix B to this Addendum to maintain the complete administrative record for the CEQA process.

In addition, USD has submitted a loan application to EPA's Water Infrastructure and Innovation Act (WIFIA). Because of the approved Project's noise and vibration issues on California clapper and black rails in habitat to the west of the WWTP, the IS/MND recommended that a Noise and Vibration Mitigation Plan (Mitigation Measure BIO-1) be developed during final design. This action required EPA to consult with the U.S. Fish and Wildlife Service (USFWS) under the authority of the Endangered Species Act of 1973.

During the consultation process, EPA and the USFWS were provided a consolidated Project Description and the Phase 1B Construction Noise & Vibration Analysis prepared by Charles M. Salter Associates (August 5, 2021) assuming use of micropiles instead of impact driven piles. The analysis is appended to the Noise and Vibration Mitigation Plan prepared by Environmental Collaborative (September 8, 2021) and included as Appendix A to this addendum.

After review of the consolidated Project Description and Charles M. Salter's Construction Noise and Vibration Analysis, EPA and the USFWS agreed that modified Project construction noise and vibration are not expected to be higher than noise and vibration levels that currently occur near Eden Landing Ecological Reserve and Alameda Creek (rail habitat) adjacent to the WWTP.

Therefore, both agencies concurred that the modified Project is not likely to adversely affect the California clapper rail.[4, 5]

Addition of the triangular property near the WWTP entrance off of Benson Road is one component of the modified Project. This 12,000 square foot area is landscaped with no sensitive resources. It is covered with plantings of non-native tall wheat grass *(Elymus pontious)* and a single Myoporum *(Myoporum laetum)* tree in relatively poor health. Efforts will be made to save the tree, but it would be replaced by other landscape plantings and its removal would not be considered a significant impact.

The change to micropiles and the additional odor dispersion wall construction would not impact biological resources because the impacts to construction in those areas was already analyzed in the original IS/MND.

**Findings of Previously Adopted IS/MND**

**No Impact**

- Conflict with provisions of an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

**Less than Significant Impact**

- Effects on any riparian habitat or other sensitive natural community.
- Effect on federally protected wetlands.
- Conflict with local policies or ordinances.

**Less than Significant with Mitigation Incorporated**

- Effects on special-status species.
- Interfere with wildlife movement.

**Impacts Discussion**

| Resource Category/ Significance Criteria | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporation | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| **BIOLOGICAL RESOURCES – Would the project:** | | | | | |
| 1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game for U.S. Fish and Wildlife Service? | ¨ | ¨ | ¨ | ¨ | x |
| 2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ¨ | ¨ | ¨ | x | ¨ |
| 3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means? | ¨ | ¨ | ¨ | x | ¨ |
| 4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ¨ | ¨ | ¨ | x | ¨ |
| 5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ¨ | ¨ | ¨ | x | ¨ |
| 6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ¨ | ¨ | ¨ | x | ¨ |

## 1. Less Impact than Approved Project (Less than Significant)

The IS/MND concluded that impact pile driving associated with the approved Project could result in potential noise and vibration impacts to California clapper and black rails in habitat just to the northwest of the WWTP. Mitigation Measure BIO-1, Development of a Noise and Vibration Mitigation Plan, was recommended to reduce impacts to less than significant levels.

Ongoing Project design by Hazen and Sawyer and Cal Engineering & Geology (CE&G) evaluated options to impact pile driving consistent with Mitigation Measure BIO-1 and concluded that use of micropiles would meet Project objectives. As discussed earlier in this section, a Noise and Vibration Analysis by Charles M. Salter Associates demonstrated that noise and vibration levels associated with micropiles and the modified Project are not expected to be higher than current levels. EPA and the USFWS concurred with the study's conclusion and concluded the modified Project is not likely to adversely affect California clapper rail. [4, 5] No other components of the modified Project would have any effects on special-status species. Thus, the impact of the modified Project is less than that of the approved Project and would not result in any new or significant impacts beyond those identified in the IS/MND.

**2, 3. Same Impact as Approved Project (Less than Significant)**

The IS/MND concluded that the Phase 1 Program, including the approved Project, would have a less than significant impact on habitat and wetlands in surrounding areas due to a relatively modest increase in freshwater discharge via the outfall to Old Alameda Creek. The modified Project will have no effect on this discharge and would have no effect on sensitive natural communities or wetlands. Thus, new or more significant impacts beyond those identified in the IS/MND would not be created.

**4. Same Impact as Approved Project (Less than Significant with Mitigation Incorporated)**

The IS/MND on the approved Project documented the limited habitat values at the WWTP site and that the extent of ongoing disturbance generally precludes the potential for nesting birds protected under the federal Migratory Bird Treaty Act and State Fish and Game Code sections. However, there remains a remote possibility that new bird nests could be established in the few scattered trees and other structures in the plant site. Mitigation Measure BIO-2 was included in the IS/MND which included pre-construction surveys and associated protocol for the protection of nesting birds.

The modified Project includes use of the triangular property, micropiles, and construction of an odor dispersion wall . Mitigation Measure BIO-2 would still be needed and the modified Project would not result in any new or more significant impacts beyond those identified in the IS/MND.

**5. Same Impact as Approved Project (Less than Significant)**

The IS/MND recognized that the approved Project would require the removal of ornamental trees along the eastern fence line during construction. Use of the triangular parcel in the modified

Project may require removal of a tree, Myoporum laetum, an ornamental tree in poor condition. Removal of any existing trees regulated under the City of Union City Tree Ordinance (#318-89) would require a permit from the City. Regulated trees on commercial, office or industrial developed properties include all species which have trunk circumferences of 12 inch or greater. As with the approved Project, replacement tree plantings installed as part of landscaping would serve to replace any landscape trees removed as part of construction, and no substantial conflicts with the City's Tree Ordinance are anticipated. The modified Project would not result in any new or more significant impacts beyond those identified in the IS/MND.

**6. Same Impact as Approved Project (No Impact)**

The modified Project would have no impact relative to a conservation plan and would not result in any new or more significant impacts beyond those identified in the IS/MND.

## GEOLOGY AND SOILS

**Setting**

Sources of geologic and soils information for the IS/MND included a June 2020 Desktop Study of geotechnical conditions by DCM Consultings,[5] and a Seismic Analysis Technical Memorandum by Hazen and Sawyer.[(8)] During the 30% design of the approved Project, impact driven piles were identified for the deep foundations. However, as discussed elsewhere in this Addendum, noise and vibration issues identified in the IS/MND required alternative deep foundation methods be evaluated. As design of the modified Project progressed beyond 30%, the use of micropiles was evaluated and chosen to replace traditional piles. CE&G has prepared a Geotechnical Design Report for the modified Project which includes the use of micropiles.[6]

None of the other Project modifications would affect geology and soils. Therefore, this section focuses on the use of micropiles.

**Findings of Previously Adopted IS/MND**

The adopted IS/MND had the following impact findings:

**No Impacts**

- Rupture of a known earthquake fault.
- Landslides.
- Substantial risks to life or property due to expansive soils.
- Soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems.
- Detection of paleontological resources or unique geologic features.

**Less than Significant Impacts**

- Strong seismic ground shaking.
- Seismic-related ground failure, including liquefaction.
- Substantial soil erosion.
- Unstable geologic unit.
- Substantial soil degradation or contamination.

**Impacts Discussion**

| RESOURCE CATEGORY / SIGNIFICANCE CRITERIA | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporated | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| **GEOLOGY AND SOILS** | | | | | |
| Would the Project: | | | | | |
| 1) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | | |
| a) 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. | .. | .. | .. | x | .. |
| b) Strong seismic ground shaking? | .. | .. | .. | x | .. |
| c) Seismic-related ground failure, including liquefaction? | .. | .. | .. | x | .. |
| d) Landslides? | .. | .. | .. | x | .. |
| 2) Result in substantial soil erosion or the loss of topsoil? | .. | .. | .. | x | .. |

| RESOURCE CATEGORY / SIGNIFICANCE CRITERIA | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporated | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| 3) 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? | ¨ | ¨ | ¨ | x | ¨ |
| 4) Be located on expansive soil, as defined in Table 18-I-B of the Uniform Building Code (1994), creating substantial risks to life or property? | ¨ | ¨ | ¨ | x | ¨ |
| 5) 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? | ¨ | ¨ | ¨ | x | ¨ |
| 6) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ¨ | ¨ | ¨ | x | ¨ |
| 7) Result in substantial soil degradation or contamination? | ¨ | ¨ | ¨ | x | ¨ |

**1, 1d, 4, 5, 6. Same impact as Approved Project (No Impact)**
**1b. 1c, 2, 3, 7. Same Impact as Approved Project (Less than Significant)**

The IS/MND evaluated the geologic, seismic, and soils impacts of the approved Project based on a 30% design and a geological seismic database consistent with that design level. The ETSU Phase 1 Program provides for preparation of Geotechnical Design Reports for each phase of the Program as they are implemented. As indicated above, CE&G has prepared a Geotechnical Design Report for the modified Project and the 95% engineering design was completed in the fall of 2023.

The IS/MND includes a series of control measures (G1-G8) that will be implemented and included in the Contract Documents, including incorporation of the recommendations of the Project Geotechnical Design Report and involvement of a geotechnical engineer throughout the design and construction of the Project. The Geotechnical Design Report for the modified Project has developed detailed recommendations for the geotechnical design aspects of the modified Project, including the use of micropiles consistent with the Phase 1 Program and the IS/MND. Geologic, seismic, and soils issues associated with the modified Project have been adequately analyzed in the IS/MND, and the modified Project would not result in any new or more significant impacts beyond those identified in the IS/MND since micropiles are similar to previous analyzed technologies used to address seismic and liquefaction resistance while providing the necessary structural support.

## NOISE

### Setting

The IS/MND's noise assessment of the approved Project concluded that impact driving of structural piles would generate noise and vibration levels that exceed Union City's standards and also have potential effects on State and federally listed California clapper rail and the California black rail. Mitigation Measures BIO-1 and NOI-5 were recommended to conduct further analyses during final design of the modified Project and develop a plan to reduce off-site impacts. As discussed earlier, a Noise and Vibration Mitigation Plan was developed by Environmental Collaborative and Charles M. Salter Associates and is included in Appendix A.

### Findings of Previously Adopted IS/MND

The adopted IS/MND had the following impact findings:

### No Impact

- Expose people near an airport to excessive noise levels.

### Less than Significant with Mitigation Incorporated

- Generation of substantial increases in ambient noise levels.
- Generation of excessive vibration or groundborne noise levels.

## Impacts Discussion

| Resource Category/ Significance Criteria | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporated | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| **NOISE** | | | | | |
| Would the Project result in: | | | | | |
| 1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | .. | .. | .. | .. | x |
| 2) Generation of excessive groundborne vibration or groundborne noise levels? | .. | .. | .. | .. | x |
| 3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | .. | .. | .. | x | .. |

### 1, 2. Less Impact than Approved Project (Less than Significant)

The IS/MND recommended a noise mitigation plan be developed for the Approved Project because the use of structural piles which are impact driven can generate noise levels in excess of Union City standards. The noise analysis prepared by Charles M. Salter Associates documented that the use of micropiles during construction of the modified Project is not expected to generate noise levels higher than other typical construction activities (Appendix A). The use of standard mitigation measures required by Union City, which are already included in the IS/MND, should be adequate to control construction activity noise and vibration. As a result, the noise and vibration impacts of the modified Project will be less than the approved Project, and the modified Project would not result in any new or more significant impacts beyond those identified in the IS/MND.

### 3. Same Impact as Approved Project (No Impact)

The modified Project would have no impact relative to Criteria 3 as the WWTP is not near an airport and would not result in any new or more significant impacts beyond those identified in the IS/MND.

## MANDATORY FINDINGS OF SIGNIFICANCE

### Findings of Previously Adopted IS/MND

The adopted IS/MND had the following impact findings:

### Less than Significant with Mitigated Incorporated

- Accidental discovery of archaeological resources.
- Noise and vibration impact to California clapper and black rails due to impact pile driving.
- Cumulatively considerable air quality and noise impacts.
- Environmental effects on human beings.

### Impacts Discussion

| Issues (and Supporting Information Sources) | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporated | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| **MANDATORY FINDINGS OF SIGNIFICANCE**<br>1) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | .. | .. | .. | .. | x |

| Issues (and Supporting Information Sources) | New Potentially Significant Impact | New Less Than Significant with Mitigation Incorporated | New Less Than Significant Impact | Same Impact as Approved Project | Less Impact than Approved Project |
|---|---|---|---|---|---|
| 2) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects)? | ¨ | ¨ | ¨ | x | ¨ |
| 3) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ¨ | ¨ | ¨ | x | ¨ |

**1. Less Impact than Approved Project (Less than Significant)**

The modified Project includes use of micropiles which will reduce construction noise and vibration so as not to be higher than current levels; thus, California clapper and black rails will not be adversely affected. With respect to accidental discovery of archaeological resources during excavation, Mitigation Measures ARCH-1 through ARCH-5 in the IS/MND remain applicable to the modified Project. The modified Project would not result in any new or more significant impacts beyond those identified in the IS/MND.

**2, 3. Same impact as Approved Project (Less than Significant with Mitigation Incorporated)**

The IS/MND concluded the approved Project would result in several areas of potential cumulative impact and environmental effects on human beings, including health risk, noise, and vibrational issues. Mitigation Measures were identified to reduce impacts to less than significant levels. With the modified Project, the mitigation measures would still be necessary but new or more significant impacts beyond those identified in the IS/MND would not occur.

## CHAPTER 4

## References


1. Scheidegger & Associates. Initial Study and Mitigated Negative Declaration for ETSU Phase 1 Program. March 2021.

2. Marc Solomon. Hazen and Sawyer. September 2021.

3. Irene Chu. Hazen and Sawyer. September 2021.

4. BAAQMD. Final 2017 Clean Air Plan: Spare the Air, Cool the Climate. Adopted April 19, 2017.

5. DCM Consulting, Inc. Desktop Study of Geotechnical Conditions, included as Appendix B to Hazen and Sawyer September 4, 2020 ETSU Phase 1A-AB Modifications Project 30% Design Report.

6. CE&G. Geotechnical Design Report, ETSU Phase 1B, New Secondary Clarifiers and Associated Improvements (Draft). May 18, 2021.

# APPENDIX A

# Noise and Vibration Mitigation Plan

ENVIRONMENTAL COLLABORATIVE

Consultation • Documentation • Restoration
41 Jeanette Court • Walnut Creek, CA 94596
Phone 510-393-0770 • beach127@aol.com

**MEMORANDUM**

TO: Mr. Paul Scheidegger
Scheidegger & Associates
201 North Civic Drive, Suite 115
Walnut Creek, California 94608

FROM: Jim Martin
ENVIRONMENTAL COLLABORATIVE

DATE: 8 September 2021

SUBJECT: Noise and Vibration Mitigation Plan
Called for in Mitigation Measure BIO-1 of the IS/MND
Union Sanitary District ETSU Phase 1Program
Union City, California

This memo serves as the Noise and Vibration Mitigation Plan called for in Mitigation Measure BIO-1 of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Union Sanitary District's (USD) Enhanced Treatment and Site Upgrade (ETSU) Phase 1 Program for the Alvarado Wastewater Treatment Plant (WWTP) in Union City, California. The WWTP is located at 5072 Benson Road, along the eastern border of the Old Alameda Creek Channel. Phase 1 of the ETSU calls for implementation of the first phase of Secondary Treatment Process Improvements by 2027. Through four projects (Phases 1A, 1A, 1B and 1C) Phase 1 will focus on improvement to the aeration basins (ABs), addition of AB8, new secondary clarifiers, effluent facilities, equalization to provide for improved process control/settling, early action nutrient removal and improved effluent quality, and replacement of the existing Administration and Control Buildings with a new campus layout on USD-owned property to the north of the current active plant site.

**Background**

The IS/MND[1] provides a detailed assessment of the potential impacts of the Phase 1 Program on biological resource, including potential effects on the State and federally-listed California Ridgway's (clapper) rail (*Rallus obsoletus obsoletus*) and the California black rail (*Laterallus jamaicensis coturniculus*) known to nest in the nearby Eden Landing Ecological Reserve (Reserve). Like other birds, both of these species are sensitive to changes in noise levels and new ground vibration and construction-generated noise and vibration was of concern given the limited information on construction operations at the time the IS/MND was issued. Excessive new noise and vibration could result in flushing from nests in active use and eventually result in a loss of young if nesting birds are disturbed to a degree that it interrupts their ability to incubate

[1] Scheidegger & Associates, 2021, *Initial Study and Mitigated Negative Declaration, ETSU Phase 1 Program*, *Union Sanitary District*, March.

eggs or attend to young birds before they've successfully fledged.

In the IS/MND, the Phase 1B-Secondary Clarifiers and Effluent Facilities Project (Project) was to use conventional impact pile driving to construct the deep foundations for new clarifiers, pump station, and effluent facilities. Approximately 1,000 piles were project to be needed based on a 30% design level. Pile driving would start in May 2023 and take about 2 ½ months to complete.

**Figure 1** shows the WWTP, the footprint of the Phase 1B Project boundaries, and location of assumed rail habitat along the Old Alameda Creek Channel to the northwest. The IS/MND found that introduction of this construction-generated noise and vibration source during the rail nesting season could result in a significant adverse impact. The IS/MND, as a programmatic document under the California Environmental Quality Act, noted an opportunity existed to analyze this issue in more detail as design proceeded. Thus, as discussed below, the IS/MND recommended that Mitigation Measure BIO-1, Development of a Noise and Vibration Mitigation Plan, be developed during final design of the Project.

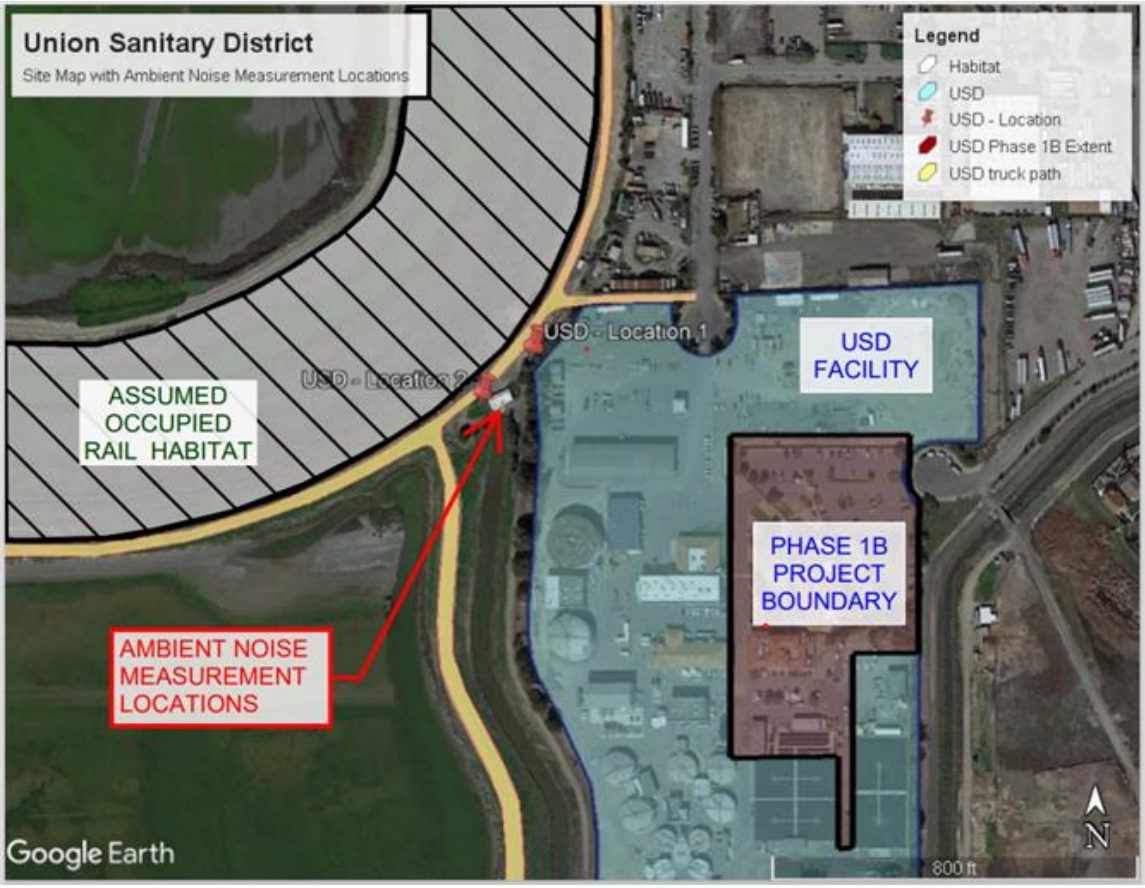



**Figure 1**. Phase 1B Project Boundary in relation to Old Alameda Creek and Rail Habitat

**Noise and Vibration Analysis**

Given the concerns over Project-generated noise and vibration and potential effects on nearby rails, refinements were made to the proposed Phase 1B Project. As a result, conventional

impact and vibratory pile driving will not be use due to potential off-site noise and vibration issues to nearby residences and the rail habitat in the Reserve. Instead, micropiles will be used, which have noise and vibration levels at or below the noise levels of normal wastewater treatment plant operations and normal construction noise to which rails are already acclimated to from the existing WWTP operations. A detailed noise assessment was conducted by Charles M. Salter Associates for the Project to inform the USD on appropriate construction methodology and impacts to rail nesting habitat in the adjacent Reserve.[2] A report of findings was completed summarizing ambient and projected noise levels and is contained in **Attachment A** to this memo. **Figure 2** shows a comparison of pile driving, vibratory drilling, and other methods, and indicates the extent to which pile driving with noise levels up to 86 dB would extend over the adjacent Reserve and rail nesting habitat.


**Figure 2.** Approximate 86dB Noise Contours for Foundation Methods (100 ft, 300 ft + 1,600 ft)

Based on the noise analysis prepared by Charles M. Salter Associates, projected construction noise at the nearest Alameda Creek habitat area within the Reserve is expected to be between 64 dBA and 69 dBA. Measured existing activity noise varied considerably, with many events that exceeded 85 dBA. Based on this information, noise and vibration levels generated by the Phase 1B Project are not expected to be higher than noise levels that currently occur in this area of Alameda Creek wildlife habitat. The potential impacts associated with implementation of the Phase 1B Project would be negligible and no substantial adverse effects on rail habitat are anticipated. The WWTP has been a consistent source of construction noise and vibration over

[2] Charles M. Salter Associates, 2021, *Union Sanitary District Alvarado Wastewater Treatment Plant Enhanced Treatment and Site Upgrade – Phase 1B – Construction Noise & Vibration Analysis Salter Project 21-0351,* letter report to Paul Scheidegger, Scheidegger & Associates from Jeremy Decker, Vice President, August 9.

the years, and rails have become acclimated to these disturbances.

**Purpose of Mitigation Measure BIO-1**

Mitigation Measure BIO-1 in the IS/MND for the Phase 1B Project required preparation of a Noise and Vibration Mitigation Plan to address potential impacts on rail nesting in the marshlands to the west of the treatment plant. This measure was included in the IS/MND because of the preliminary status of design and need to confirm that no substantial adverse impacts occurred to the nearby rail nesting habitat in the Reserve. As contained in the IS/MND, Mitigation Measure BIO-1 was written as follows.

> ***Mitigation Measure BIO-1:*** *Development of a Noise and Vibration Mitigation Plan. During final design of the Phase 1B project, a Noise and Vibration Mitigation Plan (the "Plan") will be developed by a qualified biologist. The Plan will include a detailed timing assessment of pile driving and a study of sound attenuation from pile driving at the construction site. If necessary, the following will be completed: an analysis of alternative drilling technologies; an assessment of different shielding methods such as temporary sound walls, shrouds, and jackets for effectiveness in abating noise and vibration levels in areas west of the WWTP. The Plan will require implementation measures as necessary to reduce noise and vibrational impacts to rail nesting. The Plan shall also require monitoring if needed.*

**Conclusions and Recommendations**

A determination that the Phase 1B Project is not likely to adversely affect California clapper (Ridgway's) rail was reported to the U.S. Fish and Wildlife Service (USFWS) by the U.S. Environmental Protection Agency (EPA) as part of the Water Infrastructure Finance and Innovation Act (WIFIA) Program through an informal consultation request that was initiated by letter from the EPA on June 29, 2021. In a response letter from August 17, 2021, the USFWS[3] concurred with the EPA determination, stating that construction and operation activities, generating noise and vibration, have routinely occurred at the treatment plant, that an acoustic impact analysis was conducted and concluded that Project construction noise is not expected to be higher than noise levels that currently occur at the nearby Reserve. Additionally, because construction will occur in developed areas, that no habitat would be affected by the Phase 1B Project.

The informal consultation with USFWS includes a number of details regarding the need for reinitiation of consultation if changes in the Project actions were to occur, if new information indicates listed species could be affected, or if a new species is listed or critical habitat is designated that could be affected by the Project. However, reinitiation of consultation is not required under certain circumstances. The USD should be aware of all of these limitations on the concurrence determination from the USFWS, and they are excerpted from page 3 of the information consultation letter as follows.

> (a) Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has

[3] USFWS, 2021, Informal Consultation on Union Sanitary District's Enhanced Treatment and Site Upgrade Phase 1 Program, Union City, Alameda County, California, 08FBDT00-2021-I-0245, letter to Ashely Longrie, Environmental Engineer, WIFIA Management Division, US EPA from Jan Affonso, Assistant Field Supervisor, August 17.

been retained or is authorized by law and:
(1) If the amount or extent of taking specified in the incidental take statement is exceeded;
(2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
(3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or
(4) If a new species is listed or critical habitat designated that may be affected by the identified action.
(b) An agency shall not be required to reinitiate consultation after the approval of a land management plan prepared pursuant to 43 U.S.C. 1712 or 16 U.S.C. 1604 upon listing of a new species or designation of new critical habitat if the land management plan has been adopted by the agency as of the date of listing or designation, provided that any authorized actions that may affect the newly listed species or designated critical habitat will be addressed through a separate action-specific consultation. This exception to reinitiation of consultation shall not apply to those land management plans prepared pursuant to 16 U.S.C. 1604 if:
(1) Fifteen years have passed since the date the agency adopted the land management plan prepared pursuant to 16 U.S.C. 1604; and
(2) Five years have passed since the enactment of Public Law 115-141 [March 23, 2018] or the date of the listing of a species or the designation of critical habitat, whichever is later.

Given that no substantial adverse effects from construction-generated noise and vibration are anticipated on the nearby rail habitat in the Reserve as a result of implementing the Project, no additional mitigation is considered necessary beyond the controls incorporated into the Project or called for as mitigation measures in the IS/MND.

Please feel free to contact me by phone or email if you have any questions regarding the above conclusions and recommendations.

**ATTACHMENT A**

**ETSU Phase 1B - Construction Noise & Vibration Analysis**

9 August 2021

Paul Scheidegger
**Scheidegger & Associates**
pscheidegger00@comcast.net

**Subject:** **Union Sanitary District Alvarado Wastewater Treatment Plant**
**Enhanced Treatment and Site Upgrade – Phase 1B – Construction Noise & Vibration Analysis**
**Salter Project 21-0351**

Dear Paul:

As you know, we performed an acoustical impact analysis for the Union Sanitary District ETSU project. Our 26 February 2021 technical background report focused on the detailed design of Phase 1A, but also included a program level analysis for other phases. Phase 1B includes the new secondary clarifiers and effluent facilities. At the time, Phase 1B had the potential of utilizing impact pile driving to construct deep foundations. Therefore, we acknowledged the potential for noise impacts and identified a mitigation measure requiring that a detailed noise analysis be performed once the Phase 1B design progressed further. In addition, the potential for elevated noise from impact pile driving raised the question of potential impact to wildlife in the adjacent open space habitat This letter summarizes our follow-up analysis of construction noise and vibration and provides acoustical data for evaluation by the project Biologist with respect to the wildlife.

## SUMMARY

The primary original concern of elevated noise levels from impact pile driving has been abated. The Phase 1B construction plan now includes the installation of micro-piles instead of impact driven piles. As such, we conclude the following:

- The micro-pile activity is not expected to generate noise levels higher than other typical construction activities.
- Standard mitigation measures of the City should still be adequate to control construction activity noise to meet the City standards.
- Construction activities are expected to generate noise levels at the neighboring wildlife habitat (more than 500 feet away) that are similar to and lower than existing operational noise levels in that area.
- Standard mitigation measures of the City for construction vibration are expected to be adequate.

Therefore, we do not expect Phase 1B to result in significant noise and vibration impacts, and no further mitigation measures are needed.

## CITY CONSTRUCTION NOISE STANDARDS

### Union City General Plan

The Safety Element of the adopted Union City 2040 General Plan includes standards and policies applicable to the Project construction as listed below.

Policy S-8.8 Limit Construction House: To minimize the potential noise impacts of construction activities on surrounding land uses, the City shall limit construction activities between the hours of 8:00 a.m. and 8:00 p.m. on Monday through Friday, 9:00 a.m. and 8:00 p.m. on Saturdays, and 10:00 a.m. and 6:00 p.m. on Sundays and holidays. The City Manager may make specific exceptions to the construction hours when utility work in the streets would have a severely negative impact on traffic flow and public safety.

Policy S-8.9 Construction Noise Control Measures: The City shall include the following noise control measures as standard conditions of approval for projects involving construction [See list incorporated into mitigation measure to address construction noise].

Policy S-8.10 Construction Vibration Control Measures: The City shall include the following measures as standard conditions of approval for applicable projects involving construction to minimize exposure to construction vibration [See list incorporated into mitigation measure to address construction vibration].

### Union City Municipal Code (Noise Ordinance)

Chapter 9.40 of the Union City Municipal Code includes the following noise standards for construction:

9.40.053 Construction.[1] Notwithstanding any other provision of this chapter, between the hours of eight a.m. and eight p.m. daily except Saturday, when the exemption herein shall apply between nine a.m. and eight p.m. and Sundays and holidays, when the exemption herein shall apply between ten a.m. and six p.m., construction, alteration, or repair activities which are authorized by valid City permit shall be allowed if they meet at least one of the following noise limitations:

A. No individual piece of equipment shall produce a noise level exceeding eighty-three dBA at a distance of twenty-five feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to twenty-five feet from the equipment as possible.

B. The noise level at any point outside the property plane of the Project shall not exceed eighty-six dBA.

[1] We understand that these construction regulations are incorporated into the Union Sanitary District use permit (UP-5-95).

## CONSTRUCTION NOISE REVIEW

### Micro-Piles

The installation involves the use of a crane to support a long hollow auger (e.g., 4-inch diameter). The auger drills down to the depth of the pile, then concrete is pumped through the auger to fill the hole as the auger is retracted. Based on our previous observations and measurements of this activity, the loudest elements are the concrete pump, trucks, and crane engine. The drilling operation itself is rather quiet.

With the selection of this deep foundation installation method, the maximum activity noise is not expected to be louder than other typical construction activity noise levels of 80 to 85 dBA at a distance of 50 feet (see additional comments in the related section below). Thus, the micro-pile installation is not expected to generate significant noise impacts.

### Construction Noise at Nearest Wildlife Habitat

Though impact pile driving is no longer a concern, we are providing an analysis of expected construction noise transmitted to the nearby Alameda Creek open space. We understand that this area was previously identified as habitat for wildlife (see the excerpt below from a recent USD study):


*Figure 1: Excerpt of identified wildlife habitat from a recent USD environmental study*

We are not aware of a noise threshold that would be anticipated to result in a significant impact to the wildlife. Therefore, we compared expected construction noise to existing noise levels in this area. From 21 to 23 July 2021, we continuously monitored noise levels at two locations nearest the habitat. These locations are identified on the site plan below:

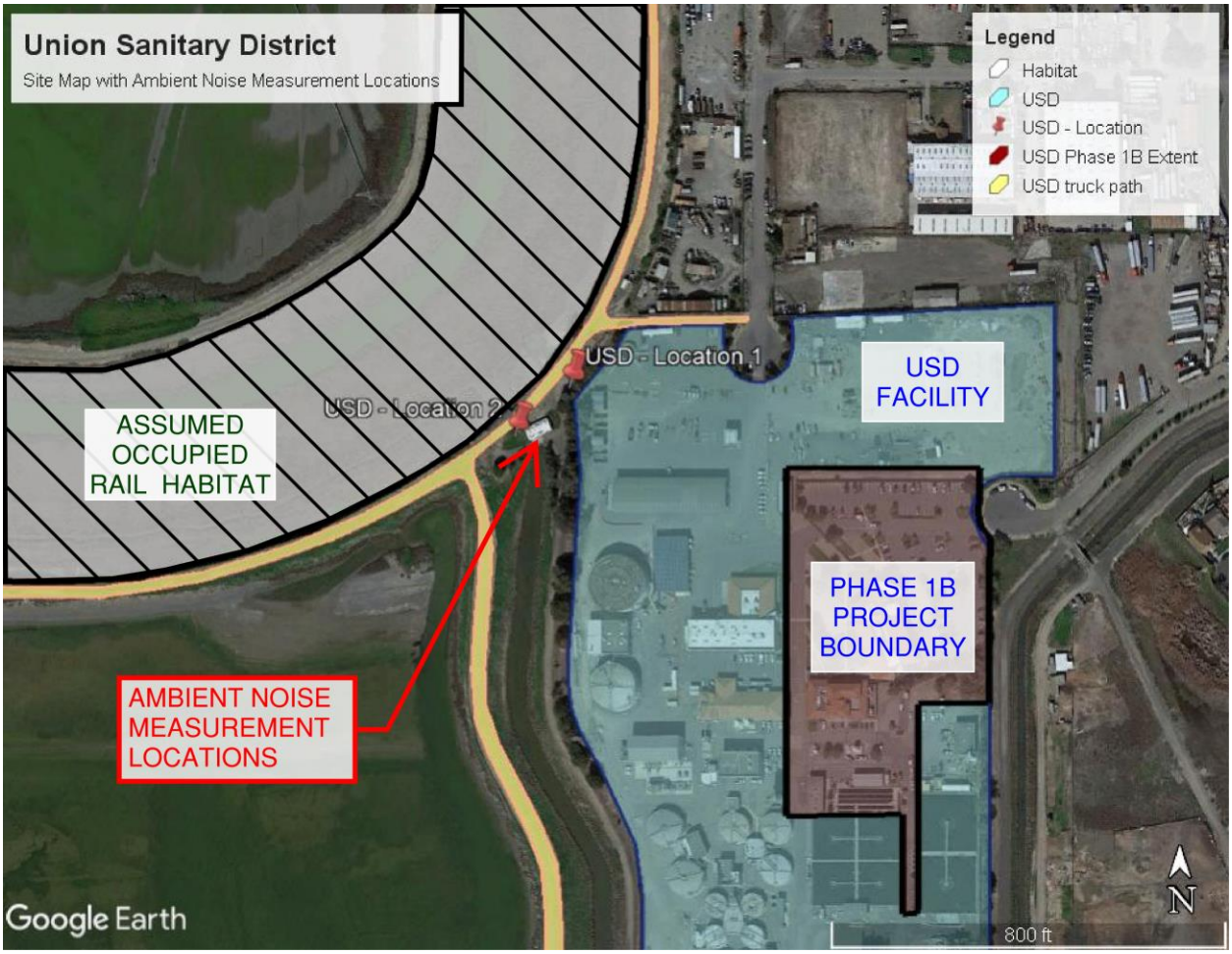



*Figure 2: Site plan identifying ambient noise measurement locations*

Chart 1 below illustrates the measured ambient noise levels using several metrics compared to the maximum projected construction noise levels for several conditions. We analyzed one construction source that could generate either 80 or 85 dBA (at a distance of 50 feet). To be conservative, we also analyzed what five sources operating simultaneously and generating their maximum noise levels of 80 to 85 dBA. We assumed that these five sources were somewhat distributed around the Phase 1B work area. We assumed some slight shielding from existing buildings. In practice, some sources will be working in a pit to construct the foundations and will be shielded from neighboring areas. However, to be conservative, we did not yet take this into account.

Projected construction noise levels at the nearest edge of the wildlife habitat were calculated to be between 64 and 69 dBA for the reference conditions. However, at both measurement locations, we measured existing activity noise levels up to 85 dBA, and occasionally higher. In addition, occasional noise from the USD facility was measured up to 75 dBA.

Chart 1:
Projected Maximum Construction Noise Levels Compared to Measured Existing Activity Noise (5-minute interval data)

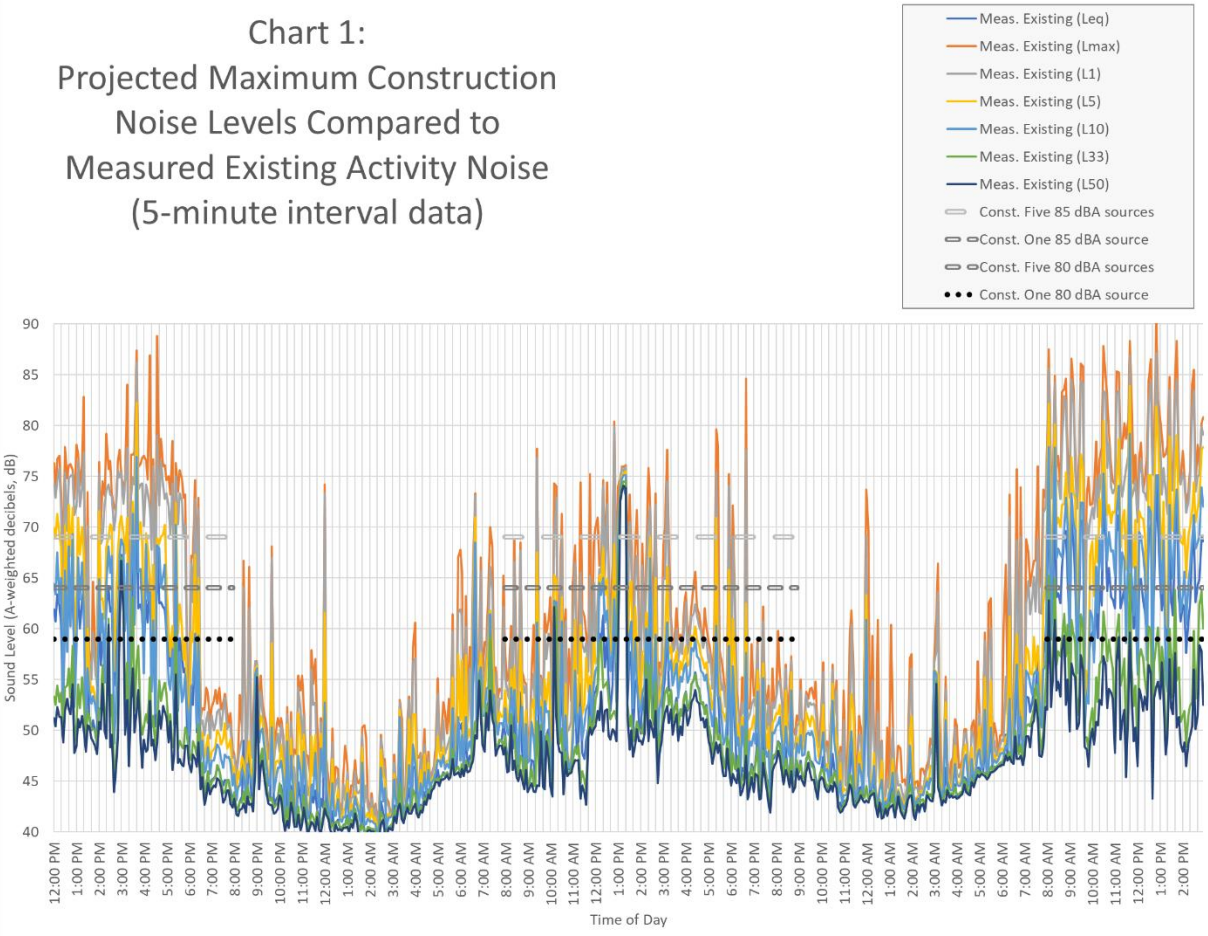



Chart 1 Notes:

1. Measured existing noise levels are listed in several metrics to get a better understanding of how existing noise levels vary over time as activity changes:
   a. Leq is the average noise level (over each 5-minute interval)
   b. Lmax is the maximum noise levels recorded (over each 5-minute interval)
   c. Ln is a percentile noise levels that indicates the level that was exceeded during "n" percent of the time (over each 5-minute interval)
2. Estimated construction noise levels are shown for a few different conditions.

a. Construction noise levels shown are projected maximum levels. Much of the time, noise levels would be quieter.

b. The louder construction activities are expected to be between 80 to 85 dBA (at 50 feet).

c. Our projections include a condition with one source at the Phase 1B construction area closest to the Alameda Creek habitat area (approximately 550 feet away)

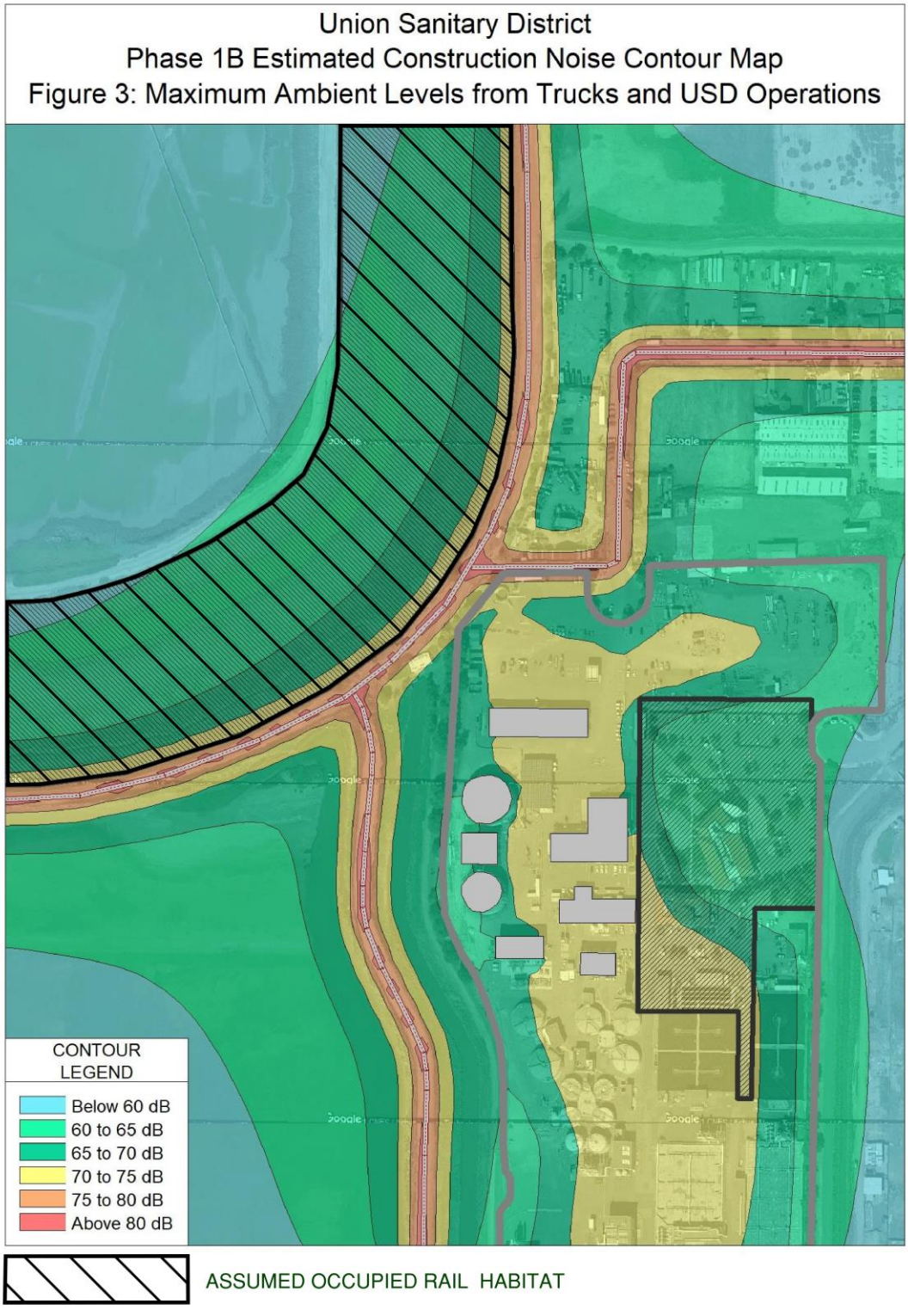
d. Our projections also include a condition with five sources distributed across the Phase 1B construction area.

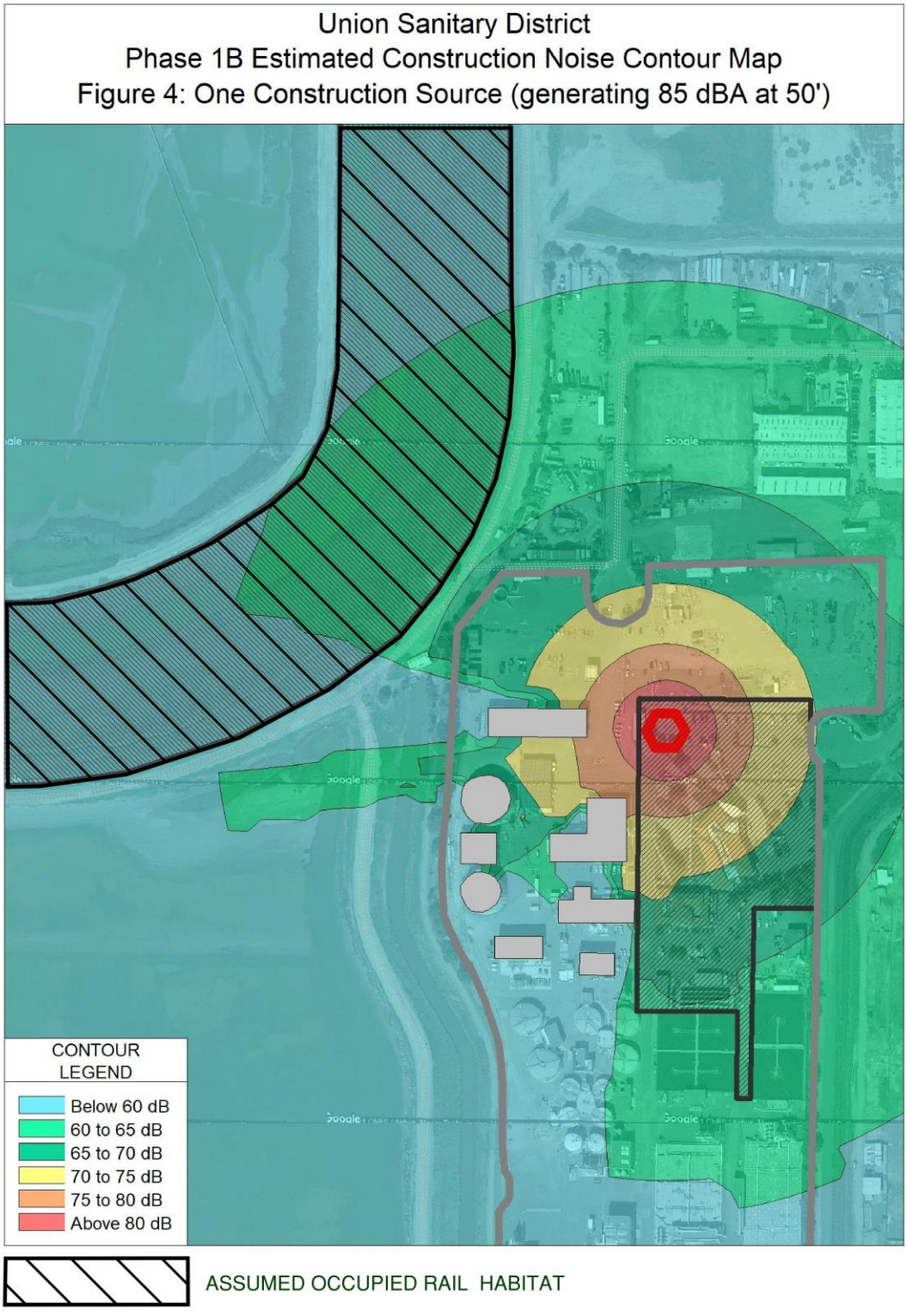
3. Chart 1 includes noise levels measured at Location 1. Location 2 noise levels were very similar.

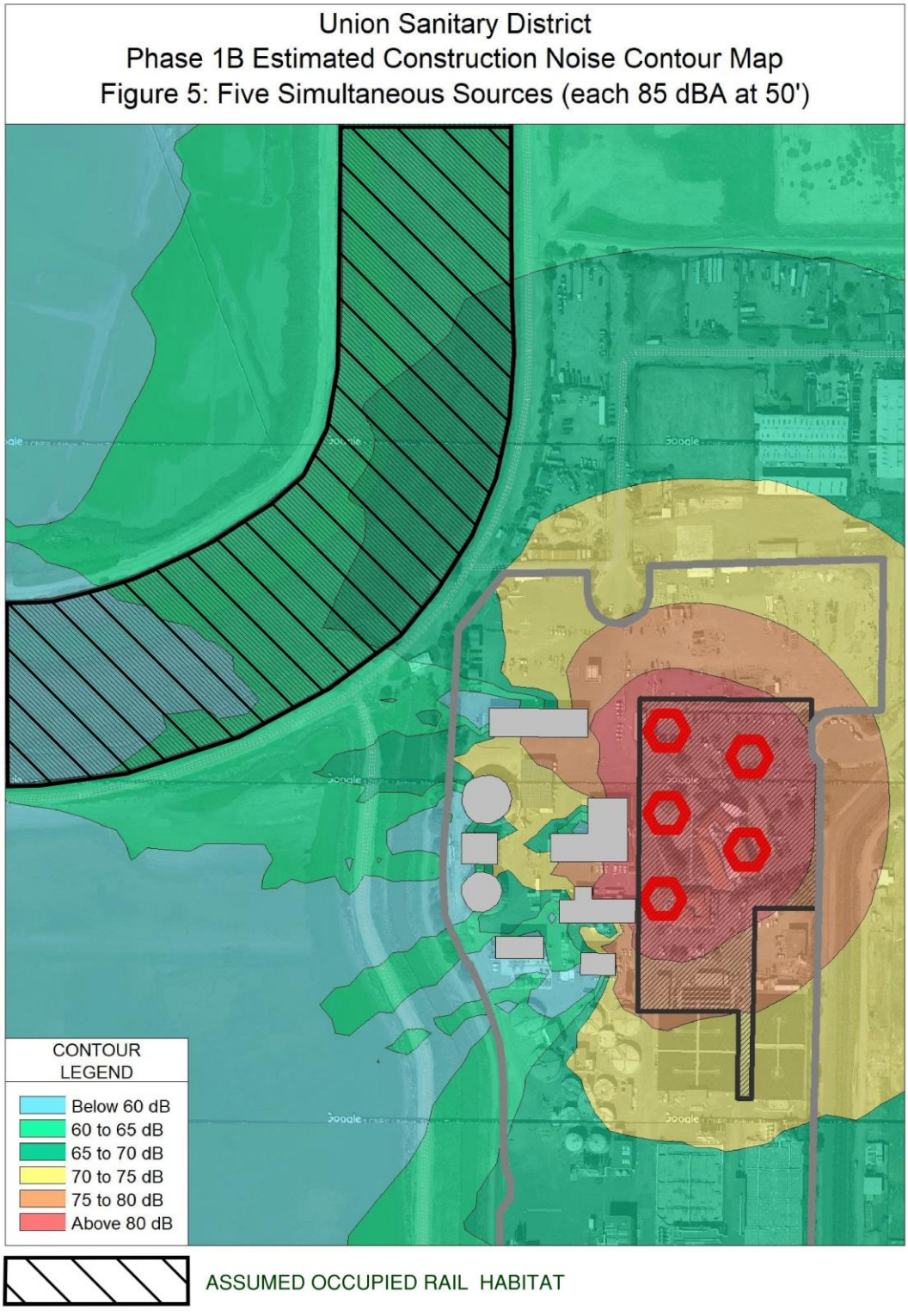
As illustrated in Chart 1 above, we find that:

- Projected maximum construction noise at the nearest Alameda Creek habitat area is expected to be between 59 dBA and 69 dBA. (shown on the graph between 8am and 8pm)
- Measured existing activity noise varied considerably, with many events that exceeded 85 dBA.
- Therefore, USD Phase 1b construction activity is not expected to be higher than noise levels that currently occur in this area of Alameda Creek wildlife habitat.

To further illustrate our conclusion, we generated graphical noise contours to roughly depict the distribution of noise across the subject area. Figure 3 depicts ambient conditions considering the truck traffic and moderate USD operational noise. Figures 4 and 5 depict noise contours of projected maximum construction noise levels considering just one and for five simultaneous noise sources in the Phase 1B area. The latter is a conservative condition that is not expected to occur often. These graphics show how construction noise levels in the Alameda Creek wildlife habitat is not expected to be significantly higher than ambient conditions that the wildlife is currently accustomed to.


Union Sanitary District
Phase 1B Estimated Construction Noise Contour Map
Figure 3: Maximum Ambient Levels from Trucks and USD Operations
CONTOUR LEGEND
Below 60 dB
60 to 65 dB
65 to 70 dB
70 to 75 dB
75 to 80 dB
Above 80 dB
ASSUMED OCCUPIED RAIL HABITAT


Union Sanitary District
Phase 1B Estimated Construction Noise Contour Map
Figure 4: One Construction Source (generating 85 dBA at 50')
CONTOUR LEGEND
Below 60 dB
60 to 65 dB
65 to 70 dB
70 to 75 dB
75 to 80 dB
Above 80 dB
ASSUMED OCCUPIED RAIL HABITAT


Union Sanitary District
Phase 1B Estimated Construction Noise Contour Map
Figure 5: Five Simultaneous Sources (each 85 dBA at 50')
CONTOUR LEGEND
Below 60 dB
60 to 65 dB
65 to 70 dB
70 to 75 dB
75 to 80 dB
Above 80 dB
ASSUMED OCCUPIED RAIL HABITAT

## Typical Construction Activities

Construction activities would include use of heavy equipment for demolition, excavation, grading, foundation construction, building erection, and other activities. Neighboring land-uses with direct line-of-sight to construction activities and construction traffic could be affected by construction noise. Potential construction noise impacts would vary with distance. Table 6 summarizes the expected construction phases, equipment, and typical noise levels.

*Table 1: Typical Maximum Construction Noise Levels (dBA)*

| Phase | Equipment | Noise at 50' | Noise at 100' | Noise at 600' |
|---|---|---|---|---|
| Demolition, Excavation, Grading | Excavator, Scraper, Compactor, Water Truck, Blade /Grader,Dump Trucks | 85 | 79 | 63 |
| Utilities | Excavator, Rubber Tire Loader, Water Truck, Backhoe, Dump Truck | 80 | 74 | 58 |
| Foundations | Forklift, Compressor, Cement Mixer/Truck, Concrete Finisher, Concrete Boom Pump, Crane | 85 | 79 | 63 |
| Building Exterior | Gradall/Crane, Hand/Power Tools | 85 | 79 | 63 |
| Building Interior | Gradall, Metal Stud Saw (indoors), Paint Sprayer, Hand/Power Tools | 80 | 74 | 58 |
| Hardscape and Landscape | Backhoe, Compactor, Dump Truck, Cement Mixer/Truck, Bobcat | 80 | 68 | 58 |

Pursuant to the site use permit (UP-5-95) and the Municipal Code, construction activities are to be limited to standard daytime hours. These are between the hours of 8:00 a.m. and 8:00 p.m. on Monday through Friday, 9:00 a.m. and 8:00 p.m. on Saturdays, and 10:00 a.m. and 6:00 p.m. on Sundays and holidays. During these standard daytime construction hours, construction activities are exempt from the standard Noise Ordinance limits (Section 9.40.043) and instead must meet one of the two following standards (see Section 9.40.053):

1. No individual piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25'. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to twenty-five feet from the equipment as possible.
2. The noise level at any point outside the property plane of the Project shall not exceed 86 dBA.

Some construction equipment may generate intermittent noise levels up to 80 dBA to 85 dBA at a distance of 50 feet. These levels would meet the City Noise Ordinance limit of 86 dB outside the property plane and thus meet the City Noise Ordinance regulations for daytime activity. At a distance of 600 feet, these projected construction noise levels would be reduced to 60 dBA to 65 dBA or quieter, which would then be in-line with typical environmental events (e.g., vehicle passbys).

Nonetheless, noise-generating activities over the construction period, though temporary, could increase ambient noise levels at neighboring sensitive land-uses. Therefore, the construction plan is to incorporate reasonable measures to manage construction activities to reduce the potential noise impact, as listed below (and as required by the City Municipal Code).

1. Properly muffle and maintain all construction equipment powered by internal combustion engines.
2. Prohibit unnecessary idling of combustion engines.
3. Locate all stationary noise-generating construction equipment such as air compressors as far as practical from existing nearby residences and other noise-sensitive land uses. Such equipment shall also be acoustically shielded.
4. Select quiet construction equipment particularly air compressors, whenever possible. Fit motorized equipment with proper mufflers in good working order.
5. Residences adjacent to project sites shall be notified in advance in writing of the proposed construction schedule before construction activities commence. The construction schedule shall comply with Policy S-8.8.
6. The project applicant shall designate a "noise disturbance coordinator" responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of any noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. A telephone number for the disturbance coordinator shall be posted at the construction site.

## CONSTRUCTION VIBRATION REVIEW

Construction activities would include site preparation work, minor excavation, foundation work, and new building framing. Tables below present typical vibration levels[2] that could be expected from construction equipment at distances of 25 and 100 feet. However, vibration levels would vary depending on soil conditions, construction methods, and equipment used at the site.

[2] From the Caltrans "Transportation and Construction Vibration Guidance Manual" (September 2013) and the "Transit Noise and Vibration Impact Assessment" report by the United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006. Estimated levels at setbacks greater than 25 feet are estimated per the Caltrans published formula $PPV_{equipment} = PPV_{ref}(25/D)^n$, where $PPV_{ref}$ is the reference PPV at 25 feet, D is the distance from the equipment to the receiver (in feet), and n is a reference value of 1.1.

*Table 3: Example Construction Vibration Levels Compared to Building Damage Thresholds*

| Equipment | PPV at 25 ft. (in/sec) | Threshold Limits |
|---|---|---|
| Vibratory Roller | 0.210 | 0.3 to 0.5 for continuous sources; 0.5 to 1.0 for transient sources |
| Vibratory Driver | 0.10 to 0.15 | |
| Hoe Ram | 0.089 | |
| Large bulldozer | 0.089 | |
| Caisson drilling | 0.089 | |
| Loaded trucks | 0.076 | |
| Jackhammer | 0.035 | |
| Small bulldozer | 0.003 | |

*Table 4: Example Construction Vibration Levels Compared to Human Perception Thresholds*

| Equipment | PPV at 100 ft. (in/sec) | PPV at 600 ft. (in/sec) | Threshold Limits |
|---|---|---|---|
| Vibratory Roller | 0.046 | 0.006 | 0.01 to 0.04 for continuous sources; 0.04 to 0.25 for transient sources |
| Vibratory Driver | 0.01 to 0.02 | 0.002 to 0.003 | |
| Hoe Ram | 0.019 | 0.003 | |
| Large bulldozer | 0.019 | 0.003 | |
| Caisson drilling | 0.019 | 0.003 | |
| Loaded trucks | 0.017 | 0.002 | |
| Jackhammer | 0.008 | 0.001 | |
| Small bulldozer | 0.001 | <0.001 | |

As indicated in Tables 3 and 4, vibration levels are not expected to exceed the threshold limits related to building damage and human perception at adjacent land-uses. At the distance of the rail habitat, vibration would be far below the human perception threshold. In addition, at the habitat, vibration would be lower than vibration generated by existing operational activities. For example, compare projected construction vibration of 0.001 to 0.006 PPV (in/sec) to local truck traffic at approximately 0.02 PPV (in/sec). Though vibration is not expected to generate significant impacts, mitigation measures outlined below, are to be implemented, to the extent feasible (and as required by the City Municipal Code).

1. Limit construction activities with the highest potential to produce significant vibration (e.g., such as a vibratory roller) to less-sensitive daytime hours.
2. Avoid the use of vibratory rollers (i.e., compactors) within 50 feet of buildings that are susceptible to damage from vibration.
3. Schedule construction activities with the highest potential to produce vibration to hours with the least potential to affect nearby institutional, educational, and office uses that the Federal Transit Administration identifies as sensitive to daytime vibration (FTA 2006).
4. Notify neighbors of scheduled construction activities that would generate vibration.

* * *

Should you have any questions, please feel free to contact us.

Best,

**CHARLES M. SALTER ASSOCIATES, INC.**

Jeremy Decker
Vice President

# APPENDIX B

# Biological Resource Assessment for ETSU Phase 1 Program

ENVIRONMENTAL COLLABORATIVE

Consultation • Documentation • Restoration
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**MEMORANDUM**

TO: Mr. Paul Scheidegger
Scheidegger & Associates
201 North Civic Drive, Suite 115
Walnut Creek, California 94608

FROM: Jim Martin
ENVIRONMENTAL COLLABORATIVE

DATE: 21 June 2021

SUBJECT: Biological Resource Assessment
Union Sanitary District ETSU Phase 1Program
Union City, California

As you requested, I have conducted a Biological Resource Assessment (BRA) of the proposed Union Sanitary District's (USD) Enhanced Treatment and Site Upgrade (ETSU) Program for the Alvarado Wastewater Treatment Plant (WWTP) in Union City, California. The WWTP is located at 5072 Benson Road, along the eastern border of the Old Alameda Creek Channel. Phase 1 of the ETSU calls for implementation of the first phase of Secondary Treatment Process Improvements by 2027. Phase 1 will focus on improvement to the aeration basins (ABs), addition of AB8, new secondary clarifiers, effluent facilities, and equalization to provide for improved process control/settling, early action nutrient removal and improved effluent quality. Construction of the new clarifiers will require demolition of the existing Administration and Control Buildings and replacement of these buildings in a new campus layout on USD-owned property to the north of the current active plant site.

The proposed Project is described in detail in Chapter 1, Introduction and Project Description, of the Initial Study/Mitigated Negative Declaration (IS/MND).[1] The attached figures excerpted from the IS/MND provide information on the Project location, existing conditions, and proposed facilities. **Figure 1-1** shows the regional location of the WWTP. **Figure 1-2** shows the existing WWTP site plan on an aerial base map. **Figure 1-4** shows the proposed facilities associated with the ETSU Phase 1 Program at the WWTP. And **Figure 1-9** shows land use characteristics on the WWTP site and surrounding area, including proximity to Eden Landing Ecological Reserve.

The IS/MND relied upon the BRA prepared for USD's Standby Power Generation System Upgrade Project as a primary resource document for on-site ETSU Phase 1 biological impacts. During agency review of the IS/MND, the State Water Resources Control Board (SWRCB) requested that the BRA be updated and a stand-alone BRA for ETSU Phase 1 biological

[1] Scheidegger & Associates, 2021, *Initial Study and Mitigated Negative Declaration, ETSU Phase 1 Program*, *Union Sanitary District*, March.

impacts be prepared and incorporated into USD's SWRCB Clean Water State Revolving Fund Program loan application. The environmental documentation for the Clean Water State Revolving Fund Program administered by the SWRCB, Division of Financial Assistance, requires update of the BRA to confirm presence or absence of any federally-listed species and to ensure compliance with the federal Endangered Species Act, the Clean Water Act, the Migratory Bird Treaty Act, and the Magnuson-Stevens Fishery Conservation and Management Act, among other legislation. This BRA has been prepared to address potential effects of the proposed improvements on biological resources, based on the results of a background information review and field reconnaissance surveys. This BRA provides a description of existing conditions in the area of potential affect (APE) at the site, and an assessment of potential effects on biological and wetland resources. **Figures 2** and 3 show the APE for the entire WWTP, together with known occurrences of special-status plants and animal species, respectively, as reported from the California Natural Diversity Data Base (CNDDB) of the California Department of Fish and Wildlife (CDFW), and designated critical habitat mapped by the U.S. Fish and Wildlife Service (USFWS). A field visit was conducted on May 5, 2021 and no additional field surveys are considered necessary based on the highly disturbed conditions of the APE.

## SETTING

### Background and Methods

Biological resources associated with the APE were identified through a review of available background information and conduct of field reconnaissance surveys. Available documentation was reviewed to provide information on general resources in the southwestern Alameda County area, presence of sensitive natural communities, and the distribution and habitat requirements of special-status species which have been recorded from or are suspected to occur in the Project vicinity. Literature review included: the occurrence records of the CNDDB; the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants*; and lists of federally-listed and candidate species prepared by the USFWS for Project site vicinity that was prepared as part of the ETSU Phase 1 Project for the APE encompassing the WWTP. Field reconnaissance surveys were conducted by James Martin, a biologist and principal of Environmental Collaborative, on June 15 and September 13, 2018, and on May 5 and May 27, 2021 to determine the vegetation and wildlife resources, presence or absence of any sensitive resources such as potential jurisdictional wetlands, and the suitability of the APE to support populations of special-status species. The CNDDB, USFWS and CNPS species list are contained in **Appendix 1**.

### Existing Vegetation and Wildlife Habitat Conditions

The APE has been developed with existing wastewater facilities with no remaining natural habitat. The APE is largely unvegetated, covered in pavement, structures, tanks, and graveled areas. Limited ornamental plantings of turf grass and a few scattered planted trees occur as landscaping in a few locations within the APE. Trees include a row of blackwood acacia (*Acacia melanoxylon*), coast live oak (*Quercus agrifolia*), and eucalyptus (*Eucalyptus* spp.) planted as a windbreak along the western edge of the APE, and scattered plantings of coast live oak, Canary Island date palm (*Phoenix canariensis*), Chinese pistache (*Pistacia chinensis*), and pines (*Pinus* sp.) around the administration building and other locations. Ruderal (weedy) species occur in an unpaved area north of the administration building that is used for construction staging and storage of construction equipment, gravel, and stockpiled soil, and other materials. Ruderal plant cover around the margins of this area includes: bristly ox tongue (*Picris echioides*), wild

oats (*Avena fatua*), bromes (*Bromus* spp.), English plantain (*Plantago lanceolata*), field bindweed (*Convolvulus arvense*), sweet fennel (*Foeniculum vulgare*), Himalayan blackberry (*Rubus armeniacus*) and ivy (*Hedera helix*), among others.

The APE provides very little in terms of possible wildlife habitat given its developed condition, absence of vegetative cover and intensity of human disturbance. Species typical of ruderal and urban habitat occur in the vicinity, including: house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), northern mocking bird (*Mimus polyglottos*), American crow (*Corvus brachyrhynchos*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*). Numerous rock dove (*Columba livia*) were observed congregating on the towers at the north end of the aeration basins within the WWTP. No white wash, feathers, pellets or other indications of occupation by western burrowing owl (*Athene cunicularia hypugaea*) were observed anywhere within the APE during an inspection performed during the field reconnaissance surveys. Western burrowing owl is known to frequently occupy underground burrows of California ground squirrels (*Otospermophilus beecheyi*) for nesting and retreat habitat, although no ground squirrel burrows were observed within the APE. No evidence of nesting by any bird species was observed in any of the trees in the vicinity of the APE during the field reconnaissance surveys. Netting and other bird nesting deterrents have been installed on perches and other potential nesting areas on buildings within the APE, including the eves of buildings with ledges or other attractants and the underside of the carport and open storage areas to Buildings 71 and 81.

The Old Alameda Creek Flood Control Channel borders the WWTP to the northwest, and the Eden Landing Ecological Reserve is located to the west (see **Figure 1-9**). The Reserve is about 6,400 acres of restored salt ponds, adjacent diked marshes, and transitional areas to uplands that are managed for resident and migratory waterbirds. The Reserve contains important habitat for fish and wildlife, and supports a number of special-status species, including California Ridgway's (clapper) rail (*Rallus obsoletus obsoletus*) and the California black rail (*Laterallus jamaicensis coturniculus*). Information on each of these species is discussed further below, given the proximity of the APE to suitable habitat for these species along the Old Alameda Creek Flood Control Channel.

**Special-Status Species**

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Acts[2] or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" [3] of these species.

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[2] The federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

[3] "Take" as defined by the FESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the U.S. Fish and Wildlife Service (USFWS) to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFW also considers the loss of listed species habitat as take, although this policy

A record search conducted by the CNDDB, together with a review of lists from the USFWS and CNPS indicates that occurrences of plant and animal species with special-status have been recorded from or are suspected to occur in the southwestern Alameda County area. **Figures 2** and 3 show the known occurrences of special-status plants and animals, respectively, as mapped by the CNDDB in an approximately four mile radius of the APE. The attached lists from the CNDDB, USFWS, and CNPS (see **Appendix 1**) show the broad list of special-status plants and animals known from a wide range of habitat types found in Santa Clara and Alameda Counties, none of which contain suitable habitat any longer within in the APE due to the extent of past and on-going development and disturbance. The following provides a summary of the plant and animal species suspected to occur in the surrounding area away from the APE where natural habitat remains.

**Animal Species.** Based on the review of CNDDB data and the USFWS species list (see **Appendix 1**), a total of 32 special-status mammal, birds, reptiles, amphibians, fish, and invertebrate species are known or suspected to occur in the vicinity of the APE. **Table 1** located at the end of this BRA provides a summary of each of these species, their status, typical habitat characteristics, and conclusion regarding absence from the APE. Suitable habitat for all of these species is absent from the APE. This includes absence of suitable aquatic habitat for fish, absence of coastal salt marsh for many of the mammal and bird species known from the Baylands, and suitable nesting habitat for special-status bird species as well as more common bird species protected under the federal Migratory Bird Treaty Act. No evidence of any large stick nests of raptors or for other species that would also be protected under the federal Migratory Bird Treaty Act or Fish and Game code were observed in the trees that border the western edge of the APE.

As indicated in **Table 1** marginal foraging habitat for several special-status bird species occurs in the margins of the construction staging area to the north of the administration building. This includes possible foraging by northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), prairie falcon (*Falco mexicanus*), American peregrine falcon (*Falco peregrines anatum*), and western burrowing owl, among others. However, the lack of vegetative cover limits the suitability of the APE for even occasional foraging by most of these species, and suitable nesting habitat is absent. The entire area was inspected for possible sign of burrowing owl (i.e. white wash, feathers, or pellets) during the field reconnaissance surveys, but no evidence was observed and occupation for nesting would be unlikely given the absence of ground squirrel burrows and frequency of vehicle and human activity in this area.

Although no suitable habitat for any special-status species is known from the APE, the nearby Eden Landing Ecological Reserve contains two listed bird species - the California Ridgway's (clapper) rail and the California black rail. Information on each of these species is summarized below, as discussed in the Biological Resources section of the IS/MND.

> **California Ridgway's rail** (CRR), formerly known as California clapper rail, is the resident Ridgway's/clapper rail subspecies of northern and central California. Although more widespread in the past, it is currently restricted to the San Francisco Bay estuary. The CRR occurs only within salt and brackish marshes. Important CRR habitat components are: (1) well-developed tidal sloughs and secondary channels; (2) beds of cordgrass (Spartina spp.) in the lower marsh zone; (3) dense salt marsh vegetation for cover, nest sites, and brooding

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lacks statutory authority and case law support under the CESA.

areas; (4) intertidal mudflats, gradually sloping banks of tidal channels, and cordgrass beds for foraging; (5) abundant invertebrate food resources; and (6) transitional vegetation at the marsh edge to serve as a refuge during high tides. In south and central San Francisco Bay and along the perimeter of San Pablo Bay, CRR typically inhabits salt marshes dominated by pickleweed and cordgrass. Nesting occurs from March through July, with peak activity in late April to late May. CRR nests, constructed of wetland vegetation and platform-shaped, are placed near the ground in clumps of dense vegetation, usually in the lower marsh zone near small tidal channels. This species has potential to occur in tidal marsh habitat outside areas where construction will occur.

**California black rail** is the resident black rail subspecies that occurs in California coastal salt and brackish marshes from Bodega Bay to Morrow Bay, with additional populations known from freshwater marshes near or in the northern Sierra Nevada foothills. Important habitat elements for this species within the San Francisco Bay estuary are: (1) emergent marsh dominated by pickleweed (Salicornia sp.), marsh gumplant (*Grindella stricta*), bullrush (*Scirpus maritimus*), rushes (Juncus spp.), and/or cattails (Typha spp.); (2) high density of vegetation below four inches in height; (3) high marsh elevation with transitional upland vegetation; (4) large total area of contiguous marsh; (5) proximity to a major water source; and, (6) isolation from disturbance. This species feeds primarily on invertebrates. Black rails are extremely secretive and very difficult to glimpse or flush; identification typically relies on voice. Nests are placed on the ground in dense wetland vegetation. Nesting occurs from March through July. There are documented occurrences of California black rail near the Project area and suitable habitat for the species is present in the tidal marshes.

**Plant Species.** Based on the review of CNDDB data, the USFWS species list, and the CNPS Inventory (see **Appendix 1**), a total of 15 special-status plant species were suspected to occur in the vicinity of the APE. **Table 2** provides a summary of each of these species, their status, typical habitat characteristics, and conclusion regarding absence from the APE. These have varied status, and most are considered rare (list 1B) by the CNPS in their electronic *Inventory of Rare and Endangered Plants of California*. A few have legal protective status under the ESAs, such as the federally-endangered robust spineflower (*Chlorizanthe robusta var. robusta*), Contra Costa goldfields (*Lasthenia conjugens*), and California seablite (*Suaeda californica*). According to the CNPS Inventory, the last confirmed sighting for hairless popcornflower (*Plagiobothrys glaber*) is from 1954.

Suitable habitat for special-status plant species known from the surrounding area is absent from the APE, and none are expected to occur in the APE due to past development and on-going disturbance observed during the field reconnaissance surveys. The entire APE has been completely disturbed by past grading, installation of wastewater treatment facilities, roadways and other improvements, and on-going maintenance and other disturbance, which precludes the possibility of presence of any species-status plant species in the APE.

**Jurisdictional Waters**

Although definitions vary, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration and purification functions. Jurisdiction of the U.S. Army Corps of Engineers (Corps) is established through provisions of Section 404 of the Clean Water Act,

which prohibits the discharge of dredged or fill material into “waters of the U.S.” without a permit. The Regional Water Quality Control Board (RWQCB) jurisdiction is established through Section 401 of the Clean Water Act, which requires certification or waiver to control discharges in water quality whenever a Corps permit is required under Section 404 of the Clean Water Act, and State waters as regulated under the Porter-Cologne Act. Jurisdictional authority of the CDFW over wetland areas is established under Sections 1600-1607 of the State Fish and Wildlife Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed or bank of any lake, river or stream.

Based on a review of the National Wetland Inventory mapping and the observations made during the field reconnaissance surveys, there are no potential jurisdictional wetlands or regulated unvegetated “other waters of the U.S.” in the vicinity of the APE. The Old Alameda Creek channel occurs to the northwest of the APE but is separated by a well-maintained gravel road on the top of the adjacent levee.

## IMPACT ANALYSIS

### Significance Criteria

| Resource Category/Significance Criteria | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **BIOLOGICAL RESOURCES.** Would the Project: | | | | |
| 1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | X | ☐ | ☐ |
| 2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | X |
| 3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | X |
| 4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | X | ☐ |
| 5) Conflict with any local policies or ordinances protecting biological resources, such as a tree | ☐ | ☐ | ☐ | X |

| Resource Category/Significance Criteria | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| preservation policy or ordinance? | | | | |
| 6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | X |

**Discussion**

1) **Less than Significant Impact with Mitigation Incorporated.**

Due to the extent of past development and absence of suitable habitat, no special-status species are believed to occur in the APE, and no effects are anticipated. Because the ETSU Phase 1 Program construction activities are limited to the WWTP, there would be no direct construction related impacts to plant or animal species or sensitive habitats. However, there remains a remote potential for off-site disturbance as a result of construction related noise and vibration or establishment of new bird nests which could be affected by the Project construction, as discussed below.

**Construction Related Noise and Vibration.** Substantial increases in operational noise levels could have effects on off-site sensitive species, but such increases with the Phase 1 Program would be negligible and no effects would occur. The Alvarado WWTP has been a consistent source of construction noise and vibration over the years. Construction of Digester 7 along the western plant border is proceeding with completion scheduled for the summer of 2021. Due to past development and absence of suitable habitat, no special-status species are believed to occur within the WWTP. As discussed earlier, special-status species do occur to the west in the Eden Landing Ecological Reserve. However, because of distance, dense screening along the western boundary of the plant, and acclimation to human disturbance, the potential noise and vibrational impacts associated with general construction activities associated with the ETSU Phase 1 Program to these species is less than significant.

Conventional pile driving is a construction activity potentially to be used in Phase 1B-Secondary Clarifiers and Effluent Facilities. Conventional pile driving is loud and would be an unusual noise source at the WWTP which potentially could affect rails to the west if sufficiently disturbing to adversely affect nesting. The nesting season for rails is February 1 through August 31. If conventional pile driving is used for Phase 1B it is projected to start in May 2023 and to be 2 ½ months to complete which is during the rail nesting season. Introduction of this noise and vibrational source during the rail nesting season could result in a significant adverse impact. An alternative pile method is being considered, which would be micro-piles. These small diameter piles are installed by first pre-drilling a small diameter hole and then placing concrete in the hole. The overall effect is similar to typical concrete pours at a construction site with minimal noise and vibration.

Since design of Phase 1B, which is considered on a program level in this IS/MND, has proceeded to only a 30% design, an opportunity exists to analyze this issue in more detail as design proceeds. Accordingly, the following mitigation measure shall be implemented:

**Mitigation Measure BIO-1**: Development of a Noise and Vibration Mitigation Plan. During final design of the Phase 1B project, a Noise and Vibration Mitigation Plan (the "Plan") will be developed by a qualified biologist. The Plan will include a detailed timing assessment of pile driving and a study of sound attenuation from pile driving at the construction site. If necessary, the following will be completed: an analysis of alternative drilling technologies; an assessment of different shielding methods such as temporary sound walls, shrouds, and jackets for effectiveness in abating noise and vibration levels in areas west of the WWTP. The Plan will require implementation measures as necessary to reduce noise and vibrational impacts to rail nesting. The Plan shall also require monitoring if needed.

As a result of **Mitigation Measure BIO-1**, project-specific mitigation will be developed and implemented to reduce the noise and vibrational impact to rail nesting to less than significant levels. Thus, pursuant to CEQA-Plus requirements, no federally-listed species would be affected and there would be no impact to the Federal Endangered Species Act (ESA) as a result of ETSU Phase 1-Secondary Clarifiers and Effluent Facilities or other Phase 1 projects. Additionally, the Phase 1 Program would be compliant with the Bald and Golden Eagle Protection Act.

**Nesting Within the WWTP Site**. No evidence of any nesting was observed in the trees in the vicinity of the WWTP site, including burrowing owl and other raptors. Although the limited habitat values and extent of ongoing disturbance generally precludes the potential for nesting birds at the WWTP site, there remains a remote possibility that new bird nests could be established in the few scattered trees and other structures in the plant site. If construction is initiated during the bird nesting season (February 1 – August 31) construction-related disturbance could result in abandonment of the nests if any are present in the immediate vicinity. If construction-related noise and disturbance resulted in abandonment of a nest in active use and loss of any eggs or young in the nest, this would be a significant adverse impact and violation of the federal Migratory Bird Treaty Act and State Fish and Game Code sections.

The mitigation measure below would serve to avoid this potential for violation of federal and state regulations by requiring a preconstruction survey and implementing appropriate construction restrictions if any active nests are encountered until any young birds have successfully fledged. This measure applies to Phase 1A-AB Improvements Project as well as other ETSU Phase 1 Program projects.

***Mitigation Measure BIO-2.*** *Adequate measures shall be taken to avoid inadvertent take of bird nests protected under the federal Migratory Bird Treaty Act and State Fish and Game Code when in active use. This shall be accomplished by taking the following steps.*

- *If initial construction is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of construction in order to determine whether any active nests are present in the APE and surrounding area within 100 feet of proposed construction for passerines and 250 feet of proposed construction for raptors The survey shall be reconducted any time construction has been delayed or curtailed for more than 7 days during the nesting season.*
- *If no active nests are identified during the construction survey period, or development is initiated during the non-breeding season (September 1 to January 31), construction may proceed with no restrictions.*

- *If bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW and may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated elsewhere in the APE.*
- *A report of findings shall be prepared by the qualified biologist and submitted to the District for review and approval prior to initiation of construction during the nesting season (February 1 to August 31). The report shall either confirm absence of any active nests or should confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.*

**Implementation of these mitigation measures would ensure that impacts on special-status species would be less-than-significant.**

2) **No Impact.**

The APE does not contain any riparian habitat or other sensitive natural community types, and no effects are anticipated.

3) **No Impact.**

The APE does not contain any federally protected wetlands and no effects are anticipated. Thus, pursuant to CEQA-Plus requirements, the Project is consistent with Executive Order 11990 – Protection of Wetlands. Because California does not have a Coastal Barriers Resources System, no impacts relative to the Coastal Barriers Resources Act will occur.

4) **Less than Significant Impact.**

The proposed Project would not have any significant adverse impacts on wildlife movement opportunities or adversely impact native wildlife nursery sites. Wildlife in the vicinity of the APE is already acclimated to human activity at the WWTP, and construction-related disturbance would not cause any significant impacts on possible bird nesting in the surrounding area. Species that utilize the surrounding area for foraging and nesting would continue to use these areas, even during construction, given the long distance, dense screening, and acclimation to human disturbance at the WWTP.

Pursuant to CEQA-Plus requirements, no essential fish habitat would be affected, and the Project is consistent with the Magnuson-Stevens Fishery Conservation and Management Act.

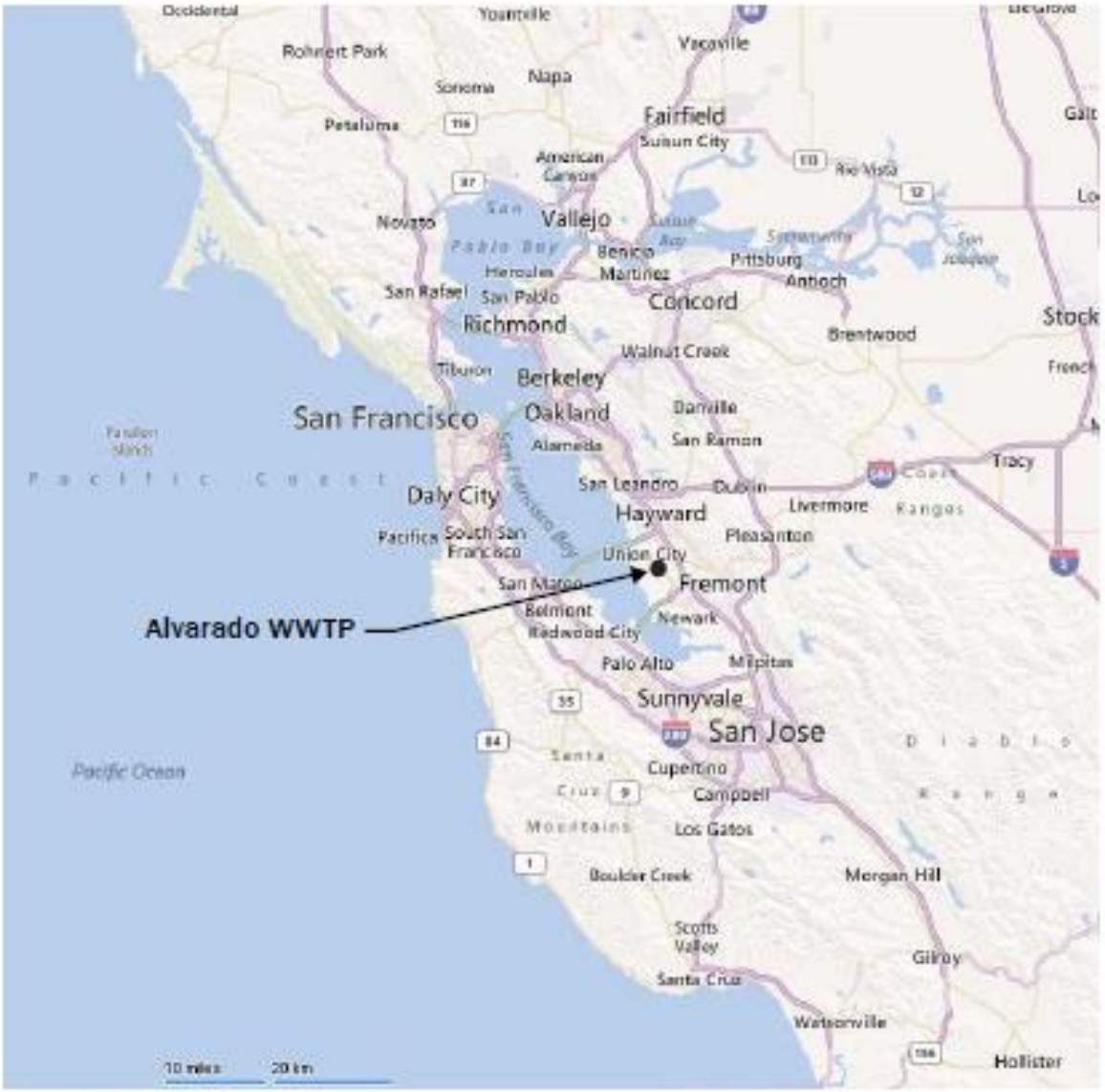
5) **No Impact.**

Goals and policies specified in the Union City General Plan address the protection of sensitive biological and wetland resources. There are no sensitive resources in the vicinity of the APE and no conflicts with the City's General Plan are anticipated as a result of Project implementation.

Section 12.16.170, Tree Conservation of the Union City Municipal Code addresses the protection of trees of regulated size. As defined by code, protected trees include all trees which have a twelve-inch or greater circumference of any trunk and are located on commercial, office or industrial developed property. The City's code requires a Tree Permit for the removal of any tree of regulated size, to which the District would comply. The mature Canary Island plans on the west side of the existing Administration building would be removed as part of the project to accommodate the new clarifiers, together with other scattered planted trees which could be affected by proposed improvements. The District is considering transplanting the mature palms, depending on cost and feasibility. New trees would be planted as part for future screening as part of landscaping for the facility and would serve to replace the habitat value of those trees which must be removed to accommodate proposed improvements. No conflicts with the intent of the Union City Municipal Code are anticipated as a result of Project implementation.

6) **No Impact.**

No habitat conservation plans have been prepared addressing the APE, and the Project would therefore not conflict with any adopted habitat conservation plans. As a result, no impact would occur.




Source: Microsoft, Bing Maps

**Figure 1-1. Regional Location of the Alvarado WWTP**

Source: UED, October 2020

Figure 1-2. Existing Alvarado WWTP Site Plan


Source: Hazen and Sawyer, October 2020

**Figure 1-4. ETSU Phase I Program Proposed Facilities**

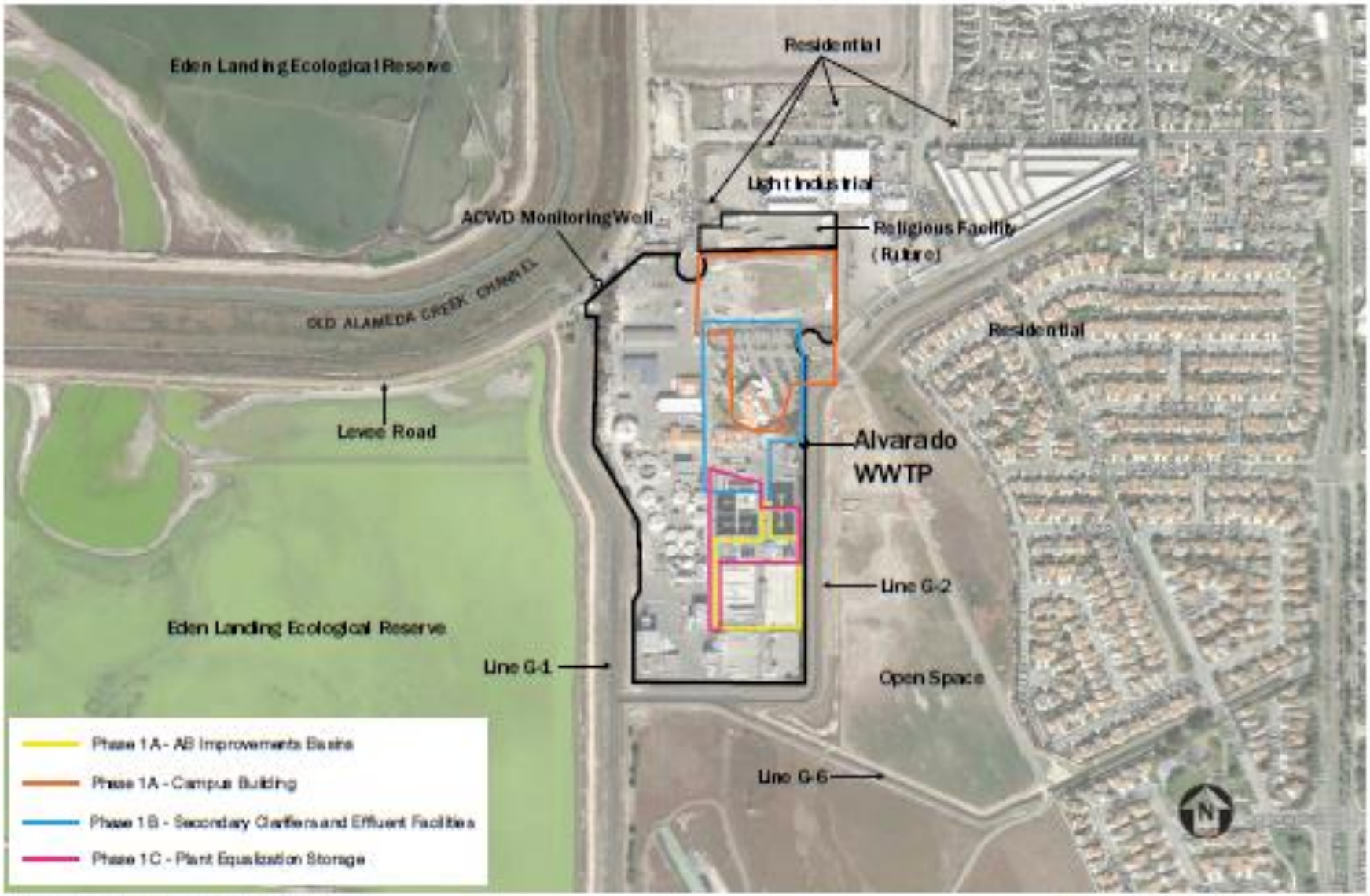
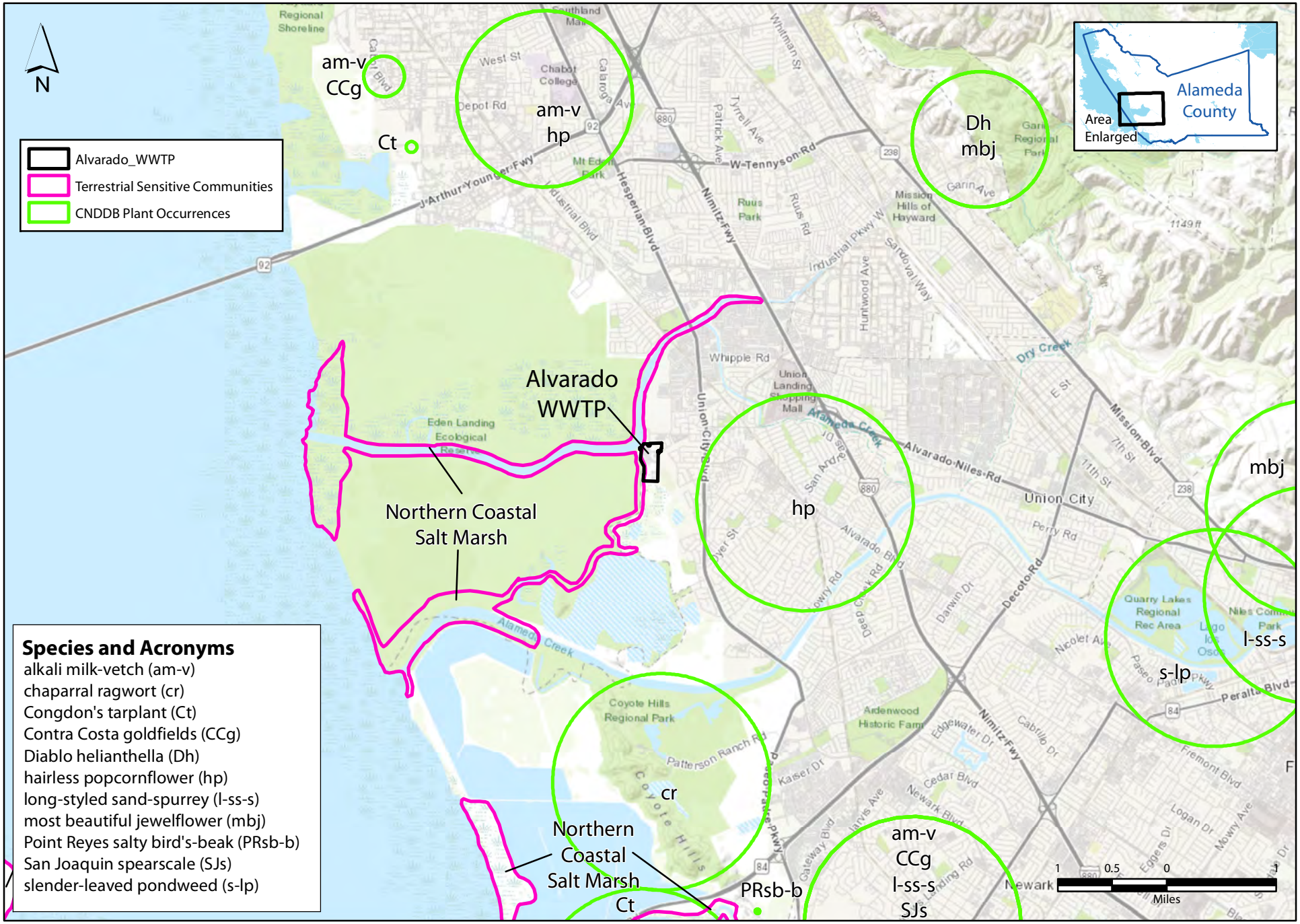



**Figure 1-9. Land Use Characteristics**

# Figure 2. Special-Status Plants and Sensitive Natural Communities

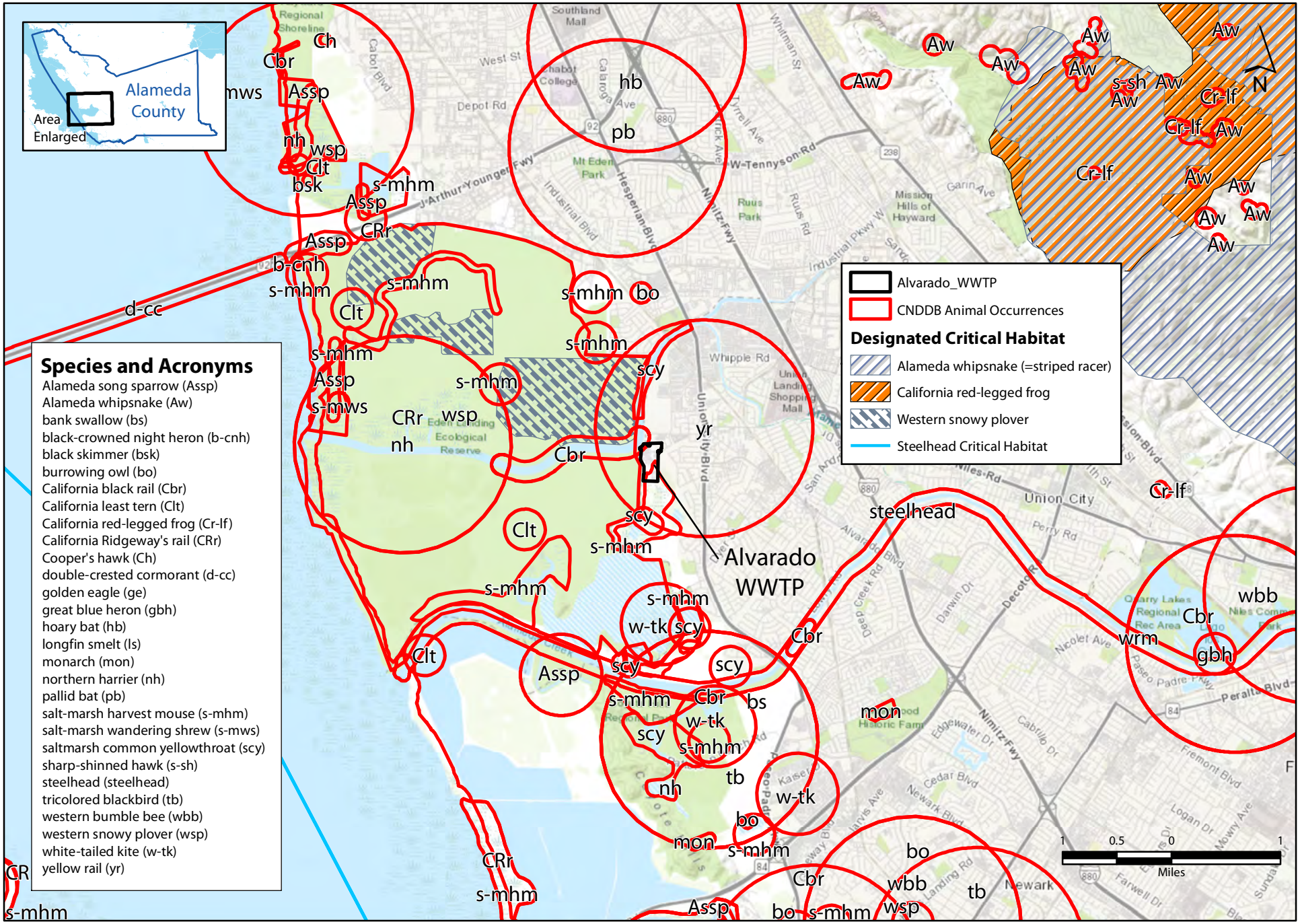
USD ETSU Phase 1 Project




SOURCES: California Natural Diversity Database accessed on May 4th, 2021; USFW Critical Habitat Database dated April 16th, 2021 (latest version); USGS base map by ESRI and NGS. Map produced by www.digitalmappingsolutions.com on 5/4/2021.

# Figure 3. Special-Status Animals and Critical Habitat

USD ETSU Phase 1 Project




SOURCES: California Natural Diversity Database accessed on May 4th, 2021; USFW Critical Habitat Database dated April 16th, 2021 (latest version); USGS base map by ESRI and NGS. Map produced by www.digitalmappingsolutions.com on 5/4/2021.

**TABLE 1**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in APE |
|---|---|---|---|---|
| **Invertebrates** | | | | |
| *Branchinecta conservatio* Conservancy fairy shrimp | E/-- | Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, and Glenn Counties | Large, deep vernal pools in annual grasslands | None—project area is outside of species' known range. |
| *Branchinecta lynchi* Vernal pool fairy shrimp | T/-- | Found in vernal habitat from Tulare to Shasta County in California, with a disjunct occurrence from Agate Desert in Jackson County, Oregon | Found in vernal pools, seasonal wetlands, and ditches that fill seasonally with rainwater. | None—no suitable wetland habitat within APE. |
| *Callophrys mossii bayensis* San Bruno elfin butterfly | E/-- | Restricted to a few small populations on San Francisco Peninsula, with largest occurring on San Bruno Mountain. | Associated with specific broadleaf stonecrop host plants in coastal scrub habitat. | None—no suitable habitat or larval host plant in APE. |
| *Euphydryas editha bayensis* Bay checkerspot butterfly | T/-- | Disjunct occurrences in San Mateo and Santa Clara Counties. | Associated with specific host plants that typically grow on serpentine soils. | None—no suitable habitat, as there are no serpentine soils in APE. |
| *Lepidurus packardi* Vernal pool tadpole shrimp | E/-- | Shasta County south to Merced County. | Vernal pools and ephemeral stock ponds. | None—no suitable wetland habitat within APE. |
| **Fish** | | | | |
| *Hypomesus transpacificus* Delta smelt | T/T | Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay. | Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand. | None – outside of known range and there is no suitable habitat in APE. |
| *Oncorhynchus mykiss* Central California coast steelhead | T/-- | Coastal drainages along the central California coast. | Cold, clear water with clean gravel of appropriate size for spawning. Most spawning occurs in headwater streams. Steelhead migrate to the ocean to feed and grow until sexually mature. | None – no suitable habitat in APE. |
| *Oncorhynchus mykiss* Central Valley steelhead | T/-- | Sacramento and San Joaquin River and their tributaries. | Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8 to 18°C (Moyle 2002). Habitat types are riffles, runs, and pools. | None – no suitable habitat in APE. |

**TABLE 1**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in APE |
|---|---|---|---|---|
| *Spirinchus thaleichthys* Longfin smelt | C/T | San Francisco Bay-Delta north to the Cook Inlet in Alaska | Pelagic portions of estuaries. | None – no suitable habitat in APE. |

**TABLE C-1 (CONTINUED)**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in Project Area |
|---|---|---|---|---|
| **Amphibians** | | | | |
| *Ambystoma californiense* California tiger salamander | T/T | Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Sonoma County south to Santa Barbara County | Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy. | None – no suitable habitat in APE. |
| *Rana draytonii* California red-legged frog | T/SSC | Found along the coast and coastal mountain ranges of California from Mendocino County to San Diego County and in the Sierra Nevada from Butte County to Stanislaus County. | Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation; may aestivate in rodent burrows or cracks during dry periods | None – no suitable habitat in APE. |
| **Reptiles** | | | | |
| *Emys marmorata* Western pond turtle | –/SSC | The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. | Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests. Nests are typically constructed in upland habitat within 0.25 mile of aquatic habitat. | None – no suitable habitat in APE. |
| *Masticophis lateralis* euryxanthus Alameda whipsnake | T/T | Restricted to Alameda and Contra Costa Counties; fragmented into 5 disjunct populations throughout its range | Valleys, foothills, and low mountains associated with northern coastal scrub or chaparral habitat; requires rock outcrops for cover and foraging | None - no potential for Alameda whipsnake to occur in APE as no suitable habitat and disjunct from known range. |

**TABLE 1**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in APE |
|---|---|---|---|---|
| **Mammals** | | | | |
| *Reithrodontomys raviventris* Salt marsh harvest mouse | E/E | The San Francisco Bay Estuary and Suisun Marsh. | Saline to brackish salt marsh habitat. | None – no suitable habitat in APE. |
| *Sorex vagrans halicoetes* Salt-marsh wandering shrew | -/SSC | Southern arm of the San Francisco Bay in San Mateo, Santa Clara, Alameda, and Contra Costa Counties. | Salt marshes from 6 to 9 feet above MSL. | None – no suitable habitat in APE. |
| *Vulpes macrotis mutica* San Joaquin kit fox | E/T | Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County | Saltbush scrub, grassland, oak, savanna, and freshwater scrub | None – outside of known range and no suitable habitat in APE. |
| **Birds** | | | | |
| *Agelaius tricolor* Tricolored blackbird | --/T | Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties | Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony | None – no suitable habitat in APE. |
| *Aquila chrysaetos* Golden eagle | PR/ FP | Foothills and mountains throughout California. Uncommon non-breeding visitor to lowlands such as the Central Valley | Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals | Low (foraging only) – golden eagle has potential to forage within the marshlands to south and west of APE. Since there is no nesting habitat within APE and no foraging habitat would be affected, no effects on this species are expected to occur. |
| *Ardea herodias* Great blue heron (rookery) | --/-- | Nests in suitable habitat throughout California except at higher elevations in Sierra Nevada and Cascade Mountain ranges. | Widely distributed in freshwater and calm-water intertidal habitats. | None – no suitable foraging habitat in APE and no evidence of roosting in trees on western edge of APE. |
| *Athene cunicularia hypugaea* Western burrowing owl | --/SSC | Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast | Level, open, dry, heavily grazed, or low stature grassland or desert vegetation with available burrows | Low – known to occur in grasslands north of APE. No evidence of burrowing owl in limited ruderal cover within APE. |

**TABLE 1**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in APE |
|---|---|---|---|---|
| *Charadrius alexandrines nivosus* Western snowy plover | T/SSC | Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries. Twenty breeding sites are known in California from Del Norte to Diego County | Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent | None – no suitable habitat in APE. |
| *Circus cyaneus* Northern harrier | --/SSC | Occurs throughout lowland California. Has been recorded in fall at high elevations | Grasslands, meadows, marshes, and seasonal and agricultural wetlands | Low (foraging only) – very limited foraging opportunities in small area of ruderal cover within APE. Since no nesting habitat within APE and no foraging habitat would be affected, no effects on this species are expected to occur. |
| *Elanus leucurus* White-tailed kite | --/FP | Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border. | Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging | Low (foraging only) – very limited foraging opportunities in small area of ruderal cover within APE. Since no nesting habitat within APE and no foraging habitat would be affected, no effects on this species are expected to occur. |
| *Falco mexicanus* Prairie falcon | --/-- | Permanent resident in the south Coast, Transverse, Peninsular, and northern Cascade Ranges, the southeastern deserts, Inyo-White Mountains, foothills surrounding the Central Valley, and in the Sierra Nevada in Modoc, Lassen, and Plumas Counties. Winters in the Central Valley, along the coast from Santa Barbara County to San Diego County, and in Marin, | Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands | Low (foraging only) – very limited foraging opportunities in small area of ruderal cover within APE. Since no nesting habitat within APE and no foraging habitat would be affected, no effects on this species are expected to occur. |

**TABLE 1**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in APE |
|---|---|---|---|---|
| *Falco peregrines anatum* American peregrine falcon | D/D, FP | Permanent resident along the north and south Coast Ranges. May summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County. Winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range | Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations | Low (foraging only) – very limited foraging opportunities within APE. Since no nesting habitat within APE and no foraging habitat would be permanently affected, no effects on this species are expected to occur. |
| *Geothlypis trichas sinuosa* Saltmarsh common yellowthroat | --/SSC | Found only in the San Francisco Bay Area in Marin, Napa, Sonoma, Solano, San Francisco, San Mateo, Santa Clara, and Alameda Counties | Freshwater marshes in summer and salt or brackish marshes in fall and winter; requires tall grasses, tules, and willow thickets for nesting and cover | None – no suitable habitat in APE. |
| *Haliaeetus leucocephalus* Bald eagle | D, PR/E, FP | Found throughout North America and northern Mexico | Coasts, rivers, large lakes; in migration, also mountains, open country. Typically close to water, also locally in open dry country | None – no suitable habitat in APE. |
| *Laterallus jamaicensis coturniculus* California black rail | --/T, FP | Found in scattered parts of North America and the Pacific region of South America | Usually in coastal salt marshes but also freshwater marshes | None – no suitable habitat in APE. Potential for construction-generated disturbance in nearby marsh habitat addressed through mitigation. |
| *Melospiza melodia pusillula* Alameda song sparrow | --/SSC | Found only in marshes along the southern portion of the San Francisco Bay | Brackish marshes associated with pickleweed; may nest in tall vegetation or among the pickleweed | None – no suitable habitat in APE. Potential for construction-generated disturbance in nearby marsh habitat addressed through mitigation. |
| *Pelecanus occidentalis californicus* California brown pelican | D/E | The Pacific coast from Canada through Mexico. | Coastal areas. Nests on islands. Occasionally along Arizona's lakes and rivers | None – no suitable habitat in APE. |
| *Rallus longirostris obsoletus* California clapper rail | E/E, FP | Found along the Pacific Coast in Monterey and San Luis Obispo Counties. | From tidal mudflats to tidal sloughs | None – no suitable habitat in APE. Potential for construction-generated disturbance in nearby marsh habitat addressed through mitigation. |
| *Sternula antillarum browni* California least tern | E/E | Found along the Pacific Coast of California from San Francisco to Baja California | Nest on open beaches kept free of vegetation by natural scouring from tidal action | None –no suitable habitat in APE. |

**TABLE 1**
**SPECIAL-STATUS ANIMAL SPECIES WITH POTENTIAL TO OCCUR IN APE VICINITY**

| Scientific and Common Names | Status Federal/State | Geographic Distribution | Habitat Requirements | Potential Occurrence in APE |
|---|---|---|---|---|

Notes:

**Status explanations:**

**Federal**

| | | |
|---|---|---|
| E | = | listed as endangered under the ESA |
| T | = | listed as threatened under the ESA |
| PT | = | proposed for federal listing as threatened under the ESA |
| PR | = | protected by Bald and Golden Eagle Protection Act |
| C | = | species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded |
| D | = | delisted |
| SC | = | species of concern |
| – | = | no listing |

**State**

| | | |
|---|---|---|
| E | = | listed as endangered under CESA |
| T | = | listed as threatened under CESA |
| FP | = | fully protected under the California Fish and Game Code |
| SSC | = | species of special concern in California |
| D | = | delisted |
| – | = | no listing |

**Potential Occurrence in the Study Area**

| | |
|---|---|
| High: | Known occurrences of the species within APE, or CNDDB, or other documents, records the occurrence of the species within a 2-mile radius of APE and suitable habitat is present |
| Moderate: | CNDDB, or other documents, records the known occurrence of the species within a 2-mile radius of APE and poor quality suitable habitat is present |
| Low: | CNDDB, or other documents, does not record the occurrence of the species within a 2-mile radius of APE but suitable habitat is present in vicinity |

**TABLE 2**
**SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN REGION OF APE**

| Scientific and Common Names | Status Federal/State/ CNPS | Geographic Distribution | Habitat Requirements | Potential Occurrence in Project Area |
|---|---|---|---|---|
| *Astragalus tener var. tener* Alkali milk-vetch | --/--/1B.2 | Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area | Alkali playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; below 60 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Atriplex depressa* Brittlescale | --/--/1B.2 | Western and eastern Central Valley and adjacent foothills on west side of Central Valley | Alkaline clay soils in chenopod scrub, playas, valley and foothill grasslands, meadows and seeps and vernal pools on alkaline, clay soils; below 320 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Atriplex joaquiniana* San Joaquin spearscale | --/--/1B.2 | West edge of Central Valley from Glenn County to Tulare County. Also reported from Monterey and San Luis Obispo Counties | Alkaline soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland; below 835 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Atriplex minuscula* Lesser saltscale | --/--/1B.1 | Sacramento and San Joaquin Valley, Butte County and from Merced County to Kern County. Also recorded from Don Edwards NWR in Alameda County. | Sandy alkaline soils in chenopod scrub, playas, valley and foothill grassland; 15-200 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Centromadia parryi ssp. congdonii* Congdon's tarplant | --/--/1B.2 | East San Francisco Bay Area, Salinas Valley, Los Osos Valley | Alkaline soils in annual grassland, on lower slopes, flats, and swales, sometimes on saline soils; below 230 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |

**TABLE 2**
**SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN REGION OF APE**

| Scientific and Common Names | Status Federal/State/ CNPS | Geographic Distribution | Habitat Requirements | Potential Occurrence in Project Area |
|---|---|---|---|---|
| *Chlorizanthe robusta var. robusta* Robust spineflower | E/--/1B.1 | Coastal central California, from San Mateo to Monterey County | Coastal bluff scrub, coastal dunes openings in cismontane woodland, on sandy soil | None -no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Chloropyron maritimum ssp. palustre (Cordylanthus maritimus ssp. palustris)* Point Reyes bird's-beak | --/--/1B.2 | Coastal northern California, from Humboldt to Santa Clara County | Coastal salt marsh, tidal salt marsh; below 10 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Eryngium aristulatum var. hooveri* Hoover's button-celery | --/--/1B.1 | South San Francisco Bay area, South Coast Ranges in Alameda, San Benito, Santa Clara, and San Luis Obispo Counties | Vernal pools; 3-45 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Lasthenia conjugens* Contra Costa goldfields | E/--/1B.1 | Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Monterey, Marin, Napa, Solano and Sonoma Counties. Presumed extirpated in Mendocino, Santa Barbara and Santa Clara Counties | Wet areas in cismontane woodland, valley and foothill grassland, vernal pools, alkaline playas or saline vernal pools and swales; seasonal wetlands below 470 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Malacothamnus acruatus* Acruate bush mallow | –/–/1B.2 | Santa Clara, Santa Cruz, and San Mateo Counties | Chaparral, between 15-355 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |

**TABLE 2**
**SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN REGION OF APE**

| Scientific and Common Names | Status Federal/State/ CNPS | Geographic Distribution | Habitat Requirements | Potential Occurrence in Project Area |
|---|---|---|---|---|
| *Malacothamnus hallii* Hall's bush mallow | –/–/1B.2 | Alameda, Contra Costa, Merced, Santa Clara, and Stanislaus Counties | Chaparral and coastal scrub between 30-2,500' | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Navarretia prostrata* Prostrate vernal pool navarretia | --/--/1B.1 | Western San Joaquin Valley, interior South Coast Ranges, central South Coast, Peninsular Ranges: Alameda, Los Angeles, Merced, Monterey, Orange, Riverside, San Diego, and San Luis Obispo Counties. | Vernal pools and mesic areas in coastal scrub and alkali grasslands, seasonal wetlands in alkaline soils; between 15-700 meters above MSL | None - no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Plagiobothrys glaber* | --/--/1A | Alameda, Marin, San Benito, Santa Clara Counties | Alkaline meadows and seeps, and coastal salt marsh; between 15-180 meters above MSL Last confirmed sighting in 1954. | None -no suitable habitat within APE. Additionally, APE has been heavily disturbed (vehicle traffic, construction of existing facilities) and continually disturbed by maintenance activities. |
| *Suaeda californica* California seablite | E/--/1B.1 | Morro Bay, San Luis Obispo County, and San Francisco and Contra Costa Counties; historically found in the south San Francisco Bay. | Margins of tidal salt marsh; below 15 meters above MSL | None; no suitable habitat within the project area. Additionally, the project area has been heavily disturbed (vehicle traffic, construction of existing facilities) in 2007 and earlier, and continually disturbed by maintenance activities (e.g., mowing). |

**TABLE 2**
**SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN REGION OF APE**

| Scientific and Common Names | Status Federal/State/ CNPS | Geographic Distribution | Habitat Requirements | Potential Occurrence in Project Area |
|---|---|---|---|---|
| *Trifolium hydrophilum* (*T. depauperatum var. hydrophilum*) Saline clover | --/--/1B.2 | Sacramento Valley, central western California. | Salt marsh, mesic alkaline areas in Valley and foothill grasslands, vernal pools, marshes, and swamps; below 300 meters above MSL | None; no suitable habitat within the project area. Additionally, the project area has been heavily disturbed (vehicle traffic, construction of existing facilities) in 2007 and earlier, and continually disturbed by maintenance activities (e.g., mowing). |

Notes:

**Status explanations:**

**Federal**

E = listed as endangered under the ESA
T = listed as threatened under the ESA
– = no listing

**State**

E = listed as endangered under CESA
T = listed as threatened under CESA
– = no listing

**CNPS**

1A – presumed extinct in California
1B.1 –rare, threatened or endangered in California and elsewhere; seriously threatened in California
1B.2 – rare, threatened or endangered in California and elsewhere; fairly threatened in California

**Potential Occurrence in the Study Area**

High: Known occurrences of the species within the APE, or CNDDB, or other documents, records the occurrence of the species within a 2-mile radius of APE and suitable habitat is present within APE
Moderate: CNDDB, or other documents, records the known occurrence of the species within a 2-mile radius of APE and suitable habitat is present
Low: CNDDB, or other documents, may record the occurrence of the species within a 2-mile radius of APE, but only marginal or poor quality suitable habitat is present, or species is believed to be extirpated from vicinity of APE

**APPENDIX 1**

**Species Lists from USFWS, CNDDB and CNPS**

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
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In Reply Refer To: June 10, 2021
Consultation Code: 08FBDT00-2021-SLI-0185
Event Code: 08FBDT00-2021-E-00451
Project Name: Union Sanitary District ETSU Phase 1 Program

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**San Francisco Bay-Delta Fish And Wildlife**
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

**Sacramento Fish And Wildlife Office**
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

# Project Summary

Consultation Code: 08FBDT00-2021-SLI-0185
Event Code: 08FBDT00-2021-E-00451
Project Name: Union Sanitary District ETSU Phase 1 Program
Project Type: WASTEWATER FACILITY
Project Description: The Enhanced Treatment and Site Upgrade (ETSU) Program was developed to meet the wastewater treatment and disposal needs for Union Sanitary District (USD) over the next 20 to 40 years. Phase 1 calls for implementation of the first phase of Secondary Treatment Process Improvements by 2027. Phase 1 will focus on improvements to the aeration basins (ABs), addition of AB 8, new secondary clarifiers, effluent facilities, and equalization to provide for improved process control/ settling, early action nutrient removal and improved effluent quality. Construction of the new clarifiers will require demolition of the existing Administration and Control Buildings and replacement of these buildings in a new campus layout on USD-owned property to the north of the current active plant site at 5072 Benson Road, Union City, CA.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.59157035000007,-122.09010930292968,14z


Counties: Alameda County, California

# Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

| NAME | STATUS |
|---|---|
| Salt Marsh Harvest Mouse *Reithrodontomys raviventris*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/613 | Endangered |

## Birds

| NAME | STATUS |
|---|---|
| California Clapper Rail *Rallus longirostris obsoletus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/4240 | Endangered |
| California Least Tern *Sterna antillarum browni*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8104 | Endangered |
| Western Snowy Plover *Charadrius nivosus nivosus*<br>Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast)<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/8035 | Threatened |

## Reptiles

| NAME | STATUS |
|---|---|
| Alameda Whipsnake (=striped Racer) *Masticophis lateralis euryxanthus*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/5524 | Threatened |

## Amphibians

| NAME | STATUS |
|---|---|
| California Red-legged Frog *Rana draytonii*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/2891 | Threatened |
| California Tiger Salamander *Ambystoma californiense*<br>Population: U.S.A. (Central CA DPS)<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/2076 | Threatened |

## Fishes

| NAME | STATUS |
|---|---|
| Delta Smelt *Hypomesus transpacificus*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/321 | Threatened |

## Insects

| NAME | STATUS |
|---|---|
| San Bruno Elfin Butterfly *Callophrys mossii bayensis*<br>There is **proposed** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/3394 | Endangered |

## Crustaceans

| NAME | STATUS |
|---|---|
| Vernal Pool Fairy Shrimp *Branchinecta lynchi*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/498 | Threatened |
| Vernal Pool Tadpole Shrimp *Lepidurus packardi*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/2246 | Endangered |

## Flowering Plants

| NAME | STATUS |
|---|---|
| California Seablite *Suaeda californica* | Endangered |
| Population: | |
| No critical habitat has been designated for this species. | |
| Species profile: https://ecos.fws.gov/ecp/species/6310 | |
| Contra Costa Goldfields *Lasthenia conjugens* | Endangered |
| There is **final** critical habitat for this species. The location of the critical habitat is not available. | |
| Species profile: https://ecos.fws.gov/ecp/species/7058 | |

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

# Summary Table Report

## California Department of Fish and Wildlife

## California Natural Diversity Database

**Query Criteria:** Quad IS (Newark (3712251) OR Redwood Point (3712252) OR San Leandro (3712262) OR Hayward (3712261))

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Accipiter cooperii***<br>Cooper's hawk | G5<br>S4 | None<br>None | CDFW_WL-Watch List<br>IUCN_LC-Least Concern | 950<br>950 | 118<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| ***Accipiter striatus***<br>sharp-shinned hawk | G5<br>S4 | None<br>None | CDFW_WL-Watch List<br>IUCN_LC-Least Concern | 1,180<br>1,180 | 22<br>S:1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***Agelaius tricolor***<br>tricolored blackbird | G1G2<br>S1S2 | None<br>Threatened | BLM_S-Sensitive<br>CDFW_SSC-Species of Special Concern<br>IUCN_EN-Endangered<br>NABCI_RWL-Red Watch List<br>USFWS_BCC-Birds of Conservation Concern | 5<br>21 | 955<br>S:2 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 0 |
| ***Ambystoma californiense***<br>California tiger salamander | G2G3<br>S2S3 | Threatened<br>Threatened | CDFW_WL-Watch List<br>IUCN_VU-Vulnerable | 20<br>20 | 1335<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| ***Amsinckia lunaris***<br>bent-flowered fiddleneck | G3<br>S3 | None<br>None | Rare Plant Rank - 1B.2<br>BLM_S-Sensitive<br>SB_UCBG-UC Botanical Garden at Berkeley<br>SB_UCSC-UC Santa Cruz | 892<br>892 | 93<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| ***Antrozous pallidus***<br>pallid bat | G4<br>S3 | None<br>None | BLM_S-Sensitive<br>CDFW_SSC-Species of Special Concern<br>IUCN_LC-Least Concern<br>USFS_S-Sensitive<br>WBWG_H-High Priority | 30<br>110 | 420<br>S:2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 |
| ***Aquila chrysaetos***<br>golden eagle | G5<br>S3 | None<br>None | BLM_S-Sensitive<br>CDF_S-Sensitive<br>CDFW_FP-Fully Protected<br>CDFW_WL-Watch List<br>IUCN_LC-Least Concern<br>USFWS_BCC-Birds of Conservation Concern | 950<br>950 | 323<br>S:1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

# Summary Table Report

## California Department of Fish and Wildlife

## California Natural Diversity Database

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Ardea herodias***<br>great blue heron | G5<br>S4 | None<br>None | CDF_S-Sensitive<br>IUCN_LC-Least Concern | 1<br>300 | 156<br>S:2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 |
| ***Asio flammeus***<br>short-eared owl | G5<br>S3 | None<br>None | CDFW_SSC-Species of Special Concern<br>IUCN_LC-Least Concern | | 11<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Astragalus tener var. tener***<br>alkali milk-vetch | G2T1<br>S1 | None<br>None | Rare Plant Rank - 1B.2 | 5<br>70 | 65<br>S:6 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 0 | 3 | 3 |
| ***Athene cunicularia***<br>burrowing owl | G4<br>S3 | None<br>None | BLM_S-Sensitive<br>CDFW_SSC-Species of Special Concern<br>IUCN_LC-Least Concern<br>USFWS_BCC-Birds of Conservation Concern | 2<br>60 | 2011<br>S:8 | 0 | 3 | 1 | 0 | 2 | 2 | 6 | 2 | 6 | 2 | 0 |
| ***Balsamorhiza macrolepis***<br>big-scale balsamroot | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2<br>BLM_S-Sensitive<br>USFS_S-Sensitive | 500<br>500 | 51<br>S:2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 0 |
| ***Bombus crotchii***<br>Crotch bumble bee | G3G4<br>S1S2 | None<br>Candidate Endangered | | 700<br>700 | 437<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Bombus occidentalis***<br>western bumble bee | G2G3<br>S1 | None<br>Candidate Endangered | USFS_S-Sensitive | 10<br>714 | 306<br>S:5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 5 | 0 | 0 |
| ***Centromadia parryi ssp. congdonii***<br>Congdon's tarplant | G3T1T2<br>S1S2 | None<br>None | Rare Plant Rank - 1B.1<br>BLM_S-Sensitive<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | 5<br>40 | 98<br>S:6 | 0 | 0 | 2 | 1 | 1 | 2 | 3 | 3 | 5 | 0 | 1 |
| ***Charadrius nivosus nivosus***<br>western snowy plover | G3T3<br>S2 | Threatened<br>None | CDFW_SSC-Species of Special Concern<br>NABCI_RWL-Red Watch List<br>USFWS_BCC-Birds of Conservation Concern | 0<br>15 | 138<br>S:9 | 1 | 2 | 0 | 0 | 1 | 5 | 6 | 3 | 8 | 1 | 0 |
| ***Chloropyron maritimum ssp. palustre***<br>Point Reyes salty bird's-beak | G4?T2<br>S2 | None<br>None | Rare Plant Rank - 1B.2<br>BLM_S-Sensitive | 5<br>7 | 76<br>S:4 | 0 | 1 | 0 | 0 | 3 | 0 | 3 | 1 | 1 | 3 | 0 |

# Summary Table Report

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## California Natural Diversity Database

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Chorizanthe robusta var. robusta***<br>robust spineflower | G2T1<br>S1 | Endangered<br>None | Rare Plant Rank - 1B.1 | 30<br>30 | 20<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| ***Circus hudsonius***<br>northern harrier | G5<br>S3 | None<br>None | CDFW_SSC-Species of Special Concern<br>IUCN_LC-Least Concern | 5<br>10 | 53<br>S:5 | 0 | 1 | 0 | 0 | 0 | 4 | 4 | 1 | 5 | 0 | 0 |
| ***Coturnicops noveboracensis***<br>yellow rail | G4<br>S1S2 | None<br>None | CDFW_SSC-Species of Special Concern<br>IUCN_LC-Least Concern<br>NABCI_RWL-Red Watch List<br>USFS_S-Sensitive<br>USFWS_BCC-Birds of Conservation Concern | 0<br>20 | 45<br>S:4 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 1 | 4 | 0 | 0 |
| ***Danaus plexippus pop. 1***<br>monarch - California overwintering population | G4T2T3<br>S2S3 | Candidate<br>None | USFS_S-Sensitive | 5<br>150 | 383<br>S:7 | 0 | 2 | 2 | 0 | 0 | 3 | 0 | 7 | 7 | 0 | 0 |
| ***Elanus leucurus***<br>white-tailed kite | G5<br>S3S4 | None<br>None | BLM_S-Sensitive<br>CDFW_FP-Fully Protected<br>IUCN_LC-Least Concern | 5<br>10 | 180<br>S:6 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 6 | 0 | 0 |
| ***Eryngium aristulatum var. hooveri***<br>Hoover's button-celery | G5T1<br>S1 | None<br>None | Rare Plant Rank - 1B.1<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | 10<br>10 | 16<br>S:1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| ***Eryngium jepsonii***<br>Jepson's coyote-thistle | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2 | 330<br>330 | 19<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| ***Eumops perotis californicus***<br>western mastiff bat | G4G5T4<br>S3S4 | None<br>None | BLM_S-Sensitive<br>CDFW_SSC-Species of Special Concern<br>WBWG_H-High Priority | 120<br>120 | 296<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Extriplex joaquinana***<br>San Joaquin spearscale | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2<br>BLM_S-Sensitive<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | 10<br>10 | 127<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |

# Summary Table Report

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## California Natural Diversity Database

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Fritillaria liliacea***<br>fragrant fritillary | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden<br>USFS_S-Sensitive | 400<br>550 | 82<br>S:4 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 3 | 4 | 0 | 0 |
| ***Geothlypis trichas sinuosa***<br>saltmarsh common yellowthroat | G5T3<br>S3 | None<br>None | CDFW_SSC-Species of Special Concern<br>USFWS_BCC-Birds of Conservation Concern | 0<br>10 | 112<br>S:8 | 1 | 1 | 0 | 0 | 0 | 6 | 7 | 1 | 8 | 0 | 0 |
| ***Gilia millefoliata***<br>dark-eyed gilia | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2<br>BLM_S-Sensitive | | 54<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| ***Gonidea angulata***<br>western ridged mussel | G3<br>S1S2 | None<br>None | | 200<br>200 | 157<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| ***Helianthella castanea***<br>Diablo helianthella | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2 | 600<br>900 | 107<br>S:3 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 3 | 0 | 0 |
| ***Hoita strobilina***<br>Loma Prieta hoita | G2?<br>S2? | None<br>None | Rare Plant Rank - 1B.1 | | 34<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Holocarpha macradenia***<br>Santa Cruz tarplant | G1<br>S1 | Threatened<br>Endangered | Rare Plant Rank - 1B.1<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden<br>SB_UCBG-UC Botanical Garden at Berkeley | | 37<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| ***Horkelia cuneata var. sericea***<br>Kellogg's horkelia | G4T1?<br>S1? | None<br>None | Rare Plant Rank - 1B.1<br>SB_UCSC-UC Santa Cruz<br>USFS_S-Sensitive | 20<br>20 | 58<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| ***Lasiurus cinereus***<br>hoary bat | G3G4<br>S4 | None<br>None | IUCN_LC-Least Concern<br>WBWG_M-Medium Priority | | 238<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Lasthenia conjugens***<br>Contra Costa goldfields | G1<br>S1 | Endangered<br>None | Rare Plant Rank - 1B.1<br>SB_UCBG-UC Botanical Garden at Berkeley | 5<br>10 | 36<br>S:2 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 1 |

# Summary Table Report

## California Department of Fish and Wildlife

## California Natural Diversity Database

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Laterallus jamaicensis coturniculus***<br>California black rail | G3G4T1<br>S1 | None<br>Threatened | BLM_S-Sensitive<br>CDFW_FP-Fully Protected<br>IUCN_NT-Near Threatened<br>NABCI_RWL-Red Watch List<br>USFWS_BCC-Birds of Conservation Concern | 1<br>51 | 303<br>S:14 | 3 | 2 | 2 | 1 | 1 | 5 | 6 | 8 | 13 | 1 | 0 |
| ***Masticophis lateralis euryxanthus***<br>Alameda whipsnake | G4T2<br>S2 | Threatened<br>Threatened | | 175<br>1,280 | 167<br>S:17 | 0 | 9 | 2 | 0 | 2 | 4 | 8 | 9 | 15 | 2 | 0 |
| ***Melospiza melodia pusillula***<br>Alameda song sparrow | G5T2?<br>S2S3 | None<br>None | CDFW_SSC-Species of Special Concern<br>USFWS_BCC-Birds of Conservation Concern | 1<br>40 | 38<br>S:18 | 0 | 11 | 0 | 0 | 0 | 7 | 8 | 10 | 18 | 0 | 0 |
| ***Microcina lumi***<br>Lum's micro-blind harvestman | G1<br>S1 | None<br>None | | 400<br>600 | 2<br>S:2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 |
| ***Monolopia gracilens***<br>woodland woollythreads | G3<br>S3 | None<br>None | Rare Plant Rank - 1B.2 | | 68<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Neotoma fuscipes annectens***<br>San Francisco dusky-footed woodrat | G5T2T3<br>S2S3 | None<br>None | CDFW_SSC-Species of Special Concern | 700<br>700 | 42<br>S:1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| ***Northern Coastal Salt Marsh***<br>Northern Coastal Salt Marsh | G3<br>S3.2 | None<br>None | | 10<br>15 | 53<br>S:8 | 0 | 1 | 0 | 0 | 0 | 7 | 8 | 0 | 8 | 0 | 0 |
| ***Nycticorax nycticorax***<br>black-crowned night heron | G5<br>S4 | None<br>None | IUCN_LC-Least Concern | 10<br>10 | 37<br>S:1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***Oncorhynchus mykiss irideus pop. 8***<br>steelhead - central California coast DPS | G5T2T3Q<br>S2S3 | Threatened<br>None | AFS_TH-Threatened | 200<br>200 | 44<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Phalacrocorax auritus***<br>double-crested cormorant | G5<br>S4 | None<br>None | CDFW_WL-Watch List<br>IUCN_LC-Least Concern | 1<br>30 | 39<br>S:2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 0 |
| ***Plagiobothrys glaber***<br>hairless popcornflower | GX<br>SX | None<br>None | Rare Plant Rank - 1A | 15<br>20 | 9<br>S:2 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 0 |
| ***Polygonum marinense***<br>Marin knotweed | G2Q<br>S2 | None<br>None | Rare Plant Rank - 3.1 | | 32<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |

# Summary Table Report

## California Department of Fish and Wildlife

## California Natural Diversity Database

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Rallus obsoletus obsoletus***<br>California Ridgway's rail | G3T1<br>S1 | Endangered<br>Endangered | CDFW_FP-Fully Protected<br>NABCI_RWL-Red Watch List | 0<br>15 | 99<br>S:14 | 3 | 4 | 2 | 0 | 0 | 5 | 6 | 8 | 14 | 0 | 0 |
| ***Rana boylii***<br>foothill yellow-legged frog | G3<br>S3 | None<br>Endangered | BLM_S-Sensitive<br>CDFW_SSC-Species of Special Concern<br>IUCN_NT-Near Threatened<br>USFS_S-Sensitive | 120<br>120 | 2468<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| ***Rana draytonii***<br>California red-legged frog | G2G3<br>S2S3 | Threatened<br>None | CDFW_SSC-Species of Special Concern<br>IUCN_VU-Vulnerable | 45<br>1,100 | 1645<br>S:4 | 0 | 2 | 0 | 2 | 0 | 0 | 3 | 1 | 4 | 0 | 0 |
| ***Reithrodontomys raviventris***<br>salt-marsh harvest mouse | G1G2<br>S1S2 | Endangered<br>Endangered | CDFW_FP-Fully Protected<br>IUCN_EN-Endangered | 1<br>5 | 144<br>S:23 | 3 | 2 | 0 | 0 | 0 | 18 | 21 | 2 | 23 | 0 | 0 |
| ***Riparia riparia***<br>bank swallow | G5<br>S2 | None<br>Threatened | BLM_S-Sensitive<br>IUCN_LC-Least Concern | 10<br>10 | 298<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Rynchops niger***<br>black skimmer | G5<br>S2 | None<br>None | CDFW_SSC-Species of Special Concern<br>IUCN_LC-Least Concern<br>NABCI_YWL-Yellow Watch List<br>USFWS_BCC-Birds of Conservation Concern | 3<br>3 | 7<br>S:1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***Sanicula maritima***<br>adobe sanicle | G2<br>S2 | None<br>Rare | Rare Plant Rank - 1B.1<br>SB_SBBG-Santa Barbara Botanic Garden<br>USFS_S-Sensitive | | 17<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| ***Scapanus latimanus parvus***<br>Alameda Island mole | G5T1Q<br>SH | None<br>None | CDFW_SSC-Species of Special Concern | 20<br>20 | 8<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Senecio aphanactis***<br>chaparral ragwort | G3<br>S2 | None<br>None | Rare Plant Rank - 2B.2<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden<br>SB_CRES-San Diego Zoo CRES Native Gene Seed Bank | | 98<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |

# Summary Table Report

## California Department of Fish and Wildlife

## California Natural Diversity Database

| Name (Scientific/Common) | CNDDB Ranks | Listing Status (Fed/State) | Other Lists | Elev. Range (ft.) | Total EO's | Element Occ. Ranks | | | | | | Population Status | | Presence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | A | B | C | D | X | U | Historic > 20 yr | Recent <= 20 yr | Extant | Poss. Extirp. | Extirp. |
| ***Setophaga petechia***<br>yellow warbler | G5<br>S3S4 | None<br>None | CDFW_SSC-Species of Special Concern<br>USFWS_BCC-Birds of Conservation Concern | 280<br>280 | 78<br>S:1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***Sorex vagrans halicoetes***<br>salt-marsh wandering shrew | G5T1<br>S1 | None<br>None | CDFW_SSC-Species of Special Concern | 1<br>2 | 12<br>S:7 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | 7 | 0 | 0 |
| ***Spergularia macrotheca var. longistyla***<br>long-styled sand-spurrey | G5T2<br>S2 | None<br>None | Rare Plant Rank - 1B.2 | 10<br>10 | 22<br>S:2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 |
| ***Spirinchus thaleichthys***<br>longfin smelt | G5<br>S1 | Candidate<br>Threatened | | 0<br>0 | 46<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Sternula antillarum browni***<br>California least tern | G4T2T3Q<br>S2 | Endangered<br>Endangered | CDFW_FP-Fully Protected<br>NABCI_RWL-Red Watch List | 1<br>6 | 75<br>S:8 | 1 | 0 | 0 | 0 | 2 | 5 | 7 | 1 | 6 | 0 | 2 |
| ***Streptanthus albidus ssp. peramoenus***<br>most beautiful jewelflower | G2T2<br>S2 | None<br>None | Rare Plant Rank - 1B.2<br>SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden<br>SB_UCBG-UC Botanical Garden at Berkeley<br>USFS_S-Sensitive | | 103<br>S:2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 0 | 0 |
| ***Stuckenia filiformis ssp. alpina***<br>slender-leaved pondweed | G5T5<br>S2S3 | None<br>None | Rare Plant Rank - 2B.2 | 40<br>40 | 21<br>S:1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| ***Suaeda californica***<br>California seablite | G1<br>S1 | Endangered<br>None | Rare Plant Rank - 1B.1 | | 18<br>S:3 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 1 | 1 | 1 |
| ***Trifolium hydrophilum***<br>saline clover | G2<br>S2 | None<br>None | Rare Plant Rank - 1B.2 | 10<br>10 | 56<br>S:3 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 2 | 0 | 1 |
| ***Tryonia imitator***<br>mimic tryonia (=California brackishwater snail) | G2<br>S2 | None<br>None | IUCN_DD-Data Deficient | 0<br>0 | 39<br>S:1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| ***Valley Needlegrass Grassland***<br>Valley Needlegrass Grassland | G3<br>S3.1 | None<br>None | | 500<br>500 | 45<br>S:1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

CNPS California Native Plant Society

# Plant List

## Inventory of Rare and Endangered Plants

**53** matches found. *Click on scientific name for details*

**Search Criteria**

Found in Quads 3712262, 3712261, 3712168, 3712252, 3712251, 3712158, 3712242 3712241 and 3712148;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

| Scientific Name | Common Name | Family | Lifeform | Blooming Period | CA Rare Plant Rank | State Rank | Global Rank |
|---|---|---|---|---|---|---|---|
| Acanthomintha duttonii | San Mateo thorn-mint | Lamiaceae | annual herb | Apr-Jun | 1B.1 | S1 | G1 |
| Allium peninsulare var. franciscanum | Franciscan onion | Alliaceae | perennial bulbiferous herb | (Apr)May-Jun | 1B.2 | S1 | G5T1 |
| Amsinckia lunaris | bent-flowered fiddleneck | Boraginaceae | annual herb | Mar-Jun | 1B.2 | S2S3 | G2G3 |
| Androsace elongata ssp. acuta | California androsace | Primulaceae | annual herb | Mar-Jun | 4.2 | S3S4 | G5?T3T4 |
| Arctostaphylos regismontana | Kings Mountain manzanita | Ericaceae | perennial evergreen shrub | Dec-Apr | 1B.2 | S2 | G2 |
| Astragalus tener var. tener | alkali milk-vetch | Fabaceae | annual herb | Mar-Jun | 1B.2 | S2 | G2T2 |
| Atriplex depressa | brittlescale | Chenopodiaceae | annual herb | Apr-Oct | 1B.2 | S2 | G2 |
| Atriplex minuscula | lesser saltscale | Chenopodiaceae | annual herb | May-Oct | 1B.1 | S2 | G2 |
| Balsamorhiza macrolepis | big-scale balsamroot | Asteraceae | perennial herb | Mar-Jun | 1B.2 | S2 | G2 |
| Calandrinia breweri | Brewer's calandrinia | Montiaceae | annual herb | (Jan)Mar-Jun | 4.2 | S4 | G4 |
| Calochortus umbellatus | Oakland star-tulip | Liliaceae | perennial bulbiferous herb | Mar-May | 4.2 | S3? | G3? |
| Campanula exigua | chaparral harebell | Campanulaceae | annual herb | May-Jun | 1B.2 | S2 | G2 |
| Castilleja ambigua var. ambigua | johnny-nip | Orobanchaceae | annual herb (hemiparasitic) | Mar-Aug | 4.2 | S4 | G4T5 |
| Centromadia parryi ssp. congdonii | Congdon's tarplant | Asteraceae | annual herb | May-Oct(Nov) | 1B.1 | S2 | G3T2 |
| Chloropyron maritimum ssp. palustre | Point Reyes bird's-beak | Orobanchaceae | annual herb (hemiparasitic) | Jun-Oct | 1B.2 | S2 | G4?T2 |
| Cirsium fontinale var. fontinale | Crystal Springs fountain thistle | Asteraceae | perennial herb | (Apr)May-Oct | 1B.1 | S1 | G2T1 |
| Cirsium praeteriens | lost thistle | Asteraceae | perennial herb | Jun-Jul | 1A | SX | GX |
| Clarkia concinna ssp. automixa | Santa Clara red ribbons | Onagraceae | annual herb | (Apr)May-Jun(Jul) | 4.3 | S3 | G5?T3 |
| Collinsia corymbosa | round-headed Chinese-houses | Plantaginaceae | annual herb | Apr-Jun | 1B.2 | S1 | G1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Collinsia multicolor | San Francisco collinsia | Plantaginaceae | annual herb | (Feb)Mar-May | 1B.2 | S2 | G2 |
| Dirca occidentalis | western leatherwood | Thymelaeaceae | perennial deciduous shrub | Jan-Mar(Apr) | 1B.2 | S2 | G2 |
| Eryngium aristulatum var. hooveri | Hoover's button-celery | Apiaceae | annual / perennial herb | (Jun)Jul(Aug) | 1B.1 | S1 | G5T1 |
| Eryngium jepsonii | Jepson's coyote thistle | Apiaceae | perennial herb | Apr-Aug | 1B.2 | S2? | G2? |
| Extriplex joaquinana | San Joaquin spearscale | Chenopodiaceae | annual herb | Apr-Oct | 1B.2 | S2 | G2 |
| Fritillaria liliacea | fragrant fritillary | Liliaceae | perennial bulbiferous herb | Feb-Apr | 1B.2 | S2 | G2 |
| Helianthella castanea | Diablo helianthella | Asteraceae | perennial herb | Mar-Jun | 1B.2 | S2 | G2 |
| Hesperolinon congestum | Marin western flax | Linaceae | annual herb | Apr-Jul | 1B.1 | S1 | G1 |
| Holocarpha macradenia | Santa Cruz tarplant | Asteraceae | annual herb | Jun-Oct | 1B.1 | S1 | G1 |
| Lasthenia conjugens | Contra Costa goldfields | Asteraceae | annual herb | Mar-Jun | 1B.1 | S1 | G1 |
| Leptosiphon acicularis | bristly leptosiphon | Polemoniaceae | annual herb | Apr-Jul | 4.2 | S4? | G4? |
| Lessingia hololeuca | woolly-headed lessingia | Asteraceae | annual herb | Jun-Oct | 3 | S3? | G3? |
| Malacothamnus arcuatus | arcuate bush-mallow | Malvaceae | perennial evergreen shrub | Apr-Sep | 1B.2 | S2 | G2Q |
| Malacothamnus davidsonii | Davidson's bush-mallow | Malvaceae | perennial deciduous shrub | Jun-Jan | 1B.2 | S2 | G2 |
| Malacothamnus hallii | Hall's bush-mallow | Malvaceae | perennial evergreen shrub | (Apr)May-Sep(Oct) | 1B.2 | S2 | G2 |
| Micropus amphibolus | Mt. Diablo cottonweed | Asteraceae | annual herb | Mar-May | 3.2 | S3S4 | G3G4 |
| Monardella antonina ssp. antonina | San Antonio Hills monardella | Lamiaceae | perennial rhizomatous herb | Jun-Aug | 3 | S1S3 | G4T1T3Q |
| Monolopia gracilens | woodland woolythreads | Asteraceae | annual herb | (Feb)Mar-Jul | 1B.2 | S3 | G3 |
| Navarretia myersii ssp. myersii | pincushion navarretia | Polemoniaceae | annual herb | Apr-May | 1B.1 | S2 | G2T2 |
| Navarretia paradoxiclara | Patterson's navarretia | Polemoniaceae | annual herb | May-Jun(Jul) | 1B.3 | S2 | G2 |
| Navarretia prostrata | prostrate vernal pool navarretia | Polemoniaceae | annual herb | Apr-Jul | 1B.1 | S2 | G2 |
| Piperia michaelii | Michael's rein orchid | Orchidaceae | perennial herb | Apr-Aug | 4.2 | S3 | G3 |
| Plagiobothrys chorisianus var. chorisianus | Choris' popcornflower | Boraginaceae | annual herb | Mar-Jun | 1B.2 | S2 | G3T2Q |
| Plagiobothrys glaber | hairless popcornflower | Boraginaceae | annual herb | Mar-May | 1A | SH | GH |
| Polemonium carneum | Oregon polemonium | Polemoniaceae | perennial herb | Apr-Sep | 2B.2 | S2 | G3G4 |
| Puccinellia simplex | California alkali grass | Poaceae | annual herb | Mar-May | 1B.2 | S2 | G3 |
| Ranunculus lobbii | Lobb's aquatic buttercup | Ranunculaceae | annual herb (aquatic) | Feb-May | 4.2 | S3 | G4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Senecio aphanactis | chaparral ragwort | Asteraceae | annual herb | Jan-Apr(May) | 2B.2 | S2 | G3 |
| Streptanthus albidus ssp. peramoenus | most beautiful jewelflower | Brassicaceae | annual herb | (Mar)Apr-Sep(Oct) | 1B.2 | S2 | G2T2 |
| Stuckenia filiformis ssp. alpina | slender-leaved pondweed | Potamogetonaceae | perennial rhizomatous herb (aquatic) | May-Jul | 2B.2 | S3 | G5T5 |
| Suaeda californica | California seablite | Chenopodiaceae | perennial evergreen shrub | Jul-Oct | 1B.1 | S1 | G1 |
| Trifolium amoenum | two-fork clover | Fabaceae | annual herb | Apr-Jun | 1B.1 | S1 | G1 |
| Trifolium hydrophilum | saline clover | Fabaceae | annual herb | Apr-Jun | 1B.2 | S2 | G2 |
| Tropidocarpum capparideum | caper-fruited tropidocarpum | Brassicaceae | annual herb | Mar-Apr | 1B.1 | S1 | G1 |

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