



Sand Canyon Sewer Relocation Project

Addendum to the Initial Study – Mitigated Negative Declaration

SCH #2024030871

prepared by

Santa Clarita Valley Water Agency

26521 Summit Circle Santa Clarita, California 91350 Contact: Wai Lan Lee, Project
Manager

prepared with the assistance of

Rincon Consultants, Inc.

250 East 1st Street, Suite 1400
Los Angeles, California 90012

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1 Introduction

This Addendum was prepared in accordance with the California Environmental Quality Act (CEQA) and the *CEQA Guidelines*. This document serves as an Addendum to the previously approved Initial Study-Mitigated Negative Declaration (IS-MND) (State Clearinghouse [SCH] No. 2024030871) for the Sand Canyon Sewer Relocation Project (Original Project). The Santa Clarita Valley Water Agency (SCV Water) is the lead agency for the adopted Final IS-MND and is the lead agency for the environmental review in this Addendum.

This Addendum addresses the proposed modifications in relation to the previous environmental review document prepared for the Original Project. Section 15164 of the *CEQA Guidelines* provides the circumstances under which an Addendum should be prepared:

- (a) The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred.
- (b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.
- (e) A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's findings on the project, or elsewhere in the record.

1.1 Background and Purpose of the Addendum

The Final IS-MND for the Original Project was adopted on October 1, 2024, by the SCV Water Board of Supervisors. The adopted Final IS-MND consists of responses to public and agency comments received on the Draft IS-MND and the text of the Draft IS-MND. The adopted Final IS-MND is further supported by an accompanying Mitigation Monitoring and Reporting Program (MMRP). Information and technical analyses from the adopted Final IS-MND are utilized or referenced throughout this Addendum; the adopted IS-MND is available for review on SCV Water's website.¹ In conjunction with adoption of the Final IS-MND, SCV Water also adopted the MMRP and approved the Original Project.

As approved, the Original Project would involve construction of approximately 3,500 linear feet of new 21-inch and 15-inch sewer pipeline on the north side of the Santa Clara River in eastern Santa Clarita. An existing sewer line extends east from Vista Canyon Boulevard at the State Route (SR) 14 undercrossing within the Santa Clara River, crosses under the Sand Canyon Road bridge, and terminates approximately 600 feet east of the bridge. The purpose of the Original Project was relocate the existing sewer line from within the flow path of the Santa Clara River into the adjacent overbank. The easternmost end of the proposed sewer line would be located within Sand Canyon Road and would terminate east of Sand Canyon Road near existing commercial uses. The westernmost end of the sewer line would connect to the existing sewer line west of Mitchell Hill. The Original Project's estimated area of temporary impact totals approximately 104,000 square feet, and the existing sewer line would be abandoned in place.

¹ <https://yourscvwater.com/departments/engineering/environmental-review>

The Original Project also included a 12-foot paved access road and bank protection for the proposed sewer line. The access road would generally overlap the new pipeline but would deviate from the proposed alignment where jack-and-bore construction is proposed. The access road would also include the installation of two 16-foot-wide bridges across existing drainage features.

Proposed bank protection would consist of an 8-foot wide soil cement² section with a varied height. The soil cement bank protection would be exposed, and the bed adjacent to the soil cement would be vegetated with native species.

Project Site

The Original Project site encompassed 2.4 acres in the eastern portion of Santa Clarita. Under the Original Project, the approximately 0.7-mile sewer line would begin on an overbank adjacent to the north of the Santa Clara River and south of SR 14. The sewer line would travel generally east to Sand Canyon Road, where it would redirect north along Sand Canyon Road, then redirect and terminate east in two locations near existing commercial uses. A majority of the project site is located in an undeveloped area to the north of the Santa Clara River, as well as along the northern bank of the Santa Clara River. Residential uses are also located adjacent to the north of the Original Project site. A portion of the Original Project site is located along Sand Canyon Road and terminates near existing commercial uses east of the right-of-way.

Addendum

SCV Water now proposes modifications to the Original Project, herein referred to as the “Modified Project.” This document is an Addendum to the previously adopted Final IS-MND and has been prepared by SCV Water to evaluate the potential environmental impacts of the proposed Modified Project. This Addendum has been prepared in accordance with the relevant provisions of CEQA and Section 15164 of the *CEQA Guidelines*. A detailed description of the Modified Project is provided in Section 2, *Project Description*, of this Addendum.

1.2 Basis for the Addendum

When an IS-MND has been adopted and a project is modified or otherwise changed after adoption, additional CEQA review may be necessary. The key considerations in determining the need for the appropriate type of additional CEQA review are outlined in Section 21166 of the Public Resources Code (CEQA) and Sections 15162, 15163, and 15164 of the *CEQA Guidelines*.

Section 15162(a) of the *CEQA Guidelines* provides that a Subsequent MND is not required unless the following occurs:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due

² Soil cement is a highly compacted mixture of native soils, cement, and water. As the cement hydrates, it hardens the compacted soil into a strong, durable, low-permeability material. Soil cement bank protection is a state-of-the-art flood control technique used to protect against flooding, bank erosion, and scouring while allowing natural vegetation to develop in the soil over the soil cement resulting in a "soft bank" solution.

to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Pursuant to Section 15164(b) of the *CEQA Guidelines*, an Addendum to an adopted negative declaration may be prepared by the Lead Agency that prepared the original negative declaration if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 have occurred that require preparation of a Subsequent EIR or negative declaration. An Addendum must include a brief explanation of the agency's decision not to prepare a Subsequent EIR and be supported by substantial evidence in the record as a whole (Section 15164[e]). The Addendum to an adopted negative declaration need not be circulated for public review but it may be included in or attached to the adopted negative declaration (Section 15164[c]). The decision-making body must consider the Addendum with the adopted Final IS-MND prior to making a decision on the project (Section 15164[d]).

An Addendum to the adopted Final IS-MND for the Original Project is appropriate to address the proposed Modified Project because the proposed modifications to the approved Original Project do not meet the conditions of Section 15162(a) for preparation of a Subsequent EIR or negative declaration. The proposed Modified Project would not result in new or more severe impacts related to: 1) substantial changes to the Original Project which require major revisions to the adopted Final IS-MND; 2) substantial changes to the circumstances under which the Original Project are being undertaken which will require major revisions to the adopted Final IS-MND; or 3) new information of substantial importance showing significant effects not previously examined.

The adopted Final IS-MND and this Addendum to the adopted Final IS-MND serve as informational documents to inform decision-makers and the public of the potential environmental consequences of approving the proposed Modified Project. This Addendum neither controls nor determines the ultimate decision for approval of the proposed Modified Project, described herein in Section 2, *Project Description*. The information presented in this Addendum to the adopted Final IS-MND will be considered by SCV Water alongside the adopted Final IS-MND prior to making a decision on the Modified Project.

2 Project Description

2.1 Modified Project Characteristics

The Modified Project includes an expansion of the project site, minor modifications and adjustments to the access road/multipurpose trail alignment, minor modifications and adjustments to the soil cement bank protection to include rock slope protection in three locations, the removal of the exposed portions of nine manholes from within the Santa Clara River channel, and new access routes from the southern bank of the Santa Clara River to the manhole locations. Figure 1 shows the project's regional location. Features of the Modified Project are shown in Figure 2 and Figure 3. The Modified Project's Area of Potential Effects (APE) consists of a 100-foot boundary surrounding the project area and a 25-foot buffer around the proposed manhole removal access route, and was used as a boundary to survey for biological and cultural resources.

As part of the Modified Project, the permanent access road has been realigned in the area west of the mobile home park. The modified route deviates from the sewer alignment, heading north and then turning west, as shown in Figure 3. Although the APE overlaps with SR 14, the project area is outside of SR 14's right of way and no impacts to SR 14 are expected.

The Modified Project would continue to include the installation of soil cement bank protection immediately west of the Sand Canyon Road bridge. As included in the Original Project, soil cement bank protection would be exposed, and the bed adjacent to the soil cement would be vegetated with native species. Under the Modified Project, the soil cement bank protection would be protected on both ends by rock slope protection, which would be sourced from imported broken concrete and/or river run rock.

The Modified Project adds rock slope protection in the western portion of the project site where the proposed 12-foot-wide access road traverses immediately north of the Santa Clara River bank. The rock slope protection in the western end of the site would tie into existing rip-rap located west of the proposed rock slope protection. Rock slope protection has also been added, as part of the Modified Project, to the eastern and western portions of the soil cement bank protection west of the Sand Canyon Road bridge.

While the Original Project did not include work related to existing manholes, the Modified Project would include removal of the exposed portions of nine manholes. Each manhole would be capped and cut approximately two feet below the existing bed elevation of the Santa Clara River. Each manhole removal area would require a temporary 20-foot radius work area, which would be accessed by rubber-tracked vehicles from the unvegetated bed of Sand Canyon Creek along the southern bank of the Santa Clara River.

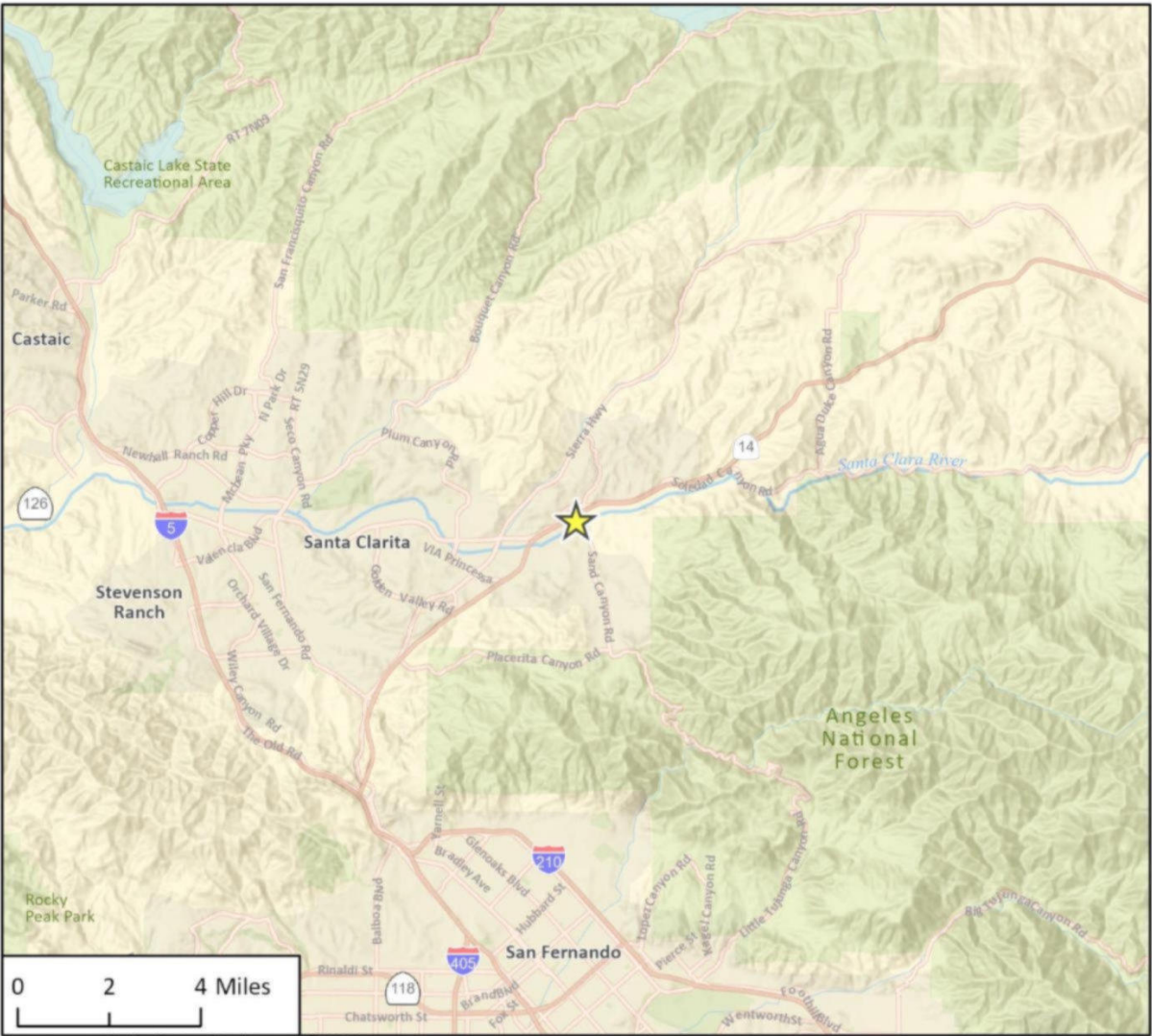
Modified Project Construction Activities

The Modified Project would include the following construction activities, in addition to those described under "Retained Original Project Construction Activities" below. Construction would begin in September 2025 and would occur over approximately 18 to 24 months.

The Original Project included construction of two 16-foot-wide bridges across existing drainage features supported by bridge footings, as described further in Section 2.2. The Modified Project would involve moving one of the bridges and its footings slightly north of where they were planned

to be located under the Original Project. The modified bridge alignment and footing locations are shown in map extent B in Figure 3.

Figure 1 Regional Location



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22-13523 Sand Cyn Sewer Reloc
Fig. 1 Regional Location

★ Project Location



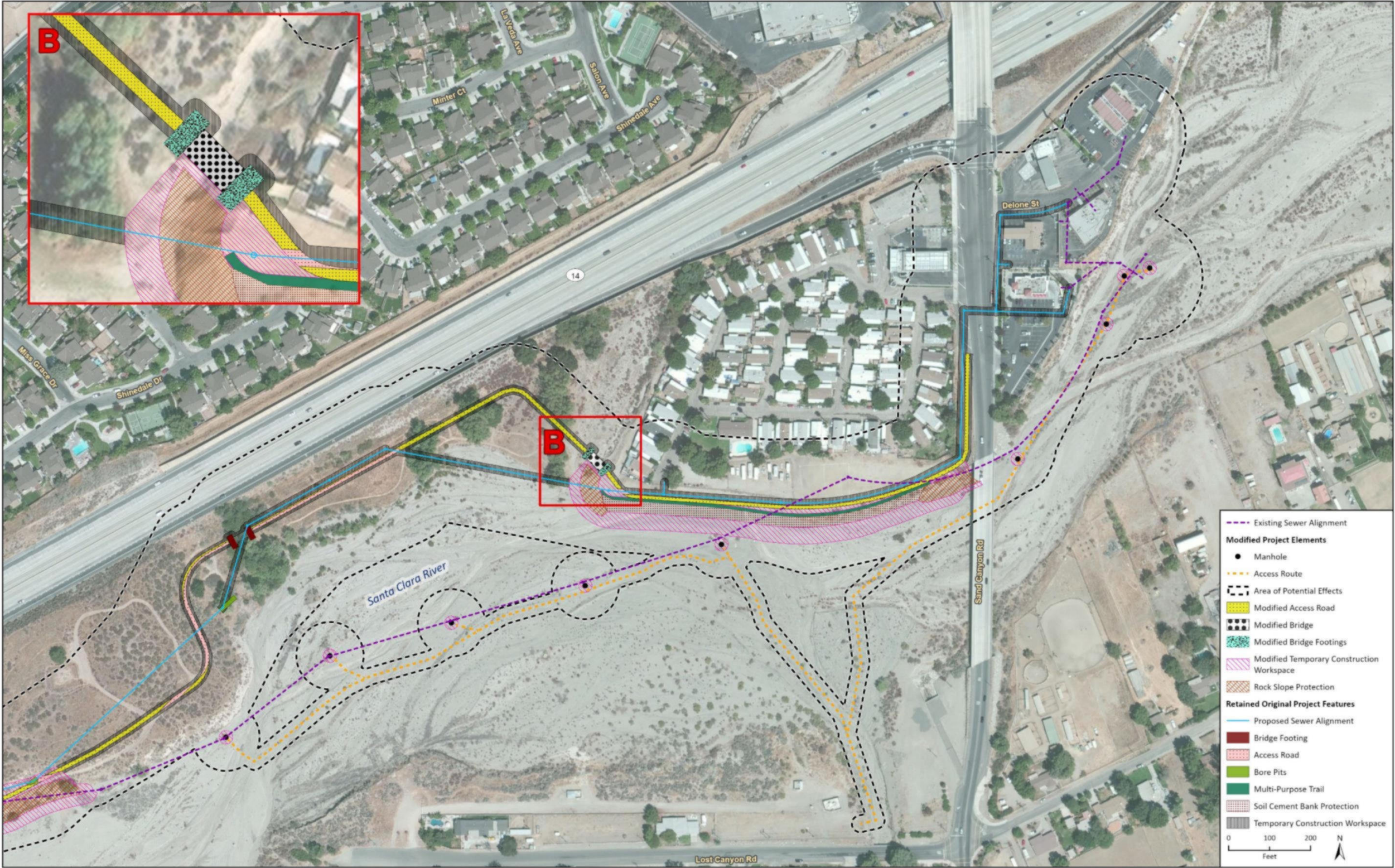
Figure 2 Modified Project Features – Western Extent



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22-13523 Sand Cyn Sewer Reloc Mod
Fig 2 Modified Project Features - Western Extent

Figure 3 Modified Project Features – Eastern Extent



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22-13523 Sand Cyn Sewer Reloc Mod
Fig 3 Modified Project Features - Eastern Extent

The Original Project did not involve work related to existing manholes. Under the Modified Project, as described above, nine manholes would be removed. Each manhole removal area would require a temporary 20-foot radius work area, which would be accessed by rubber-tracked vehicles from the unvegetated bed of Sand Canyon Creek along the southern bank of the Santa Clara River. Construction of the Modified Project would result in the removal of up to 34 trees, 15 more trees than the 19 trees anticipated to be removed under the Original Project.

2.2 Retained Original Project Characteristics

As with the Original Project, the Modified Project would include construction of approximately 3,500 linear feet of new 21-inch and 15-inch sewer pipeline on the north side of the Santa Clara River. The easternmost end of the proposed sewer line would be located within Sand Canyon Road and would terminate east of Sand Canyon Road near existing commercial uses. The westernmost end of the sewer line would connect to the existing sewer line west of Mitchell Hill. The estimated area of temporary impact totals approximately 104,000 square feet. Retained Original Project features are shown in Figure 2 and Figure 3.

As with the Original Project, the Modified Project would include construction of a 12-foot-wide paved access road, and soil cement bank protection for the proposed sewer line along the northern bank of the Santa Clara River where the bank is unstable and subject to erosion. The access road would generally overlap the new pipeline, but would deviate from the proposed alignment where jack-and-bore construction is proposed. The access road would also include the installation of two 16-foot-wide bridges across existing drainage features. The bridges would be constructed using a pre-cast arch design, with the footings located along the banks of the drainage features. The footings for the bridges would include a permanent impact area approximately 35 feet wide and 15 feet long.

Retained Original Project Construction Activities

Construction would occur from 8:00 a.m. to 5:00 p.m., Monday through Friday. Original Project construction activities would involve removal of existing pavement, site preparation, grading, trench preparation, pipe laying, and repaving. In addition to these activities, the Modified Project would involve removal of exposed manholes from within the Santa Clara River. Open-cut trenching excavation methods would be used to install most of the sewer line, and trenchless jack-and-bore would be used to install approximately 500 linear feet of sewer line along Mitchell Hill. Excavation would range from approximately 6 to 11 feet deep, including for both the pipeline and the jack-and-bore pits. Construction equipment associated with the 12-foot-wide access road would temporarily use an additional 8 feet on either side of the proposed road. Construction equipment associated with pipeline excavation areas that do not underlie the access road would require a work area width of 20 feet. As under the Original Project, the Modified Project would also involve approximately 5,800 cubic yards of cut and 3,400 cubic yards of fill. Approximately 2,400 cubic yards of soil would be exported from the project site and no soil would be imported.

Construction activities would require a temporary one-lane closure along northbound Sand Canyon Road. This closure would occur during daytime hours only. Traffic control measures would be implemented during lane closures, including flaggers at both ends. Construction equipment staging and worker parking would occur adjacent to Vista Canyon Boulevard and the northern bank of the Santa Clara River.

Due to anticipated groundwater levels being approximately 12 feet below ground surface at the site, groundwater is not anticipated to be encountered during excavations of up to 11 feet in depth. However, in the event groundwater is encountered, groundwater dewatering may be required. Dewatered groundwater would either be treated and discharged into the Santa Clara River in accordance with Los Angeles Regional Water Quality Control Board's (RWQCB's) *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (Order No. R4-2023-0429), treated and discharged to the City's storm drain system in accordance with Los Angeles RWQCB's *Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) Discharges Within the Coastal Watersheds of Los Angeles and Ventura Counties* (Phase I MS4; Order No. R4-2021-0105), or discharged to the existing sanitary sewer system for treatment at the Saugus Water Reclamation Plant.

Retained Original Project Standard Construction Practices

SCV Water maintains standard contractor specifications that would be applied to the Modified Project. These include:

- **Trench Backfill and Compaction/Soils Test/Geotechnical Reports.** The Developer or Contractor shall engage the services of a geotechnical engineering firm or individual licensed in the State of California to monitor soil conditions during earthwork, trenching, bedding, backfill and compaction operations.
- **Public Safety and Traffic Control.** Requires traffic control plans to be submitted to agencies with jurisdiction, as well as as-needed measures such as signs, lights, flares, barricades, traffic plates, etc.
- **Hazardous Waste and Unknown Physical Conditions.** If hazardous waste is discovered, Contractor shall cease work in the impacted area. If material that may be hazardous waste is discovered, the Developer or Contractor shall insure that the appropriate government agencies are contacted prior to any further work being performed and that a solution is implemented.

Retained Original Project Operation and Maintenance

Upon completion of construction, the Modified Project would not require new operations and maintenance activities or electricity consumption beyond existing operations. The anticipated minimum lifetime of the proposed sewer line is 50 years.

Lead Agency Permits and Approvals

SCV Water is the lead agency under CEQA for the Modified Project. As shown in Table 1, the Modified Project would continue to require the following approvals from other agencies.

Table 1 Other Public Agencies Whose Approval is Required

Agency	Approval Required
United States Army Corps of Engineers	Clean Water Act Section 404 Permit
Los Angeles Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification, NPDES Construction Stormwater General Permit
California Department of Fish and Wildlife	Streambed Alteration Agreement
City of Santa Clarita	Vegetation Removal Permit, Wet Weather Erosion Control, approval of dewatering discharge into City storm drain or sewer system (if dewatering is required during construction)

3 Impact Analysis

As described under Section 1.2, *Basis for the Addendum*, when an IS-MND has been adopted and a project is modified or otherwise changed after adoption, additional CEQA review may be necessary. In accordance with the *CEQA Guidelines*, SCV Water has determined that an Addendum to the adopted IS-MND is the appropriate form of environmental review for the proposed project. This examination includes an analysis of the provisions of Section 21166 of CEQA and Sections 15162 to 15164 of the *CEQA Guidelines* and their applicability to the Modified Project.

As discussed in the impact analysis below, the Modified Project would not introduce new significant environmental impacts beyond those which have already been identified and characterized in the adopted Final IS-MND. None of the conditions described in *CEQA Guidelines* Section 15162 calling for preparation of a Subsequent IS-MND have occurred or would occur as a result of the Modified Project. This Addendum will be considered by the SCV Water Board of Directors in making a decision on the Modified Project.

Appendix G of the *CEQA Guidelines* provides a checklist of environmental issue areas suggested as the issue areas that should be assessed in CEQA analyses. The adopted Final IS-MND addressed in detail all 20 of the suggested environmental issue areas. To provide a thorough and conservative analysis of potential impacts associated with the Modified Project, this Addendum also addresses all 20 environmental issue areas suggested by Appendix G of the *CEQA Guidelines*, as listed below.

- | | |
|---------------------------------------|-----------------------------------|
| 1. Aesthetics | 11. Land Use and Planning |
| 2. Agriculture and Forestry Resources | 12. Mineral Resources |
| 3. Air Quality | 13. Noise |
| 4. Biological Resources | 14. Population and Housing |
| 5. Cultural Resources | 15. Public Services |
| 6. Energy | 16. Recreation |
| 7. Geology and Soils | 17. Transportation |
| 8. Greenhouse Gas Emissions | 18. Tribal Cultural Resources |
| 9. Hazards and Hazardous Materials | 19. Utilities and Service Systems |
| 10. Hydrology and Water Quality | 20. Wildfire |

The existing environmental conditions at the project site and its surroundings are substantially the same under present conditions as described in the adopted Final IS-MND. Potential environmental impacts of the proposed project are analyzed below to determine whether impacts are consistent with the impact analysis provided in the adopted Final IS-MND, and whether additional mitigation measures are required to minimize or avoid potential impacts.

3.1 Adopted IS-MND Analysis Summary

No impacts to agriculture and forestry resources, energy, land use and planning, mineral resources, population and housing, public services, and recreation were found in the adopted Final IS-MND. In addition, impacts to aesthetics, air quality, greenhouse gas emissions, transportation, utilities and

service systems, and wildfire were determined to be less than significant with no mitigation required.

The adopted IS-MND determined that impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and tribal cultural resources, could be reduced to less-than-significant levels with mitigation. Mitigation proposed in the adopted Final IS-MND included:

- Mitigation Measure BIO-1: General Best Management Practices
- Mitigation Measure BIO-2: Worker Environmental Awareness Program
- Mitigation Measure BIO-3: Special Status Plant Surveys
- Mitigation Measure BIO-4: Special-Status Plant Avoidance
- Mitigation Measure BIO-5: Special-Status Plant Mitigation and Monitoring Plan
- Mitigation Measure BIO-6: Pre-Activity Survey
- Mitigation Measure BIO-7: Qualified Biological Monitor
- Mitigation Measure BIO-8: Dry Season Construction
- Mitigation Measure BIO-9: Nesting Birds
- Mitigation Measure BIO-10: Habitat Revegetation, Restoration, and Monitoring Program
- Mitigation Measure BIO-11: Jurisdictional Habitat Best Management Practices
- Mitigation Measure CUL-1: Preconstruction Cultural Resources Sensitivity Training
- Mitigation Measure CUL-2: Cultural Resources Monitoring
- Mitigation Measure CUL-3: Unanticipated Discovery of Cultural Resources
- Mitigation Measure GEO-1: Paleontological Resources Monitoring and Mitigation
- Mitigation Measure HAZ-1: Soil and Groundwater Management Plan
- Mitigation Measure HAZ-2: Subsurface Investigation
- Mitigation Measure HAZ-3: Disposal and Remediation
- Mitigation Measure NOI-1: Construction Management Plan
- Mitigation Measure NOI-2: Alternative Construction Equipment
- Mitigation Measure TCR-1: Tribal Cultural Resources Construction Monitoring
- Mitigation Measure TCR-2: Unanticipated Discovery of Tribal Cultural Resources
- Mitigation Measure TCR-3: Unanticipated Discovery of Human Remains

The adopted Final IS-MND determined that the implementation of these mitigation measures would result in all impacts being less than significant. Therefore, the Original Project would not result in significant and unavoidable impacts.

3.2 Modified Project

This discussion groups impact topics to allow a concise analysis of similar or related issue areas.

- **Aesthetics.** Similar to the Original Project, construction of the Modified Project would involve construction activities adjacent to the Santa Clara River, which qualifies as a scenic resource pursuant to the City of Santa Clarita's General Plan Conservation and Open Space Element. Construction of the Modified Project would be longer in duration than the Original Project

(approximately 18 to 24 months instead of 4 months) and would result in temporary partial obstruction of views of the Santa Clara River from adjacent residential development southwest of Sand Canyon Road and SR 14. Construction would not result in permanent obstruction of views of the Santa Clara River. During operation, the relocated sewer line would be located underground and would not obstruct views of the Santa Clara River. The soil cement and rock slope installed under the Modified Project would be visually similar to the rocky and compacted soil landscape in the project area, and would allow for growth of natural vegetation such that they would be obscured. As under the Original Project, the Modified Project would not conflict with applicable zoning and regulations governing scenic quality, and would not introduce new sources of light or glare not anticipated in the adopted Final IS-MND. Therefore, the Modified Project would not result in a new significant impact or a substantially more severe significant impact to aesthetics.

- **Agriculture and Forestry Resources.** The Modified Project is located in an area designated as “Urban and Built-Up Land” and “Other Land” by the California Department of Conservation, and does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.³ The project site is not zoned for agricultural use, forestland, timberland, or timberland zoned Timberland Production. No agricultural uses or forest land exist at the project site. Therefore, the Modified Project would not result in a new significant impact or a substantially more severe significant impact to agriculture and forestry resources.
- **Air Quality, Greenhouse Gas Emissions, and Energy.** The Modified Project would include the removal of manholes and installation of additional soil cement and rock slope protection, and would have a longer construction period than the Original Project. Accordingly, the Modified Project would result in greater air quality and greenhouse gas (GHG) emissions compared to the Original Project, and would consume more energy than the Original Project. However, the Modified Project would have a relatively short construction period (approximately 18 to 24 months) and would not involve substantially more intense construction activities or a substantial increase in the amount of equipment required for construction. Therefore, the Modified Project would be unlikely to exceed daily construction emission thresholds established by the South Coast Air Quality Management District. Further, the Modified Project would not involve a substantial increase in GHG emissions or energy consumption such that the Modified Project would result in impacts due to wasteful or inefficient consumption of energy resources, or impacts related to conflicting with plans, policies, or regulations related to energy efficiency or GHG emissions. Thus, the Modified Project would not result in a new significant impact or in a substantially more severe significant impact to air quality, greenhouse gas emissions, or energy.
- **Biological Resources.** An Updated Biological Resources Assessment was prepared for the Modified Project by Rincon Consultants in February 2025 (Appendix A). Rincon conducted field reconnaissance surveys of the Original Project site and Modified Project site on August 1, 2023, and December 13, 2024. Rincon also conducted formal jurisdictional delineation surveys on August 4, 2023, October 16, 2023, and December 13, 2024, and a rare plant survey across all project areas on May 8, 2024. Rincon also conducted queries of the United States Fish and Wildlife Service Information, Planning and Conservation System; the California Department of Fish and Wildlife California Natural Diversity Database; and the California Native Plant Society Online Inventory of Rare, Threatened and Endangered Plants of California.

³ California Department of Conservation. 2022. California Important Farmland Finder. <https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed February 2025).

The Updated Biological Resources Assessment concluded that, similar to the Original Project, the Modified Project would potentially have a substantial adverse effect on special-status species. In addition to Mitigation Measures BIO-1 through BIO-6, included in the adopted Final IS-MND, which would apply to the Modified Project, the Modified Project requires an additional mitigation measure to avoid potential impacts to least Bell's vireo (Mitigation Measure BIO-A), due to the presence of suitable foraging and/or breeding habitat observed during the December 2024 field survey. This new mitigation measure is included below under *Effects and Mitigation Measures* and in Appendix A. With implementation of this measure and mitigation measures included in the adopted Final IS-MND, the Modified Project's impacts to special-status species would continue to be less than significant with mitigation incorporated (Appendix A). Because the adopted Final IS-MND determined impacts to special-status species would be less than significant with mitigation incorporated, this additional mitigation measure does not constitute a substantial change in the severity of a significant impact or a new significant environmental effect, and preparation of a Subsequent IS-MND is not required.

The Updated Biological Resources Assessment determined the Modified Project, similar to the Original Project, would not result in substantial effects to state- or federally-protected wetlands, wildlife movement, or effects related to conflicts with local policies or ordinances protecting biological resources, habitat conservation plans, or natural conservation community plans (Appendix A). As with the Original Project, the Modified Project would result in potential impacts to sensitive plant communities. These impacts would be reduced to a less-than-significant level with implementation of Mitigation Measures BIO-7 and BIO-8 from the adopted Final IS-MND. The mitigation measures identified in the adopted Final IS-MND would remain applicable to the Modified Project, and would ensure potential impacts to biological resources are less than significant. Therefore, the Modified Project would not result in a new significant impact or in a substantially more severe significant impact to biological resources.

- **Cultural Resources.** A Cultural Resources Assessment Report Addendum was prepared for the Modified Project by Rincon Consultants in February 2025 (Appendix B). Rincon conducted a reconnaissance-level site visit of the Original Project site and Modified Project site on August 1, 2023 and February 11, 2025. Rincon also reviewed the records and database search results originally conducted for the Original Project, which covers the entirety of the Modified Project site. Reviewed information includes searches of the California Historical Resources Information System, the Native American Heritage Commission Sacred Lands File, and archival research.

As with the Original Project, the Modified Project would not disturb historical resources and would not result in a substantial adverse change in the significance of a historical resource. The Modified Project, similar to the Original Project, overlies two cultural resources that are eligible for listing in the California Register of Historical Resources. As concluded in the Cultural Resources Assessment Report Addendum, the cultural resources are outside the footprint of the Modified Project and implementation of the Modified Project would not impact known subsurface archaeological deposits (Appendix B). However, as with the Original Project, inadvertent discoveries of subsurface archaeological deposits during construction remain a possibility. Mitigation Measures CUL-1 through CUL-3 from the adopted Final IS-MND would continue to be required under the Modified Project, which would reduce potential impacts to archaeological resources to a less-than-significant level. Therefore, the Modified Project would not result in a new impact or a substantially more severe impact to cultural resources.

Construction of the Modified Project would follow the State of California Health and Safety Code Section 7050.5 procedures following the unanticipated discovery of human remains, as described in the adopted Final IS-MND. The mitigation measures identified in the adopted Final

IS-MND would remain applicable to the Modified Project, and would ensure potential impacts to cultural resources are less than significant. Therefore, the Modified Project would not result in a new significant impact or a substantially more severe significant impact to cultural resources.

- **Geology and Soils.** The Modified Project would generally be subject to the same geologic conditions as the Original Project. As with the Original Project, the Modified Project features would be located in a liquefaction hazard zone and could be subject to seismic ground shaking during an earthquake triggered by nearby fault zones.⁴ As with the Original Project, the Modified Project features would not include habitable structures and would be constructed in accordance with applicable seismic design standards. In the event project components are compromised during operation due to lateral spreading, subsidence, liquefaction, or collapse, SCV Water would temporarily shut off the facility and conduct emergency repairs as soon as possible. Therefore, the Modified Project would not result in a new significant impact or a substantially more severe significant impact related to ground shaking, landslides, lateral spreading, subsidence, liquefaction, or collapse.

The Modified Project would be subject to the National Pollutant Discharge Elimination System Construction General Permit, which requires the development of a Stormwater Pollution Prevention Plan; compliance with this would reduce soil erosion and the loss of topsoil to the extent feasible and impacts would be less than significant. As with the Original Project, the Modified Project would not be located on expansive soils and would not require the use of septic tanks or alternative wastewater disposal systems. Finally, the Modified Project would be located in areas with low to high sensitivity for paleontological resources, and could potentially result in impacts. The Modified Project would continue to require the implementation of Mitigation Measure GEO-1, which would reduce potential impacts to paleontological resources to a less-than-significant level. Therefore, the Modified Project would not result in a new significant impact or a substantially more severe significant impact to geology and soils.

- **Hazards and Hazardous Materials.** The Modified Project would generally involve similar excavation and construction activities as the Original Project. As with the Original Project, the eastern portion of the Modified Project site contains three former leaking underground storage tank cleanup sites adjacent to Sand Canyon Road. Although these sites have been classified as “Completed-Case Closed” by the Los Angeles Regional Water Quality Control Board,⁵ there is still a risk that hazardous materials from these sites may have infiltrated the underlying soils. The Modified Project would continue to require the implementation of Mitigation Measures HAZ-1 through HAZ-3, as included in the adopted Final IS-MND, which would reduce potential hazardous material impacts to a less-than-significant level by implementing additional investigation and remedial measures, transportation of impacted materials, and/or soil and groundwater management practices to ensure construction worker health and safety. Furthermore, as outlined in the adopted Final IS-MND, the use, transport, and storage of hazardous materials during construction of the project would be subject to federal, state, and local laws and regulations governing hazardous materials. In operation, the Modified Project would not require the use, storage, or disposal of hazardous materials, similar to the Original

⁴ California Department of Conservation. 2025. Earthquake Zones of Required Investigation. <https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/> (accessed February 2025).

⁵ State Water Resources Control Board. 2025. GeoTracker database. <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento> (accessed February 2025).

Project. Therefore, the Modified Project would not involve new or substantially more severe significant impacts related to hazards and hazardous materials.

- **Hydrology and Water Quality.** The Modified Project would generally involve similar excavation and construction activities as the Original Project, though it would involve additional excavation within the Santa Clara River associated with removal of the manholes. As discussed above under *Geology and Soils*, the Modified Project would continue to be subject to the National Pollutant Discharge Elimination System Construction Stormwater General Permit, requiring the preparation of a Stormwater Pollution Prevention Plan that specifies best management practices to reduce pollutants in stormwater runoff. In addition, SCV Water would continue to voluntarily comply Section 19.90.030 of the City's Municipal Code, which requires the submittal of a Wet Weather Erosion Control Plan with specific best management practices to minimize erosion, flooding, or the deposition of mud, debris, or construction related pollutants during the wet season. The Modified Project would also continue to be required to implement a Soil and Groundwater Management Plan if contamination is encountered pursuant to Mitigation Measure HAZ-1, subsurface investigation pursuant to Mitigation Measure HAZ-2, and remediation and disposal pursuant to Mitigation Measure HAZ-3 in the event contaminated groundwater is encountered. Accordingly, the Modified Project would not result in new or substantially more severe significant impacts to surface or groundwater quality.

As described in Section 2.2, *Retained Original Project Characteristics*, in the event groundwater is encountered, groundwater dewatering may be required from some excavation activities, which could be discharged into the Santa Clara River, the City's storm drain system, or the sewer system. Furthermore, the Modified Project would not result in a substantial increase in impervious surfaces at the Modified Project site. Therefore, the Modified Project would not result in new or substantially more severe significant impacts to groundwater supply, groundwater recharge, or sustainable groundwater management. Similarly, the Modified Project would not substantially alter drainage patterns in the project area beyond what was anticipated for the Original Project. Accordingly, the Modified Project would not result in a new or substantially more severe significant impact to hydrology and water quality.

- **Land Use and Planning.** As with the Original Project, the Modified Project would involve replacement of a sewer line at the overbank of the Santa Clara River and would not divide an established community. The Modified Project would not involve changes to existing land use or zoning designations, and would not conflict with land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. Therefore, the Modified Project would not result in a new or substantially more severe significant land use impact.
- **Mineral Resources.** As with the Original Project, the Modified Project would be located in an area known to contain mineral deposits. The Modified Project would not include mineral extraction and would not affect the availability of minerals in this area. Accordingly, the Modified Project would not result in new or substantially more severe significant impacts to mineral resources.
- **Noise.** The Modified Project would generally involve similar excavation and construction activities as the Original Project, but would involve a longer construction period than the Original Project (18 to 24 months instead of 4 months). As with the Original Project, construction equipment used for the Modified Project would generate noise that would exceed 80 decibels during a one-hour period, which was the threshold used to determine significant noise impacts in the adopted Final IS-MND. The Modified Project would continue to require implementation of Mitigation Measure NOI-1, which would require the use of temporary sound

barriers and would reduce noise impacts to a less-than-significant level. As with the Original Project, construction equipment used for the Modified Project would generate vibration that could result in impacts to nearby residences. The Modified Project would continue to require the implementation of Mitigation Measure NOI-2, which would require the use of alternative construction equipment within 26 feet of nearby structures, and would reduce vibration impacts to a less-than-significant level. Therefore, the Modified Project would not result in a new or substantially more severe significant noise impact.

- **Population and Housing, Public Services, Recreation, and Utilities and Service Systems.** The Modified Project would involve replacement of an existing sewer line and would not increase the capacity of the sewer line. Therefore, as with the Original Project, the Modified Project would not result in an increase in population and housing, demand for public services, demand for recreational facilities, or demand for utilities beyond that analyzed in the adopted Final IS-MND. Thus, the Modified Project would not result in new or substantially more severe significant impacts to these resources.
- **Transportation.** Because the Modified Project would involve a longer construction period than the Original Project, the Modified Project would involve a greater number of construction worker vehicle trips and equipment trips. However, because the Modified Project's construction period would remain relatively short and there would be limited impact to public transit and pedestrian facilities, the Modified Project would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. The Modified Project would generally involve similar excavation and construction activities as the Original Project, and as such would not result in a substantial increase in the number of daily trips to and from the site. As discussed in the adopted Final IS-MND, projects that generate less than 110 daily trips are presumed to result in less than significant vehicle miles traveled impacts absent substantial evidence to the contrary, pursuant to City of Santa Clarita's Transportation Analysis Updates guidance. Because the Modified Project would not involve a substantial increase in daily trips, impacts related to vehicle miles traveled would be less than significant. The Modified Project would not introduce incompatible uses. As with the Original Project, phases of the Modified Project would require a temporary one-lane closure along northbound Sand Canyon Road and would involve implementation of a traffic control plan. The traffic control plan would be reviewed and approved by the City, and as such, the Modified Project would not result in new or substantially more severe significant impacts related to emergency access. Therefore, the Modified Project would not result in a new or substantially more severe significant impact related to transportation.
- **Tribal Cultural Resources.** The Modified Project would generally involve similar excavation and construction activities as the Original Project, and would be located in the same area as the Original Project. There are no identified tribal cultural resources within the project site, and according to a search of the Native American Heritage Commission Sacred Lands File conducted for the Original Project, there are no identified tribal cultural resources within the United States Geological Service quadrangle in which the project site is located. As with the Original Project, the Modified Project would continue to require the implementation of Mitigation Measure CUL-3, which includes procedures for unanticipated discovery of archaeological resources, and Mitigation Measures TCR-1, TCR-2, and TCR-3, which require Native American monitoring of ground-disturbing activities, procedures for unanticipated discovery of tribal cultural resources, and compliance with existing regulations outlined in California Health and Safety Code Section 7050.5 should human remains be inadvertently discovered during construction, respectively.

Therefore, the Modified Project would not result in a new or substantially more severe significant impact related to tribal cultural resources.

- **Wildfire.** The Modified Project would be located in the same area as the Original Project; the Modified Project site is not within a Very High Fire Hazard Severity Zone as designated by the California Department of Forestry and Fire Protection. As with the Original Project, potential ignition sources associated with the Modified Project may include sparks from exhaust pipes, discarded cigarette butts, contact of mufflers with dry grass, other sources of sparks or flame, and spills or releases of flammable materials such as gasoline. Construction personnel would adhere to Public Resources Code Section 4442, which requires earth-moving and portable construction equipment with internal combustion engines to use spark arrestors when operating on any forest-covered, brush-covered, or grass-covered land. Compliance with applicable federal and State laws and regulations related to the proper use, storage, and transport of hazardous materials would reduce the risk of wildfire ignition from the use of hazardous materials during construction activities. As with the Original Project, the Modified Project would not involve installation of fuel breaks or other utilities that may increase fire risk. In addition, as discussed under *Transportation* above, the Modified Project would not result in new or substantially more severe significant impacts related to emergency access. Therefore, the Modified Project would not result in new or substantially more severe significant impacts related to wildfire.

3.3 Effects and Mitigation Measures

As described above, the Modified Project is consistent with the analysis of the adopted Final IS-MND and would not result in new or substantially more severe significant impacts beyond those identified in the adopted Final IS-MND. Mitigation measures identified in the adopted Final IS-MND would continue to be required with the Modified Project. As discussed under *Biological Resources*, the Modified Project requires the implementation of an additional mitigation measure to reduce potential impacts to least Bell's vireo. The mitigation measures included in the adopted Final IS-MND, and new mitigation measure included herein, would ensure the Modified Project results in less than significant impacts with mitigation incorporated. This finding is consistent with the adopted Final IS-MND and does not constitute a new impact or substantial increase in the severity of a previously identified significant impact. Additionally, the Modified Project is consistent with the findings and conclusions of the adopted Final IS-MND regarding mandatory findings of significance.

Modifications to Adopted IS-MND Mitigation Measures

BIO-A Least Bell's Vireo Pre-construction Surveys

Prior to initiation of project construction and activities within or adjacent to suitable least Bell's vireo nesting habitat during least Bell's vireo breeding season (March 15 through September 15), a qualified biologist with experience surveying for least Bell's vireo shall conduct at least three focused surveys following USFWS-established protocols to determine whether breeding least Bell's vireos are present. Focused surveys shall be completed within the project site and a 500-foot buffer. If least Bell's vireo is present, the biologist shall determine its breeding territory, and no construction shall take place within 500 feet of the breeding territory from March 15 through September 15.

4 Conclusion

As discussed in Section 3, *Impact Analysis*, there are no new or substantially more severe significant impacts associated with the Modified Project beyond those identified in the adopted Final IS-MND. Mitigation measures included in the adopted Final IS-MND, as well as the new mitigation measure introduced in this Addendum, are required to be implemented as part of the Modified Project. Implementation of all existing and the additional mitigation measure would ensure all impacts are less than significant. This conclusion is consistent with the conclusions in the adopted Final IS-MND. Therefore, preparation of a Subsequent IS-MND is not necessary and the following determinations have been made:

- No further evaluation of environmental impacts is required for the Modified Project;
- No Subsequent IS-MND is necessary per *CEQA Guidelines* Section 15162; and
- This Addendum is the appropriate level of environmental analysis and documentation for the proposed project in accordance with *CEQA Guidelines* Section 15164.

Pursuant to *CEQA Guidelines* Section 15164(c), this Addendum will be attached to the adopted Final IS-MND. Documents related to the adopted Final IS-MND, including this Addendum, are available on SCV Water's website at <https://yourscvwater.com/departments/engineering/environmental-review>.

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Appendix A

Updated Biological Resources Assessment and Jurisdictional Delineation



Sand Canyon Sewer Relocation Project

Updated Biological Resources Assessment and Jurisdictional Delineation

prepared for

Santa Clarita Valley Water Agency
26521 Summit Circle
Santa Clarita, California 91350
Contact: Wai Lan Lee, Project Manager

prepared by

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

February 2025

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Executive Summary

Rincon Consultants, Inc. has prepared this Biological Resources Assessment and Jurisdictional Delineation to document existing conditions and provide a basis for evaluation of potential impacts to biological resources from the Santa Clarita Valley Water Agency's (SCV Water) Sand Canyon Sewer Relocation Project (project). The proposed project includes construction of approximately 3,500 linear feet of new 21-inch and 15-inch sewer pipeline on the north side of the Santa Clara River (SCR). An existing sewer line extends east from Vista Canyon Boulevard at the State Route 14 undercrossing within the SCR, crosses under the Sand Canyon Road bridge, and terminates approximately 600 feet east of the bridge. The purpose of the proposed project is to relocate the existing sewer line from within the flow path of the river into the adjacent overbank. The project also includes the development of a 12-foot-wide paved access road, and soil cement bank protection and rock slope protection for the proposed sewer line and access road along the northern bank of the SCR where the bank is unstable and subject to erosion. The Area of Potential Effects (APE) surrounding the project site encompasses a 100-foot survey buffer.

No special-status plant species have a moderate or high potential to occur in the APE, based on the results of a rare plant survey conducted in spring 2024. Four special-status wildlife species have a high potential to occur, including California legless lizard (*Anniella* spp.), coastal whiptail (*Aspidoscelis tigris stejnegeri*), California horned lark (*Eremophila alpestris actia*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Nine species have a moderate potential to occur and include Crotch bumble bee (*Bombus crotchii*), Santa Ana sucker (*Catostomus santaanae*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), arroyo chub (*Gila orcuttii*), arroyo toad (*Anaxyrus californicus*), western spadefoot (*Spea hammondi*), coast horned lizard (*Phrynosoma blainvillii*), Cooper's hawk (*Accipiter cooperii*), and least Bell's vireo (*Vireo bellii pusillus*). No federally-designated critical habitat occurs within the APE.

Additionally, three sensitive plant communities are located within the APE: clustered tarweed fields, Fremont cottonwood forest and woodland, and scale broom scrub. The APE also contains potential nesting habitat for bird species protected under California Fish and Game Code Section 3503 and the federal Migratory Bird Treaty Act.

The proposed project includes 3.56 acres of temporary impacts and 2.04 acres of permanent impacts, some of which occur in vegetation communities that have the potential to support special-status wildlife species and nesting birds. Avoidance and minimization measures (AMMs) BIO-1 through BIO-7 would require implementation of Best Management Practices (BMP), a worker education program, a pre-activity special-status wildlife species survey, biological monitoring during ground disturbance, dry-season construction, pre-construction nesting bird surveys and avoidance of nesting birds, and focused pre-construction surveys for least Bell's vireo and avoidance of least Bell's vireo breeding territories (if present). With implementation of AMMs BIO-1 through BIO-7, impacts to special-status wildlife species would be reduced to less-than-significant levels.

The proposed project includes 0.15 acre of temporary impact and 0.05 acre of permanent impact to Fremont cottonwood forest and woodland and 0.10 acre of temporary impact to scale broom scrub, which are considered sensitive plant communities. Implementation of AMM BIO-7 would require compensation for impacts to these plant communities, and would reduce impacts to sensitive plant communities to less-than-significant levels. Moreover, the proposed project would temporarily impact 0.45 acre (1,334 linear feet) of potential non-wetland waters of the United States (U.S.), 1.17

acre (1,523 linear feet) of potential non-wetland waters of the state, 0.01 acre of potential wetland waters of the U.S./state, and 1.63 acre (2,085 linear feet) of potential California Department of Fish and Wildlife (CDFW) streambed and associated riparian habitat. The proposed project would permanently impact 0.28 acre (1,022 linear feet) of potential non-wetland waters of the U.S., 0.53 acre (1,488 linear feet) of potential non-wetland waters of the state, and 1.19 acre (2,376 linear feet) of potential CDFW streambed and associated riparian habitat. SCV Water would consult with the appropriate regulatory agencies (United States Army Corps of Engineers [USACE], Los Angeles Regional Water Quality Control Board [RWQCB], and/or CDFW) anticipated to assert jurisdiction over the features, and acquire necessary permits prior to implementation of the project. Furthermore, implementation of AMMs BIO-8 and BIO-9 would reduce impacts to jurisdictional waters and wetlands to less-than-significant levels.

The SCR in the southern portion of the APE provides a valuable movement and migration corridor for many types of wildlife, including terrestrial, semi-aquatic, and aquatic species. Construction activities would not occur within the bed of the SCR, as project components only occur along the northern bank (i.e., soil cement bank protection) or above the northern bank (i.e., sewer line installation, access road development). Migrating wildlife would have the ability to traverse around the work area (i.e., to the south) during construction and continue migrating through the SCR channel. In addition, implementation of BMPs in accordance with AMM BIO-1, including measures to prevent wildlife entrapment (e.g., sloping trenches) would reduce potentially significant impacts to wildlife movement to a less-than-significant level. Moreover, with implementation of AMM BIO-5, construction along the northern bank of the SCR bed would occur when the river is dry (i.e., no flowing water). Therefore, impacts to resident or migratory fish would be less than significant.

The APE is located within the city of Santa Clarita (City), and the northwestern portion of the APE occurs in the Vista Canyon Specific Plan area. Natural resources within the APE are regulated according to the City's General Plan and Vista Canyon Specific Plan, which focus on conservation of existing natural areas; restoration of damaged natural vegetation; protection of wetlands, oak trees, and other indigenous woodlands and endangered or threatened species and habitat; and protection of biological resources in Significant Ecological Areas (SEA) and significant wildlife corridors. With implementation of AMMs BIO-1 through BIO-9, impacts to biological resources would be less than significant and the project would not conflict with policies protecting biological resources in the City of Santa Clarita General Plan or Vista Canyon Specific Plan. Parkway trees and oak trees (*Quercus* spp.) in the city are protected by the City's Oak Tree Preservation Ordinance and Parkway Trees Ordinance. The proposed project would not impact any trees protected by these ordinances and would not conflict with local policies or ordinances regarding trees.

The project site is located partially within the Santa Clara River SEA. The Santa Clara River SEA covers the length of the SCR and encompasses a wide variety of topographic features and habitat types. The orientation and extent of the SEA extends from the SCR's headwater tributaries and watershed basin to the point at which it exits Los Angeles County. Project construction would potentially affect the SEA and its biological resources due to construction activity in the APE. While the project would not be subject to the City's building and zoning ordinances (Santa Clarita Municipal Code Titles 17 and 18) pursuant Government Code Section 53091, SCV Water would voluntarily comply with the City's code through the implementation of measures to reduce impacts (refer to AMMs BIO-1 through BIO-9) such that the project would be compliant with the City's code.

1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment and Jurisdictional Delineation (BRA/JD) Report for the Santa Clarita Valley Water Agency (SCV Water) to document existing conditions and provide a basis for evaluation of potential impacts to special-status and sensitive biological resources associated with the Sand Canyon Sewer Relocation Project (project) in the city of Santa Clarita (City), Los Angeles County, California (Figure 1).

1.1 Project Location

The approximately 2.4-acre project site is located in the eastern portion of the City. The approximately 0.7-mile sewer line would begin on an overbank adjacent to the north of the Santa Clara River (SCR; Figure 2a-Figure 2b) and south of State Route (SR) 14. The sewer line would travel generally east to Sand Canyon Road, where it would redirect north along Sand Canyon Road, then redirect and terminate east in two locations near existing commercial uses. The project site is located south of SR-14. A majority of the project site is located in an undeveloped area to the north of the SCR, as well as along the northern bank of the SCR. Residential uses are also located adjacent to the north of the project site. A portion of the project site is located along Sand Canyon Road and terminates near existing commercial uses east of the right-of-way.

The approximate center of the project site is located at latitude 34.422051 and longitude -118.425283 (WGS84). The project site is located in Township 04 North, Range 15 West, Sections 14 and 23 of the United States Geological Survey (USGS) *Mint Canyon, California* 7.5-minute topographic quadrangle (USGS 2024a). The Area of Potential Effects (APE) associated with the project includes the project site and a 100-foot buffer surrounding all project components except for the proposed manhole removal access route; the manhole removal access route includes a 25-foot buffer.

1.2 Project Description

The proposed project includes construction of approximately 3,500 linear feet of new 21-inch and 15-inch sewer pipeline on the north side of the SCR. An existing sewer line extends east from Vista Canyon Boulevard at the SR-14 undercrossing within the SCR, crosses under the Sand Canyon Road bridge, and terminates approximately 600 feet east of the bridge. The purpose of the proposed project is to relocate the existing sewer line from within the flow path of the SCR into the adjacent overbank.

The easternmost end of the proposed sewer line would be located within Sand Canyon Road and would terminate east of Sand Canyon Road near existing commercial uses. The westernmost end of the sewer line would connect to the existing sewer line west of Mitchell Hill. The estimated area of temporary impact totals approximately 104,000 square feet. The project site, which includes the temporary impact footprint, is depicted in Figure 2a-Figure 2b. Site plans are included in Appendix A.

The existing sewer line would be abandoned-in-place, and the exposed portions of nine manholes for the existing sewer line would be removed from within the SCR channel. Each manhole would be capped and cut approximately two feet below the existing bed elevation of the SCR. Each manhole

removal area would require a temporary 20-foot radius work area, which would be accessed by rubber-tracked vehicles from the unvegetated bed of Sand Canyon Creek along the southern bank of the SCR.

The proposed project also includes the development of a 12-foot-wide paved access road, and soil cement¹ bank protection for the proposed sewer line along the northern bank of the SCR where the bank is unstable and subject to erosion. Soil cement bank protection would be installed immediately west of the Sand Canyon Road bridge. The soil cement bank protection would be exposed, and the bed adjacent to the soil cement would be vegetated with native species. The soil cement bank protection would be protected on both ends by rock slope protection, which would be sourced from imported broken concrete and/or river run rock. The project also includes rock slope protection in the western portion of the project site where the proposed 12-foot wide access road traverses immediately north of the SCR river bank. The rock slope protection in the western end of the project site would tie into existing rip-rap located west of the proposed rock slope protection. The access road would generally overlap the new pipeline, but would deviate from the proposed alignment where jack-and-bore construction is proposed.

The access road would also include the installation of two 16-foot-wide bridges across existing drainage features (Intermittent Drainage 1 and Ephemeral Drainage 1). The bridges would be constructed using a pre-cast arch design, with the footings located along the banks of the drainage features. The footings for the bridges would include a permanent impact area approximately 35 feet wide and 15 feet long.

Construction Activities

Construction would begin in September 2025 and would occur over the course of approximately 18 to 24 months. Construction would occur from 8:00 a.m. to 5:00 p.m., Monday through Friday. Construction activities would involve removal of existing pavement, exposed manhole removals from within the SCR, site preparation, grading, trench preparation, pipe laying, and repaving. While open trenching would be used to install a majority of the sewer line, jack-and-bore would be used to install approximately 500 linear feet of the sewer line along Mitchell Hill. Excavation would range from approximately 6 to 11 feet deep, including for both the pipeline and the jack-and-bore pits. Construction equipment associated with the 12-foot-wide access road would temporarily use an additional 8 feet on either side of the proposed road. Construction equipment associated with pipeline excavation areas that do not underlie the access road would require a work area width of 20 feet. Construction of the single span bridges would entail an approximate 35-foot by 15-foot area for each footing (two footings would be installed per bridge, located on the banks of the drainages and outside of the drainage features).

The proposed project would involve approximately 5,800 cubic yards of cut and 3,400 cubic yards of fill. Approximately 2,400 cubic yards of soil would be exported from the project site and no soil would be imported. Construction activities would require a temporary one-lane closure along northbound Sand Canyon Road. This closure would occur during daytime hours only. Traffic control measures would be implemented during lane closures, including flaggers at both ends. Construction

¹ Soil cement is a highly compacted mixture of native soils, cement, and water. As the cement hydrates, it hardens the compacted soil into a strong, durable, low-permeability material. Soil cement bank protection is a state-of-the-art flood control technique used to protect against flooding, bank erosion, and scouring while allowing natural vegetation to develop in the soil over the soil cement resulting in a "soft bank" solution.

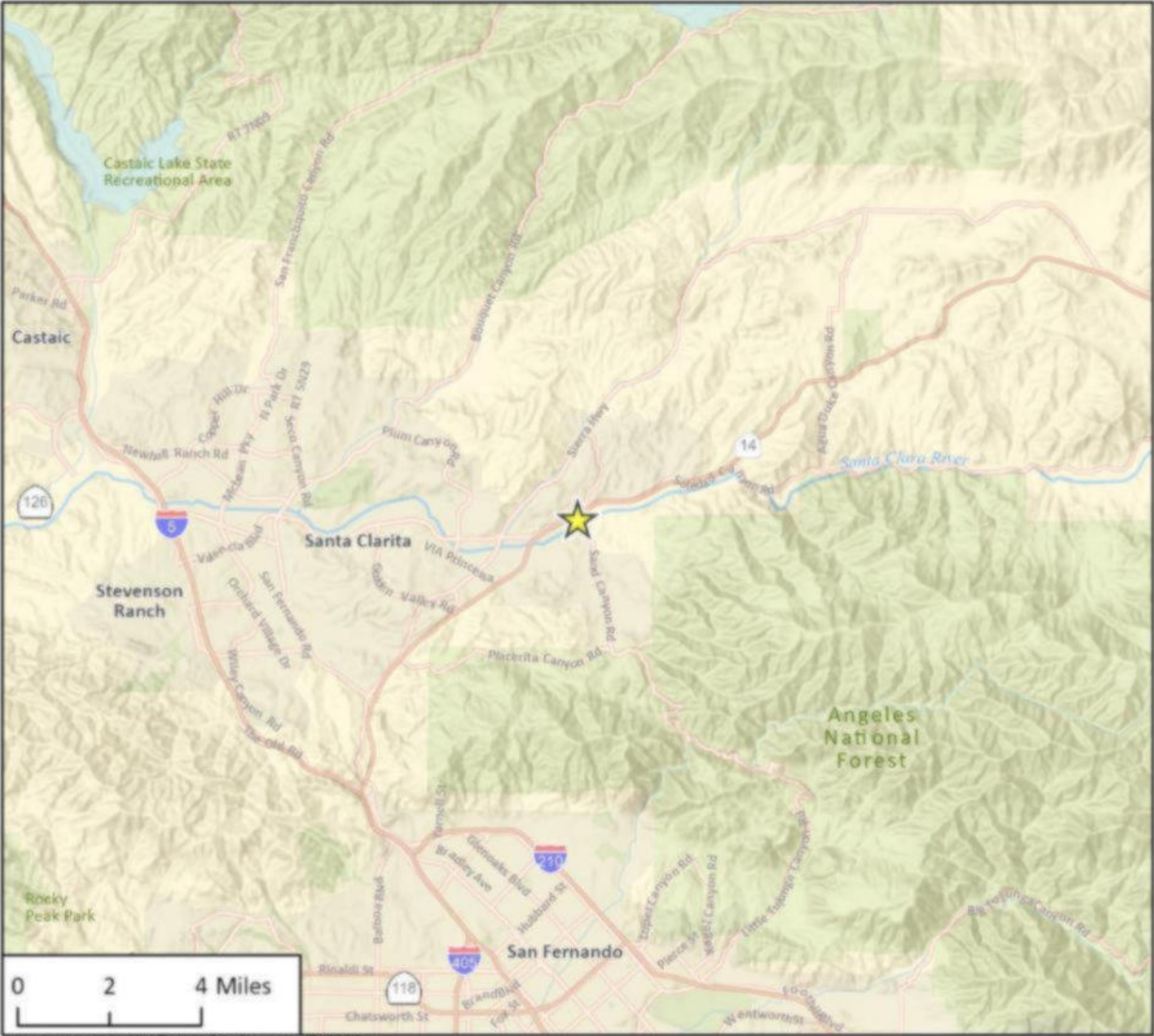
equipment staging and worker parking would occur adjacent to Vista Canyon Boulevard and the northern bank of the Santa Clara River. Construction would result in the removal of up to 34 trees.

Due to anticipated groundwater levels approximately 12 feet below ground surface at the project site, groundwater is not anticipated to be encountered during excavations of up to 11 feet in depth. However, in the event groundwater is encountered, groundwater dewatering may be required during excavation. Dewatered groundwater would either be treated and discharged into the Santa Clara River in accordance with Los Angeles RWQCB's *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (Order No. R4-2023-0429), treated and discharged to the City's storm drain system in accordance with Los Angeles RWQCB's *Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) Discharges Within the Coastal Watersheds of Los Angeles and Ventura Counties* (Phase I MS4; Order No. R4-2021-0105), or discharged to the existing sanitary sewer system for treatment at the Saugus Water Reclamation Plant.

Operation and Maintenance

Upon completion of construction, the project would not require new operations and maintenance activities or electricity consumption beyond existing operations. The anticipated minimum lifetime of the proposed sewer line is 50 years.

Figure 1 Regional Location



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82-13523 Sand Canyon Sewer Reloc.
Fig. 1 Regional Location

★ Project Location



Figure 2a APE – West



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22-13523 Sand Chyn Sewer Reloc
Fig 2A Area of Potential Effects

Figure 2b APE – East



2 Methodology

2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special-status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions.

Definition of Special-status Species

For the purposes of this report, special-status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the project;
- Species listed as candidate, rare, threatened, or endangered under the California Endangered Species Act (CESA) or Native Plant Protection Act;
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Fish and Game Code (CFGF) or California Department of Fish and Wildlife (CDFW);
- Species designated as locally important by the City and/or otherwise protected through ordinance or local policy; and
- Plants occurring on lists 1 through 4 of the California Native Plant Society (CNPS) California Rare Plant Rank system.

Environmental Statutes

For the purpose of this report, the analysis of potential impacts to biological resources was guided by the following statutes (described in detail in Appendix B):

- California Environmental Quality Act (CEQA);
- FESA;
- CESA;
- Federal Clean Water Act (CWA);
- CFGF;
- Migratory Bird Treaty Act (MBTA);
- The Bald and Golden Eagle Protection Act;
- Porter-Cologne Water Quality Control Act;
- City of Santa Clarita General Plan; and
- Santa Clarita Municipal Code.

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

- a) *Have substantial adverse effects, 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 CDFW or U.S. Fish and Wildlife Service.*
- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or U.S. Fish and Wildlife Service.*
- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
- d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*
- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.*

2.2 Literature Review

Queries of the United States Fish and Wildlife Service (USFWS) Information, Planning and Conservation System (USFWS 2024a), CDFW California Natural Diversity Database (CNDDB; CDFW 2024), and the CNPS Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS 2024a) were conducted to obtain comprehensive information regarding state and federally listed species as well as other special-status species considered to have potential to occur with the *Mint Canyon, California* USGS 7.5-minute topographic quadrangle and the surrounding eight quadrangles (*Agua Dulce, Sunland, San Fernando, Oat Mountain, Newhall, Warm Springs Mountain, Green Valley, and Sleepy Valley*). The results of these scientific database queries were compiled into a table that is presented in Appendix C.

In addition, the following resources were reviewed for information about the APE:

- Aerial photographs (Google Earth Pro 2024);
- *Mint Canyon, California* USGS 7.5-minute topographic quadrangle (USGS 2024a);
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA NRCS 2024a);
- USFWS Critical Habitat Portal (USFWS 2024b);
- USFWS National Wetland Inventory (NWI; USFWS 2024c); and
- USGS National Hydrography Dataset (NHD; USGS 2024b).

2.3 Field Reconnaissance Survey

Field reconnaissance surveys were conducted within the APE to document the existing conditions and to evaluate the potential for presence of regulated biological resources in the APE, including special-status plant and wildlife species, sensitive plant communities, potential jurisdictional waters of the United States (U.S.)/state and wetlands, and habitat for federally and state protected nesting birds.

The first field reconnaissance survey was conducted by Rincon Biologist Kyle Gern on August 1, 2023, from 0800 to 1530. Weather conditions during the survey included clear skies with temperatures ranging from 72 degrees Fahrenheit (°F) to 93°F and winds ranging from approximately one to five miles per hour. The entire APE, with the exception of the proposed staging area and manhole removal areas, was surveyed on foot, and all biological resources encountered in the APE were recorded. The proposed staging area was surveyed by Mr. Gern on October 16, 2023, from 0900 to 1100, with clear skies, temperatures ranging from 65°F to 75°F, and winds ranging from one to two miles per hour. The second field reconnaissance survey was conducted by Mr. Gern on December 13, 2024, from 0900 to 1600, with clear skies, temperatures ranging from 60°F to 72°F, and winds ranging from one to three miles per hour. The second survey was limited to the proposed manhole removal areas.

Representative photographs of the APE were taken (Appendix D), and an inventory of all plant and wildlife species observed was compiled (Appendix E). Natural and semi-natural vegetation community classification was based using *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009), which establishes systematic classifications and definitions of vegetation communities. Updates to the MCV2 provided in the online database (CNPS 2024b) were taken into consideration. Each vegetation mapping unit was analyzed for characteristics to define the applicable vegetation community, such as dominant or co-dominant plant species and community membership rules. Additionally, land covers were characterized in areas that appeared to be altered by anthropogenic activities and were dominated by non-native or ornamental vegetation (e.g., developed, disturbed).

2.4 Jurisdictional Delineation

Information in the report related to jurisdictional waters is based on a formal jurisdictional delineation conducted by Mr. Gern on August 4, 2023, October 16, 2023, and December 13, 2024. The delineation mapped and recorded the extent of potential waters of the U.S., CDFW-jurisdictional streambeds, and/or waters of the state. Current federal and state policies, methods, and guidelines were used to identify and delineate potential jurisdictional areas (described in Appendix B). Data collection in the APE was focused on areas containing a potential waterway, and Sample Points (SPs) were chosen at locations that were best representation of the conditions within the APE. The Ordinary High Water Mark (OHWM) and Wetland Determination Data Forms are included in Appendix F. Current federal and state policies, methods and guidelines were used to identify and delineate potential jurisdictional areas and are described in detail below.

Non-Wetland Waters of the United States

The lateral limits of USACE jurisdiction (i.e., width) for non-wetland waters were determined by the presence of physical characteristics indicative of the OHWM. The OHWM was identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR

328.4) and Regulatory Guidance Letter 05-05 (USACE 2005), as well as in reference to various relevant technical publications, including, but not limited to: *Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States* (USACE 2004), *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (USACE 2006), and *A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (USACE 2008b), *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010), and *Joint Memorandum to the Field Between the U.S. Department of the Army, Corps of Engineers and the U.S. Environmental Protection Agency Concerning Exempt Construction or Maintenance of Irrigation Ditches and Exempt Maintenance of Drainage Ditches Under Section 404 of the Clean Water Act* (USACE and USEPA 2020). The regulations were also reviewed in the determination of non-jurisdictional features including artificially irrigated areas and roadway ditches excavated in uplands.

Rincon evaluated sources of water, potential connections and distances to Traditional Navigable Waters (TNWs), streams that are perennial or intermittent in nature and other factors that affect whether waters qualify as "waters of the U.S." under current USACE regulations (33 CFR 328.3), including, but not limited to, the recent *Sackett v. USEPA* court ruling. A more detailed regulatory definition of USACE jurisdiction can be found in Appendix B.

Wetland Waters of the United States

Potential wetland features were evaluated for presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedures within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The 2020 USACE *Arid West Regional Wetland Plant List* was originally used to determine the wetland status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL; USACE 2020). Representative sample points were sited in areas most likely to exhibit wetland characteristics, i.e., a prevalence of hydrophytic vegetation and suitable landform, and examined in the field for potential wetland indicators. Sample points were not conducted in areas with an obvious prevalence of upland vegetation or in areas where the landform would not support wetland features, i.e., concrete channels and sloped areas. A more detailed regulatory definition of USACE jurisdiction can be found in Appendix B.

Waters of the State

The limits of "waters of the state," as defined under the Porter-Cologne Water Quality Control Act, are any surface water or groundwater, including saline waters, within the boundaries of the state. In those areas where an OHWM was present, the OHWM was determined to represent the limits of waters of the state based on current interpretation of jurisdiction by the Los Angeles RWQCB. In those areas where an OHWM was not present, but surface water was present, i.e., roadside ditches that are hydrologically connected to tributaries and TNWs, the limits of waters of the state were determined to be bounded by the top of slope or top of "bank."

Potential state wetland features were evaluated pursuant to the State Water Resources Control Board's (SWRCB) *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021). Potential state wetlands were evaluated following the SWRCB's definition, which relies on the same three parameters as the USACE definition

(hydrophytic vegetation, wetland hydrology, and hydric soils) but allows for naturally unvegetated areas meeting the other two parameters to be considered wetlands. A more detailed regulatory definition of RWQCB jurisdiction can be found in Appendix B.

CDFW Streambeds

The extent of potential streambeds, streambanks, lakes and riparian habitat subject to CDFW jurisdiction under Sections 1600 *et seq.* of the California Fish and Game Code was delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features. A more detailed regulatory definition of CDFW jurisdiction can be found in Appendix B.

2.5 Rare Plant Survey

A rare plant survey was performed within the APE to determine the presence and/or absence of special-status plant species with potential to occur, including San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; State Candidate Endangered [SCE], California Rare Plant Rank [CRPR] 1B.1), Parry's spineflower (*Chorizanthe parryi* var. *parryi*; CRPR 1B.2), slender-horned spineflower (*Dodecahema leptoceras*; Federally Endangered [FE], SCE, CRPR 1B.1), and slender mariposa lily (*Calochortus clavatus* var. *gracilis*; CRPR 1B.1).

The rare plant survey was performed by Mr. Gern on May 8, 2024, from 0930 to 1430. Weather conditions during the survey included clear skies with temperatures ranging from 62°F to 75°F and winds of approximately 3 to 15 miles per hour. The rare plant survey was floristic in nature (i.e., all plants encountered were identified to the lowest taxonomic level necessary to determine rarity) and generally followed the CNPS *Botanical Survey Guidelines* (CNPS 2001) and the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). The survey was performed using systematic field techniques by walking meandering transects where safe and accessible to attain 100 percent visual coverage of the APE. Special attention was given to areas with a high potential to support rare plant species (e.g., north-facing slopes, vegetation community interfaces, areas with unique soils).

The rare plant survey was scheduled during the appropriate blooming period to optimize detection of rare plant species with potential to occur within the APE, including San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; State Candidate Endangered [SCE], California Rare Plant Rank [CRPR] 1B.1), Parry's spineflower (*Chorizanthe parryi* var. *parryi*; CRPR 1B.2), slender-horned spineflower (*Dodecahema leptoceras*; Federally Endangered [FE], SCE, CRPR 1B.1), and slender mariposa lily (*Calochortus clavatus* var. *gracilis*; CRPR 1B.1). The rare plant survey included reference site visits for San Fernando Valley spineflower and slender mariposa lily, as described below.

- San Fernando Valley spineflower is an annual plant which generally blooms between April and July. On April 18, 2024, Mr. Gern performed a reference site visit of a known population of San Fernando Valley spineflower (CNDDB occurrence #11) in the Santa Monica Mountains at Laskey Mesa. The plants were observed to be blooming and readily identifiable (Appendix D, Photograph 40).
- Slender mariposa lily is a perennial bulbiferous plant which generally flowers between March and June. On May 8, 2024, Mr. Gern performed a reference site visit of a known population of slender mariposa lily in unincorporated Ventura County adjacent to Highway 126. The plants were observed to be blooming and readily identifiable (Appendix D, Photograph 41).

3 Existing Conditions

This section summarizes the existing conditions of the APE and results of biological resource field database inquiries and field surveys. Brief discussions regarding the general physical characteristics within the APE, the watershed and drainages, soils, vegetation and land cover types, and general wildlife species, are presented below. Representative photographs of the APE are provided in Appendix D, and complete lists of all plant and wildlife species observed within the APE are presented in Appendix E.

3.1 Physical Characteristics

The APE is situated in a region that is characterized by a Mediterranean climate with warm, dry summers and cool, wet winters. Average high temperatures range from 77 to 89°F and average low temperatures range from 61 to 68°F. The average annual precipitation in the region is 15.56 inches with the majority falling in February (Western Regional Climate Center 2024).

The topography of the APE is generally level. Elevation ranges between approximately 1,500 and 1,580 feet above mean sea level (amsl). In the northern portion of the APE north of the SCR, the terrain is generally flat. The southern portion of the APE slopes downward from north to south toward the SCR channel.

Watershed and Drainages

The APE is located within the SCR watershed (Hydrologic Unit Code [HUC]-8 Number [No.] 18070102; USGS 2024a). The SCR originates in the northern slopes of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and eventually flows into the Pacific Ocean between the cities of San Buenaventura (Ventura) and Oxnard. Significant tributaries within the watershed include Piru, Sespe, Santa Paula, Hopper, Pole, and Castaic Creeks; San Francisquito and Bouquet Canyon; and South Fork SCR. The hydrology of the SCR is highly variable, and flows vary seasonally.

Specifically, the APE is located within the Headwaters SCR Watershed (HUC-10 No. 1807010201), and the Sand Canyon – SCR subwatershed (HUC-12 No. 180701020107). The Headwaters SCR Watershed encompasses a total area of approximately 152,907 acres. Historical records and current observations indicate that the Headwaters SCR watershed generally produces an intermittent flow regime, with flows increasing during the winter months (November through March), and declining throughout the summer months (USFWS 2024c). The SCR flows from northeast to southwest in the southern portion of the APE. The NWI and NHD identify the SCR as an intermittent riverine system in the APE, which coincides with Rincon's field observations (Figure 3a-Figure 3b). The SCR flows in a southwesterly direction through the cities of Santa Clarita, Fillmore, Santa Paula, and Ventura and eventually connects to the Pacific Ocean, which is a Traditional Navigable Water (TNW).

Immediately south of the central portion of the APE is the confluence between Sand Canyon Creek and the SCR. The NWI identifies Sand Canyon Creek as an intermittent drainage (USFWS 2024c), and the NHD identifies Sand Canyon Creek as an ephemeral drainage (USGS 2024b).

Figure 3a NWI and NHD Resources – West



Figure 3b NWI and NHD Resources – East



Imagery provided by Microsoft Bing and its licensors © 2025. Additional Data from National Hydrology Dataset and National Wetland Inventory, 2024.

22-13523 Sand Crayn Sewer Reloc
Fig 3B NHD NWI

One intermittent tributary (Intermittent Drainage 1) is not mapped by the NWI or NHD. Intermittent Drainage 1 flows in a southerly direction underneath SR-14 and converges with the SCR along its northern bank. Intermittent Drainage 1 is culverted underneath SR-14 via an eight-foot-wide and eight-foot-tall concrete box culvert. In addition, one ephemeral drainage feature (Ephemeral Drainage 1) that is not mapped by the NWI or NHD also flows into the SCR along the northern bank. This feature is also culverted underneath SR-14 outside the APE to the north.

The mapping presented in the NHD and NWI provides useful context but is not a completely accurate depiction of current existing conditions or the extent of jurisdictional waters in the APE.

Soils

According to the NRCS Web Soil Survey, seven soil map units are mapped within the APE (USDA NRCS 2024a; Figure 4a-Figure 4b). Three soil map units are included on the National Hydric Soils List (USDA NRCS 2024b), as indicated below in Table 1.

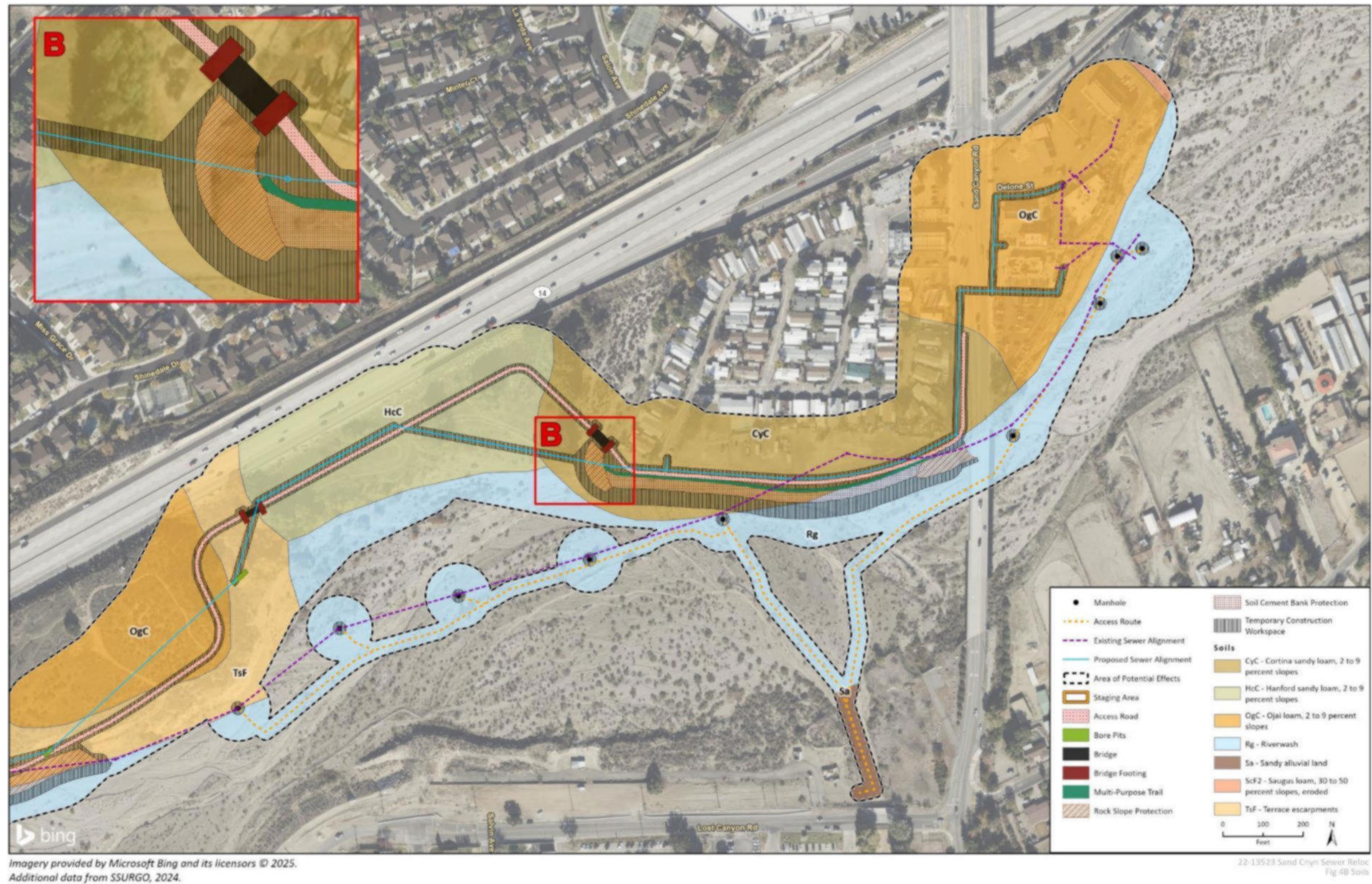
Table 1 Soils in the APE

Soil Map Units	Hydric Soil ¹ ?
Cortina sandy loam, 2 to 9 percent slopes	No
Hanford sandy loam, 2 to 9 percent slopes	No
Ojai loam, 2 to 9 percent slopes	Yes
Riverwash	Yes
Saugus loam, 30 to 50 percent slopes, eroded	No
Sandy alluvial land	Yes
Terrace escarpments	No
¹ Soils listed on the National Hydric Soils List (USDA, NRCS 2024b).	

Figure 4a USDA NRCS Soil Survey Mapping – West



Figure 4b USDA NRCS Soil Survey Mapping – East



3.2 Vegetation and Other Land Cover

Seventeen vegetation communities and three land cover types were identified within the APE as described below and depicted in Figure 5a-Figure 5b. A list of plant species encountered during the field reconnaissance survey is provided in Appendix E.

3.2.1 Tree-Dominated Communities

Fremont Cottonwood Forest and Woodland

Fremont cottonwood forest and woodland (*Populus fremontii* Forest and Woodland Alliance) is characterized by areas dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) in the tree canopy with willows (*Salix* spp.) and other riparian trees such as western sycamore (*Platanus racemosa*) present as well. Fremont cottonwood accounts for approximately 10 to 80 percent absolute cover and greater than 50 percent relative cover in the tree layer. The tree canopy ranges from continuous to open, the shrub layer intermittent to open, and the herbaceous layer is variable (Sawyer et al. 2009). This alliance can be found on floodplains, along low-gradient rivers and perennial or seasonally intermittent streams, near springs, in canyons, on alluvial fans, and in valleys with a dependable subsurface water supply that varies considerably during the year. Fremont cottonwood forest and woodland is ranked G4S3 and is classified as a sensitive natural community by the CDFW (CDFW 2023).

The Fremont cottonwood forest and woodland vegetation community is present along the northern bank of the SCR adjacent to the active channel within the APE (Figure 5a-Figure 5b). This vegetation community is also associated with the active channel of Intermittent Drainage 1 in the central portion of the APE. Within the APE, Fremont cottonwood is dominant in the dense tree layer, with western sycamore, red willow (*Salix laevigata*), velvet ash (*Fraxinus velutina*), common fig (*Ficus carica*), coast live oak (*Quercus agrifolia*), and athel tamarisk (*Tamarix aphylla*) present as subdominant in the tree layer (Appendix D, Photographs 7, 10-11, 26-27, 31-32). The tree layer accounts for approximately 40 to 70 percent absolute cover. The shrub layer is dominated by mulefat (*Baccharis salicifolia*) and sandbar willow (*Salix exigua*), with scale broom (*Lepidospartum squamatum*), castor bean (*Ricinus communis*), and rubber rabbitbrush (*Ericameria nauseosa*) present as subdominant species. Giant reed (*Arundo donax*) is dominant in the herbaceous layer, with cattails (*Typha* spp.), tall flatsedge (*Cyperus eragrostis*), red brome (*Bromus rubens*), slender wild oats (*Avena barbata*), and summer mustard (*Hirschfeldia incana*) present as subdominant species.

Tamarisk Thickets

Tamarisk thickets (*Tamarix* spp. Shrubland Alliance) are characterized by tamarisk (*Tamarix* spp.) dominant in the shrub or low tree layer. Most tamarisk species are provided a rating of high by the California Invasive Plant Council (Cal-IPC 2024), indicating these species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Emergent native shrubs or trees may be present at low cover, including Fremont cottonwood or willows (*Salix* spp.). Tamarisk has at least three percent absolute cover or 60 percent relative cover in the shrub or low tree layer. This alliance can be found between 246 and 2,625 feet amsl (Sawyer et al. 2009). This vegetation community is ranked Global Not Applicable/State Not Applicable (GNA/SNA) due to the dominance of non-native species and is not classified as sensitive (CDFW 2023).

Tamarisk thickets occur above and along the northern bank of the SCR in the central portion of the APE (Appendix D, Photograph 30). Athel tamarisk is overwhelmingly dominant in the dense shrub and tree layer, with tree tobacco (*Nicotiana glauca*) and blue elderberry (*Sambucus mexicana*) present as subdominant species. The herbaceous layer is largely dominated by exotic annual grasses and forbs such as riggut brome (*Bromus diandrus*), red brome, and slender wild oats.

3.2.2 Shrub-Dominated Communities

Big Sagebrush Scrub

Big sagebrush scrub (*Artemisia tridentata* Shrubland Alliance) is typically found within plains, alluvial fans, bajadas, pediments, lower slopes, valley bottoms, hills, ridges, seasonal and perennial stream channels, and dry washes between 984 and 9,840 feet amsl. Big sagebrush (*Artemisia tridentata* ssp. *tridentata*) constitutes at least two percent absolute cover in the shrub layer, with no other single species with greater cover. This vegetation community is ranked G5S5 and is not classified as sensitive (CDFW 2023).

Big sagebrush scrub occurs in the western portion of the APE to the northwest of the proposed staging area. Big sagebrush is dominant in the open shrub layer, with rubber rabbitbrush present as subdominant. Red brome and summer mustard occur in the herbaceous layer. The tree layer is absent.

Brittle Bush Scrub

Brittle bush scrub (*Encelia farinosa* Shrubland Alliance) is typically found on alluvial fans, bajadas, colluvium, rocky hillsides, and slopes of small washes and rills. Soils are well drained, rocky, and may be covered by desert pavement. This alliance is generally found between 246 and 4,594 feet amsl. Brittle bush scrub is characterized by an open to intermittent shrub canopy and a seasonal herbaceous layer. Brittle bush (*Encelia farinosa*) has over one percent absolute cover and 30 percent relative cover in the shrub layer (Sawyer et al. 2009). This vegetation community is ranked G5S4 and is not classified as sensitive (CDFW 2023).

Brittle brush scrub occurs in the western portion of the APE immediately adjacent to Lost Canyon Road, as well as in the central portion of the APE immediately south of SR-14 (Appendix D, Photograph 24). Brittle bush is dominant in the open shrub layer, with rubber rabbitbrush and California buckwheat (*Eriogonum fasciculatum*) present as subdominant. Rattail fescue (*Festuca myuros*) is dominant in the herbaceous layer, with slender wild oats, red brome, and redstem filaree (*Erodium cicutarium*) present as subdominant. The tree layer is absent.

California Buckwheat Scrub

California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance) is characterized by dominant or codominant California buckwheat in cismontane stands. California buckwheat scrub is found in upland slopes, intermittently flooded arroyos, channels and washes, and rarely flooded low-gradient deposits. Elevations range from sea level to 3,937 feet amsl. Soils are typically coarse, well drained, and moderately acidic to slightly saline. California buckwheat contributes to at least 50 percent relative cover in the shrub layer (Sawyer et al. 2009). This community is ranked G5S5 and is not classified as sensitive (CDFW 2023).

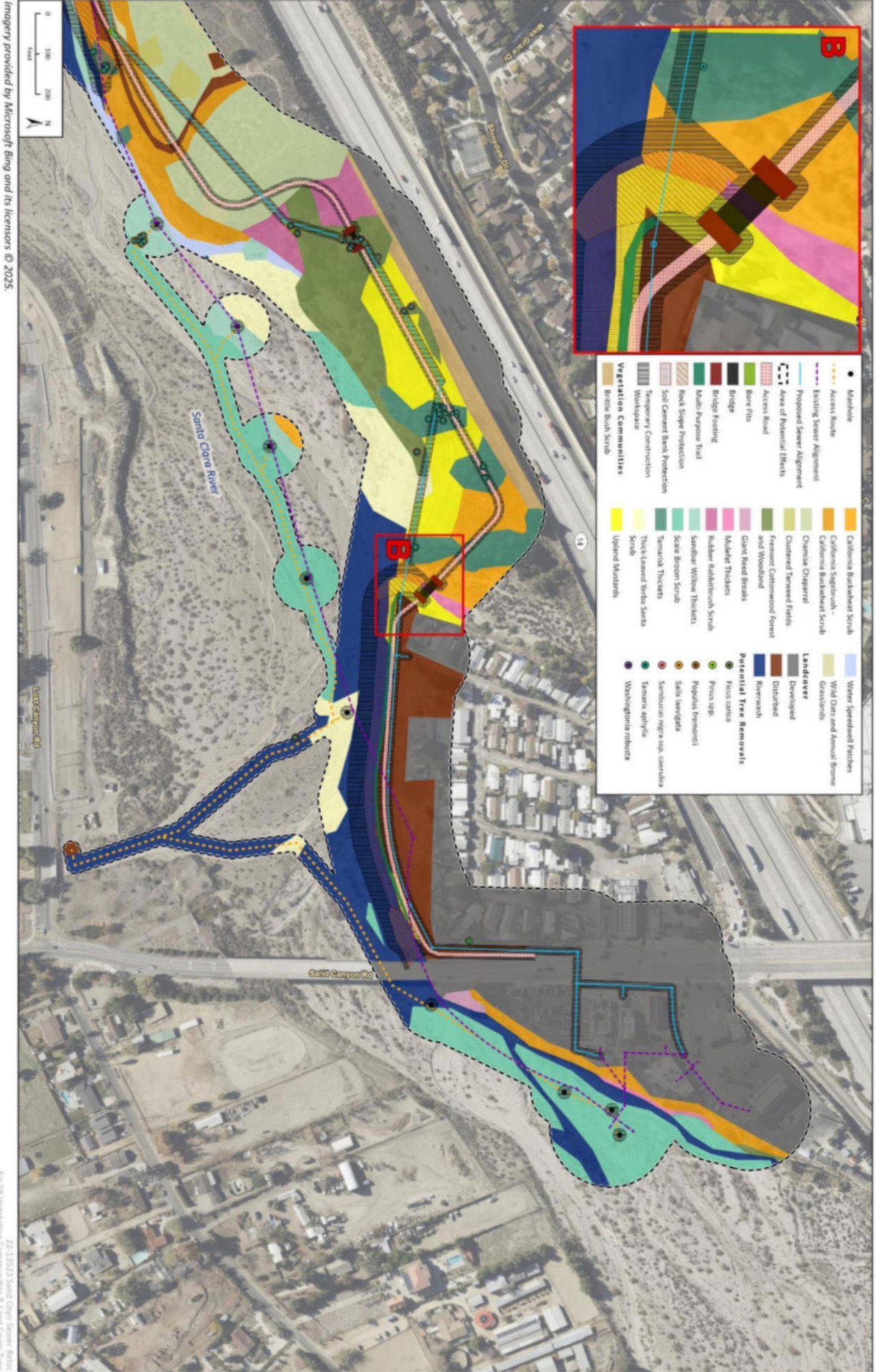
Figure 5a Vegetation Communities and Land Cover Types – West



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22-13523 Sand Canyon Sewer Reloc
Fig 5A Vegetation Communities & Land Cover Type

Figure 5b Vegetation Communities and Land Cover Types – East



California buckwheat scrub occurs above and along the northern bank of the SCR in the central portion of the APE (Appendix D, Photograph 17). California buckwheat is dominant in the open to continuous shrub layer, with Palmer's goldenbush (*Ericameria palmeri*) and chaparral yucca (*Hesperoyucca whipplei*) present as subdominant species in the shrub layer. The herbaceous layer is largely dominated by exotic annual grasses and forbs such as ripgut brome, red brome, and slender wild oats, but also includes native species such as Menzies' fiddleneck (*Amsinckia menziesii*) and common sandaster (*Corethrogyne filaginifolia*). The tree layer is absent.

California Sagebrush – California Buckwheat Scrub

California sagebrush – California buckwheat scrub (*Artemisia californica* – *Eriogonum fasciculatum* Shrubland Association) is typically found along steep upland slopes that are rarely flooded, and low-gradient deposits along streams, between sea level and 3,940 feet amsl (Sawyer et al. 2009). Soils are typically alluvial or colluvial derived. California sagebrush (*Artemisia californica*) and California buckwheat collectively contribute between 30 and 60 percent relative cover in the shrub layer. This vegetation community is ranked G4S4 and is not classified as sensitive (CDFW 2023).

California sagebrush – California buckwheat scrub occurs above the northern bank of the SCR in the northern portion of the APE (Appendix D, Photograph 6). California sagebrush and California buckwheat are codominant in the shrub layer, with chamise (*Adenostoma fasciculatum*), thick-leaved yerba santa (*Eriodictyon crassifolium*), Palmer's goldenbush, chaparral yucca, and big sagebrush present as subdominant species in the shrub layer. The herbaceous layer is largely dominated by exotic annual grasses and forbs such as ripgut brome, red brome, and slender wild oats, but also includes native species such as clustered tarweed (*Deinandra fasciculata*), Menzies' fiddleneck, common sandaster, and Turkish rugging (*Chorizanthe staticoides*). The tree layer is absent.

Chamise Chaparral

Chamise chaparral (*Adenostoma fasciculatum* Shrubland Alliance) is widespread on shallow soils over colluvium and many kinds of bedrock between 32 and 5,900 feet amsl. Chamise contributes to at least 50 percent relative cover in the shrub layer, and the shrub canopy ranges from intermittent to continuous (Sawyer et al. 2009). This vegetation community is ranked G5S5 and is not considered sensitive (CDFW 2023).

Chamise chaparral occurs in the northwestern portion of the APE along a terrace above the banks of the SCR (Appendix D, Photograph 8). Chamise is dominant in the open to intermittent shrub layer, with California buckwheat and California sagebrush present as subdominant. Slender wild oats (*Avena barbata*) are dominant in the herbaceous layer, with red brome, Turkish rugging, clustered tarweed, and common sandaster present as subdominant. A few scattered California junipers (*Juniperus californica*) occur in the tree layer.

Mulefat Thickets

Mulefat thickets (*Baccharis salicifolia* Shrubland Alliance) are typically found in canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels at elevations between sea level and 4,100 feet amsl. Soils are mixed alluvium (Sawyer et al. 2009). Mulefat contributes to at least 30 percent relative cover in the shrub canopy. This vegetation alliance is ranked G4S4 and is not classified as sensitive (CDFW 2023).

The mulefat thickets vegetation community is present along the northern bank of the SCR in the northwestern portion of the APE. This vegetation community also occurs in the low flow channel of Ephemeral Drainage 1 and in the southern portion of the sediment basin in the western portion of the APE near the proposed staging area (Figure 5b). Within the APE, mulefat is dominant in the shrub layer, with brittle bush present as subdominant. The herbaceous layer includes summer mustard and red brome, and the tree layer includes scattered Fremont cottonwood saplings.

Rubber Rabbitbrush Scrub

Rubber rabbitbrush scrub (*Ericameria nauseosa* Shrubland Alliance) occurs in all topographic settings, and especially in disturbed settings. Soils are typically well drained sands and gravels. This alliance is generally found between sea level and 10,500 feet amsl. Rubber rabbitbrush scrub is characterized by an open to intermittent shrub canopy and a sparse herbaceous layer. Rubber rabbitbrush has over two percent absolute cover or more than 25 percent relative cover in the shrub layer (Sawyer et al. 2009). This vegetation community is ranked G5S5 and is not classified as sensitive (CDFW 2023).

Rubber rabbitbrush scrub occurs adjacent to the proposed staging area and Intermittent Drainage 1 (Figure 5a-Figure 5b). Rubber rabbitbrush is dominant in the open shrub layer, with deerweed (*Acmispon glaber*), allscale saltbush (*Atriplex polycarpa*), fragrant sumac (*Rhus aromatica*), scale broom, blue elderberry, and brittle brush present as subdominant species. Red brome is dominant in the herbaceous layer, with slender wild oats present as subdominant. The tree layer is absent.

Sandbar Willow Thickets

Sandbar willow thickets (*Salix exigua* Shrubland Alliance) are typically found on temporarily flooded floodplains, depositions along rivers and streams, and at springs between sea level and 8,860 feet amsl. This community is characterized by an intermittent to continuous shrub layer and a variable herbaceous layer. Sandbar willow has at least 30 percent relative cover in the shrub layer (Sawyer et al. 2009). This vegetation community is ranked G5S4 and is not classified as sensitive (CDFW 2023).

The sandbar willow thickets vegetation community is present within the banks of the SCR immediately downstream of the confluence with Intermittent Drainage 1 (Figure 5a-Figure 5b). Within the APE, sandbar willow is dominant in the shrub layer, with young red willow, arroyo willow, mulefat, and well-established thick-leaved yerba santa present as subdominant species. The tree layer includes arroyo willow and red willow, which were observed to grow in size between the initial surveys performed in 2023 and 2024. The herbaceous layer includes water speedwell (*Veronica anagallis-aquatica*), white sweetclover (*Melilotus albus*), and perennial pepperweed (*Lepidium latifolium*). The tree layer is absent.

Scale Broom Scrub

Scale broom scrub (*Lepidospartum squamatum* Shrubland Alliance) is characterized by dominant, co-dominant, or conspicuous scale broom in a shrub canopy that is open to continuous, with emergent plants in low cover and an herbaceous layer that is variable and may be grassy. Shrubs are less than 6.5 feet tall. Scale broom scrub is found in areas that are intermittently or rarely flooded, and on low-gradient alluvial deposits along streams, washes, and fans. Elevation ranges from 164 to 4,921 feet amsl (Sawyer et al. 2009). Scale broom scrub is ranked G3S3 and is identified by the CDFW as a sensitive natural community (CDFW 2023).

The scale broom scrub vegetation community occurs in the southern portion of the APE within the floodplain of the SCR (Figure 5b). Within the APE, native species commonly associated with this vegetation community include scale broom, chaparral yucca, California buckwheat, big sagebrush, rubber rabbitbrush, tree tobacco, annual bursage (*Ambrosia acanthicarpa*), and emergent Fremont cottonwood. Non-native species observed within the vegetation community include various grasses and forbs such as red brome, summer mustard, and rattail fescue.

Thick-leaved Yerba Santa Scrub

Thick-leaved yerba santa scrub (*Eriodictyon crassifolium* Provisional Shrubland Association) is characterized by dominant thick-leaved yerba santa in the shrub canopy with other native species present as well. Emergent trees may also be present at low cover and include interior live oak (*Quercus wislizeni*). The thick-leaved yerba santa shrub canopy is intermittent and sometimes two tiered. This alliance can be found between 2,700 and 5,675 feet amsl (Sawyer et al. 2009). This vegetation community is ranked G5S5 and is not classified as sensitive (CDFW 2023).

Thick-leaved yerba santa scrub occurs in the southern portion of the APE within the banks of the SCR (Appendix D, Photograph 13). Thick-leaved yerba santa is dominant in the open shrub layer, with scale broom, California buckwheat, athel tamarisk, rubber rabbitbrush, and golden aster (*Heterotheca sessiliflora*) present as subdominant species. Mediterranean grass (*Schismus barbatus*) is dominant in the herbaceous layer, with summer mustard, red brome, redstem filaree, and giant reed present as subdominant species. The tree layer is absent.

3.2.3 Herbaceous Communities

Clustered Tarweed Fields

Clustered tarweed fields (*Deinandra fasciculata* Herbaceous Alliance) are typically found along clay flats and bottomlands, edges of vernal pools, shallow pools, and alkaline flats between sea level and 2,953 feet amsl. Soils are poorly drained and consist of fine-textured alluvium with periodic or intermittent inundation, and may be underlain by claypan or other impervious layers. Clustered tarweed has greater than 30 percent relative cover or is seasonally present in the herbaceous layer with a variety of other annual herbaceous plants (Sawyer et al. 2009). This alliance is ranked G2S2 and is classified as sensitive (CDFW 2023).

Clustered tarweed fields occur in the northwestern portion of the APE along a terrace above the banks of the SCR (Appendix D, Photograph 3). This vegetation community occurs in a mosaic with the chamise chaparral vegetation community. Clustered tarweed is dominant in the dense herbaceous layer, with Turkish rugging, slender wild oats, and red brome present as subdominant species. Scattered shrubs include chamise, California sagebrush, and California buckwheat. The tree layer is absent.

Giant Reed Breaks

Giant reed breaks (*Arundo donax* Herbaceous Semi-Natural Alliance) are found within riparian areas, along low-gradient streams and ditches, as well as within semi-permanently flooded and slightly brackish marshes and impoundments, from sea level to 5,249 feet amsl (Sawyer et al. 2009). Giant reed dominates the herbaceous layer. Giant reed is provided a rating of high by the California Invasive Plant Council (Cal-IPC 2023), indicating that the species has severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Its reproductive

biology and other attributes are conducive to moderate to high rates of dispersal and establishment. This vegetation community is ranked GNA/SNA and is not classified as sensitive (CDFW 2023).

Giant reed breaks occur in the northeastern portion of the APE along the northern bank of the SCR adjacent to Sand Canyon Road (Appendix D, Photograph 21). Giant reed is dominant in the dense herbaceous layer, with summer mustard present as subdominant. Other species observed include scattered scale broom, Fremont cottonwood, and red brome.

Upland Mustards

Upland mustards (*Brassica nigra* Herbaceous Semi-Natural Alliance) is typically found in fallow fields, grasslands, roadsides, levee slopes, disturbed coastal scrub, riparian areas, cleared roadsides, and waste places at elevations between sea level and 9,186 feet amsl. Black mustard, summer mustard, wild radish (*Raphanus sativus*), or other mustards occur with non-native plants at over 80 percent cover in the herbaceous layer. This vegetation community is ranked GNA/SNA due to the dominance of non-native species and is not classified as sensitive (CDFW 2023).

Upland mustards occur throughout the APE, with summer mustard and black mustard dominant in the dense herbaceous layer (Appendix D, Photograph 17). Subdominant herbaceous species include slender wild oats, red brome, prickly lettuce (*Lactuca serriola*), totalote (*Centaurea melitensis*), rigput brome, and rattail fescue. Scattered shrub species include California buckwheat and athel tamarisk. The tree layer is absent.

Water Speedwell Patches

Water speedwell patches occur in the southwestern portion of the APE and are associated with the SCR where surface water was present during the field survey. This vegetation community does not align with a defined alliance in the MCV2, but is provisionally characterized as the *Veronica anagallis-aquatica* Herbaceous Semi-Natural Alliance for the purposes of this BRA, to accurately characterize the vegetation occurring in this area.

This provisional vegetation community is dominated by water speedwell, which is overwhelmingly dominant in the herbaceous layer. Water speedwell is a non-native plant species that, although not listed by the Cal-IPC as invasive, can form dense stands in riparian areas and outcompete other plant species for resources (Cal-IPC 2023). Water speedwell accounts for more than 60 percent relative cover in the herbaceous layer. Other herbaceous species encountered in this vegetation community include perennial pepperweed, annual rabbitsfoot grass (*Polypogon monspeliensis*), white sweetclover, seep monkeyflower (*Erythranthe guttata*), curly dock (*Rumex crispus*), and common knotweed (*Persicaria lapathifolia*). Emergent mulefat and Fremont cottonwood occur at low cover. This vegetation community is not provided a rarity ranking by the CDFW as it is not listed (CDFW 2023). However, due to the predominance of non-native species (i.e., water speedwell), this vegetation community is not characterized as sensitive for the purposes of this BRA.

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grasslands (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance) are generally found in open areas in valleys and foothills throughout coastal and interior California. It typically occurs on soils consisting of fine-textured loams or clays that are somewhat poorly drained. Non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, dominate this vegetation type, probably as a result of human disturbance.

Scattered native grass and wildflower species, representing remnants of the original vegetation may also be common (Sawyer et al. 2009). This vegetation alliance is ranked GNA/SNA due to the predominance of non-native species, and is not considered sensitive (CDFW 2023).

Wild oats and annual brome grasslands occur in the western portion of the APE along a south-facing terrace above the banks of the SCR. This vegetation community is dominated by slender wild oats in the herbaceous layer, with red brome, tocalote, ripgut brome, and rattail fescue present as subdominant species. Scattered shrub species include California buckwheat and California sagebrush. The tree layer is absent.

3.2.4 Other Land Cover Types

Developed

Developed areas consist of buildings, other infrastructure, and paved areas with little to no vegetation (e.g., paved roads and unpaved roads, buildings, and concrete rip rap). Development is present north of the SCR in the APE (Figure 5a-Figure 5b). Developed areas are also present along the northern bank of the SCR, and include existing concrete rip rap that extends from the Sand Canyon Road bridge (Appendix D, Photograph 25 and 33).

Disturbed

Ruderal (weedy) plants grow in disturbed areas as a result of recent and continual surface soil disturbance. Disturbed areas typically contain a high percentage of bare ground and are dominated by non-native species. Due to the low plant species diversity and predominance of invasive weeds in most disturbed areas, the habitat value of this vegetation type is generally low, and these areas do not conform to a defined alliance in *A Manual of California Vegetation* (Sawyer et al. 2009).

The disturbed land cover type occurs adjacent to existing development (e.g., unpaved dirt roads, residential buildings, foot trails) in the northern portion of the APE (Figure 5a-Figure 5b). Non-native species commonly observed within this land cover type include annual non-native grasses and forbs such as ripgut brome, red brome, and black mustard (*Brassica nigra*).

Riverwash

Riverwash is present within the active channel of the SCR. This land cover type consists of sand and cobble which has accumulated in the channels and low terraces in the riverbed. This vegetation community typically contains little to no vegetation; however, the community occurs within the bed of the SCR, which is a naturally dynamic system. As such, vegetation abundance and structure may shift depending on water availability within the SCR channel. In addition, the position of the riverwash land cover may shift and change position depending on flood volumes and regularity. Portions of riverwash in the APE were disturbed by off highway vehicle use (Appendix D, Photographs 19-20).

3.3 General Wildlife

A total of 12 wildlife species were observed during the field reconnaissance surveys (Appendix E). Common mammalian species observed included a California ground squirrel (*Otospermophilus beecheyi*) individual, coyote (*Canis latrans*) scat, and domesticated dog (*Canis lupus familiaris*). One reptilian species, the western fence lizard (*Sceloporus occidentalis*), was observed in the APE.

Common avian species observed include common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), and red-tailed hawk (*Buteo jamaicensis*), among others. These species, with the exception of domesticated dog, would be expected to use the APE for foraging, nesting, and/or shelter.

4 Sensitive Biological and Jurisdictional Resources

Local, state, and federal agencies regulate special-status species and other sensitive biological resources and may require an assessment of their presence or potential presence to be conducted on-site prior to the approval of proposed development on a property. This section discusses sensitive biological resources observed within the APE and evaluates the potential for the APE to support additional sensitive biological resources. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, species occurrence records from other sites in the vicinity of the APE, previous reports for the project site, and the results of surveys of the APE. The potential for each special-status species to occur in the APE was evaluated according to the following criteria:

- **Not Expected.** Habitat in and adjacent to the APE is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat in and adjacent to the APE is unsuitable or of very poor quality. The species is not likely to be found in the APE. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat in or adjacent to the APE is unsuitable. The species has a moderate probability of being found in the APE.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat in or adjacent to the APE is highly suitable. The species has a high probability of being found in the APE.
- **Present.** Species was observed in the APE or has been recorded (e.g., CNDDDB, other reports) in the APE recently (within the last five years).

4.1 Special-status Species

4.1.1 Special-status Plant Species

Based on the database and literature review, 38 special-status plant species have been recorded within the vicinity (i.e., nine quadrangle radius) of the APE (Appendix C). Of these, one species was initially determined to have a high potential to occur (slender mariposa lily), and three species were initially determined to have a moderate potential to occur within the APE (San Fernando Valley spineflower, Parry's spineflower, and slender-horned spineflower) based upon the presence of suitable habitat within the APE. These species and their habitat requirements are described in greater detail below. However, these species would have been identifiable during the rare plant survey performed within their blooming period, and were not detected. Therefore, these species are not expected to occur in the APE.

The remaining 34 special-status plant species have a low potential to occur or are not expected to occur in the APE based on incompatible habitat conditions (e.g., vegetation assemblage, soils, topography, hydrology, and prior disturbances), or the absence of readily identifiable species (e.g., perennial herbs, shrubs, and/or trees) based upon the field reconnaissance survey results.

Species with a low potential to occur are omitted from further discussion because there are limited habitat components meeting the species requirements and/or the majority of habitat in and adjacent to the APE is unsuitable or of very poor quality, the species was not observed during field surveys, and therefore the species is not likely to be found in the APE.

Slender Mariposa Lily

Slender mariposa lily (CRPR 1B.2) is a perennial bulb in the lily (*Liliaceae*) family. This plant has linear basal leaves approximately 10-20 centimeters (cm) long and a stem approximately 20-30 cm tall. Slender mariposa lily generally flowers between March and June. The flowers are cup-shaped and composed of three petals, each of which are between 3-4 cm in size. The petals are yellow and sparsely hairy, with variable dark red or brown lines. The fruit is a narrow capsule which contains many seeds (Jepson Flora Project 2024). Slender mariposa lily is endemic to coastal southern California and is often found in chaparral, coastal scrub, and on grassy slopes in shaded foothill canyons.

Potentially suitable habitats for slender mariposa lily include chaparral (i.e., chamise chaparral), scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub), and herbaceous (i.e., clustered tarweed fields, and wild oats and annual brome grasslands) communities that occur above the northern bank of the SCR along the south-facing terrace that slopes down toward the SCR. Additionally, there are multiple CNDDDB records within the vicinity of the APE, the closest being approximately 0.6 mile northeast (Occurrence No. 139). Therefore, slender mariposa lily was initially determined to have a high potential to occur in the APE. However, this species would have been identifiable during the rare plant survey performed within the blooming period, and was not detected. As such, this species is not expected to occur in the APE.

San Fernando Valley Spineflower

San Fernando Valley spineflower (SCE, CRPR 1B.1) is an annual herb in the buckwheat (*Polygonaceae*) family that blooms between April and July. This species is generally found in washes and on hills or mesas, and grows in a variety of substrates, including sandy soils and loamy or silty clay loam soils. This basal rosette plant has linear basal leaves approximately 0.5-4 cm long. The flowers are tube-shaped and composed of three petals, each of which are between 2-3 millimeters (mm) in size. The petals are green to white. The fruit is a single-seeded achene (Jepson Flora Project 2024).

Potentially suitable chaparral (i.e., chamise chaparral), scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, and thick-leaved yerba santa scrub), and grassland (i.e., wild oats and annual brome grasslands) habitats occur along the upper terrace to the north of the SCR in the northwestern portion of the APE. However, there are no CNDDDB records within a 5-mile radius of the APE. Therefore, San Fernando Valley spineflower was initially determined to have a moderate potential to occur in the APE. However, this species would

have been identifiable during the rare plant survey performed within the blooming period, and was not detected. As such, this species is not expected to occur in the APE.

Parry's Spineflower

Parry's spineflower (*Chorizanthe parryi* var. *parryi*; CRPR 1B.2) is an annual herb in the buckwheat family that blooms between April and June. This species is generally found in openings in chaparral, coastal scrub, and grassland habitats, and typically grows in sandy soils. This basal rosette plant has linear basal leaves approximately 0.5-4 cm long. The flowers are tube-shaped and composed of three petals, each of which are between 2-3 millimeters (mm) in size. The petals are green to white. The fruit is a single-seeded achene (Jepson Flora Project 2024).

Potentially suitable chaparral (i.e., chamise chaparral), scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub), and grassland (i.e., wild oats and annual brome grasslands) habitats occur along the upper terrace to the north of the SCR in the northwestern portion of the APE. However, there are no CNDDDB records within a 5-mile radius of the APE. Therefore, Parry's spineflower was initially determined to have a moderate potential to occur in the APE. However, this species would have been identifiable during the rare plant survey performed within the blooming period, and was not detected. As such, this species is not expected to occur in the APE.

Slender-horned Spineflower

Slender-horned spineflower (*Dodecahema leptoceras*; FE, SCE, CRPR 1B.1) is an annual herb in the buckwheat family that blooms between April and June. Slender-horned spineflower commonly occurs in alluvial fans, floodplains, stream terraces, washes, and associated benches, from 700-2,500 feet amsl. It grows in riverbed alluvium high in silt and low in nutrients and organic matter; in silt-filled, shallow depressions on relatively flat surfaces surrounded by scattered, river-rounded, cobble-sized rocks. The species is generally found in open areas among alluvial fan scrub, often associated with other spineflower species, and in low density of exotic grasses and other introduced weedy species (Allen 1996).

Potentially suitable habitat for slender-horned spineflower occurs in the APE, including coastal scrub (i.e., California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) within the banks of the SCR, particularly within the lower terraces above the low-flow channel of the river. Additionally, there are multiple CNDDDB records near the APE, the closest recent occurrence (i.e., less than 30 years old) being approximately 3.5 miles northeast (Occurrence No. 279). However, reconnaissance field surveys performed within the APE in April 2013 did not detect any individuals (Dudek 2013). Therefore, this species was initially determined to have a moderate potential to occur in the APE. However, slender-horned spineflower would have been identifiable during the rare plant survey performed within the blooming period, and was not detected. As such, this species is not expected to occur in the APE.

4.1.2 Special-status Wildlife Species

Based on the database and literature review, 31 special-status wildlife species have been recorded or have the potential to occur within the vicinity (i.e., nine quadrangle radius) of the APE (Appendix C). Of these, 24 species have potential to occur within the APE based upon the presence of suitable habitat and history of occurrence in the vicinity. Four (4) species have a high potential to occur, 9

species have a moderate potential to occur, and 11 species have a low potential to occur within the APE. A list of special-status wildlife species with potential to occur within the APE is provided in Table 2 below.

Table 2 Special-status Wildlife Species with Potential to Occur in the APE

Species	Low Potential	Moderate Potential	High Potential	Present
Crotch bumble bee (<i>Bombus crotchii</i>); SCE		X		
Santa Ana sucker (<i>Catostomus santaanae</i>); FT		X		
Unarmored threespine stickleback (<i>Gasterosteus aculeatus williamsoni</i>); FE, SE, FP		X		
Arroyo chub (<i>Gila 33rcutti</i>); SSC		X		
Arroyo toad (<i>Anaxyrus californicus</i>); FE, SSC		X		
Western spadefoot (<i>Spea hammondi</i>); SSC		X		
California legless lizard (<i>Anniella</i> spp.); SSC			X	
California glossy snake (<i>Arizona elegans occidentalis</i>); SSC	X			
Coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>); SSC			X	
Coast horned lizard (<i>Phrynosoma blainvillii</i>); SSC		X		
Two-striped gartersnake (<i>Thamnophis hammondi</i>); SSC	X			
Cooper's hawk (<i>Accipiter cooperii</i>); WL		X		
Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>); WL	X			
Bell's sage sparrow (<i>Artemisiospiza belli belli</i>); WL	X			
Burrowing owl (<i>Athene cunicularia</i>); SSC	X			
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>); FE, SE	X			
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>); FE, SE	X			
California horned lark (<i>Eremophila alpestris actia</i>); WL			X	
Prairie falcon (<i>Falco mexicanus</i>); WL	X			
Loggerhead shrike (<i>Lanius ludovicianus</i>); SSC	X			
Coastal California gnatcatcher (<i>Polioptila californica californica</i>); FT, SSC	X			
Least Bell's vireo (<i>Vireo bellii pusillus</i>); FE, SE		X		
Western mastiff bat (<i>Eumops perotis californicus</i>); SSC	X			
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>); SSC			X	
FE = Federally Endangered; FT = Federally Threatened; SE = State Endangered; SCE = State Candidate Endangered; ST = State Threatened; SV = State Vulnerable; FP= State Fully Protected; SSC = CDFW Species of Special Concern ; WL= Watch List				

A brief description of each species with moderate or high potential to occur is provided below. Species with a low potential to occur are omitted from further discussion because there are limited habitat components meeting the species requirements and/or the majority of habitat in and adjacent to the APE is unsuitable or of very poor quality, the species was not observed during field surveys, and therefore the species is not likely to be found in the APE.

The remaining seven special-status wildlife species that have been recorded or have the potential to occur within the vicinity of the APE are not expected to occur because the APE does not support their required habitat components and/or is not within the known range of the species.

Fish

Arroyo Chub

The arroyo chub (*Gila orcutti*) is a CDFW Species of Special Concern (SSC) native to coastal drainages of Los Angeles, Orange, Riverside, and San Diego counties in California. Considered true omnivores, arroyo chub eat algae, insects, and small crustaceans (Moyle 2015). Spawning generally occurs in June and July, but the eggs of females ripen in small batches, allowing spawning to occur anywhere from February through August (Tres 1992). Typically, arroyo chub are found in slow-moving sections of cool to warm (50°F – 78.8°F) streams dominated by sand and silt substrates.

Potentially suitable aquatic habitat occurs in the low-flow channel of the SCR, including sandy substrate and presence of algae. One CNDDDB record (Occurrence No. 44) from 1999 is located in the SCR approximately three miles downstream (west) of the APE. However, because there is no permanent water flow in the stretch of the SCR within the APE, this species would only occupy the SCR after a large storm event, and therefore has a moderate potential to occur in the APE.

Santa Ana Sucker

The Santa Ana sucker (*Catostomus santaanae*) is a federally threatened fish species that historically occupied upper watershed areas of the San Gabriel and San Bernardino Mountains down to the Pacific Ocean. At present, the Santa Ana sucker is found in three disjunct populations that occupy portions of the San Gabriel, Los Angeles, and Santa Ana River basins in southern California. Santa Ana suckers rely on perennial flows with suitable water quality and substrate to support breeding, feeding, and sheltering. Over different life history stages, suckers depend on a variety of coarse substrate types, such as gravel, cobble, or mixtures of gravel or cobble with sand, and a variety of riverine features, such as shallow riffles and deeper runs and pools (USFWS 2024d).

Potentially suitable aquatic habitat occurs in the low-flow channel of the SCR, including presence of aquatic vegetation (e.g., watercress) and slow-moving water. Additionally, one CNDDDB record (Occurrence No. 13) from 1993 is located in the SCR approximately 3.5 miles upstream (east) of the APE (CDFW 2024). However, because there is no permanent water flow in the stretch of the SCR within the APE, this species would only occupy the SCR after a large storm event, and therefore has a moderate potential to occur in the APE.

Unarmored Threespine Stickleback

Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*; UTS) is a state and federally listed endangered species and a state fully protected species. UTS are scaleless, freshwater fish that grow up to five centimeters (two inches) long and primarily feed on bottom dwelling insects, crustaceans, and snails. UTS have a very limited distribution, with the southern California population represented in only three drainages; Upper SCR (extremely limited), Bouquet Creek (extremely limited) and Soledad Canyon Creek (possibly extirpated).

Potentially suitable aquatic habitat occurs in the low-flow channel of the SCR, including presence of aquatic vegetation (e.g., watercress) and slow-moving water. Additionally, two CNDDDB records (Occurrence No. 4 and 10) are located in the SCR approximately 3.5 miles upstream (Occurrence No.

4) and three miles downstream (Occurrence No. 10) of the APE. However, because there is no permanent water flow in the stretch of the SCR within the APE, this species would only occupy the SCR after a large storm event, and therefore has a moderate potential to occur in the APE.

Amphibians and Reptiles

Arroyo Toad

Arroyo toad (*Anaxyrus californicus*) is a federally endangered species and SSC endemic to California and northern Baja California. This species ranges mostly west of the desert in coastal areas from the upper Salinas River system in Monterey County to northwestern coastal Baja California. Arroyo toad occurs in washes, arroyos, sandy riverbanks, and riparian areas with willows, sycamores (*Platanus* spp.), oaks (*Quercus* spp.), and cottonwoods (*Populus* spp.). Arroyo toads require exposed sandy streambanks with stable terraces for burrowing with scattered vegetation for shelter as well as areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding (Zeiner et al. 1988).

One CNDDDB record of arroyo toad (Occurrence No. 48) has been documented within five miles of the APE and is located in the SCR channel approximately four miles upstream (east) of the APE (CDFW 2024). The APE contains coastal scrub and riparian habitat for burrowing/dispersal along the sandy banks of the SCR, which is generally associated with the Fremont cottonwood forest and woodland, sandbar willow thickets, mulefat thickets, scale broom scrub, and thick-leaved yerba santa scrub vegetation communities, as well as the riverwash land cover type. In addition, suitable breeding habitat for this species may be present within the active channel of the SCR when surface water is present. Therefore, this species has a moderate potential to occur within the APE.

Western Spadefoot

Western spadefoot (*Anaxyrus californicus*) is an SSC and is also proposed for listing as threatened under the FESA. This species ranges throughout the Central Valley and adjacent foothills, and through the Coast Ranges and coastal plain from Point Conception south to the Mexican border. Elevations of occurrence extend from near sea level to 4,460 feet amsl in the southern Sierra foothills. It relies on temporary rain pools in a variety of vegetation types for its reproductive habitat. It spends most of the year in burrows up to 36 inches underground. Individuals have been reported to use mammal burrows. Surface movement by adults is primarily associated with rains or during nights of high humidity and they rarely stray far from their natal pools. Ponds must lack predators and persist for at least three weeks for successful reproduction. Recently metamorphosed juveniles seek refuge in drying mud cracks, under boards and other surface objects in the immediate vicinities of breeding ponds for up to several days after transformation.

This species was previously documented approximately 200 feet south of the APE on the southern bank of the SCR during focused surveys performed for the Vista Canyon Specific Plan Environmental Impact Report (EIR; State Clearinghouse [SCH] No. 2007071039; City of Santa Clarita 2010). This documented occurrence includes a single dispersing adult. Additionally, there are four CNDDDB records (Occurrence No.'s 342-344, 1062) within one mile of the APE (CDFW 2024). One of these occurrences from 2008 (Occurrence No. 342) included observations of tadpoles and egg clusters. Vernal pools are generally absent from the APE, but potentially suitable grassland habitat occurs to the north of the northern bank of the SCR in the APE, and western spadefoot has a moderate potential to utilize this habitat for foraging. The APE does not provide suitable breeding habitat for western spadefoot, but suitable breeding habitat may occur outside of the APE near locations of

previously documented occurrences. Therefore, this species has a moderate potential to occur within the APE.

California Legless Lizard

California legless lizard (*Anniella* spp.) is an SSC found in the Coast Ranges from Contra Costa County to the Mexican border. California legless lizard occurs in a variety of habitats including sparsely vegetated areas of coastal dunes, valley-foothill grasslands, chaparral, and coastal scrub that contain sandy or loose organic soils with leaf litter and moist soils for burrowing. Areas disturbed by agriculture or other human uses are typically not suitable habitat for the species (Zeiner et al. 1988).

Numerous CNDDDB records of the species have been documented within five miles of the APE, including one record from 2015 (Occurrence No. 67) that overlaps the APE (CDFW 2024). Potentially suitable open scrub (big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and grassland habitat (i.e., wild oats and annual brome grasslands) occurs in and adjacent to the SCR to support this species. In addition, loose, moist soil occurs adjacent to the active channel of the SCR and may provide suitable foraging and/or breeding habitat for this species. Therefore, California legless lizard has a high potential to occur within the APE.

Coastal Whiptail

Coastal whiptail (*Aspidoscelis tigris stejnegeri*) is an SSC that is found in deserts and semi-arid areas with sparse vegetation within Ventura, Los Angeles, Riverside and San Diego counties. The species is commonly found in a variety of habitats including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, mixed conifer, pine-juniper, chamise-redshank chaparral, mixed chaparral, desert scrub, desert wash, alkali scrub, and annual grasslands (Zeiner et al. 1988).

Several occurrences have been documented within five miles of the APE, the closest being approximately 0.2 mile southwest (CDFW 2024). Potentially suitable open scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and grassland habitat (i.e., wild oats and annual brome grasslands) occurs in the APE to support this species. While this species was not documented during surveys performed for the Vista Canyon Specific Plan EIR, which overlaps the western portion of the APE (City of Santa Clarita 2010), the APE provides suitable open scrub and grassland habitat as well as sparsely-vegetated sandy soils. Therefore, this species has a high potential to occur in the APE.

Coast Horned Lizard

Coast horned lizard (*Phrynosoma blainvillii*) is an SSC that can be found in grasslands, coniferous forests, woodlands, and chaparral habitats containing open areas and patches of loose soil. There are multiple records of the species within the regional vicinity of the APE, the closest being approximately 3.5 miles east in Bee Canyon Wash (CDFW 2024). Additionally, this species was observed within the Vista Canyon Specific Plan area in 2006, which overlaps the western portion of the APE (City of Santa Clarita 2010). Suitable open scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and grassland habitat (i.e., wild oats and annual brome grasslands) occurs in the APE to support this species. and grassland habitats with loose soils in and adjacent to the SCR

are present within the APE. Therefore, coast horned lizard has a moderate potential to occur within the APE.

Birds

Cooper's Hawk

Cooper's hawk (*Accipiter cooperii*) is a CDFW Watch List (WL) species that typically occurs in woodland habitat. This species forages and nests in riparian growths of deciduous trees or live oak trees, as in canyon bottoms on river floodplains. While no CNDDDB records are documented within five miles of the APE, this species was observed within the Vista Canyon Specific Plan area in 2009, which overlaps the western portion of the APE (City of Santa Clarita 2010). Potentially suitable nesting habitat occurs in the Fremont cottonwood forest and woodland vegetation community. However, this vegetation community is isolated, of relatively small size, and is constrained to the north by SR-14. Therefore, this species has a moderate potential to forage and/or nest in the APE.

California Horned Lark

California horned lark (*Eremophila alpestris actia*) is a CDFW WL species that typically occurs in the coastal regions of California from Sonoma County to San Diego County. This species mostly eats insects, snails, and spiders during the breeding season (generally February 1 through August 31) and adds grass and forb seeds and other plant matter to its diet during other seasons. The California horned lark walks along the ground, searching for food. Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover. This species builds grass-lined cup-shaped nests in depressions on the ground in the open and is frequently found in grasslands and other open habitats with low, sparse vegetation (Zeiner et al. 1988).

No CNDDDB records are documented within five miles of the APE; however, foraging individuals were observed within the Vista Canyon Specific Plan area in 2009, which overlaps the western portion of the APE (City of Santa Clarita 2010). Nesting was not documented during these surveys. Potentially suitable nesting and foraging habitat occurs in the scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and grassland (i.e., wild oats and annual brome grasslands) vegetation communities in the APE. Therefore, this species has a high potential to occur in the APE.

Least Bell's Vireo

Least Bell's vireo (*Vireo bellii pusillus*; LBVI) is typically found in structurally diverse woodlands located in riparian areas. Habitat requirements critical to the continued existence of this species include dense cover within six feet of the ground for nesting and a dense, stratified canopy for foraging. Ideal habitat consists of a well-developed overstory with a dense shrub understory, often characterized as an early successional stage. Typical breeding habitat consists of an understory of dense riparian sub-shrub or shrub thickets with a mature riparian overstory. While willow-dominated habitat is often used by LBVI for nesting, plant species composition does not appear to be as important as the structure of the habitat (Griffith and Griffith 2000).

There are no documented occurrences of LBVI within five miles of the APE (CDFW 2024). The closest documented occurrence of LBVI is approximately 7.5 miles west of the APE at the confluence of San Francisquito Creek and the SCR (CNDDDB Occurrence No. 585). This record included one adult male; no LBVI were observed breeding at this occurrence location (CDFW 2024). In addition, multiple

sightings of LBVI are documented in eBird at the confluence between Bouquet Canyon Creek and the SCR approximately six miles west of the APE (eBird 2024). The APE contains potentially suitable LBVI breeding and foraging habitat, particularly in the Fremont cottonwood forest and woodland and sandbar willow thickets vegetation communities in the western portion of the APE, near the confluence between Intermittent Drainage 1 and the SCR. In this area, riparian vegetation consists of a stratified canopy, including tree and shrub species such as Fremont cottonwood, arroyo willow, sandbar willow, and mulefat (Appendix D, Photographs 31 and 38). Riparian vegetation within the APE, particularly within the low-flow channels of the SCR, has increased in abundance between 2023 and 2024 as a result of high water availability brought on by multiple above-average rainfall years (Western Regional Climate Center 2023). However, a review of aerial imagery between the years of 1994 and 2024 indicates that riparian vegetation is typically absent from the SCR within the APE, and would not typically provide suitable LBVI foraging and breeding habitat (Google Earth Pro 2024). Despite this observation, the APE currently provides potentially suitable LBVI foraging and/or breeding habitat, and LBVI has a moderate potential to occur within the APE under most recent conditions observed in the SCR.

Mammals

San Diego Black-Tailed Jackrabbit

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) is an SSC that inhabits a wide range of habitats including desert shrublands, sagebrush, chaparral, oak woodland with an herb mosaic component. This species occurs from coastal southern California to Baja California. The species requires a mix of grasses, forbs, and shrubs for foraging and prefers predominantly open areas without dense understory (Howard 1995).

The closest CNDDDB record of this species is approximately 300 feet southwest of the APE (Occurrence No. 106; CDFW 2024). In addition, this species was observed during surveys performed for the Vista Canyon Specific Plan EIR in 2008 (City of Santa Clarita 2010). Potentially suitable habitat occurs in the scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and grassland (i.e., wild oats and annual brome grasslands) vegetation communities in the APE, with more open habitat occurring within the banks of the SCR. Therefore, this species has a high potential to occur in the APE.

Insects

Crotch Bumble Bee

Crotch bumble bee (*Bombus crotchii*) is an SCE species endemic to California and south into Mexico. The Crotch bumble bee inhabits grassland and scrub areas, requiring a hotter and drier habitat than other bumble bee species. This species nests underground, often in abandoned rodent dens. Forage plant genera include but are not limited to snapdragon (*Antirrhinum* spp.), phacelia (*Phacelia* spp.), clarkia (*Clarkia* spp.), tree poppy (*Dendromecon* spp.), herbaceous poppy (*Eschscholzia* spp.), and buckwheat (*Eriogonum* spp.).

One historic CNDDDB record (Occurrence No. 135) overlaps the APE, and one recent CNDDDB record (Occurrence No. 326) from 2019 is located approximately 3.3 miles south of the APE (CDFW 2024). The APE contains potentially suitable foraging habitat in the scrub (i.e., big sagebrush scrub, brittle

bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and grassland (i.e., wild oats and annual brome grasslands) habitats. Additionally, forage food genera for the Crotch bumble bee including California buckwheat and longstem buckwheat (*Eriogonum elongatum*) commonly occur throughout the scrub habitats, particularly along the upland slopes to the north of the SCR. Therefore, this species has a moderate potential to forage within the APE. Crotch bumble bee has a low potential to nest in the APE, as limited rodent dens were observed in the APE, and a large portion of the APE has been previously disturbed. Moreover, only one single California ground squirrel was observed in the APE, and it was found on an ornamental tree in the developed land cover type.

4.1.3 Other Protected Species

Nesting Birds

The APE contains suitable habitat to support regulated nesting birds and raptors protected under CFGC Sections 3503, 3503.5, and 3513, and the MBTA (16 United States Code Sections 703 to 712). Potential nesting habitat for birds and raptors was observed throughout the APE, with the most suitable locations in the Fremont cottonwood forest and woodland, tamarisk thickets, mulefat thickets, and sandbar willow thickets vegetation communities, and moderately-suitable nesting habitat occurring in the scrub (i.e., big sagebrush scrub, brittle bush scrub, California buckwheat scrub, California sagebrush – California buckwheat scrub, rubber rabbitbrush scrub, scale broom scrub, California sagebrush scrub, scale broom scrub, and thick-leaved yerba santa scrub) and chaparral (i.e., chamise chaparral) vegetation communities. No inactive or potentially active nests were observed within the APE during the field reconnaissance surveys.

4.2 Sensitive Plant Communities and Critical Habitats

Sensitive Natural Communities

The CDFW *California Sensitive Natural Communities List* identifies sensitive natural communities throughout California, based in part on global and state rarity ranks (CDFW 2023). Natural communities having a rank of 1 to 3 are generally considered sensitive, though some communities with other ranks may also be considered sensitive. CDFW-designated sensitive vegetation communities found within the APE include clustered tarweed fields (ranked G2S2), Fremont cottonwood forest and woodland (ranked G4S3), and scale broom scrub (ranked G3S3; CDFW 2023). Fremont cottonwood forest and woodland and scale broom scrub are located in the riparian corridor of the SCR and Intermittent Drainage 1 in the central and southern portions of the APE, and clustered tarweed fields are located in the northern portion of the APE along Mitchell Hill which occurs on an upland terrace to the north of the SCR (Figure 5a).

Designated Critical Habitat

No USFWS-designated critical habitat occurs within the APE. The nearest designated critical habitat is for coastal California gnatcatcher approximately 1.6 miles southwest of the APE in the foothills of the San Gabriel Mountains, spreading navarretia (*Navarretia fossalis*) approximately 2.6 miles north near the Cruzan Mesa, and arroyo toad approximately 2.9 miles east of the APE within the SCR riparian corridor (USFWS 2024b). No other USFWS-designated critical habitat exists within five miles of the APE.

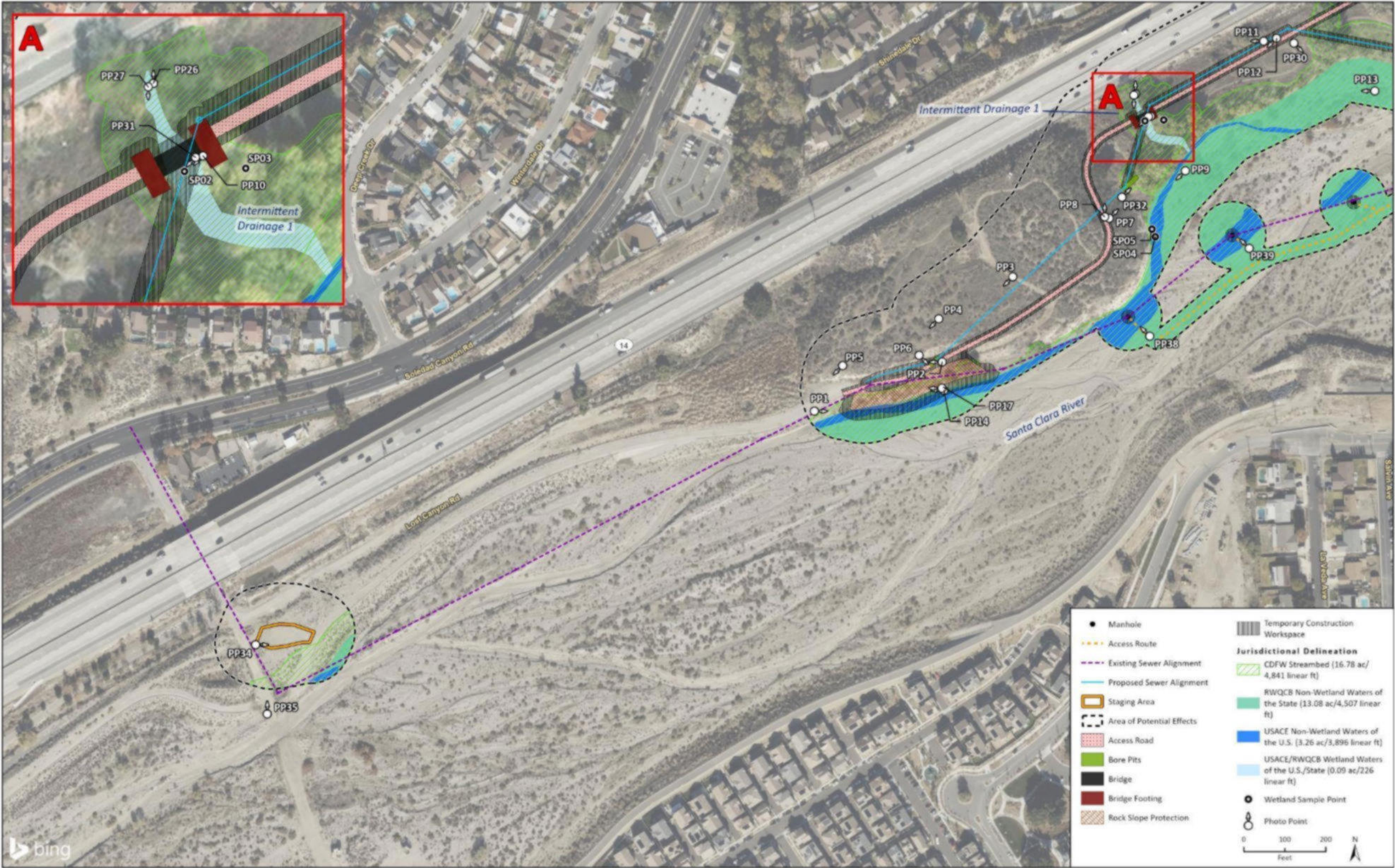
4.3 Jurisdictional Waters and Wetlands

The results of the research and field visit determined the SCR and Intermittent Drainage 1 are potentially subject to USACE, RWQCB, and CDFW jurisdictions. Sand Canyon Creek and Ephemeral Drainage 1 are potentially subject to RWQCB and CDFW jurisdictions (Table 3). A total of 3.26 acres (3,896 linear feet) of non-wetland waters of the U.S. and 0.09 acre of wetland waters of the U.S. occur within the APE (Figure 6). A total of 13.08 acres (4,507 linear feet) of non-wetland waters of the state and 0.09 acre of wetland waters of the state occur within the APE. A total of 16.77 acres (4,841 linear feet) of CDFW streambed and associated riparian habitat occur within the APE. A map illustrating potentially jurisdictional aquatic resources within the APE is presented in Figure 6a-Figure 6b. A description of each jurisdictional feature occurring within the APE is provided below. Site photographs are provided in Appendix D.

Table 3 Summary of Potentially Jurisdictional Areas within the APE

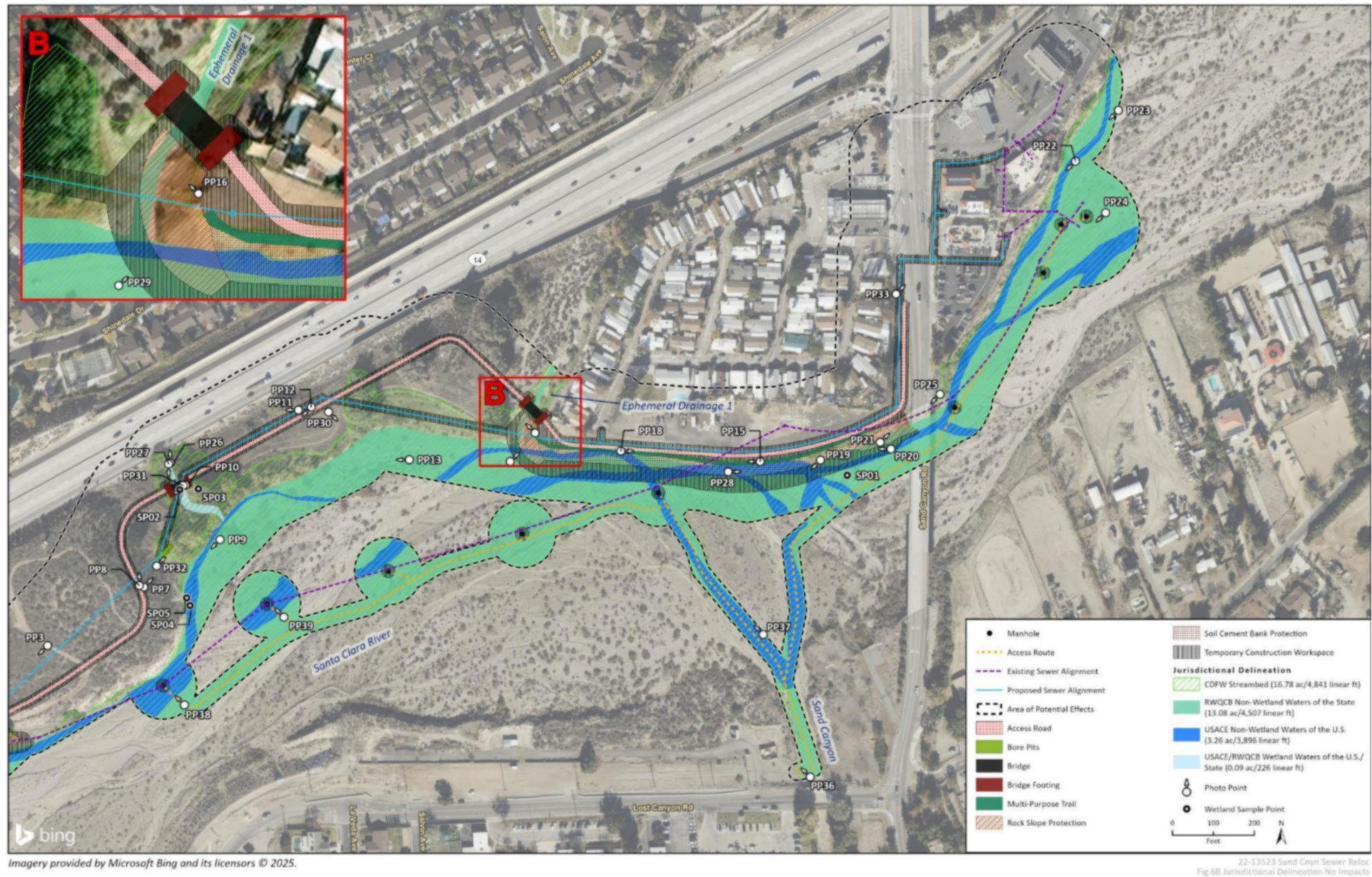
Feature	USACE Waters of the U.S.		RWQCB Waters of the State		CDFW Jurisdiction
	Non-wetland Waters of the U.S. (acres [linear feet])	Wetland Waters of the U.S. (acres)	Non-wetland Waters of the State (acres [linear feet])	Wetland Waters of the State (acres)	CDFW Streambed (acres [linear feet])
Santa Clara River	3.26 (3,896)	0	12.85 (4,064)	0	15.45 (4,186)
Sand Canyon Creek	–	–	0.17 (223)	0	0.22 (223)
Intermittent Drainage 1	–	0.09	–	0.09	0.74 (212)
Ephemeral Drainage 1	–	–	0.06 (220)	–	0.36 (220)
Total	3.26 (3,896)	0.09	13.08 (4,507)	0.09	16.78 (4,841)

Figure 6a Potentially Jurisdictional Resources – West



22-13523 Sand Crn Sewer Reloc
Fig 6A Jurisdictional Delineation No Impacts

Figure 6b Potentially Jurisdictional Resources – East



Santa Clara River

The SCR flows from east to west in the southern portion of the APE (Figure 6a-Figure 6b). The SCR is an intermittent system; the riverbed surface is dry for most of the year, except during and following storm events. The riverbed is wide and characterized by a braided active channel, and contains historical secondary channels that are interspersed among the active channel. Within the APE, the SCR receives inputs from a variety of drainages, including Sand Canyon Creek in the southern portion of the APE, and Intermittent Drainage 1 and Ephemeral Drainage 1 in the northern portion of the APE. During the field surveys, flowing water was present within the active channel of the SCR in the western portion of the APE near the confluence with Intermittent Drainage 1 and moving westward toward the proposed staging area (Appendix D, Photographs 1, 6, and 14).

The northern top of bank of the SCR extends from the central portion of the APE southward for approximately 160 feet to the southern boundary of the APE. The southern bank of the SCR occurs outside and to the south of the APE. The OHWM of the SCR ranges between 10 and 46 feet wide in the APE, with the widest point of the OHWM occurring in the northeastern portion of the APE and the narrowest point occurring in the central portion of the APE. The OHWM of the SCR is defined by a change in sediment, a change in vegetation composition, a clearly defined bed and bank, and a break in the associated bank slope. Due to the intermittent flow regime of the SCR, surface water observed during the field surveys, and direct connectivity to a TNW (Pacific Ocean), this feature is determined to be a Relatively Permanent Water (RPW) that flows at least seasonally (i.e., three months out of the year). SP01 and SP04 were collected immediately adjacent to the OHWM of the SCR in the eastern and central portions of the APE, respectively (Figure 6a-Figure 6b). At SP01 and SP04, indicators of hydrophytic vegetation and wetland hydrology were observed, but hydric soils were not observed (Appendix F). Therefore, it was determined that wetlands were not present in the SCR within the APE.

Based on the field surveys, the SCR is potentially subject to USACE, RWQCB, and CDFW jurisdiction. The SCR constitutes non-wetland waters potentially subject to the jurisdiction of USACE per Section 404 of the CWA and was delineated to the width of the OHWM of the SCR. The SCR also potentially constitutes a CDFW streambed under the jurisdiction of the CDFW per Section 1600 et seq. of the CFGC. The limits of CDFW jurisdiction extend to the top of bank or outer edge of riparian vegetation associated with the river, whichever is greater. The SCR also constitutes non-wetland waters potentially subject to the jurisdiction of the Los Angeles RWQCB per Section 401 of the CWA. The limits of RWQCB jurisdiction were determined to be coterminous with USACE jurisdiction.

Sand Canyon Creek

Sand Canyon Creek flows from south to north in the southern portion of the APE (Figure 6b). Sand Canyon Creek is an intermittent system; the low-flow channel is dry for most of the year, except during and following storm events. The creek bed is relatively wide and characterized by a single active channel. Sand Canyon Creek receives inputs from a variety of drainages to the south of the APE, including Iron Canyon, German Canyon, Coyote Canyon, and Bear Canyon. During the field surveys, flowing water was not observed within Sand Canyon Creek, indicating that this drainage feature only flows during and immediately following storm events (Appendix D, Photographs 36 and 37).

Within the APE, the top of bank of Sand Canyon Creek is approximately 70 feet wide and five feet deep, and the OHWM is approximately 30 feet wide and 1 foot deep. The OHWM of Sand Canyon Creek is defined by a change in vegetation species, a well-defined bed and bank, and a break in bank

slope. Although Sand Canyon Creek is an intermittent drainage feature, there are no indicators of relatively permanent flow; the bed of the creek is entirely unvegetated, and the banks of the creek are primarily vegetated with upland shrub species such as thick-leaved yerba santa and California buckwheat. In addition, surface water was not observed during any of the field surveys, one of which was performed in the late spring/early summer of 2024 (May 2024) following two back-to-back above-average rainfall years (Western Regional Climate Center 2024). Therefore, Sand Canyon Creek was determined to be a non-RPW. As Sand Canyon Creek did not exhibit any wetland characteristics (e.g., predominance of hydrophytic vegetation, multiple indicators of wetland hydrology), wetland sample points were not collected in the drainage feature and wetlands were determined to be absent.

Based on the field surveys, Sand Canyon Creek is potentially subject to RWQCB and CDFW jurisdiction. Sand Canyon Creek constitutes non-wetland waters potentially subject to the jurisdiction of the Los Angeles RWQCB per Section 401 of the CWA. The limits of Los Angeles RWQCB jurisdiction were delineated to the OHWM. Sand Canyon Creek also potentially constitutes a streambed under the jurisdiction of the CDFW per Section 1600 et seq. of the CFGC. The limits of CDFW jurisdiction extend to the top of bank associated with the drainage, as there is no riparian vegetation extending beyond the top of bank. As Sand Canyon Creek was determined to be a non-RPW during the field surveys, it is not anticipated to be subject to USACE jurisdiction per Section 404 of the CWA.

Intermittent Drainage 1

Intermittent Drainage 1 flows from north to south in the central portion of the APE (Figure 6a-Figure 6b). Intermittent Drainage 1 originates in the APE from an eight-foot tall, eight-foot wide concrete box culvert outlet immediately south of SR-14, which conveys surface water runoff from the residential neighborhood to the north (Appendix D, Photograph 26). This drainage has an intermittent flow regime and contains surface water for a majority of the year, as evidenced by the presence of slow-flowing water during the field surveys. Intermittent Drainage 1 is characterized by a single active channel with slow-moving water, with establishment of dense riparian vegetation (including herbs, shrubs, and trees) within and surrounding the active channel. Vegetation surrounding Intermittent Drainage 1 is categorized as the Fremont cottonwood forest and woodland vegetation community.

Within the APE, the top of bank of Intermittent Drainage 1 is approximately 80 feet wide and 8 feet deep, and the OHWM is approximately 20 feet wide and 3 feet deep. The OHWM of Intermittent Drainage 1 is defined by a change in vegetation species, a well-defined bed and bank, and a break in bank slope. Due to the intermittent flow regime of Intermittent Drainage 1, flowing water present during the field surveys, and direct connectivity to a TNW (Pacific Ocean) via the SCR, this feature is assumed to be an RPW that flows at least seasonally (i.e., three months out of the year). SP02 was taken in silty sediment within the OHWM of Intermittent Drainage 1 in an area dominated by cattails (*Typha* spp.; OBL), with an overstory of Fremont cottonwood (FACW), red willow (FACW), and Mexican fan palm (*Washingtonia robusta*; FACW). Indicators of hydrophytic vegetation and wetland hydrology were observed (Attachment 3). Although indicators of hydric soils were not observed at SP02, this area is dominated by cattails, an obligate wetland plant species. Furthermore, the concrete box culvert outlet associated with Intermittent Drainage 1 contained six feet of sediment accumulation, indicating that large volumes of sediment are frequently deposited within the bed of the drainage. The large amount of sediment accumulation on a regular basis appears to have obscured hydric soil indicators that may be present deeper in the soil profile. As such, it was

determined that problematic hydric soils and therefore wetlands were present at SP02. SP03 was collected approximately 45 feet east of SP02, above the OHWM of Intermittent Drainage 1 but underneath the canopy of Fremont cottonwood trees associated with the drainage feature. No wetland indicators (hydrophytic vegetation, hydric soils, wetland hydrology) were observed at SP03. Therefore, it was determined that a wetland was not present at SP03, and the boundaries of wetlands in Intermittent Drainage 1 were defined to the extent of the OHWM.

Based on the field survey, Intermittent Drainage 1 is likely subject to USACE, RWQCB, and CDFW jurisdiction. Intermittent Drainage 1 contains wetland waters potentially subject to the jurisdiction of the USACE and Los Angeles RWQCB per Sections 404 and 401 of the CWA, respectively, and was delineated to the extent of the OHWM of the drainage feature. Intermittent Drainage 1 potentially constitutes a CDFW streambed under the jurisdiction of the CDFW per Section 1600 et seq. of the CFGC. The limits of CDFW jurisdiction extend to the riparian vegetation beyond the top of bank of the drainage.

Ephemeral Drainage 1

Ephemeral Drainage 1 flows from north to south in the central portion of the APE, immediately west of a mobile home park (Figure 6b). Ephemeral Drainage 1 is a relatively small streambed that collects flows from the hillsides and residential/commercial development to the north of SR-14 outside the APE. The bed of Ephemeral Drainage 1 is mostly unvegetated, but contains some upland shrub species such as rubber rabbitbrush (UPL) and California buckwheat (UPL), and limited establishment of mulefat (FAC). No standing or flowing water was observed in Ephemeral Drainage 1 during the field surveys (Appendix D, Photographs 16 and 29).

The top of bank of Ephemeral Drainage 1 is approximately 50 feet wide and 10 feet deep, and the OHWM is approximately 12 feet wide and one foot deep. The eastern bank of Ephemeral Drainage 1 is constrained by existing residential development. The OHWM of Ephemeral Drainage 1 is defined by a change in sediment, a change in vegetation composition, a clearly defined bed and bank, and a break in the associated bank slope. Due to the ephemeral flow regime of Ephemeral Drainage 1, lack of surface water observed during the field surveys, and relatively small size of the watershed contributing flows to the drainage system, this feature is determined to be a non-RPW that does not flow at least seasonally (i.e., three months out of the year). As Ephemeral Drainage 1 did not exhibit any wetland characteristics (e.g., predominance of hydrophytic vegetation, multiple indicators of wetland hydrology), wetland sample points were not collected in the drainage feature and wetlands were determined to be absent.

Based on the field surveys, Ephemeral Drainage 1 is potentially subject to RWQCB and CDFW jurisdiction. Ephemeral Drainage 1 constitutes non-wetland waters potentially subject to the jurisdiction of the Los Angeles RWQCB per Section 401 of the CWA. The limits of Los Angeles RWQCB jurisdiction were delineated to the OHWM. Ephemeral Drainage 1 also potentially constitutes a CDFW streambed under the jurisdiction of the CDFW per Section 1600 et seq. of the CFGC. The limits of CDFW jurisdiction extend to the top of bank associated with the drainage, as there is no riparian vegetation extending beyond the top of bank. As Ephemeral Drainage 1 is an ephemeral, non-RPW, it is not anticipated to be subject to USACE jurisdiction per Section 404 of the CWA.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation. Typically, habitat linkages are contiguous strips of natural areas, although dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be located in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

At the regional/landscape-level scale, the APE is mapped as a relatively less permeable Essential Connectivity Area in the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010). The APE occurs along the southern fringe of an Essential Connectivity Area that connects portions of the San Gabriel Mountains to the north and south of the APE through the City. At the local level, the SCR channel in the southern portion of the APE provides a source of water during the winter months and contains a pathway and vegetative cover for migrating wildlife. Therefore, the SCR channel likely acts as a significant east-west movement corridor for large animals such as mule deer and coyote. Additionally, smaller, more mobile species (e.g., birds) may use the SCR channel to connect habitats to the north and south of the APE.

4.5 Resources Protected By Local Policies and Ordinances

City of Santa Clarita General Plan

Natural resources within City limits are regulated according to the City's General Plan, which includes policies regarding conservation of biological resources and ecosystems as well as protection of sensitive habitat (including wildlife corridors) and endangered species. The following objectives and policies related to biological resources are relevant for the proposed project based on its location and/or proposed activities (City of Santa Clarita 2011a):

Objective CO 3.1: In review of development plans and projects, encourage conservation of existing natural areas and restoration of damaged natural vegetation to provide for habitat and biodiversity.

- **Policy CO 3.1.1:** On the Land Use Map and through the development review process, concentrate development into previously developed or urban areas to promote infill development and prevent sprawl and habitat loss, to the extent feasible.

- **Policy CO 3.1.2:** Avoid designating or approving new development that will adversely impact wetlands, floodplains, threatened or endangered species and habitat, and water bodies supporting fish or recreational uses, and establish an adequate buffer area as deemed appropriate through site specific review.
- **Policy CO 3.1.3:** On previously undeveloped sites (“greenfields”), identify biological resources and incorporate habitat preservation measures into the site plan, where appropriate. (This policy will generally not apply to urban infill sites, except as otherwise determined by the reviewing agency).
- **Policy CO 3.1.4:** For new development on sites with degraded habitat, include habitat restoration measures as part of the project development plan, where appropriate.
- **Policy CO 3.1.5:** Promote the use of site-appropriate native or adapted plant materials and prohibit use of invasive or noxious plant species in landscape designs.
- **Policy CO 3.1.6:** On development sites, preserve and enhance natural site elements including existing water bodies, soil conditions, ecosystems, trees, vegetation and habitat, to the extent feasible.
- **Policy CO 3.1.7:** Limit the use of turf-grass on development sites and promote the use of native or adapted plantings to promote biodiversity and natural habitat.
- **Policy CO 3.1.8:** On development sites, require tree planting to provide habitat and shade to reduce the heat island effect caused by pavement and buildings.
- **Policy CO 3.1.9:** During construction, ensure preservation of habitat and trees designated to be protected through use of fencing and other means as appropriate, so as to prevent damage by grading, soil compaction, pollution, erosion or other adverse construction impacts.
- **Policy CO 3.1.10:** To the extent feasible, encourage the use of open space to promote biodiversity.
- **Policy CO 3.1.11:** Promote use of pervious materials or porous concrete on sidewalks to allow for planted area infiltration, allow oxygen to reach tree roots (preventing sidewalk lift-up from roots seeking oxygen), and mitigate tree-sidewalk conflicts, in order to maintain a healthy mature urban forest.

Objective CO 3.2: Identify and protect areas which have exceptional biological resource value due to a specific type of vegetation, habitat, ecosystem, or location.

- **Policy CO 3.2.3:** Ensure protection of any endangered or threatened species or habitat, in conformance with state and federal laws.

Objective CO 3.3: Protect significant wildlife corridors from encroachment by development that would hinder or obstruct wildlife movement.

Objective CO 3.5: Maintain, enhance, and manage the urban forest throughout developed portions of the Santa Clarita Valley to provide habitat, reduce energy consumption, and create a more livable environment.

- **Policy CO 3.5.1:** Continue to plant and maintain trees on public lands and within the public right-of-way to provide shade and walkable streets, incorporating measures to ensure that roots have access to oxygen at tree maturity, such as use of porous concrete.

- **Policy CO 3.5.2:** Where appropriate, promote planting of trees that are native or climactically appropriate to the surrounding environment, emphasizing oaks, sycamores, maple, walnut, and other native species in order to enhance habitat, and discouraging the use of introduced species such as eucalyptus, pepper trees, and palms except as ornamental landscape features.

Objective CO 3.6: Minimize impacts of human activity and the built environment on natural plant and wildlife communities.

- **Policy CO 3.6.1:** Minimize light trespass, sky-glow, glare, and other adverse impacts on the nocturnal ecosystem by limiting exterior lighting to the level needed for safety and comfort; reduce unnecessary lighting for landscaping and architectural purposes and encourage reduction of lighting levels during nonbusiness nighttime hours.
- **Policy CO 3.6.2:** Reduce impervious surfaces and provide more natural vegetation to enhance microclimates and provide habitat.

Vista Canyon Specific Plan

The northwestern portion of the APE, including areas to the north of the SCR and to the west of Ephemeral Drainage 1, are within the planning area of the City's Vista Canyon Specific Plan. The Vista Canyon Specific Plan includes objectives regarding conservation of biological resources and ecosystems as well as protection of sensitive habitat (including the SCR) and endangered species. The following objectives related to biological resources are relevant for the proposed project based on its location and/or proposed activities (City of Santa Clarita 2011b):

Resource Conservation Objective 2.2.3:

1. Restore and minimize impacts to important biotic resources.
2. Maintain the use of the Santa Clara River as a major east/west open space corridor.
3. Establish a Santa Clara River Corridor and adopt measures to maintain, enhance, and protect important river habitat values and functions.
4. Provide native revegetation of river and setback areas when temporarily disturbed due to development activities.
5. Minimize impacts to the Santa Clara River and its resources.
6. Minimize impacts to oak trees and incorporate, where possible, oak trees into public spaces.

City of Santa Clarita Oak Tree Preservation Ordinance

According to Government Code Section 53091, building and zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. As such, the project would not be subject to the City's building and zoning ordinances (Santa Clarita Municipal Code Titles 17 and 18), including the City of Santa Clarita Oak Tree Preservation Ordinance. Nevertheless, SCV Water would voluntarily comply with the City's oak tree preservation ordinance during implementation of the proposed project; therefore, it is included in this discussion.

The City of Santa Clarita Oak Tree Preservation Ordinance (Santa Clarita Municipal Code Section 17.51.040) protects and preserves oak trees in the City and provides regulatory measures to accomplish this purpose. This policy applies to the removal, pruning, cutting, and/or encroachment into the protected zone of oak trees. The following definitions are provided in the ordinance:

- “Oak tree” means any oak tree of the genus *Quercus*, including, but not limited to, valley oak (*Quercus lobata*), California live oak, canyon oak (*Quercus chrysolepis*), interior live oak (*Quercus wislizenii*), and scrub oak (*Quercus dumosa*), regardless of size.
- “Heritage oak tree” means any oak tree measuring 108 inches or more in circumference or, in the case of a multiple trunk oak tree, two or more trunks measuring 72 inches each or greater in circumference, measured 4.5 feet above the natural grade surrounding each tree. In addition, the Commission and/or Council may classify any oak tree, regardless of size, as a heritage tree if it is determined by a majority vote thereof that such tree has exceptional historic, aesthetic, and/or environmental qualities of major significance or prominence to the community.
- “Oak tree protected zone” means a specifically defined area totally encompassing an oak tree which work activities are strictly controlled. Using the dripline as a point of reference, the protected zone shall commence at a point five feet outside of the dripline and extend inward to the trunk of the tree. In no case shall the protected zone be less than 15 feet from the trunk of an oak tree.

An Oak Tree Permit is required to cut, prune, remove, relocate, endanger, damage, or encroach into the protected zone of any oak tree on any public or private property within the City. Oak trees that do not exceed six inches in circumference when measured at a point 4.5 feet above the tree’s natural grade are exempt from the Oak Tree Permit requirements.

During the reconnaissance field surveys, one coast live oak tree was documented in the APE to the northeast of the easternmost bore pit location. This tree, including its protected zone, does not occur within any proposed work area.

City of Santa Clarita Parkway Trees Ordinance

Native trees are protected under the City’s Parkway Trees Ordinance (Santa Clarita Municipal Code Section 13.76). Pursuant to this ordinance, a tree permit must be obtained prior to damaging or removing any public trees within parkways or public areas.

Most of the APE occurs within private property where the City’s Parkway Tree Ordinance does not apply. A small component of the APE along an unpaved access road in the western portion of the APE occurs within public property; however, no trees protected by the City’s Parkway Tree Ordinance occur in this area. Public property also occurs along and immediately adjacent to Sand Canyon Road in the eastern portion of the APE, and two non-native ornamental pine (*Pinus* spp.), occur in this area.

Significant Ecological Areas

The City’s General Plan and Municipal Code (Santa Clarita Municipal Code Section 17.38.080) includes treatment of the Significant Ecological Areas (SEAs) Overlay Zone as among the habitat types within the City. SEAs are defined as “ecologically important land and water systems that are valuable as plant or animal communities, often important to the preservation of threatened and endangered species, and conservation of biological diversity in the County” (City of Santa Clarita 2011a). Santa Clarita Municipal Code Section 17.38.080 requires a conformance review for development within the SEA Overlay Zone. The SCR corridor is identified as an SEA, specifically the “Santa Clara River” SEA, which extends throughout the river channel. This SEA overlaps the majority of the APE to the south of SR-14 and existing development adjacent to Sand Canyon Road, and overlaps most of the project footprint, excluding portions of the project footprint occurring in developed areas near Sand Canyon Road. While the project would not be subject to the City’s

building and zoning ordinances (Santa Clarita Municipal Code Titles 17 and 18) pursuant Government Code Section 53091, SCV Water would voluntarily comply with the City's code through the implementation of measures to reduce impacts (refer to AMMs BIO-1 through BIO-8) such that the project would be compliant with the City's code.

4.6 Habitat Conservation Plans

The APE is not covered by any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan area.

5 Impact Analysis and Mitigation Measures

5.1 Special-status Species

The proposed project would have a significant effect on biological resources if it would:

- 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 CDFW or USFWS.*

5.1.1 Special-status Plant Species

As discussed in Section 4.1, *Special-status Species*, the CNDDDB and CNPS query results include 38 special-status plant species within a nine-quadrangle search of the APE. Of these, four species were initially determined to have a moderate or high potential to occur in the APE, including San Fernando Valley spineflower, Parry's spineflower, slender-horned spineflower, and slender mariposa lily. However, these species would have been identifiable during the rare plant survey performed within their blooming period in May 2024, and were not detected. Therefore, these species are not expected to occur in the APE. The remaining 34 special-status plant species have a low potential to occur or are not expected to occur in the APE based on incompatible habitat conditions (e.g., vegetation assemblage, soils, topography, hydrology, and prior disturbances), or the absence of readily identifiable species (e.g., perennial herbs, shrubs, and/or trees) based upon the results of field surveys. Therefore, impacts to special-status plant species are not expected to occur. In addition, implementation of standard construction BMPs and a worker training program in accordance with avoidance and minimization measures (AMM) BIO-1 and BIO-2 would minimize impacts to special-status plant species that were not detected during the rare plant survey, should they occur within the construction footprint.

Table 4 Impacts to Vegetation Communities and Land Covers in the APE¹

Vegetation Community or Land Cover Type	Temporary Project Impact (Acres)	Permanent Project Impact (Acres)	CDFW Sensitive Natural Community (Yes/No)
California buckwheat scrub	0.10	0.09	No
California sagebrush – California buckwheat scrub	0.20	0.29	No
Chamise chaparral	0.11	0.09	No
Developed	0.46	0.05	No
Disturbed	0.70	0.31	No
Fremont cottonwood forest and woodland	0.15	0.05	Yes
Mulefat thickets	<0.01	0.01	No
Riverwash	0.92	0.71	No
Rubber rabbitbrush scrub	0.06	0.03	No
Sandbar willow thickets	0.14	0.02	No
Scale broom scrub	0.10	0	Yes
Tamarisk thickets	0.16	0.12	No
Thick-leaved yerba santa scrub	0.05	0	No
Upland mustards	0.34	0.27	No
Water speedwell patches	0.01	0	No
Wild oats and annual brome grasslands	0.04	<0.01	No
Total	3.56	2.04	N/A

¹ Vegetation community ranks are from CDFW (2023b).

5.1.2 Special-status Wildlife Species

Based on the database and literature review, 31 special-status wildlife species are known or have the potential to occur within the vicinity of the APE. Of the 31 wildlife species evaluated, 11 special-status wildlife species have low potential to occur, 9 have moderate potential to occur, 4 have high potential to occur in the APE, and 7 have no potential to occur. No special-status wildlife species were observed within the APE during the field survey. California legless lizard, coastal whiptail, California horned lark, and San Diego black-tailed jackrabbit have a high potential to occur in the APE. Crotch bumble bee (foraging), Santa Ana sucker, unarmored threespine stickleback, arroyo chub, arroyo toad, western spadefoot, coast horned lizard, and Cooper’s hawk have a moderate potential to occur in the APE. With implementation of the AMMs described further below, potential direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level.

Special-status Reptiles, Mammals, and Insects

Most of the special-status wildlife species that have the potential to occur within the project footprint are capable of escaping harm during project construction, while others are potentially vulnerable to direct impacts, including injury and mortality. Special-status species that could be directly impacted include potentially occurring land-dwelling animals, such as the California legless lizard, coastal whiptail, coast horned lizard, and San Diego black-tailed jackrabbit.

As Crotch bumble bee is a flying insect species, it would be capable of escaping harm during project construction while foraging. In addition, Crotch bumble does not have a moderate or high potential to nest in the APE because limited rodent dens were observed in the APE, and a large portion of the APE has been previously disturbed. Therefore, direct impacts to this species are not expected to occur as a result of the project.

The project's use of open cut trenching to install the majority of the existing line along and above the northern bank of the SCR, as well as excavations associated with jack-and-bore pits, access road development (including two bridges across Intermittent Drainage 1 and Ephemeral Drainage 1), multi-purpose trail development, manhole removals, and SCR soil cement bank protection and rock slope protection has the potential to directly impact California legless lizard, coastal whiptail, coast horned lizard, and San Diego black-tailed jackrabbit. Open trench excavation would consist of excavating the soil to approximately 6 to 11 feet deep, installing a new pipe or a section of new pipe, and then backfilling the trench. Development of the access road would require vegetation clearing, grading the roadway, paving the road, installing bridge footings, and placing pre-cast bridges over Intermittent Drainage 1 and Ephemeral Drainage 1. Installation of soil cement bank protection and rock slope protection along the northern bank of the SCR would require excavation, grading, and laying of soil cement to the desired grade. These project components have the potential to impact the aforementioned special-status species. Direct impacts could occur via direct strikes to individuals by construction equipment, or entrapment of special-status species in excavation trenches. In addition, indirect impacts could occur through vibrations and dust, which could alter behavioral patterns of land-dwelling special-status wildlife species and cause them to become exposed to predators. Implementation of AMM BIO-1 would require the sloping or fencing of trenches to prevent wildlife entrapment, and implementation of AMMs BIO-3 and BIO-4 would require pre-construction surveys for special-status wildlife species and construction monitoring. Additionally, potential impacts to federally- and state-listed wildlife species, if present, would require incidental take authorizations from the USFWS and CDFW.

Special-status Fish and Amphibian Species

There are documented occurrences of unarmored threespine stickleback, Santa Ana sucker, and arroyo chub within a nine-quadrangle search area of the APE. These species have the potential to occur in the low-flow channel of the SCR. Installation of soil cement bank protection and the multi-purpose trail along the northern bank of the SCR is expected to occur within the low-flow channel of the SCR. Direct impacts to unarmored threespine stickleback, Santa Ana sucker, and arroyo chub could occur via direct strikes to individuals by construction equipment. In addition, indirect impacts to these species could occur if project construction occurs when surface and/or standing water is present within the SCR, and construction spoils or stormwater runoff is deposited into the SCR. This could result in effects such as increased turbidity, altered pH, and/or decreased dissolved oxygen levels, which could harm special-status fish species. Implementation of AMM BIO-1 would require implementation of standard BMPs that would avoid or minimize construction leaks or spills, and implementation of AMM BIO-5 would restrict the construction window to when surface water is absent, which would avoid impacts to unarmored threespine stickleback, Santa Ana sucker, and arroyo chub. Direct impacts to arroyo toad and western spadefoot could occur during project construction within suitable aquatic habitat (i.e., SCR channel) and upland habitat (i.e., scrub and grassland habitat) through direct strikes to individuals, should they occur. In addition, indirect impacts could occur through vibrations, noise, lighting, and dust, which could alter behavioral patterns of these individuals and lead to mortality. Implementation of AMM BIO-1 would require standard construction BMPs, and AMMs BIO-3 and BIO-4 would require implementation of pre-

construction surveys for western spadefoot and arroyo toad, as well as construction monitoring. With implementation of AMM BIO-1, and BIO-3 through BIO-5, impacts to western spadefoot and arroyo toad would be reduced to less-than-significant levels.

Special-status and Nesting Birds

The nests of most native birds and raptors are state and federally protected. It is likely birds use the APE for nesting (generally from early February through late August) given the mix of native and non-native vegetation, as well as the number of bird species and individuals observed during the survey. Implementation of the proposed project could result in direct or indirect impacts to nesting birds, through the direct removal or trimming of shrubs and trees which provide suitable nesting habitat. Project-related noise, vibration, and increased lights can lead to the disturbance of nesting birds which may have a negative impact on the animals. Although temporary, such disturbance can lead to the abandonment of a bird nest.

The project has potential to result in direct and indirect impacts to nesting birds, including the state and federally endangered LBVI, CDFW SSC's (i.e., Cooper's hawk and California horned lark), and species protected under the MBTA and CFGC 3503, if they are nesting within the APE and/or immediate vicinity during construction activities. Construction would occur within scrub (California buckwheat scrub, California sagebrush – California buckwheat scrub, chamise chaparral, mulefat thickets, rubber rabbitbrush scrub, sandbar willow thickets, scale broom scrub, and thick-leaved yerba santa scrub) and woodland (Fremont cottonwood forest and woodland and tamarisk thickets) vegetation communities that have the potential to support nesting birds and raptors, including LBVI and Cooper's hawk. Direct impacts from construction activities include ground disturbance and removal of vegetation, which could potentially contain birds' nests. Indirect impacts include construction noise, lighting, and fugitive dust. These impacts could lead to individual mortality or harassment that might reduce nesting success. Therefore, AMM BIO-6 would require a pre-construction nesting bird survey and protective buffers if nesting birds are found, and AMM BIO-7 would require LBVI pre-construction surveys if construction activities occur within potentially suitable LBVI habitat (i.e., the Fremont cottonwood forest and woodland and sandbar willow thickets vegetation communities) during the LBVI breeding season (March 15 through September 15). If one or more occupied LBVI breeding territories are found during LBVI-focused surveys, no construction would take place within 500 feet of the territory. In addition, AMM BIO-3 and BIO-4 would identify and protect any other special-status bird species (i.e., Cooper's hawk and California horned lark) within the APE prior to and during initial ground disturbance, which would further reduce potential direct and indirect impacts associated with the project.

5.1.3 Recommended Avoidance, Minimization, and Mitigation Measures

Implementation of AMMs BIO-1 through BIO-7 would reduce impacts to special-status species to less-than-significant levels.

BIO-1 General Best Management Practices

General requirements which should be followed by construction personnel are listed below.

- The contractor should clearly delineate the construction limits and prohibit any construction-related traffic outside those boundaries.

- Project-related vehicles should observe a 10-mile per hour speed limit within the unpaved limits of construction.
- All open trenches or excavations should be fenced and/or sloped to prevent entrapment of wildlife species.
- All food-related trash items such as wrappers, cans, bottles, and food scraps generated during proposed project construction should be disposed of in closed containers only and removed daily from the project site.
- Project-related vehicles and equipment should be inspected for weeds prior to entering the project site.
- Project-related materials (e.g., straw wattles) should be sourced from weed-free materials.
- No deliberate feeding of wildlife should be allowed.
- No pets should be allowed on the project site.
- No firearms should be allowed on the project site.
- If vehicle or equipment maintenance is necessary, it should be performed in the designated staging areas.
- If construction lighting is used, it should be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and to reduce impacts on local wildlife.
- During construction, heavy equipment should be operated in accordance with standard BMPs. All equipment used on-site should be properly maintained to avoid leaks of oil, fuel, or residues. Provisions should be in place to remediate any accidental spills.
- While encounters with special-status species are not anticipated, any worker who inadvertently injures or kills a special-status species or finds one dead, injured, or entrapped should immediately report the incident to the construction foreman or biological monitor. The construction foreman or biological monitor should immediately notify SCV Water. SCV Water should follow up with written notification to USFWS and/or CDFW within five working days of the incident. All observations of special-status species should be recorded on CNDDDB field sheets and sent to CDFW by SCV Water or the biological monitor.

BIO-2 Worker Environmental Awareness Program

A lead biological monitor should conduct a pre-project environmental education program for all personnel working at the site, which should be focused on conditions and protocols necessary to avoid and minimize potential impacts to biological resources. Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction should attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special-status biological resources potentially occurring in the project area. This training should include information about the special-status species with potential to occur in the project area. The specifics of this program should include identification of special-status species and habitats, a description of the regulatory status and general ecological characteristics of special-status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information should be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees working at the project site should sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman

should be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special-status species.

BIO-3 Pre-activity Survey

Prior to commencement of ground or vegetation disturbing activities at the project site, a qualified biologist should conduct two surveys for special-status wildlife species. The first survey should be conducted no more than fourteen (14) days prior to commencement of project activities and the second survey should be conducted no more than three (3) days prior to the commencement of project activities. The survey should incorporate methods to detect the special-status wildlife species that could potentially occur at the site. In addition, prior to commencement of project activities, a qualified biologist should be retained to conduct focused surveys according to the USFWS Survey Protocol for the Arroyo Toad (USFWS 1999).

If special-status species are observed within the project site during pre-activity surveys, a qualified biologist should draft a "Species Protection Plan" prior to the initiation of construction. At a minimum, the plan should include avoidance and minimization measures for each observed species. These measures may include, but are not limited to:

- Species-specific Worker Environmental Awareness Program materials;
- Relocation methods including planned relocation areas for the protection of special-status species; and/or
- Reporting requirements.

To the extent feasible, special-status species should be avoided. If avoidance is not feasible, the species should be captured and transferred to an appropriate habitat and location on-site where it would not be harmed by project activities. The biologist should hold the requisite permits for the capture and handling of the species, if applicable. Prior to commencement of the proposed activity, the methods and results of the surveys and, if a special-status species is found, the measures to be employed to avoid impacts to the species should be presented in a letter report to SCV Water.

BIO-4 Qualified Biological Monitor

A qualified biological monitor familiar with special-status species with potential to occur in the project site should be present during initial ground disturbance or vegetation removal activities. The biological monitor should have the authority to temporarily stop work if one or more special-status amphibian, reptile, or mammals are observed; the monitor should then relocate these individuals to suitable undisturbed habitat, outside the areas directly and indirectly affected by ground disturbance activities. The biologist should hold the requisite incidental take permits or authorizations for the capture and handling of the species, if applicable.

The monitor should recommend measures to ensure compliance with all avoidance and minimization measures, applicable permit conditions, and any conditions required by SCV Water. When the biological monitor is present on site, they should be responsible for:

- Ensuring procedures for verifying compliance with environmental mitigation are followed;
- Lines of communication and reporting methods;
- Daily and weekly reporting of compliance;
- Construction crew WEAP training;
- Authority to stop work; and

- Action to be taken in the event of non-compliance.

BIO-5 Dry Season Construction

To eliminate the potential for impacts to the unarmored threespine stickleback, Santa Ana sucker, arroyo chub, arroyo toad, and western spadefoot and to minimize impacts to wildlife movement corridors, construction within the low-flow channel of the Santa Clara River should be restricted to the dry season. This period generally occurs from May 1 to September 15; however, construction can occur outside this window provided no flowing or ponded water associated with the Santa Clara River is present within 50 feet of any work area. In addition, surface elevations within Ephemeral Drainage 1 and Intermittent Drainage 1 should be returned to preconstruction conditions prior to the end of the dry season.

BIO-6 Nesting Birds

Project-related activities should occur outside of the bird breeding season (generally February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than three days prior to initiation of ground disturbance and/or vegetation removal, a nesting bird pre-construction survey should be conducted by a qualified biologist within the disturbance footprint plus a 100-foot buffer (300-feet for raptors), where feasible. If the proposed project is phased or construction activities stop for more than one week, a subsequent pre-construction nesting bird survey should be required prior to each phase of construction during the nesting season.

Pre-construction nesting bird surveys should be conducted during the time of day when birds are active and should factor in sufficient time to perform this survey adequately and completely. A report of the nesting bird survey results, if applicable, should be submitted to SCV Water for review and approval prior to ground and/or vegetation disturbance activities.

If nests are found, their locations should be flagged. An appropriate avoidance buffer ranging in size from 25 to 50 feet for passerines and up to 300 feet for raptors, depending upon the species and the proposed work activity, should be determined and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging. Active nests should be monitored at a minimum of once per week until it has been determined the nest is no longer being used by either the young or adults. No ground or vegetation disturbance should occur within this buffer until the qualified biologist confirms the breeding/nesting is completed and all the young have fledged. If project activities must occur within the buffer, they should be conducted at the discretion of the qualified biologist. The nesting bird buffer zones may also be extended at the discretion of the qualified biologist based on field observations of nesting bird behavior. If no nesting birds are observed during pre-construction surveys, no further actions would be necessary.

BIO-7 Least Bell's Vireo Pre-construction Surveys

Prior to initiation of project construction and activities within or adjacent to suitable least Bell's vireo nesting habitat during least Bell's vireo breeding season (March 15 through September 15), a qualified biologist with experience surveying for least Bell's vireo would conduct at least three focused surveys following USFWS-established protocols to determine whether breeding least Bell's vireos are present. Focused surveys would be completed within the project site and a 500-foot buffer. If least Bell's vireo is present, the biologist would determine its breeding territory, and no construction would take place within 500 feet of the breeding territory from March 15 through September 15.

5.2 Sensitive Plant Communities

The proposed project would have a significant effect on biological resources if it would:

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

As shown in Figure 5a-Figure 5b, three CDFW-designated sensitive plant communities occur in the APE: clustered tarweed fields (ranked G2S2), Fremont cottonwood forest and woodland (ranked G4S3), and scale broom scrub (ranked G3S3; CDFW 2023). Temporary and permanent impacts would occur to Fremont cottonwood forest and woodland, and temporary impacts would occur to the scale broom scrub vegetation community (Table 5). Direct impacts to Fremont cottonwood forest include vegetation removal within the project footprint to install the sewer pipeline and access road. Temporary impacts to the scale broom scrub vegetation community are proposed to remove above-ground portions of manholes associated with the existing sewer line that is to be abandoned. Implementation of AMM BIO-8 and BIO-9 will compensate for direct impacts to sensitive plant communities, as well as riparian habitat associated with the SCR, Intermittent Drainage 1, and Ephemeral Drainage 1. Indirect impacts could also occur through introduction of invasive plant species to the APE, which could negatively impact sensitive plant communities. Implementation of AMM BIO-1 includes the use of weed-free construction materials (e.g., straw wattles) and inspecting construction-related vehicles and equipment for weeds prior to entering the project site. This would reduce the potential for indirect impacts to sensitive plant communities. Impacts to sensitive plant communities would be less than significant with mitigation incorporated.

Table 5 Impacts to Sensitive Plant Communities in the APE¹

Vegetation Community or Land Cover Type	Temporary Project Impact (Acres)	Permanent Project Impact (Acres)	Habitat Type	CDFW Sensitive Natural Community (Yes/No)
Fremont cottonwood forest and woodland	0.15	0.05	Riparian Woodland	Yes
Scale broom scrub	0.10	0	Alluvial Scrubland	Yes

¹ Vegetation community ranks are from CDFW (2024b).

5.2.1 Recommended Avoidance, Minimization, and Mitigation Measures

Implementation of AMMs BIO-8 and BIO-9 would reduce impacts to sensitive plant communities to less-than-significant levels.

BIO-8 Habitat Revegetation, Restoration, and Monitoring Program

Impacts to sensitive plant communities should be avoided to the greatest extent feasible. If avoidance is not feasible, mitigation for unavoidable impacts to sensitive plant communities can be accomplished either through on-site restoration, off-site restoration, or purchase of credits through an approved Mitigation Bank. Compensatory mitigation for unavoidable impacts to sensitive plant communities should be accomplished at a ratio of 1:1. If on-site or off-site restoration occurs, a Habitat Revegetation, Restoration, and Monitoring Program should be prepared and submitted for

approval to SCV Water prior to initiating impacts. At minimum, the Habitat Revegetation, Restoration, and Monitoring Program should include the following:

- A description of the purpose and goals of the restoration
- Identification of success criteria and performance standards
- Methods of site preparation
- Irrigation plan and schedule
- BMPs
- Maintenance and monitoring program
- Adaptive management strategies
- Key stakeholders and responsible parties
- Funding
- Contingencies

BIO-9 Jurisdictional Habitat Best Management Practices

The following best management practices for construction within jurisdictional habitat should be followed by construction personnel:

- Materials should be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage and should be at least 50 feet from drainage features. Construction materials and spoils should be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- All vehicles and equipment should be in good working condition and free of leaks. The contractor should prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans should be placed below vehicles to contain fluid leaks.
- All re-fueling, cleaning, and maintenance of equipment will occur at least 50 feet from potentially jurisdictional waters.
- Adequate spill prevention and response equipment should be maintained on-site and readily available to implement to ensure minimal impacts to the aquatic and marine environments.
- Compensatory mitigation for permanent impacts to the Santa Clara River and the two unnamed drainages (Ephemeral Drainage 1 and Intermittent Drainage 1) can be accomplished either through purchase of credits through an approved Mitigation Bank or through SCV Water sponsored mitigation (e.g., on-site restoration). Compensatory mitigation should be determined and approved by CDFW, USACE and RWQCB prior to impacting state- or federally-regulated waters. If on-site restoration would occur, it would be accomplished through implementation of a Habitat Revegetation, Restoration, and Monitoring Program as contained in AMM BIO-8.

5.3 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

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

The SCR, Sand Canyon Creek, and two unnamed drainages (Ephemeral Drainage 1 and Intermittent Drainage 1) within the APE are potentially subject to the jurisdiction of USACE, RWQCB, and/or CDFW. Project construction would involve the installation of a new sewer line and access road along the northern bank of the SCR, and would include soil cement bank protection and rock slope protection for the proposed sewer line and access road where the SCR bank is unstable and subject to scouring (Appendix D, Photographs 15 and 28). Above-ground portions of manholes associated with the existing sewer line within the active channel of the SCR will be cut approximately two feet below the riverbed surface, and subsequently capped. The project also includes the development of two bridges where the access road crosses Intermittent Drainage 1 and Ephemeral Drainage 1. Two pre-cast arch design bridges and bridge footings would be installed where the access road crosses these drainage features. Permanent and temporary impacts to potentially jurisdictional features are shown in Figure 6a-Figure 6b, as well as in Table 6 and Table 7 below.

Table 6 Permanent Impacts to Potentially Jurisdictional Areas

Feature	USACE Jurisdiction		RWQCB Jurisdiction		CDFW Jurisdiction
	Non-Wetland Waters of the U.S. (acres/linear feet)	Wetland Waters of the U.S. (acres)	Non-Wetland Waters of the State (acres/linear feet)	Wetland Waters of the State (acres)	Streambed and Associated Riparian Habitat (acres/linear feet)
Santa Clara River	0.28/1,022	0	0.51/1,384	0	1.07/2,205
Intermittent Drainage 1	0/0	0.01	0/0	0.01	0.05/61
Ephemeral Drainage 1	0/0	0	0.02/104	0	0.07/110
Total	0.28/1,022	0.01	0.53/1,488	0.01	1.19/2,376

Table 7 Temporary Impacts to Potentially Jurisdictional Areas

Feature	USACE Jurisdiction		RWQCB Jurisdiction		CDFW Jurisdiction
	Non-Wetland Waters of the U.S. (acres/linear feet)	Wetland Waters of the U.S. (acres)	Non-Wetland Waters of the State (acres/linear feet)	Wetland Waters of the State (acres)	Streambed and Associated Riparian Habitat (acres/linear feet)
Santa Clara River	0.45/1,334	0	1.16/1,453	0	1.47/1,765
Intermittent Drainage 1	0/0	0.01	0/0	0.01	0.11/214
Ephemeral Drainage 1	0/0	0	0.01/70	0	0.05/106
Total	0.45/1,334	0.01	1.17/1,523	0.01	1.63/2,085

Prior to ground disturbance activities that could impact these features, SCV Water should consult with the appropriate regulatory agencies (USACE, Los Angeles RWQCB, and/or CDFW) anticipated to assert jurisdiction over the features. The project is anticipated to require a Lake and Streambed Alteration Agreement from the CDFW, a Water Quality Certification under Clean Water Act Section 401 from the Los Angeles RWQCB, and verification from the USACE under Nationwide Permit 58. Based on such consultation, any required permits must be obtained prior to disturbance of jurisdictional resources. With implementation of AMM BIO-8 and AMM BIO-9 and adherence to agency permits and existing regulations, potential direct and indirect impacts to jurisdictional waters and wetlands would be reduced to a less-than-significant level.

5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

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

Wildlife movement corridors can be both large- and small-scale. At the regional/landscape-level scale, the APE is included as a relatively less permeable Essential Connectivity Area in the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010). Habitat corridors are present within the APE, notably including the SCR. The SCR has headwaters in the San Gabriel Mountains and flows westward approximately 84 miles to the Oxnard Plain, where it discharges into the Pacific Ocean. This is the largest river system in southern California that remains in a relatively natural state, and it connects highly diverse habitat types.

The SCR provides a valuable movement and migration corridor for many types of wildlife, including terrestrial, semi-aquatic, and aquatic species. Construction activities would not occur within the bed of the SCR, as project components only occur along the northern bank (i.e., soil cement bank protection) or above the northern bank (i.e., sewer line installation, access road development). Additionally, construction activities would be short-term and would only occur during the daytime. Project construction would not result in a decrease in the function of the corridor for wildlife movement, as the optimal path for wildlife movement (i.e., SCR) would remain intact during implementation of the project. Migrating wildlife would have the ability to traverse around the work area (i.e., to the south) during construction and continue migrating through the SCR channel. In

addition, implementation of BMPs in accordance with AMM BIO-1, including measures to prevent wildlife entrapment (e.g., sloping trenches) and shielding/directing light downward, would reduce potentially significant impacts to wildlife movement to a less-than-significant level.

Moreover, with implementation of AMM BIO-5, construction along the northern bank of the SCR bed will only occur when the river is dry (i.e., no flowing water). Therefore, impacts to resident or migratory fish would be less than significant.

Project operation would not increase activities that could impact wildlife movement beyond existing conditions. The project would be located below ground and would not 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. Impacts would be less than significant.

5.5 Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

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

City of Santa Clarita General Plan and Vista Canyon Specific Plan

The objectives and policies of the City of Santa Clarita General Plan and Vista Canyon Specific Plan focus on conservation of existing natural areas; restoration of damaged natural vegetation; protection of wetlands, oak trees, and other indigenous woodlands and endangered or threatened species and habitat; and protection of biological resources in SEAs and significant wildlife corridors. With implementation of AMMs BIO-1 through BIO-9, impacts to biological resources would be less than significant and the project would not conflict with policies protecting biological resources in the City of Santa Clarita General Plan and Vista Canyon Specific Plan. Impacts would therefore be less than significant with mitigation incorporated.

City of Santa Clarita Oak Tree Preservation Ordinance and Parkway Trees Ordinance

One coast live oak tree was documented in the APE to the northeast of the easternmost bore pit location. This tree, including its protected zone, does not occur within any proposed work area, and will not be impacted by the project. Additionally, the majority of the APE occurs within private property where the City's Parkway Trees Ordinance does not apply. A small component of the APE along an unpaved access road in the western portion of the APE occurs within public property, and no trees protected by the City's Parkway Trees Ordinance occur in this area. As such, the project would not conflict with the City's Oak Tree Preservation Ordinance and Parkway Trees Ordinance, and no further actions are recommended.

Significant Ecological Areas

Project construction would potentially affect the Santa Clara River SEA and its biological resources due to construction activity in the APE. While the project would not be subject to the City's building and zoning ordinances (Santa Clarita Municipal Code Titles 17 and 18) pursuant Government Code Section 53091, SCV Water would voluntarily comply with the City's code through the

implementation of measures to reduce impacts (refer to AMMs BIO-1 through BIO-9) such that the project would be compliant with the City's code.

5.6 Habitat Conservation Plans

The proposed project would have a significant effect on biological resources if it would:

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

The APE is not located within any Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan area. Therefore, no impact would occur, and no mitigation measures are recommended.

6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDDB, may vary with regard to accuracy and completeness. In particular, the CNDDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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8 List of Preparers

Rincon Consultants, Inc.

Primary Author

- Kyle Gern, Biologist

Technical Review

- Robin Murray, Senior Biologist/Botanist
- Steven J. Hongola, Principal Biologist

Graphics

- Emily Gaston, Senior GIS Analyst

Publishing

- Debra Jane Seltzer, Publishing Specialist
- Yaritza Ramirez, Publishing Specialist

Field Reconnaissance Survey

- Kyle Gern, Biologist

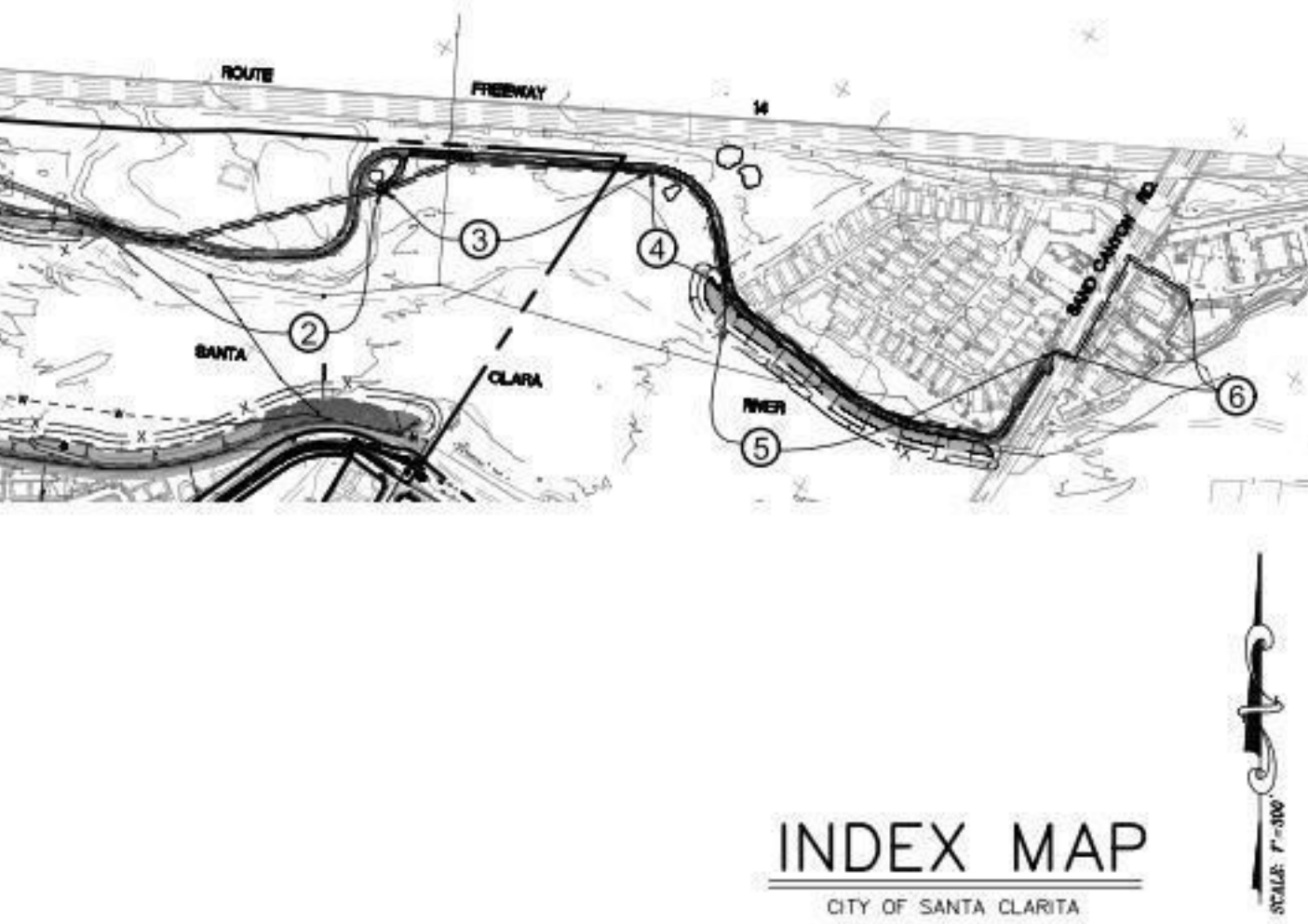
Jurisdictional Evaluation

- Kyle Gern, Biologist

Appendix A

Site Plans

BENCHMARK: L 1668
DESCRIPTION: CS MON IN WELL 250MM DN
PI 600MM EAST OF CENTERLINE
LOCATION: SAND CANYON ROAD AND 161M NORTH OF
SAND CANYON ROAD 8.2M
NORTHWEST OF POWER POLE #1155006
MKD (PI 24)
ELEVATION: 1586.011 DATUM: NAVD 88 (1995 ADJ.)



NOTES: CIRCLED NUMBERS INDICATE PAGE NUMBERS.
ALL MAINLINE SANITARY SEWERS ARE WITHIN
THE SANITARY SEWER EASEMENT
* SEWER LINE NOT TO BE MAINTAINED BY CSDM UNTIL
UPSTREAM MANHOLE IS BUILT

SCALE: 1" = 500' INDEX 1334 & 1335
P.C. 06-11 TR. NO. S. 69164
THOMAS GUIDE PAGE: 4551-A3 & B3 (2003)

PRIVATE ENGINEERS NOTICE TO CONTRACTORS:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS IS REQUIRED BY A SEARCH OF AVAILABLE RECORDS TO THE BEST OF OUR KNOWLEDGE. THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THIS MAP. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING. PRIOR TO EXCAVATION THE CONTRACTOR SHALL CALL TOLL FREE 1-800-422-4133 TO VERIFY THE UNDERGROUND LOCATION OF GAS AND TELEPHONE LINES. THE CONTRACTOR SHALL ALSO CALL MR. RAY CUMMINGS OF GENERAL TELEPHONE COMPANY AT 1-805-948-4871 SO THAT THEY CAN MARK THE LOCATION OF UNDERGROUND TELEPHONE LINES.

PROJECT/ENGINEER RCE NO 51929 DATE 3/5/2025

STORMWATER POLLUTION PLAN NOTES

- EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORMWATER FROM THE PROJECT SITE AT ALL TIMES.
- ERODIBLE SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
- STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
- FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEMS.
- EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
- TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
- SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- ANY SLOPES WITH DISTURBED SOILS DENuded OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
- THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CALIFORNIA BMP HANDBOOK (CONSTRUCTION) OR CALTRANS STORMWATER QUALITY HANDBOOKS (CONSTRUCTION SITE BMP MANUAL), MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE PROJECT ENGINEER OR THE BUILDING OFFICIAL).

EROSION CONTROL

- E01 SCHEDULING
- E02 PRESERVATION OF EXISTING VEGETATION
- E03 HYDRAULIC MULCH
- E04 HYDROSEEDING
- E05 SOIL BINCERS
- E06 STRAW MULCH
- E07 GEOTEXTILES & MATS
- E08 WOOD MULCHING
- E09 EARTH Dikes AND DRAINAGE SWALES
- E10 VELOCITY DISPERSION DEVICES
- E11 SLOPE DRAINS
- E12 STREAMBANK STABILIZATION
- E13 RESEEDING
- E14 COMPOST BLANKETS
- E15 SOIL PREPARATION/ROUGHENING
- E16 NON-VEGETATED STABILIZATION

WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL

- W01 WIND EROSION CONTROL
- W02 EQUIPMENT TRACKING CONTROL

NON-STORM WATER MANAGEMENT

- N01 WATER CONSERVATION PRACTICES
- N02 DRAINAGE OPERATIONS
- N03 PAVING AND GRADING OPERATIONS
- N04 TEMPORARY STREAM CROSSING
- N05 CLEAR WATER DRAINAGE
- N06 LILOUT CONNECTION/DISCHARGE
- N07 POTABLE WATER/IRRIGATION
- N08 VEHICLE AND EQUIPMENT CLEANING
- N09 VEHICLE AND EQUIPMENT FUELING
- N10 VEHICLE AND EQUIPMENT MAINTENANCE
- N11 FILL DRIVING OPERATIONS
- N12 CONCRETE CURING
- N13 CONCRETE FINISHING
- N14 MATERIAL AND EQUIPMENT USE
- N15 DEMOLITION ADJACENT TO WATER
- N16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT AND MATERIALS

- W01 MATERIAL DELIVERY AND STORAGE
- W02 MATERIAL USE
- W03 STOCKPILE MANAGEMENT
- W04 SPILL PREVENTION AND CONTROL
- W05 SOLID WASTE MANAGEMENT
- W06 HAZARDOUS WASTE MANAGEMENT
- W07 CONTAMINATION SOIL MANAGEMENT
- W08 CONCRETE WASTE MANAGEMENT
- W09 SANITARY/SEPTIC WASTE MANAGEMENT
- W10 LIQUID WASTE MANAGEMENT

TEMPORARY SEDIMENT CONTROL

- S01 SILT FENCE
- S02 SEDIMENT BASIN
- S03 SEDIMENT TRAP
- S04 CHECK DAM
- S05 FIBER ROLLS
- S06 GRAVEL BAG BERM
- S07 STREET SWEEPING AND VACUUMING
- S08 SANDBAG BARRIER
- S09 STRAW BALE BARRIER
- S10 STORM DRAIN INLET PROTECTION
- S11 ACTIVE TREATMENT SYSTEMS
- S12 TEMPORARY SILT Dike
- S13 COMPOST SOCKS & BERMS
- S14 BOOT/SHOE BASS

BACKWATER VALVES SHALL BE NECESSARY FOR LOTS LABELED WITH BWV

ISSUE NO HOUSE LATERAL CONNECTION PERMITS UNTIL PROPOSED SEWER IS ACCEPTED FOR PUBLIC USE BY THE CITY OF SANTA CLARITA.

NOTICE TO CONTRACTOR: PRIOR TO ABANDONING THE EXISTING SEWER LINES, NEW SEWER LINES MUST BE CONSTRUCTED TO REDIRECT THE SEWER FLOW FROM THE EXISTING SEWER LINES.

THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF PC 23-01 SANITARY SEWER UNTIL THE COUNTY FORMALLY ACCEPTS IT FOR MAINTENANCE. ALL MAINLINE, MANHOLES AND LATERALS SHALL BE PROTECTED FROM DAMAGE AND INFILTRATION.

EXISTING SEWER SYSTEM SHALL BE OPERATIONAL AT ALL TIMES DURING CONSTRUCTION/RECONSTRUCTION. NOTIFY AFFECTED HOMEOWNERS AT LEAST 72 HRS IN ADVANCE.

ANY DAMAGE TO THE SEWER LINE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR/OWNER. ALL GRADING AND CONSTRUCTION OCCURRING OVER AND THE VICINITY OF THE EXISTING SEWER SHALL BE PERFORMED IN THE PRESENCE OF A COUNTY INSPECTOR. WHERE APPLICABLE, THE SEWERS SHALL BE PROTECTED PER STD. PLAN 2023-2 AT ALL SIGNIFICANT CROSSINGS.

CONTRACTOR TO PROTECT AND PRESERVE IN PLACE ALL EXISTING SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE RESET BY A LICENSED SURVEYOR AND THE APPROPRIATE CORNER RECORD MUST BE FILED WITH THE COUNTY OF LOS ANGELES.

PRIOR TO ACCEPTANCE OF ANY SANITARY SEWER LINE BY THE CITY OF SANTA CLARITA AN INSPECTION OF SAID LINE BY VIDEO SHALL BE REQUIRED AT NO COST TO THE CITY. ALL NEW MAINLINE SEWERS SHALL BE VIDEO INSPECTED. THE CCTV INSPECTION SHALL BE COMPLETED BY A CERTIFIED NATIONAL ASSOCIATION OF SEWER SERVICE COMPANY (NASSCO) PIPELINE ASSESSMENT AND CERTIFICATION PROGRAM (PACP) TRAINED OPERATOR(S) USING ESTABLISHED PACP CODING OBSERVATIONS. THE RESULTS OF THE VIDEO INSPECTION SHALL BE RECORDED IN DVD FORMAT AND A COPY SHALL BE PROVIDED TO THE CITY AND LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS SEWER MAINTENANCE DIVISION. CONDITION ASSESSMENT UNIT, FOR REVIEW AND APPROVAL. ANY NOTED DEFICIENCIES SHALL BE CORRECTED, THEN FOLLOWED BY A POST CORRECTION VIDEO TO BE SUBMITTED FOR REVIEW AND APPROVAL. THE DEVELOPER OF THE PROJECT SHALL NOTIFY THE CITY IN WRITING AT LEAST 24 HOURS IN ADVANCE OF THE SCHEDULED DATE OF THE VIDEO INSPECTION.

ALL SANITARY SEWER MANHOLE SHAFTS AND FRAMES SHALL BE WATER TIGHT WITH APPROVED JOINT SEALING COMPOUND OR APPROVED EQUAL BY COUNTY PUBLIC WORKS.

PRIVATE CONTRACT SEWER GENERAL NOTES

- A SEWER CONSTRUCTION PERMIT SHALL BE OBTAINED AND A FEE PAID FOR CONSTRUCTION INSPECTION AND RECORD PLANS TO THE CITY OF SANTA CLARITA, ENGINEERING SERVICES DIVISION, 2300 VALLEJO BLVD., SUITE 140, SANTA CLARITA, AT LEAST 72 HOURS PRIOR TO STARTING WORK UNDER THIS PERMIT. COPIES OF ALL OTHER REQUIRED PERMITS, SUCH AS ROAD EXCAVATION, CALTRANS, ETC. MUST BE FILED WITH THE PERMIT APPLICATION.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF SANTA CLARITA PUBLIC WORKS INSPECTION BY PHONE AT (661) 255-4942 AT LEAST 24 HOURS PRIOR TO START OF WORK.
- CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICES ALERT (USA) AT (800) 227-2600 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO START OF WORK. CONTRACTOR SHALL CONTACT USA EVERY 28 DAYS FOR UPDATES.
- PRIOR TO ISSUANCE OF THE REQUIRED SEWER CONSTRUCTION PERMIT, THE CONTRACTOR SHALL FILE A PERMIT FOR EXCAVATIONS AND TRENCHES FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND A CERTIFICATE OF WORKERS COMPENSATION INSURANCE WITH THE CITY OF SANTA CLARITA NAMED AS THE CERTIFICATE HOLDER. THE CITY OF SANTA CLARITA SHALL BE NOTIFIED 30 DAYS PRIOR TO CANCELLATION OF THE INSURANCE POLICY.
- IF WORK IS DONE IN A STATE HIGHWAY, A PERMIT MUST BE OBTAINED FROM THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, 120 SOUTH SPRING STREET, LOS ANGELES, CALIFORNIA.
- APPROVAL OF THIS PLAN BY THE CITY OF SANTA CLARITA DOES NOT CONSTITUTE A REPRESENTATION AS TO ACCURACY OF THE LOCATION OF OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", INCLUDING SUPPLEMENTS AND THE LATEST "SPECIAL PROVISIONS FOR THE CONSTRUCTION OF SANITARY SEWERS", AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE CITY OF SANTA CLARITA.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENT" AS SHOWN ON COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 6008-1.
- ELEVATIONS ARE IN FEET ABOVE U.S.C. AND G.S. SEA LEVEL, DATUM OF 1988.
- NO REVISIONS SHALL BE MADE IN THESE PLANS WITHOUT THE APPROVAL OF THE CITY ENGINEER.
- NO REPRESENTATIVE OF THE CITY OF SANTA CLARITA WILL SURVEY OR LAY OUT ANY PORTION OF THE WORK.
- GRADES TO WHICH THIS IMPROVEMENT IS TO BE CONSTRUCTED ARE SHOWN ON PLANS AND PROFILES. GRADE POINTS FOR TOP OF CURBS, CENTERLINE OF STREETS, OR CENTERLINE OF ALLEYS ARE SHOWN BY CIRCLES ON PROFILES AT ALL POINTS BETWEEN SAID DESIGNATED POINTS. THE GRADE SHALL BE ESTABLISHED SO AS TO CONFORM TO A STRAIGHT LINE DRAWN BETWEEN SAID DESIGN POINTS.
- THE PRIVATE ENGINEER SHALL FURNISH THE CITY OF SANTA CLARITA'S ENGINEERING SERVICES DIVISION WITH GRADE SHEETS AND STATIONING FOR ALL HOUSE LATERALS AND "Y" AND "T" BRANCHES, AND SHALL PROVIDE STAKES FOR THEM AT THEIR PROPER LOCATIONS WITH STATIONING PLAINLY MARKED. ALL HOUSE LATERALS SHALL BE CONSTRUCTED IN A STRAIGHT ALIGNMENT AT RIGHT ANGLES FROM THE MAIN LINE SEWER EXCEPT AS SHOWN ON THE PLANS. HOUSE LATERALS FROM CHIMNEYS SHALL NOT HAVE AN ANGLE OF LESS THAN 45 DEGREES WITH MAIN LINE SEWERS. ANY CHANGE IN ALIGNMENT SHALL BE REQUESTED IN WRITING BY THE PRIVATE ENGINEER.
- THE PRIVATE ENGINEER SHALL FURNISH THE HOUSE LATERAL DEPTH AT THE PROPERTY LINE BELOW THE TOP OF THE CURB ELEVATION FOR EACH HOUSE LATERAL ON THE GRADE SHEET.
- AN APPROVED BACKWATER VALVE IS REQUIRED WHEN THE PAD IS LOWER IN ELEVATION THAN THE TOP OF THE NEXT UPSTREAM MANHOLE.

CONSTRUCTION NOTES

- CONTRACTOR SHALL PROVIDE SURVEY STAKES ON THE PROPERTY LINE OR PROPERTY LINES PRODUCED AT RIGHT ANGLES TO THE SEWER LINE AT THE CENTERLINE OF EACH MANHOLE.
- VERIFIED CLAY PIPE JOINTS SHALL BE TYPE "D" OR "OT" IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" SECTION 208-2.
- IF A POWER POLE IS WITHIN THREE FEET OF THE SEWER, THE SEWER SHALL BE ENCASED PER LADPW STANDARD PLAN 2023-2, CASE LL, TWO FEET ON EACH SIDE FROM THE POINT OF INTERFERENCE.
- ALL JOINTS BETWEEN CAST-IRON PIPE AND VERIFIED CLAY SHALL BE MADE WITH A RUBBER SLEEVE JOINT, TYPE "D" (WITH BUSHING IF NECESSARY) PER "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" SECTION 208-2.
- HOUSE LATERALS TO BE CONSTRUCTED WITH INVERTS AT THE PROPERTY LINE SIX FEET BELOW CURB GRADE, EXCEPT AS NOTED.
- WYE OR TEE BRANCHES MAY BE USED FOR CONNECTIONS TO THE MAINLINE SEWERS, EXCEPT AS NOTED.
- IF DURING THE COURSE OF CONSTRUCTION, IT IS DETERMINED THAT THERE IS LESS THAN FOUR FEET OF COVER OVER THE TOP OF A MAINLINE OR HOUSE LATERAL V.C.P. SEWER WHICH IS NOT INDICATED ON THE PLANS, THE PIPES SHALL BE ENCASED PER LADPW STANDARD PLAN 2023-2, CASE LL, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- ALL STRUCTURES SHALL BE EITHER BRICK SEWER MANHOLES PER SPFWC STANDARD PLAN 2003-2, OR PRECAST CONCRETE SEWER MANHOLES PER SPFWC STANDARD PLAN 2000-3, OR REINFORCED PRECAST MANHOLE PER LADPW STANDARD PLAN 2003-2, EXCEPT AS NOTED.
- REUSE/REPAIR ALL TRENCHES WITHIN PAVED AREAS TO MEET THE CITY OF SANTA CLARITA, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS, OR CALTRANS REQUIREMENTS IN ACCORDANCE WITH THE PERMITS.
- FULL COMPLIANCE WITH SECTION 306-1.3.4 OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" WILL BE REQUIRED FOR BACKFILL IN STREET. CERTIFICATION OF BACKFILL COMPACTION, AND SAND EQUIVALENTS BY A QUALIFIED CIVIL ENGINEER SHALL BE PROVIDED BY THE PERMITTEE PRIOR TO THE ISSUANCE OF A CERTIFICATE OF PARTIAL ACCEPTANCE.
- ALL BACKFILL AND FILLS OUTSIDE OF THE STREET RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM SOIL COMPACTION TEST D 1557-78 METHOD "D", UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A QUALIFIED CIVIL ENGINEER. THIS CERTIFICATION SHALL BE SUBMITTED TO THE CITY OF SANTA CLARITA'S ENGINEERING SERVICES DIVISION PRIOR TO ACCEPTANCE OF THE WORK BY THE CITY.
- MANHOLE TOPS IN UNIMPROVED RIGHT-OF-WAY IS TO BE SIX INCHES ABOVE FINISHED GRADE.
- SEWERS TO BE TESTED FOR LEAKAGE PER SECTION 306-1.4.4 OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND "SPECIAL PROVISIONS FOR THE CONSTRUCTION OF SANITARY SEWER".
- MANHOLE TOPS IN IMPROVED RIGHT-OF-WAY IS TO BE LEVEL WITH FINISHED GRADE.
- ALL WYES AND/OR HOUSE LATERALS ARE TO BE LOCATED AT LEAST FIVE (5) FEET APART AND NOT CLOSER THAN FIVE (5) FEET TO ANY MANHOLE.
- COMPLY WITH THE REQUIREMENTS OF STANDARD DRAWING 2100-0, "DESIGN REQUIREMENTS FOR SANITARY SEWERS IN THE VICINITY OF PRESSURE WATER MAIN", AND COMPLY WITH THE REQUIREMENTS.

** FUTURE CONNECTION - ISSUE NO H.L. PERMIT. MAINLINE MUST BE EXTENDED AND MANHOLE CONSTRUCTED (8" PRIVATE MAINLINE TO BE PRIVATELY OWNED AND MAINTAINED)

** ACCEPTANCE OF THIS 8" LINE FOR COUNTY MAINTENANCE IS CONTINGENT UPON MEETING ALL CONSTRUCTION AND INSPECTION REQUIREMENTS FOR THE FUTURE UPSTREAM SYSTEM.

SANITARY SEWERS

TO BE CONSTRUCTED IN

THE CITY OF SANTA CLARITA

SAND CANYON PC NO. XX-XX

INDEX 1334 & 1335

5 SHEETS: 10 PAGES

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
CONSOLIDATED SEWER MAINTENANCE DISTRICT
REVIEWED FOR MAINTENANCE

REVIEWED BY OFFICE ENGINEER DATE

CITY OF SANTA CLARITA
APPROVED FOR CONSTRUCTION

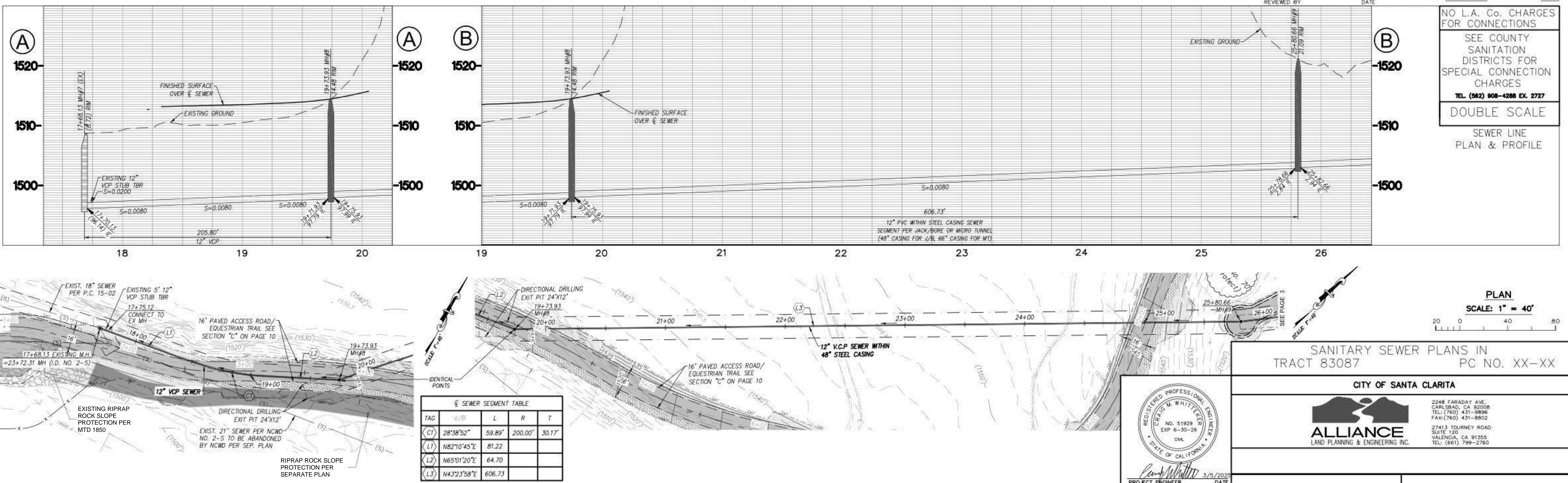
DAMON LETZ CITY ENGINEER DATE

PLAN CHECKER DATE

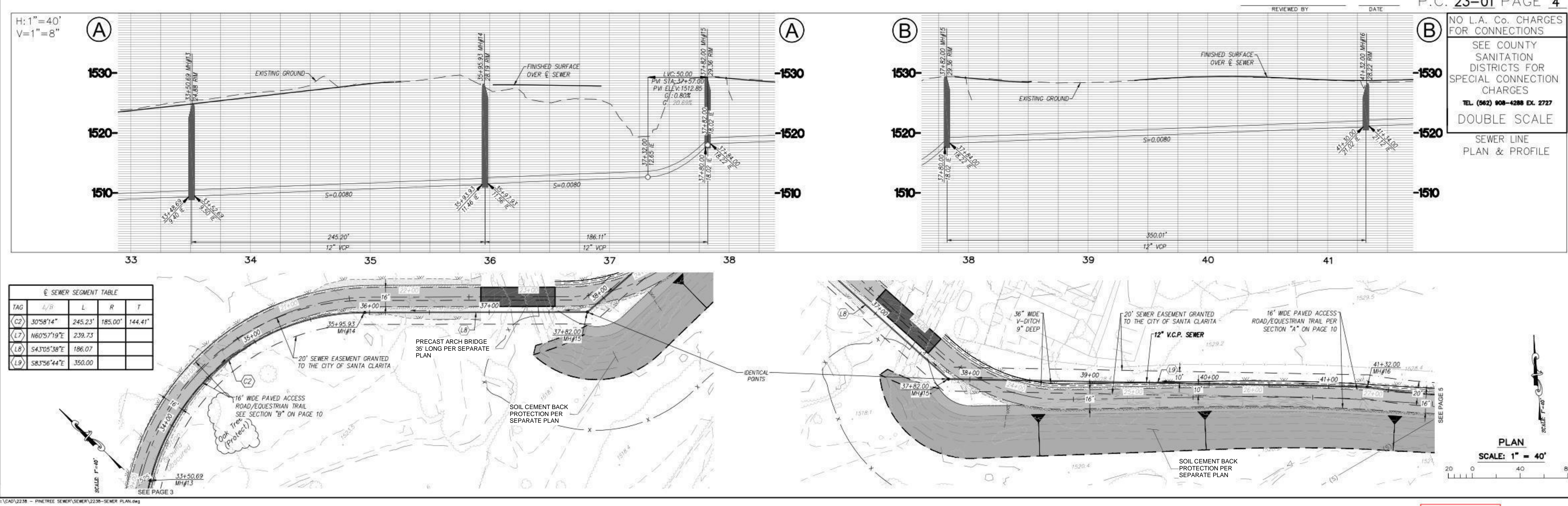
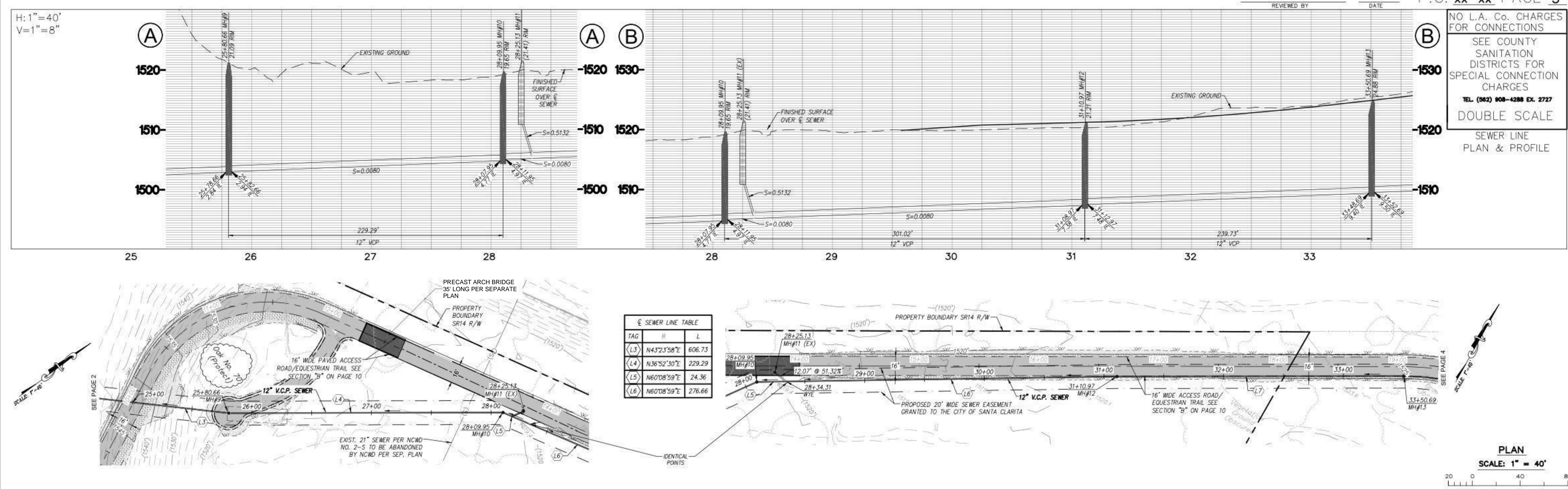
SANTA CLARITA VALLEY SANITATION DISTRICT
OF LOS ANGELES COUNTY, CALIFORNIA
ROBERT C. FERRANTE-CHIEF ENGINEER AND GENERAL MANAGER

APPROVED BY OFFICE ENGINEER DATE

IN ACCORDANCE WITH RESOLUTION NO. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN AMENDMENT PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.

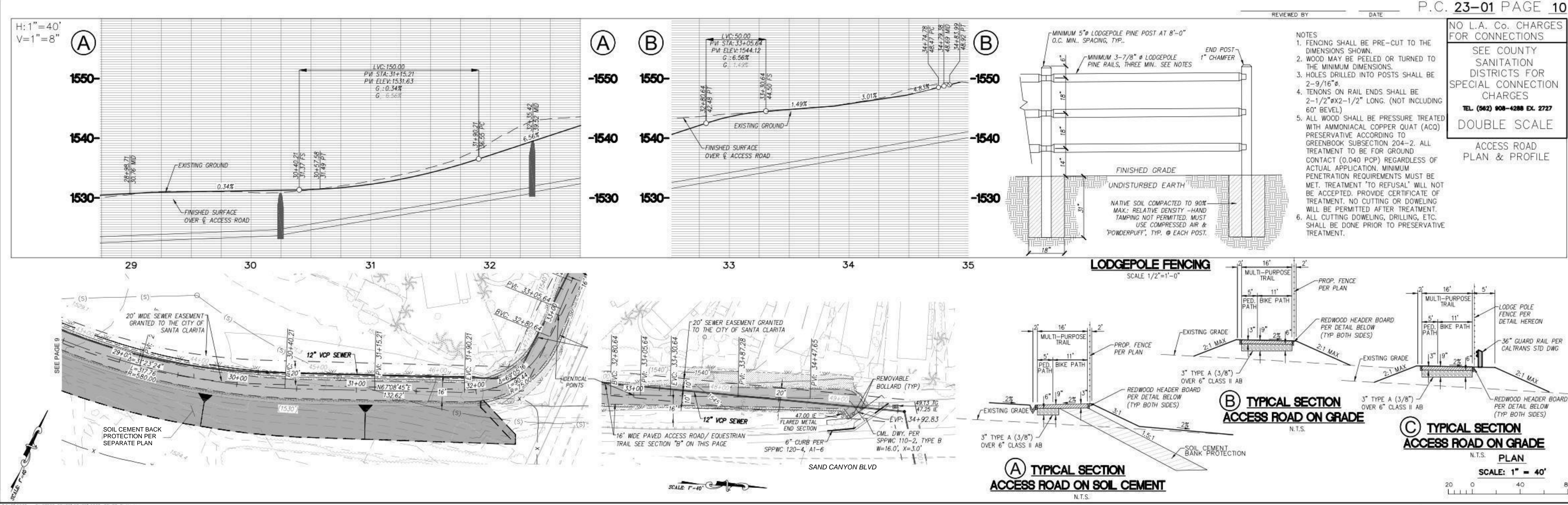
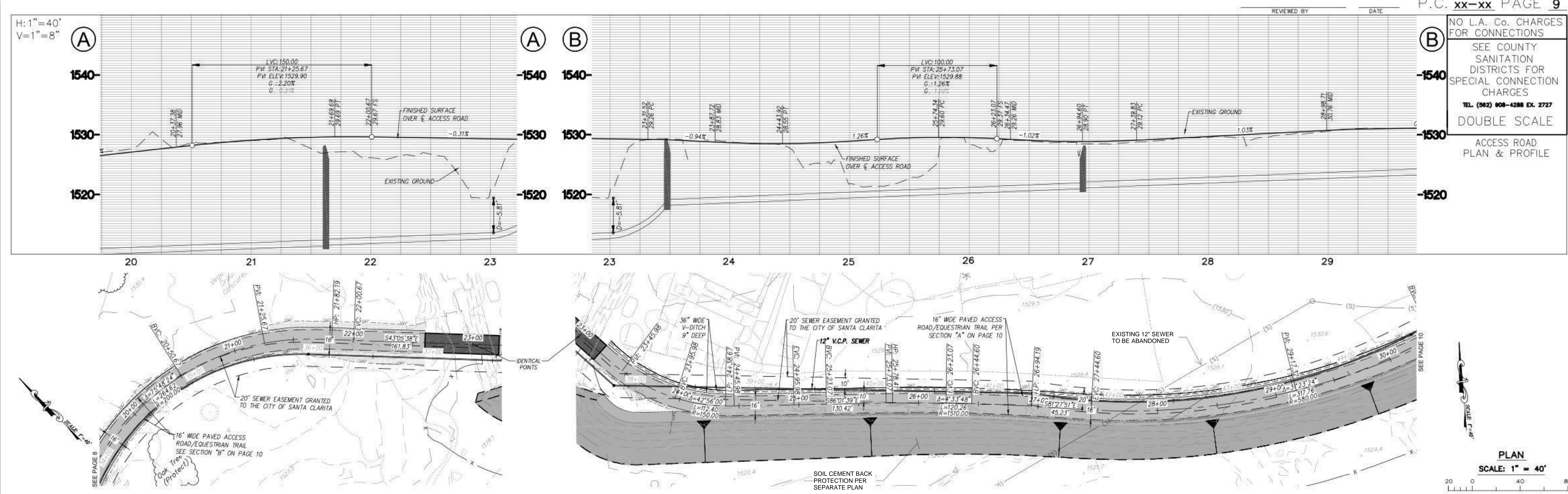


TRACT NO. 69164 PC XX-XX



60% SET

TRACT NO. 69164 PC XX-XX



60% SET

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STD19-00XXX



LOCATION MAP
N.T.S.

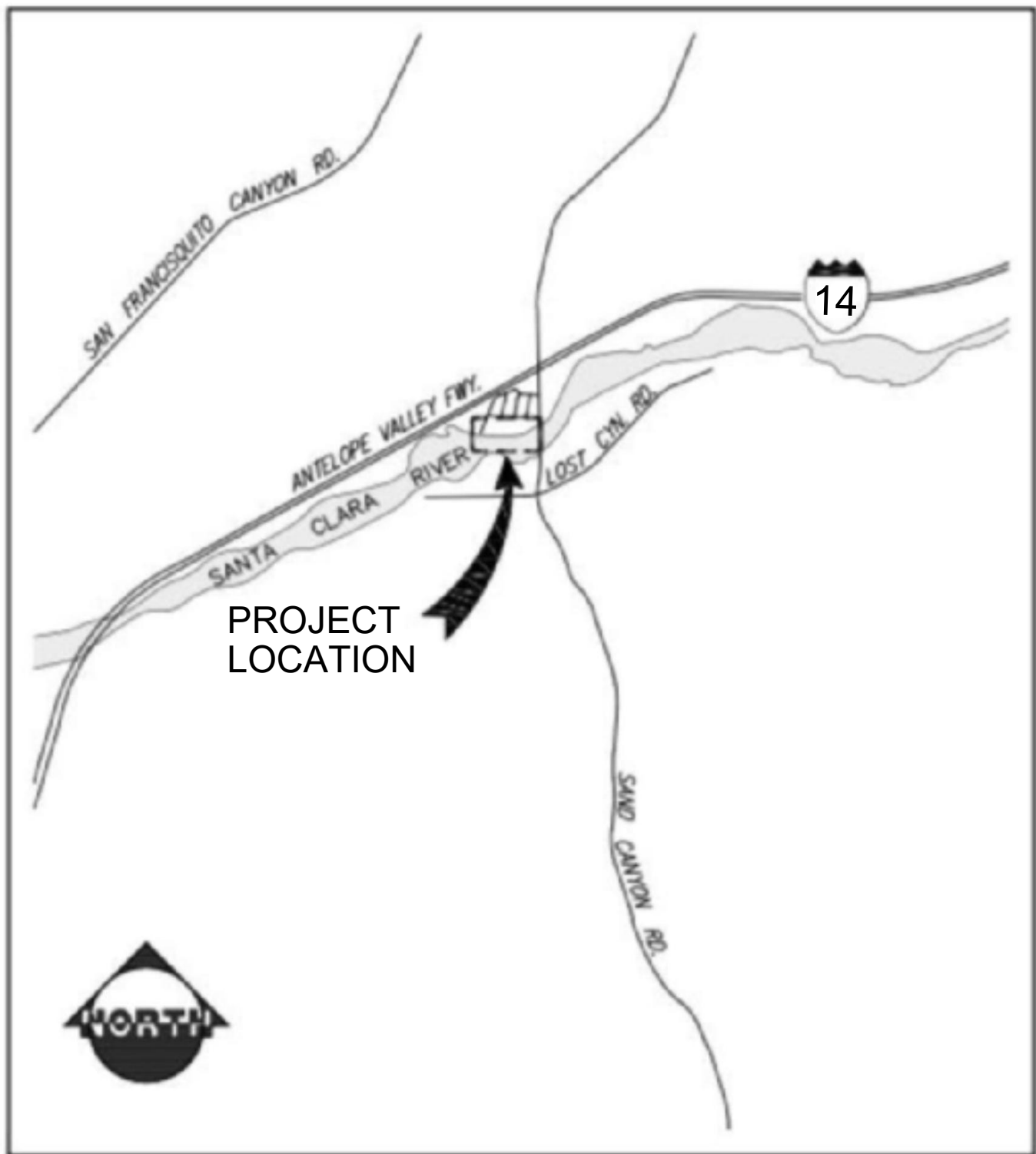
INDEX TO STANDARD DRAWINGS
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DWG. NO.	DESCRIPTION
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AMERICAN PUBLIC WORKS ASSOCIATION

STD. PLAN	TITLE
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CITY OF SANTA CLARITA
SOIL CEMENT BANK PROTECTION PLANS
TRACT No. XXXXX M.T.D.
No. XXXX



KEY MAP

SCALE: 1"=2000'

SHEET LIST TABLE

SHEET NO.	DESCRIPTION
01	TITLE SHEET
02	GENERAL NOTES AND SPECIFICATIONS
03	SOIL CEMENT SPECIFICATIONS
04	SOIL CEMENT SPECIFICATIONS
05	SOIL CEMENT SPECIFICATIONS
06	SHEET INDEX
07	PLAN AND PROFILE
08	PLAN AND PROFILE
09	BANK PROTECTION SECTIONS
10	BACKFILL GRADING PLAN
11	PLAN AND PROFILE
12	ROCK SLOPE PROTECTION SECTIONS
13	MISCELLANEOUS DETAILS

LIMIT OF CONSTRUCTION LINE NOTE

OWNER TO STAKE AND FENCE LIMIT OF CONSTRUCTION LINE BASED UPON COORDINATE DATA PROVIDED BY PROJECT ENGINEER. FENCE SHALL BE TANAX "BEACON PLUS", ORANGE, W/ MFG SUGGESTED FENCE POSTS OR EQUIVALENT APPROVED BY ENGINEER. CONTRACTOR SHALL NOT ENCR OACH BEYOND THE LIMIT OF CONSTRUCTION LINES WITHOUT PRIOR WRITTEN APPROVAL.

TOPOGRAPHY NOTE

CONTOURS SHOWN ARE BASED ON AN AERIAL PHOTOGRAMETRIC SURVEY PERFORMED BY AEROTECH MAPPING INC. ON JUNE 12, 2024

RIPRAP NOTES

- ROCKS FOR GROUTED RIPRAP SHALL BE GOOD QUALITY BROKEN CONCRETE AND/OR RIVER RUN ROCK. THE SMALLEST DIMENSIONS SHALL EXCEED 6 INCHES AND THE LARGEST DIMENSION SHALL NOT EXCEED 24 INCHES. THE LARGEST DIMENSION SHALL NOT EXCEED 4 TIMES THE SMALLEST DIMENSION.
- THERE SHALL BE A GROUT BED OF AT LEAST 2 INCHES BENEATH THE FIRST LAYER OF ROCKS. ALL THE VOIDS BETWEEN THE ROCKS SHALL BE FILLED WITH GROUT. MAXIMUM SPACING BETWEEN ROCKS SHALL BE 2 INCHES.
- SURFACE ROCKS SHALL BE EMBEDDED FROM 1/2 TO 3/4 OF THEIR MAXIMUM DIMENSION.

NOTE: CONCRETE MAY BE SUBSTITUTED FOR GROUT.

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THIS MAP. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR SHOWN ON THIS DRAWING.

RCE SIGNATURE

DATE

BENCH MARKS

BENCHMARK: L 1668
DESCRIPTION: CS MON IN WELL 250MM DN @ PI 600MM EAST OF CENTERLINE
LOCATION: SAND CANYON ROAD AND 161M NORTH OF LIVE OAK SPRINGS CANYON ROAD 8.2M NORTHEAST OF POWER POLE #1155006E MKD (PI 24)
ELEVATION: 1586.011 DATUM: NAVD 88 (1995 ADJ.)



GEOTECHNICAL REVIEW BY:
R.T. FRANKAN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91350
(818) 531-1501
www.rtfankan.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLUCKA RCE # 2558

DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



PRELIMINARY NOT FOR CONSTRUCTION
PROJECT ENGINEER DATE

IN ACCORDANCE WITH RESOLUTION No. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA, DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN IMMUNITY PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.

NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ CITY ENGINEER	DATE OF EXECUTION

STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

SAND CANYON SEWER BANK PROTECTION
TITLE SHEET

DWG SHEET 01 OF 13

THESE DRAWINGS ARE THE PROPERTY OF P.A.C.E. AND SHALL NOT BE REPRODUCED IN ANY MANNER NOR BE USED FOR CONSTRUCTION UNLESS STAMPED "ISSUED FOR CONSTRUCTION"

GRADING NOTES:

1. A PERMIT SHALL BE OBTAINED AND ALL FEES AND DEPOSITS FOR CONSTRUCTION INSPECTION SHALL BE PAID TO THE DEPARTMENT OF PUBLIC WORKS AT THE PERMIT COUNTER, 900 SOUTH FREMONT AVENUE, 8TH FLOOR, PRIOR TO STARTING WORK UNDER THIS CONTRACT. ALSO, ALL OTHER REQUIRED PERMITS, SUCH AS ROAD EXCAVATION PERMITS, MUST BE OBTAINED PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE LISTED ON THE "APPLICATION FOR STORM DRAIN CONSTRUCTION INSPECTION FORM I" TO ARRANGE FOR AN ACCEPTABLE CONSTRUCTION START DATE.
3. APPROVAL OF THIS PLAN BY THE CITY OF SANTA CLARITA AND THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION TO THE ACCURACY OF THE LOCATION, OR THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.
4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (INCLUDING SUPPLEMENTS), AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS.
5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 6008.
6. ELEVATIONS ARE IN FEET ABOVE U.S.C. AND G.S. MEAN SEA LEVEL DATUM OF 1929 UNLESS OTHERWISE INDICATED.
7. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED, AND APPROVED.
8. ALL STRUCTURAL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
9. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
10. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE A 2-1/2-INCH CLEARANCE UNLESS OTHERWISE SPECIFIED.
11. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL, PER ASTM A615GRADE 60.
12. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE."
13. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTERLINE OF STEEL UNLESS OTHERWISE NOTED.
14. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18 INCHES, WHICHEVER IS GREATER.
15. ALL CONSTRUCTION JOINTS IN THE FOOTING OR SLABS AND WALLS SHALL BE IN THE SAME NO STAGGERING OF JOINTS WILL BE PERMITTED.
16. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4-INCH CHAMFER.
17. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.
18. CONCRETE BACKFILL IS REQUIRED WHEN THE PIPE HAS LESS THAN ONE-FOOT OF COVER. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX, PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE.
19. ALL PIPES SHALL BE PLACED IN TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE THE TOP OF THE PIPE ELEVATION OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS.
20. ALL BACKFILL AND RELATIVE COMPACTION FILLS OUTSIDE OF STREET RIGHT OF WAY SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM SOIL TEST D 1557-91 METHOD D UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A SOILS ENGINEER. THIS CERTIFICATION SHALL BE SUBMITTED TO THE CITY ENGINEER PRIOR TO ACCEPTANCE OF THE WORK BY THE COUNTY.
21. ALL BACKFILL AND FILLS WITHIN STREET RIGHTS OF WAY SHALL BE COMPACTED IN ACCORDANCE WITH CITY REQUIREMENTS UNLESS OTHERWISE NOTED AND INSPECTED BY THE CITY. THE SOIL COMPACTION SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
22. PIPE BEDDING SHALL BE:
IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN NO. 3092 UNLESS OTHERWISE NOTED. ACCORDING TO STANDARD PLAN NO. 3080, CASE III, EXCEPT BELL AND SPIGOT PIPE, WHICH SHALL BE CASE II BEDDING UNLESS OTHERWISE SHOWN. W VALUES SHALL BE AS SPECIFIED ON STANDARD PLAN NO. 3080 FOR CASE III BEDDING, NOTES 3 (A), 3 (B), AND 3 (C). IF THE W: VALUE AT THE TIP OF THE PIPE IS EXCEEDED, THE BEDDING SHALL BE MODIFIED AND/OR PIPE OF ADDITIONAL STRENGTH SHALL BE PROVIDED. THE PROPOSED MODIFICATION SHALL BE APPROVED BY PUBLIC WORKS.
23. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET AND HEAD WALLS UNLESS OTHERWISE SPECIFIED.

GRADING NOTES (CONT.):

24. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT IN PRECAST CONCRETE PIPE SHALL BE 1 INCH IN PIPE HAVING A WALL THICKNESS OF 2 1/2 INCHES OR GREATER AND 3/4 INCH IN PIPE HAVING A WALL THICKNESS OF LESS THAN 2 1/2 INCHES.
25. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHT OF WAY SHALL BE CONSTRUCTED PER THE STREET PLANS
26. THE CONTRACTOR SHALL PROVIDE TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS A DRAINAGE SYSTEM FOR CONTRIBUTORY FLOWS TO BE OPERABLE AT ALL TIMES UNTIL THIS STORM DRAIN SYSTEM IS ACCEPTED FOR MAINTENANCE. THE DESIGN OF THE DRAINAGE SYSTEM MUST BE PREPARED UNDER THE DIRECTION OF A CIVIL ENGINEER.
27. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE ELEMENTS OF PUBLIC WORKS.
28. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
29. WHERE THE UTILITIES ARE INDICATED ON THE DRAWINGS TO BE SUPPORTED, SAID SUPPORTS - SHALL BE IN ACCORDANCE WITH STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION 224 UNLESS OTHERWISE INDICATED.
30. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES, OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE UNLESS OTHERWISE SHOWN.MANHOLEs SHALL USE THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION NO. 630 FOR THE "FRAME AND COVER" AND NO. 635 FOR THE"STANDARD DROP STEP."
31. THIS STORM DRAIN WILL NOT BE FIELD ACCEPTED UNTIL THE STREETS HAVE BEEN PAVED, MANHOLEs BROUGHT TO GRADE, AND THE SYSTEM CLEANED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
33. A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD IS REQUIRED BEFORE ANY DISCHARGE OF NONSTORMWATER INTO THE STORM DRAIN IS ALLOWED.
34. THE LATEST REVISED STANDARD PLAN OR DRAWING SHALL BE USED UNLESS OTHERWISE NOTED.
35. THE SOILS ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.
36. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 630, 631, 632, AND 633 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.
37. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLAN 312 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER 'D'IN THE CENTER OF THE COVER.
38. ALL ABOVE GROUND FACILITIES SHALL BE STAMPED WITH THE DRAIN AND LINE NAME. THE LETTERING SHOULD BE 4"BLACK TEXT ON A YELLOW BACKGROUND.
39. EVERY 100 FEET STATIONS SHALL BE LABELED ON THE INSIDE OF ALL STORM DRAINS AND WALL OF OPEN CHANNELS. THE LETTERING SHOULD BE 4"BLACK TEXT ON A YELLOW BACKGROUND AND SHOULD BE PLACED IN THE SOFFIT OF PIPES AND THE TOP 2 FEET OF A CHANNEL WALL.
40. FOR ALL DEBRIS BASINS, THE 0%, 5%, AND 25% DEBRIS CONE ELEVATIONS SHALL BE LABELED ON THE CONCRETE FACING SLAB AND THE STAND PIPE.

STORMWATER POLLUTION CONTROL REQUIREMENTS

- A. NOTES:

1. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORMWATER FROM THE PROJECT SITE AT ALL TIMES.

2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.

3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.

4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.

5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.

6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.

7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.

8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
- B. THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CALIFORNIA BMP HANDBOOK (CONSTRUCTION) OR CALTRANS STORMWATER QUALITY HANDBOOKS (CONSTRUCTION SITE BMP MANUAL), MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE PROJECT ENGINEER OR THE BUILDING OFFICAL):

EROSION CONTROL

- EC1 SCHEDULING
- EC2 PRESERVATION OF EXISTING VEGETATION
- EC3 HYDRAULIC MULCH
- EC4 HYDROSEEDING
- EC5 SOIL BINDERS
- EC6 STRAW MULCH
- EC7 GEOTEXTILES & MATS
- EC8 WOOD MULCHING
- EC9 EARTH DIKES AND DRAINAGE SWALES
- EC10 VELOCITY DISSIPATION DEVICES
- EC11 SLOPE DRAINS
- EC12 STREAMBANK STABILIZATION
- EC13 RESERVED
- EC14 COMPOST BLANKETS
- EC15 SOIL PREPARATION\ROUGHENING
- EC16 NON-VEGETATED STABILIZATION

TEMPORARY SEDIMENT CONTROL

- SE1 SILT FENCE
- SE2 SEDIMENT BASIN
- SE3 SEDIMENT TRAP
- SE4 CHECK DAM
- SE5 FIBER ROLLS
- SE6 GRAVEL BAG BERM
- SE7 STREET SWEEPING AND VACUUMING
- SE8 SANDBAG BARRIER
- SE9 STRAW BALE BARRIER
- SE10 STORM DRAIN INLET PROTECTION
- SE11 ACTIVE TREATMENT SYSTEMS
- SE12 TEMPORARY SILT DIKE
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WIND EROSION CONTROL

- WE1 WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL

- TC1 STABILIZED CONSTRUCTION ENTRANCE EXIT
- TC2 STABILIZED CONSTRUCTION ROADWAY
- TC3 ENTRANCE/OUTLET TIRE WASH

NON-STORMWATER MANAGEMENT

- NS1 WATER CONSERVATION PRACTICES
- NS2 DEWATERING OPERATIONS
- NS3 PAVING AND GRINDING OPERATIONS
- NS4 TEMPORARY STREAM CROSSING
- NS5 CLEAR WATER DIVERSION
- NS6 ILLICIT CONNECTION/DISCHARGE
- NS7 POTABLE WATER/IRRIGATION
- NS8 VEHICLE AND EQUIPMENT CLEANING
- NS9 VEHICLE AND EQUIPMENT FUELING
- NS10 VEHICLE AND EQUIPMENT MAINTENANCE
- NS11 PILE DRIVING OPERATIONS
- NS12 CONCRETE CURING
- NS13 CONCRETE FINISHING
- NS14 MATERIAL AND EQUIPMENT USE
- NS15 DEMOLITION ADJACENT TO WATER
- NS16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIAL POLLUTION CONTROL

- WM1 MATERIAL DELIVERY AND STORAGE
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- WM3 STOCKPILE MANAGEMENT
- WM4 SPILL PREVENTION AND CONTROL
- WM5 SOLID WASTE MANAGEMENT
- WM6 HAZARDOUS WASTE MANAGEMENT
- WM7 CONTAMINATION SOIL MANAGEMENT
- WM8 CONCRETE WASTE MANAGEMENT
- WM9 SANITARY/SEPTIC WASTE MANAGEMENT
- WM10 LIQUID WASTE MANAGEMENT



GEOTECHNICAL REVIEW BY:
R.T. FRANKLIN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91355
(818) 531-1501
www.rtfraction.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLUCKA RCE # 2555

DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P. (714) 481-7300 | www.pacewater.com



PRELIMINARY NOT FOR CONSTRUCTION
PROJECT ENGINEER DATE

IN ACCORDANCE WITH RESOLUTION No. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA, DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN IMMUNITY PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.

NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

SAND CANYON SEWER BANK PROTECTION
GENERAL NOTES AND SPECIFICATIONS

DWG SHEET 02 OF 13

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SOIL CEMENT BANK PROTECTION SPECIFICATIONS

1.0 DESCRIPTION

THE WORK SHALL CONSIST OF THE CONSTRUCTION OF SOIL CEMENT BANK PROTECTION, AS REQUIRED BY THE PLANS, INCLUDING TRENCH EXCAVATION STRUCTURE EXCAVATION AND BACKFILL, AND DEWATERING. GEOTECHNICAL INVESTIGATION ANTICIPATES THE NECESSITY FOR DEWATERING IN SOME AREAS. CONTRACTOR SHOULD REVIEW GEOTECHNICAL INFORMATION AND MAKE ALLOWANCE FOR DEWATERING AS NECESSARY.

2.0 MATERIALS

2.1 PORTLAND CEMENT:

PORTLAND CEMENT SHALL BE TYPE II OR AS SPECIFIED BY THE SOILS ENGINEER AND SHALL COMPLY WITH THE LATEST SPECIFICATIONS FOR PORTLAND CEMENT (ASTM C150, CSA A-5, OR AASHTO M85).

2.2 WATER:

WATER SHALL BE CLEAR AND FREE FROM INJURIOUS AMOUNTS OF OIL, ACID, ALKALI, ORGANIC MATTER, OR OTHER DELETERIOUS SUBSTANCES. WATER SHALL CONTAIN NOT MORE THAN 1,000 PARTS PER MILLION OF CHLORIDES AS CL OR OF SULFATES AS SO3. WATER SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO T26, OR BE FROM A POTABLE SOURCE.

2.3 AGGREGATE:

THE SOIL USED IN THE SOIL CEMENT MIX SHALL NOT CONTAIN ANY MATERIAL RETAINED ON A THREE INCH SIEVE, NOR ANY ORGANIC OR DELETERIOUS MATERIAL. SOIL FOR SOIL CEMENT MAY BE OBTAINED FROM THE REQUIRED EXCAVATIONS, OR FROM OTHER BORROW AREAS APPROVED BY THE GEOTECHNICAL ENGINEER AND STOCKPILED ON THE JOB SITE AS SPECIFIED IN THE GEOTECHNICAL REPORT, AS SHOWN ON THE GRADING PLAN AS PREPARED BY THE CIVIL ENGINEER. ATTENTION IS DIRECTED TO THE FACT THAT NOT ALL MATERIAL EXCAVATED FROM THE BANK PROTECTION ALIGNMENT WILL BE ACCEPTABLE FOR USE AS THE SOIL COMPONENT OF THE SOIL CEMENT MIXTURE. AT THE CONTRACTORS' DISCRETION, EXCAVATED/BORROW AREA SOILS SHALL BE SCREENED BEFORE OR AFTER STOCKPILING, BUT PRIOR TO MIXING. AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER, THE ATTERBERG LIMITS TEST MAY BE PERFORMED TO DETERMINE THE PLASTICITY INDEX (PI). THE SOIL AGGREGATE SHALL HAVE A (PI) NO GREATER THAN EIGHT. IF SAMPLING INDICATES THAT AGGREGATE HAS A PERCENTAGE PASSING OF 20 OR GREATER ON THE NO. 200 SIEVE AND HAS A (PI) OF 5 OR GREATER, CONTRACTOR SHALL USE A ONE INCH SCREEN TO SCREEN OUT ANY CLAY BALLS GREATER THAN ONE INCH IN DIAMETER. ALTERNATELY, IF SAMPLING INDICATES THAT AGGREGATE HAS A PERCENTAGE PASSING OF 20 OR LESS ON THE NO. 200 SIEVE AND HAS A (PI) LESS THAN 5, CONTRACTOR SHALL USE THE THREE INCH SCREEN. IMPORT OF MATERIALS FROM ELSEWHERE ON-SITE SHOULD BE ANTICIPATED FOR THE SOIL CEMENT MIXTURE. THE ACTUAL SOIL TO BE USED SHALL BE ANALYZED BY LABORATORY TESTS IN ORDER TO DETERMINE THE JOB MIX AS SET FORTH HEREIN. THE DISTRIBUTION AND GRADATION OF MATERIALS IN THE SOIL CEMENT LINING SHALL NOT RESULT IN LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY IN TEXTURE OR GRADATION FROM SURROUNDING MATERIAL. THE CONTRACTOR SHALL PERFORM ANY SCREENING OR BLENDING AS NEEDED TO PRODUCE SOIL AGGREGATE MATERIALS MEETING THE GRADATION REQUIREMENT SPECIFIED HEREIN. STOCKPILES SHALL BE COMPLETED WITH THE MATERIAL NECESSARY TO MEET SOIL CEMENT REQUIREMENTS PRIOR TO TESTING.

THE GRADATION REQUIREMENTS OR SIEVE SIZE PERCENT PASSING (DRY WIGHT) OF SOIL AGGREGATE TO BE USED FOR SOIL CEMENT MIXTURE ARE THE FOLLOWING:

1" OR 3"	98% - 100%
(SEE SECTION 2.3 AGGREGATE)	
3/4"	80% - 100%
#4	60% - 90%
#40	30% - 50%
#200	5% - 20%

THE SAND EQUIVALENT SHALL BE A MINIMUM OF 15. THE SAND EQUIVALENT SHALL BE DETERMINED BY THE CALIFORNIA TEST METHOD 217 OR ASTM D 2419.

2.4 PROPORTIONING:

THE CONTRACTOR SHALL CONTROL PROPORTIONS OF SOIL AGGREGATE, CEMENT CONTENT, AND MOISTURE CONTENT IN ACCORDANCE WITH THE JOB MIX AS PROVIDED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL ALLOW A

MINIMUM OF EIGHT WORKING DAYS FOR THE CEMENT CONTENT RESULTS. DURING THE COURSE OF THE WORK, THE ENGINEER SHALL ADJUST THE JOB MIX PROPORTIONS WHENEVER NECESSARY IN ORDER TO ACHIEVE THE MINIMUM DESIGN STRENGTH SHOWN HEREIN. IN ADDITION, THE CONTRACTOR MAY BE REQUIRED TO BLEND DIFFERENT SOIL AGGREGATE MATERIAL TO MAINTAIN IDEAL SOIL GRADATIONS AS SPECIFIED ABOVE AND TO AVOID CEMENT OVERRUN. BLENDING SHALL REQUIRE CONSTRUCTION OF SEPARATE STOCKPILES FOR MATERIALS TO BE BLENDED. BLENDED AGGREGATE SHALL BE ACCOMPLISHED BY THE UTILIZATION OF SEPARATE STORAGE FEED BINS AT THE MIXING PLANT OR OTHER APPROVED METHOD.

TESTING DURING THE LIFE OF THE PROJECT MAY REQUIRE CHANGES IN THE CEMENT REQUIREMENTS WHICH SHALL BE MADE PROMPTLY BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER.

3.0 EQUIPMENT

THE SOIL CEMENT BANK PROTECTION MAY BE CONSTRUCTED WITH ANY COMBINATION OF MACHINES AND/OR EQUIPMENT, EXCEPT AS NOTED HEREIN, THAT WILL PRODUCE A COMPLETED SOIL CEMENT LINING MEETING THE REQUIREMENTS FOR SOIL PULVERIZATION, CEMENT AND WATER APPLICATION, MIXING, TRANSPORTING, PLACING, COMPACTING, FINISHING AND CURING AS PROVIDED IN THESE SPECIFICATIONS.

3.1 COMPACTION EQUIPMENT:

THE COMPACTION EQUIPMENT SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

3.1.1 PRIMARY ROLLERS

SELF-PROPELLED VIBRATORY ROLLERS SHALL BE USED FOR PRIMARY ROLLING AND SHALL BE DOUBLE-DRUM. THEY SHALL TRANSMIT A DYNAMIC IMPACT TO THE SURFACE THROUGH A SMOOTH STEEL DRUM BY MEANS OF REVOLVING WEIGHTS, ECCENTRIC SHAFTS, OR OTHER EQUIVALENT METHODS. THE COMPACTOR SHALL HAVE A MINIMUM GROSS MASS OF 10.0 TONS AND SHALL PRODUCE A MINIMUM DYNAMIC FORCE OF 4,200 LBS/FT OF DRUM WIDTH. THE OPERATING FREQUENCY SHALL BE VARIABLE IN THE APPROXIMATE RANGE OF 1,700 TO 3,000 CYCLES PER MINUTE. THE AMPLITUDE SHALL BE ADJUSTABLE BETWEEN .0157 IN. AND .0393 IN. THE ROLLER SHALL BE OPERATED AT SPEEDS NOT EXCEEDING 2.29 FT/S. WITHIN THE RANGE OF THE OPERATING CAPABILITY OF THE EQUIPMENT, THE CONTRACTING OFFICER MAY DIRECT OR APPROVE VARIATIONS TO THE FREQUENCY, AMPLITUDE AND SPEED OF OPERATION WHICH RESULT IN THE SPECIFIED DENSITY AT THE FASTEST PRODUCTION RATE.

3.1.2 SMALL VIBRATORY ROLLERS

SMALL VIBRATORY ROLLERS SHALL BE USED TO COMPACT THE SOIL CEMENT WHERE THE LARGER VIBRATORY ROLLERS SPECIFIED ABOVE CANNOT MANEUVER. THE ROLLERS SHALL COMPACT THE SOIL CEMENT TO THE REQUIRED DENSITY AND SHALL BE SO DEMONSTRATED DURING CONSTRUCTION OF THE TEST SECTION. SMALL VIBRATORY ROLLERS CANNOT COMPACT THE SOIL CEMENT TO THE SAME DENSITY AND THICKNESS AS THE PRIMARY ROLLERS; THEREFORE, WHEN SMALL ROLLERS ARE USED, TOTAL LIFT THICKNESS OF THE SOIL CEMENT LAYER OR LIFT SHALL BE REDUCED TO NOT OVER 5.90 IN. UNCOMPACTED THICKNESS TO PERMIT ADEQUATE COMPACTION. ROLLERS SHALL HAVE INDEPENDENT SPEED AND VIBRATION CONTROLS AND SHALL BE CAPABLE OF WIDE RANGE OF SPEED ADJUSTMENTS.

3.1.3 TAMPERS (RAMMERS)

HAND TAMPER EQUIPMENT SHALL BE USED WHERE VIBRATORY ROLLERS SPECIFIED ABOVE CANNOT BE MANEUVERED. LIFT THICKNESS WILL BE REDUCED TO FACILITATE ADEQUATE COMPACTION.

4.0 CONSTRUCTION REQUIREMENTS

4.1 REQUIRED CONTRACTOR SUBMITTALS:

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO LACPW, IN WRITING, FOR APPROVAL, THE FOLLOWING ITEMS:

4.1.1 THE APPROXIMATE LENGTH OF SOIL CEMENT TO BE PLACED PRIOR TO STARTING COMPACTION OPERATIONS. SEQUENCING OF CONSTRUCTION ACTIVITIES (I.E. EXCAVATION, SOIL CEMENT PLACEMENT, COMPACTION, BACKFILL, ETC.)

4.1.2 THE NUMBER AND TYPE OF EQUIPMENT TO BE USED FOR PLACEMENT.

4.1.3 THE NUMBER AND TYPE OF EQUIPMENT TO BE USED FOR SPREADING.

4.1.4 THE NUMBER AND TYPE OF EQUIPMENT TO BE USED FOR COMPACTION.

4.1.5 THE NUMBER AND TYPE OF EQUIPMENT TO BE USED FOR WATERING.

4.1.6 THE NUMBER OF LABORERS NEEDED TO CONTROL PLACEMENT OF SOIL CEMENT AND REMOVAL OF CONTAMINATED SOIL CEMENT.

4.1.7 THE METHOD USED TO KEEP SURFACES CONTINUALLY MOIST UNTIL SUBSEQUENT LAYERS OF SOIL CEMENT ARE PLACED.

4.1.8 THE METHOD USED TO CURE PERMANENTLY EXPOSED SURFACES.

4.1.9 THE PROPOSED SOURCE OF SOIL, IF OTHER THAN REQUIRED EXCAVATIONS.

CONTRACTOR SHALL PROVIDE ADEQUATE WATER PRESSURE TO THE MIXING PLANT IN ORDER TO MAINTAIN A CONSTANT FLOW AND VOLUME THROUGHOUT THE COURSE OF SOIL CEMENT MIXING. THE MAXIMUM WATER PRESSURE DIFFERENTIAL ALLOWABLE SHALL BE ±10% IN ORDER TO MAINTAIN ADEQUATE MOISTURE IN THE SOIL CEMENT MIX (SEE SECTION 4.5 REQUIRED MOISTURE).

4.2 SOIL CEMENT TEST SECTION:

THE CONTRACTOR SHALL CONSTRUCT A SOIL CEMENT TEST SECTION TO VERIFY THAT THE PLANT, EQUIPMENT, MATERIALS AND MIX DESIGNS PROPOSED FOR THE WORK, MEET THE INTENT OF THESE SPECIFICATIONS. THE SOIL CEMENT TEST SECTION SHALL BE CONSTRUCTED AT LEAST SEVEN CALENDAR DAYS PRIOR TO SOIL CEMENT PLACEMENT. THE TEST SECTION SHALL BE CONSTRUCTED AT A LOCATION WITH EQUIVALENT SITE CONDITIONS AND MUST BE APPROVED BY LACPW INSPECTOR, PROJECT DESIGN ENGINEER AND/OR GEOTECHNICAL ENGINEER. THE TEST SECTION SHALL BE SIXTY FEET LONG AND FOUR FEET HIGH CONSISTING OF COMPACTED SOIL CEMENT LIFTS THAT ARE SIX TO TWELVE INCHES THICK AND EIGHT FEET WIDE. THE FOUNDATION UPON WHICH THE FIRST LIFT OF SOIL CEMENT IS TO BE CONSTRUCTED SHALL BE CLEARED, LEVELED AND THE SURFACE COMPACTED AS SPECIFIED HEREIN (SEE SECTION 4.3 OF THESE SPECIFICATIONS). EACH SOIL CEMENT LIFT SHALL BE CONSTRUCTED AND CURED AS SPECIFIED HEREIN (SEE SECTION 4.10 OF THESE SPECIFICATIONS). THE PROJECT DESIGN ENGINEER AND GEOTECHNICAL ENGINEER, WITH THE ASSISTANCE AND COOPERATION OF THE CONTRACTOR SHALL PERFORM ALL TESTS AND INSPECTIONS REQUIRED FOR THE PERMANENT WORK ON THE TEST SECTION. THE PROJECT DESIGN AND/OR GEOTECHNICAL ENGINEER WILL OBSERVE THE OPERATION AND MAY PERFORM ADDITIONAL TESTS UPON THE MATERIALS AND COMPLETED SOIL CEMENT. THE CONTRACTOR SHALL FURNISH SUCH MATERIALS AND PROVIDE SUCH ASSISTANCE AS NECESSARY FOR SAMPLING AND TESTING BY THE GEOTECHNICAL ENGINEER. AFTER THE TEST SECTION IS COMPLETED, THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS IN EQUIPMENT, METHODS AND MIX DESIGNS AS ARE NECESSARY TO PRODUCE SOIL CEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THESE SPECIFICATIONS. AFTER COMPLETION OF THE TESTING ON THE TEST SECTION AND AFTER APPROVAL BY THE PROJECT DESIGN ENGINEER, THE CONTRACTOR SHOULD BURY THE TEST SECTION WITH A MINIMUM OF TWO FEET OF SOIL. UNLESS THE SOIL CEMENT TEST SECTION MATERIAL HAS BEEN PREVIOUSLY APPROVED TO REMAIN IN PLACE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND DISPOSE OF THE TEST SECTION.

4.3 SUBGRADE PREPARATION:

BEFORE SOIL CEMENT PROCESSING BEGINS, THE AREA ON WHICH SOIL CEMENT WILL BE PLACED SHALL BE GRADED AND SHAPED TO LINES AND GRADES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF NINETY PERCENT AS DETERMINED BY ASTM D1557-00.

IMMEDIATELY PRIOR TO PLACEMENT OF THE SOIL CEMENT MIXTURE, THE SUBGRADE SHALL BE MOISTENED IF NECESSARY. SOFT OR YIELDING SUBGRADE SHALL BE CORRECTED AND MADE STABLE BEFORE CONSTRUCTION PROCEEDS.

FIELD SURVEY AND CERTIFICATION SHALL BE PERFORMED BY THE CIVIL ENGINEER PRIOR TO PLACEMENT OF SOIL CEMENT. THE VERTICAL TOLERANCE FOR THE TOE SHALL BE 0.1FT PER ELEVATIONS SHOWN ON THESE PLANS.

4.4 MIXING:

4.4.1 CAPACITY

THE MIXING PLANT, PLACING, COMPACTION, AND CLEANUP SYSTEMS SHALL HAVE A CAPACITY OF AT LEAST 100 CUBIC YARDS PER HOUR.

4.4.2 MIXING PLANT

THE MIXING PLANT SHALL BE A WEIGH-BATCH TYPE OR CONTINUOUS TYPE.

4.4.2.1 LOCATION

THE MIXING PLANT SHALL BE LOCATED AT THE SITE OF THE WORK, SUBJECT TO THE APPROVAL OF THE ENGINEER.

4.4.2.2 BINS AND SILOS

SEPARATE BINS, COMPARTMENTS, OR SILOS SHALL BE PROVIDED FOR EACH OF THE CEMENTITIOUS MATERIALS. THE COMPARTMENTS SHALL BE OF AMPLE SIZE AND SO CONSTRUCTED THAT THE VARIOUS MATERIALS WILL BE MAINTAINED SEPARATELY UNDER ALL WORKING CONDITIONS. ALL COMPARTMENTS CONTAINING BULK CEMENT SHALL BE SEPARATED FROM EACH OTHER BY A FREE-DRAINING AIR SPACE. THE CEMENT BINS SHALL BE EQUIPPED WITH FILTERS WHICH ALLOW AIR PASSAGE BUT PRECLUDES THE VENTING OF CEMENT INTO THE ATMOSPHERE. ALL FILLING PORTS SHALL BE CLEARLY MARKED WITH A PERMANENT SIGN STATING THE CONTENTS.

4.4.2.3 BATCH PLANT MIXING

THE BATCH PLANTS SHOULD MEET THE FOLLOWING REQUIREMENTS.

- A. BATCHERS - AGGREGATE SHALL BE WEIGHED IN SEPARATE WEIGH BATCHERS WITH INDIVIDUAL SCALES OR MAY BE BATCHED CUMULATIVELY. BULK CEMENT AND OTHER CEMENTITIOUS MATERIALS SHALL BE WEIGHED ON A SEPARATE SCALE IN A SEPARATE WEIGH BATCHER. WATER SHALL BE MEASURED BY WEIGHT OR BY VOLUME. IT SHALL NOT BE WEIGHED OR MEASURED CUMULATIVELY WITH ANOTHER INGREDIENT.
- B. WATER BATCHER - A SUITABLE WATER-MEASURING AND BATCHING DEVICE SHALL BE PROVIDED THAT WILL BE CAPABLE OF MEASURING AND BATCHING THE MIXING WATER WITHIN THE SPECIFIED TOLERANCES FOR EACH BATCH. THE MECHANISM FOR DELIVERING WATER TO THE MIXERS SHALL BE FREE FROM LEAKAGE WHEN THE VALVES ARE CLOSED. THE FILLING AND DISCHARGE VALVES FOR THE WATER BATCHER SHALL BE SO INTERLOCKED THAT THE DISCHARGE VALVE CANNOT BE OPENED BEFORE THE FILLING VALVE IS FULLY CLOSED. WHEN A WATER METER IS USED, A SUITABLE STRAINER SHALL BE PROVIDED AHEAD OF THE METERING DEVICE.
- C. MOISTURE CONTROL - THE PLANT SHALL BE CAPABLE OF READY ADJUSTMENT TO COMPENSATE FOR THE VARYING MOISTURE CONTENT OF THE AGGREGATES AND TO CHANGE THE MASSES OF THE MATERIALS BEING BATCHED.
- D. SCALES & CALIBRATION - ADEQUATE FACILITIES SHALL BE PROVIDED FOR THE ACCURATE MEASUREMENT AND CONTROL OF EACH OF THE MATERIALS ENTERING THE SOIL CEMENT. EACH WEIGHING UNIT SHALL INCLUDE A VISIBLE INDICATOR THAT SHALL INDICATE THE SCALE LOAD AT ALL STAGES OF THE WEIGHING OPERATION AND SHALL SHOW THE SCALE IN BALANCE AT ZERO LOAD. THE WEIGHING EQUIPMENT SHALL BE ARRANGED SO THAT THE PLANT OPERATOR CAN CONVENIENTLY OBSERVE THE INDICATORS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND GEOTECHNICAL INSPECTOR 48 HOURS PRIOR TO THE SCALE CERTIFICATION. THE CONTRACTOR SHALL COMPLETE A SCALE CALIBRATION BY A THIRD PARTY CERTIFIED LABORATORY PRIOR TO PRODUCTION OF ANY SOIL CEMENT MATERIAL. THE ENGINEER OR THE GEOTECHNICAL INSPECTOR SHALL OBSERVE THE CALIBRATION OF THE SCALES. ADDITIONAL CALIBRATIONS, THROUGHOUT THE PROJECT MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
- E. OPERATION & ACCURACY - THE WEIGHING OPERATION OF EACH MATERIAL SHALL BEGIN AUTOMATICALLY WHEN ACTUATED BY ONE OR MORE STARTER SWITCHES AND SHALL END WHEN THE DESIGNATED AMOUNT OF EACH MATERIAL HAS BEEN REACHED. THESE REQUIREMENTS CAN BE MET BY PROVIDING A SEMIAUTOMATIC OR AUTOMATIC BATCHING SYSTEM AS DEFINED BY THE NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA) CPMB 100. THE WEIGH BATCHERS SHALL BE SO CONSTRUCTED AND ARRANGED THAT THE SEQUENCE AND TIMING OF BATCHER DISCHARGE GATES CAN BE CONTROLLED TO PRODUCE A RIBBONING AND MIXING OF THE AGGREGATES, WATER, AND CEMENTITIOUS MATERIALS AS THE MATERIALS PASS THROUGH THE CHARGING HOPPER INTO THE MIXER. THE PLANT SHALL INCLUDE PROVISIONS TO FACILITATE THE INSPECTION OF ALL OPERATIONS AT ALL TIMES. DELIVERY OF MATERIALS FROM THE BATCHING EQUIPMENT SHALL BE WITHIN THE FOLLOWING LIMITS OF ACCURACY:

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TRACT No. XXXXX M.T.D. No. XXXX
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SAND CANYON SEWER BANK PROTECTION

SOIL CEMENT SPECIFICATIONS

DWG SHEET 03 OF 13

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R.T. FRANKLIN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91350
(818) 531-1501
www.rtfra.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLICKA RGE # 2555

DATE

PLANS PREPARED BY:

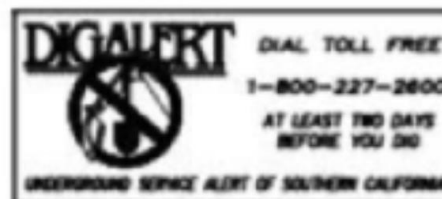


17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



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IN ACCORDANCE WITH RESOLUTION No. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA, DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN IMMUNITY PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.



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PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

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MATERIAL	% OF REQ. MASS
CEMENTITIOUS MATERIALS	0 TO +2
WATER	1
AGGREGATE	2

WHEN WATER IS MEASURED BY VOLUME, IT SHALL MEET THE SAME TOLERANCE PERCENT AS STATED IN THE CHART.

F. INTERLOCKS – BATCHERS AND MIXERS SHALL BE INTERLOCKED SO THAT:

1. THE CHARGING DEVICE OF EACH BATCHER CANNOT BE ACTUATED UNTIL ALL SCALES HAVE RETURNED TO ZERO BALANCE WITHIN PLUS OR MINUS 0.2 PERCENT OF THE SCALE CAPACITY AND EACH VOLUMETRIC DEVICE HAS RESET TO START OR HAS SIGNALLED EMPTY.
2. THE CHARGING DEVICE OF EACH BATCHER CANNOT BE ACTUATED IF THE DISCHARGE IS OPEN.
3. THE DISCHARGE DEVICE OF EACH BATCHER CANNOT BE ACTUATED IF THE CHARGING DEVICE IS OPEN.
4. THE DISCHARGE DEVICE OF EACH BATCHER CANNOT BE ACTUATED UNTIL THE INDICATED MATERIAL IS WITHIN THE ALLOWABLE TOLERANCES.

G. RECORDER – AN ACCURATE RECORDER OR RECORDERS SHALL BE PROVIDED AND SHALL CONFORM TO THE FOLLOWING DETAILED REQUIREMENTS:

1. THE RECORDER SHALL PRODUCE A GRAPHICAL OR DIGITAL RECORD ON A SINGLE VISIBLE CHART OR TAPE OF THE WEIGHT OR VOLUME OF EACH MATERIAL IN THE BATCHERS AT THE CONCLUSION OF THE BATCHING CYCLE. THE RECORD SHALL BE PRODUCED PRIOR TO DELIVERY OF THE MATERIALS TO THE MIXER. AFTER THE BATCHERS HAVE BEEN DISCHARGED, THE RECORDER SHALL SHOW THE RETURN TO EMPTY CONDITION.
2. A GRAPHICAL RECORDING OR DIGITAL PRINTOUT UNIT SHALL BE COMPLETELY HOUSED IN A SINGLE CABINET THAT SHALL BE CAPABLE OF BEING LOCKED.
3. THE CHART OR TAPE SHALL BE SO MARKED THAT EACH BATCH MAY BE PERMANENTLY IDENTIFIED AND SO THAT VARIATIONS IN BATCH WEIGHTS OF EACH TYPE OF BATCH CAN BE READILY OBSERVED. THE CHART OR TAPE SHALL BE EASILY INTERPRETED IN INCREMENTS NOT EXCEEDING 0.5 PERCENT OF EACH BATCH WEIGHT.
4. THE CHART OR TAPE SHALL SHOW TIME OF DAY AT INTERVALS OF NOT MORE THAN 15 MINUTES.
5. THE RECORDER CHART OR TAPE SHALL BECOME THE
6. PROPERTY OF THE CLIENT/PROJECT OWNER.THE RECORDER SHALL BE PLACED IN A POSITION CONVENIENT FOR OBSERVATION BY THE MIXING PLANT OPERATOR AND THE GEOTECHNICAL INSPECTOR.
7. THE RECORDED WEIGHTS OR VOLUMES WHEN COMPARED TO THE WEIGHTS OR VOLUMES ACTUALLY BATCHED SHALL BE ACCURATE WITHIN PLUS OR MINUS 2 PERCENT.

I. BATCH COUNTERS - THE PLANT SHALL INCLUDE DEVICES FOR AUTOMATICALLY COUNTING THE TOTAL NUMBER OF BATCHES OF ALL MATERIAL BATCHED AND THE NUMBER OF BATCHES OF EACH PRESET MIXTURE.

J. PROTECTION - THE WEIGHING, INDICATING, RECORDING AND CONTROL EQUIPMENT SHALL BE PROTECTED AGAINST EXPOSURE TO DUST, MOISTURE, AND VIBRATION SO THAT THERE IS NO INTERFERENCE WITH PROPER OPERATION OF THE EQUIPMENT.

4.4.2.4 CONTINUOUS MIXING PLANT

A CONTINUOUS MIXING PLANT SHALL BE CAPABLE OF PRODUCING SOIL CEMENT OF THE SAME QUALITY AND UNIFORMITY AS WOULD BE PRODUCED IN A CONVENTIONAL BATCH PLANT AND SHALL BE CAPABLE OF PRODUCING A UNIFORM CONTINUOUS PRODUCT (AT BOTH MAXIMUM AND MINIMUM PRODUCTION RATES) THAT IS MIXED SO THAT COMPLETE INTERMINGLING OF ALL INGREDIENTS OCCURS WITHOUT BALLING, SEGREGATION, AND WET OR DRY PORTIONS.

A. OPERATION AND ACCURACY - AN ELECTRONIC CONTROL SYSTEM SHALL BE PROVIDED. THE CONTROL SYSTEM SHALL HAVE THE CAPABILITY OF CHANGING MIXTURES INSTANTANEOUSLY, MEASURING THE MOISTURE IN

THE COMBINED AGGREGATE ENTERING THE MIXER, PRODUCING ANY OF THE MIXTURES AT A VARIABLE RATE, AND TRACKING A MIXTURE CHANGE TO A HOPPER OR A CONVEYOR SYSTEM. THE CONTROL PANEL SHALL DISPLAY FOR EACH INGREDIENT THE DESIGNED FORMULA VALUES AND THE INSTANTANEOUS PERCENTAGE VALUES AND SHALL RECORD THE INSTANTANEOUS VALUES AT A PRESET TIME INTERVAL OR ON DEMAND WITH A MULTIPLE COPY PRINTER/RECORDER. THE RECORDER SHALL NOTE FORMULA CHANGES AND SHALL PRINT TOTAL QUANTITIES OF EACH INGREDIENT AND TOTAL AMOUNTS PRODUCED ON COMMAND. THERE SHALL BE WEIGHING DEVICES (BELT SCALE OR OTHER) FOR CONTINUOUS WEIGHING OF INDIVIDUAL INGREDIENTS AND TOTAL INGREDIENTS. THE PLANT CONTROL SHALL NOT REQUIRE MANUAL DEVICES TO ADJUST THE MATERIAL FLOW. THE PLANT SHALL BE CAPABLE OF TOTAL MANUAL CONTROL OPERATION FOR A SINGLE PRODUCT AT A LIMITED PRODUCTION FOR SHORT-TIME DURATIONS IN THE EVENT OF LOSS OF ELECTRONIC CONTROL. THE ELECTRONIC CONTROL SYSTEM SHALL INCORPORATE MODULAR REPLACEABLE COMPONENTS TO REDUCE DOWN TIME IN THE EVENT OF CONTROL SYSTEM MALFUNCTION. AN INVENTORY SHALL BE MAINTAINED OF SUCH REPLACEABLE COMPONENTS. THE ACCURACY OF THE PLANT DISPENSING SYSTEMS SHALL BE WITHIN THE FOLLOWING LIMITS:

CEMENT	0 TO +2 PERCENT
WATER	1 PERCENT
AGGREGATE	2 PERCENT

THE CONTINUOUS FEEDERS FOR EACH OF THE INGREDIENTS SHALL BE CALIBRATED AS PER THE MANUFACTURER'S SPECIFICATIONS. DEVICES AND TOOLS SHALL BE MAINTAINED AT THE PLANT LOCATION TO CHECK THE FEEDER'S CALIBRATION AT THE GEOTECHNICAL INSPECTOR'S REQUEST. A TECHNICIAN SHALL BE PROVIDED THAT IS SKILLED IN CALIBRATION OF THE FEED DEVICES AND THE MAINTENANCE AND REPAIR OF THE PLANT CONTROL SYSTEM. THE TECHNICIAN SHALL BE AVAILABLE WITHIN 30 MINUTES NOTICE DURING ALL SCHEDULED PLANT OPERATIONS. THE TECHNICIAN COULD BE ONE OR MORE OF THE CONTRACTOR'S PERSONNEL.

B. SCALE CALIBRATION - THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND GEOTECHNICAL INSPECTOR 48 HOURS PRIOR TO THE SCALE CERTIFICATION. THE CONTRACTOR SHALL COMPLETE A SCALE CALIBRATION BY A THIRD PARTY CERTIFIED LABORATORY PRIOR TO PRODUCTION OF ANY SOIL CEMENT MATERIAL. THE ENGINEER OR THE GEOTECHNICAL INSPECTOR SHALL OBSERVE THE CALIBRATION OF THE SCALES. ADDITIONAL CALIBRATIONS, THROUGHOUT THE PROJECT MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.

C. CEMENT AND AGGREGATE FEED - CEMENT AND AGGREGATE SHALL BE UNIFORMLY, CONTINUOUSLY, AND SIMULTANEOUSLY FED (AT THE PROPER RATIOS AND QUANTITY FOR THE MIXTURE REQUIRED) INTO THE MIXER BY BELT, AUGER, VANE FEEDER, OR OTHER ACCEPTABLE METHOD. THE FEED BINS OR SILOS FOR EACH INGREDIENT SHALL BE KEPT SUFFICIENTLY FULL AND SHALL BE OF SUFFICIENT SIZE TO ENSURE A UNIFORM FLOW AT A CONSTANT RATE FOR A SPECIFIC MIXTURE. THE FEED BINS SHALL HAVE A LOW-LEVEL INDICATOR THAT BOTH WARNS THE OPERATOR AND CAN SHUT THE PLANT DOWN IF INSUFFICIENT MATERIAL IS AVAILABLE FOR A UNIFORM AND CONTINUOUS FLOW.

D. WATER DISPENSER - THE LIQUID-DISPENSING DEVICE SHALL BE CAPABLE OF METERING AND DISPENSING WITHIN THE SPECIFIED REQUIREMENTS. THE LIQUID DISPENSERS VALVES SHALL BE FREE FROM LEAKAGE IN THE CLOSED POSITION. THE DISPENSERS SHALL HAVE ATTACHMENTS AND/OR BE INSTALLED IN SUCH A MANNER THAT WILL PERMIT CONVENIENT CHECKING OF THEIR ACCURACY. PLUMBING SHALL BE LEAK-FREE AND PROPERLY VALVED TO PREVENT BACKFLOW AND SIPHONING. THE DISPENSER SHALL BE INTERLOCKED WITH THE ELECTRONIC PLANT CONTROL AND SHALL WARN THE OPERATOR AND SHUT DOWN THE PLANT IF INSUFFICIENT LIQUID IS AVAILABLE.

E. CONTINUOUS MIXER - THE CONTINUOUS MIXER SHALL HAVE PROPER INTRODUCTION OF INGREDIENTS AS SPECIFIED BY THE MANUFACTURER AND SHALL NOT BE CHARGED IN EXCESS OF THE MANUFACTURER'S RECOMMENDED CAPACITY. MIXER SHALL BE CAPABLE OF COMBINING THE MATERIALS INTO A UNIFORM HOMOGENOUS MIXTURE AND OF DISCHARGING THIS MIXTURE WITHOUT SEGREGATION. THE MIXER SHALL OPERATE AT THE BLADE SPEED DESIGNATED BY THE MANUFACTURER AND SHALL BE CAPABLE OF CHANGING RETENTION TIME OF THE INGREDIENTS IN THE MIXER. THIS SHOULD BE ACCOMPLISHED BY MANUALLY RESETTING THE MIXER BLADE ANGLES. MIXING TIME (INGREDIENT RETENTION TIME IN THE MIXER) SHALL BE PREDICATED UPON THE UNIFORMITY, HOMOGENEITY, AND CONSISTENCY OF THE RESULTANT MIXTURE. THE MIXER SHALL BE MAINTAINED IN SATISFACTORY OPERATING CONDITION AND MIXER BLADES SHALL BE KEPT FREE OF HARDENED SOIL CEMENT. SHOULD MIXER AT ANY TIME

PRODUCE UNSATISFACTORY RESULTS, ITS USE SHALL BE PROMPTLY DISCONTINUED UNTIL IT IS REPAIRED. SUITABLE FACILITIES SHALL BE PROVIDED FOR OBTAINING REPRESENTATIVE SAMPLES OF SOIL CEMENT FOR TESTING. ALL NECESSARY PLATFORMS, SHELTERS, TOOLS, LABOR, AND EQUIPMENT SHALL BE PROVIDED FOR OBTAINING SAMPLES.

F. SEGREGATION – A MEANS SHALL BE USED TO REDUCE AND MINIMIZE SEGREGATION AND WASTE WHICH WOULD OTHERWISE RESULT FROM THE CONTINUOUS STREAM OF SOIL CEMENT BEING FED INTO THE BATCH HAUL DEVICES (DUMP TRUCKS, ETC.). THE EQUIPMENT SHALL RETAIN THE SOIL CEMENT BETWEEN TRACKS OR OTHER MEANS OF TRANSPORT TO PREVENT THE NEED FOR STOPPING THE MIXER. THESE DEVICES COULD INCLUDE, BUT NOT LIMITED TO, A DISCHARGE HOPPER HAVING A CAPACITY OF AT LEAST 20 METRIC TON. THE HOPPER SHALL BE EQUIPPED WITH DUMP GATES TO ASSURE RAPID AND COMPLETE DISCHARGE WITHOUT SEGREGATION.

G. PROTECTION - THE WEIGHING, INDICATING, RECORDING AND CONTROL EQUIPMENT SHALL BE PROTECTED AGAINST EXPOSURE TO DUST, MOISTURE, AND VIBRATION SO THAT THERE IS NO INTERFERENCE WITH PROPER OPERATION OF THE EQUIPMENT.

4.43 MIXERS

MIXERS SHALL BE STATIONARY MIXERS OR PUGMILL MIXERS. MIXERS MAY BE BATCH OR CONTINUOUS MIXING. EACH MIXER SHALL COMBINE THE MATERIALS INTO A UNIFORM MIXTURE AND DISCHARGE THIS MIXTURE WITHOUT SEGREGATION. MIXERS SHALL NOT BE CHARGED IN EXCESS OF THE CAPACITY RECOMMENDED BY THE MANUFACTURER. EXCESSIVE OVERMIXING REQUIRING ADDITIONS OF WATER WILL NOT BE PERMITTED. THE MIXERS SHALL BE MAINTAINED IN SATISFACTORY OPERATING CONDITION. MIXER BLADES OR PADDOLES SHALL BE REPLACED WHEN WORN DOWN MORE THAN 10 PERCENT OF THEIR DEPTH WHEN COMPARED WITH THE MANUFACTURER'S DIMENSION FOR NEW BLADES. SHOULD ANY MIXER AT ANY TIME PRODUCE UNSATISFACTORY RESULTS, ITS USE SHALL BE PROMPTLY DISCONTINUED UNTIL IT IS REPAIRED OR REPLACED.

4.4.3.1 PUGMILL MIXERS

A BATCH OR CONTINUOUS MIXING TWIN-SHAFT PUGMILL MIXER SHALL BE CAPABLE OF PRODUCING SOIL CEMENT OF THE SAME QUALITY AND UNIFORMITY AS WOULD BE PRODUCED IN A CONVENTIONAL PLANT THAT MEETS ALL THE REQUIREMENTS OF THESE SPECIFICATIONS. ALL PUGMILL MIXERS SHALL MEET THE REQUIREMENTS OF PARAGRAPH 4.4.2.4 CONTINUOUS MIXING PLANT.

4.5 ACCESS TO MIXING FACILITY:

FREE AND SAFE ACCESS TO THE PLANT MUST BE PROVIDED TO THE ENGINEER AND GEOTECHNICAL INSPECTOR AT ALL TIMES FOR INSPECTION OF THE PLANT'S OPERATION AND FOR SAMPLING THE SOIL CEMENT MIXTURE AND ITS COMPONENTS.

4.6 REQUIRED MOISTURE:

AT THE TIME OF COMPACTION, THE MOISTURE CONTENT SHALL NOT BE MORE THAN ONE (1) PERCENTAGE POINT BELOW OPTIMUM AND SHALL NOT BE MORE THAN ONE PERCENTAGE POINT ABOVE OPTIMUM WHEN THE MEAN AIR TEMPERATURE DURING CONSTRUCTION HOURS DOES NOT EXCEED 90 DEGREES F. WHEN THE MEAN AIR TEMPERATURE DOES EXCEED 90 DEGREES F, OR THERE IS A BREEZE OR WIND WHICH PROMOTES THE RAPID DRYING OUT OF THE SOIL CEMENT MIXTURE, THE MOISTURE CONTENT OF SAID MIX MAY BE INCREASED AS NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER, BUT SHALL BE LESS THAN THAT QUANTITY THAT WILL CAUSE THE SOIL CEMENT TO BECOME UNSTABLE DURING COMPACTION AND FINISHING OPERATIONS. THE OPTIMUM MOISTURE CONTENT OF SOIL CEMENT MIXTURE SHALL BE DETERMINED BY ASTM D1557.

4.7 HANDLING:

THE SOIL CEMENT MIXTURE SHALL BE TRANSPORTED FROM THE MIXING PLANT TO THE EMBANKMENT IN CLEAN EQUIPMENT PROVIDED WITH SUITABLE PROTECTIVE DEVICES IN UNFAVORABLE WEATHER. IN NO CASE SHALL THE TOTAL ELAPSED TIME BETWEEN THE START OF MOIST MIXING AND START OF COMPACTION EXCEED (60) MINUTES. HAUL TIME SHALL NOT EXCEED (30) MINUTES, AND COMPACTION SHOULD START AS SOON AS POSSIBLE AFTER SPREADING. THE SOIL CEMENT MIXTURE IS NOT TO BE LEFT UNDISTURBED FOR LONGER THAN (30) MINUTES AT ANY TIME DURING COMPACTION OPERATIONS. COMPACTION OF EACH LAYER SHALL BE DONE IN

SUCH A MANNER AS TO PRODUCE A DENSE SURFACE, FREE OF COMPACTION PLANES, IN NOT LONGER THAN TWO (2) HOURS FROM THE START OF MOIST MIXING. TIME MAY BE REDUCED BY THE ENGINEER WHEN THE AIR TEMPERATURE EXCEEDS 90°F OR WHEN THERE IS A BREEZE OR WIND WHICH PROMOTES RAPID DRYING OF THE SOIL CEMENT MIXTURE.

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO COMPLETED SOIL CEMENT BY THE EQUIPMENT AND TO AVOID THE DEPOSITION OF RAW EARTH OR FOREIGN MATERIALS BETWEEN LAYERS OF SOIL CEMENT. EARTH RAMPS CROSSING COMPLETED SOIL CEMENT MUST HAVE AT LEAST TWO (2) FOOT COMPACTED THICKNESS. WHERE RAMPS ARE CONSTRUCTED OVER SOIL CEMENT THAT IS NOT GRADE, ALL FOREIGN MATERIALS AND THE UPPERMOST ONE (1) INCH OF THE PREVIOUSLY PLACED SOIL CEMENT MIXTURE MUST BE REMOVED PRIOR TO CONTINUATION OF THE SOIL CEMENT CONSTRUCTION.

4.8 PLACING AND COMPACTION:

THE MIXTURE SHALL BE PLACED ON THE MOISTENED SUBGRADE EMBANKMENT, OR PREVIOUSLY COMPLETED SOIL CEMENT WITH SPREADING EQUIPMENT THAT WILL PRODUCE LAYERS OF SUCH WIDTHS AND THICKNESS AS ARE NECESSARY FOR COMPACTION TO THE REQUIRED DIMENSIONS OF THE COMPLETED SOIL CEMENT LAYERS. THE COMPACTED LAYERS OF SOIL CEMENT SHALL NOT EXCEED TWELVE (12) INCHES IN THICKNESS, NOR BE LESS THAN SIX (6) INCHES IN THICKNESS.

EACH SUCCESSIVE LAYER SHALL BE PLACED AS SOON AS PRACTICABLE AFTER THE PRECEDING LAYER IS COMPLETED AND APPROVED BY THE ENGINEER.

ALL SOIL CEMENT SURFACES THAT WILL BE IN CONTACT WITH SUCCEEDING LAYERS OF SOIL CEMENT SHALL BE KEPT CONTINUOUSLY MOIST BY FOG SPRAYING UNTIL PLACEMENT OF THE SUBSEQUENT LAYER.

MIXING SHALL NOT PROCEED WHEN THE SOIL AGGREGATE OR THE AREA ON WHICH THE SOIL CEMENT IS TO BE PLACED IS FROZEN. SOIL CEMENT SHALL NOT BE MIXED OR PLACED WHEN THE AIR TEMPERATURE IS BELOW (45° F, 7° C), UNLESS THE AIR TEMPERATURE IS AT LEAST (40° F, 5° C) AND RISING.

AT THE START OF COMPACTION, THE MIXTURE SHALL BE IN A UNIFORM, LOOSE CONDITION, THROUGHOUT ITS FULL DEPTH. ITS MOISTURE CONTENT SHALL BE AS SPECIFIED BY GEOTECHNICAL ENGINEER AT START-UP.

SOIL CEMENT SHALL BE UNIFORMLY COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557. THE IN-PLACE DENSITY SHALL BE DETERMINED BY ASTM D1556 AND/OR ASTM D2922 AND ASTM 3017. A MINIMUM OF 1 IN 10 COMPACTION TESTS SHALL BE BY ASTM D1556. WHEEL ROLLING WITH ONLY HAULING EQUIPMENT SHALL NOT BE AN ACCEPTABLE METHOD OF COMPACTION.

WHENEVER THE CONTRACTOR'S OPERATION IS INTERRUPTED FOR MORE THAN TWO (2) HOURS, OR PRIOR TO COMMENCEMENT OF THE DAY'S CONSTRUCTION, ONE OF THE FOLLOWING PROCEDURES MAY BE CHOSEN TO PROVIDE BINDING OF LAYERS:

4.8.1 SPRINKLE THE TOP OF A COMPLETED LAYER WITH DRY CEMENT, ABOUT 1 TO 1 ½ LB. PER SQ. YARD. THE CEMENT SHOULD BE APPLIED TO A CLEAN SURFACE, THEN MOISTENED TO FORM A SLURRY NO MORE THAN FIFTEEN (15) MINUTES (OR LESS, AT FIELD/SOILS ENGINEER'S DISCRETION AND DEPENDING UPON SUCH FACTORS AS AMBIENT TEMPERATURE AND HUMIDITY) PRIOR TO PLACEMENT OF THE NEXT LAYER.

4.8.2 APPLY A NEAT CEMENT SLURRY AT AN APPROXIMATE 1:1 RATIO OVER A CLEAN SURFACE NO MORE THAN FIFTEEN (15) MINUTES (OR LESS, AT FIELD/SOILS ENGINEER'S DISCRETION AND DEPENDING UPON SUCH FACTORS AS AMBIENT TEMPERATURE AND HUMIDITY) PRIOR TO PLACEMENT OF THE NEXT LAYER.

PRIOR TO COMMENCEMENT OF THE DAY'S CONSTRUCTION, THE SURFACE OF THE SOIL CEMENT MUST BE CLEANED TO REMOVE ALL DEBRIS AND WASTE SOIL CEMENT, AND A SMOOTH SURFACE AS DESCRIBED HEREIN PROVIDED TO ENSURE PROPER BONDING WITH SUCCEEDING SOIL CEMENT LAYERS.

THE FINAL TWO (VERTICAL) FEET OF SOIL CEMENT SHALL BE PLACED WITHOUT INTERRUPTION TO PREVENT LAMINATION.

4.9 FINISHING:

AFTER COMPACTION, THE SOIL CEMENT SHALL BE FURTHER SHAPED, IF NECESSARY, TO THE REQUIRED LINES, GRADES AND CROSS SECTIONS AND ROLLED TO A REASONABLE SMOOTH SURFACE.



GEOTECHNICAL REVIEW BY:
R.T. FRANKIAN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91350
(818) 531-1501
www.rtfankian.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLUCKA RGE # 2555

DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



PRELIMINARY NOT FOR CONSTRUCTION
PROJECT ENGINEER DATE

IN ACCORDANCE WITH RESOLUTION No. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA, DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN IMMUNITY PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.

NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

SAND CANYON SEWER BANK PROTECTION

SOIL CEMENT SPECIFICATIONS

DWG SHEET 04 OF 13

THESE DRAWINGS ARE THE PROPERTY OF P.A.C.E. AND SHALL NOT BE REPRODUCED IN ANY MANNER NOR BE USED FOR CONSTRUCTION UNLESS STAMPED "ISSUED FOR CONSTRUCTION"

THE FOLLOWING REQUIREMENTS SHALL APPLY REGARDING THE FINISHING OF SOIL CEMENT SURFACE:

DURING THE COMPACTION OPERATIONS FOR THE UPPERMOST LAYER OF SOIL CEMENT, SHAPING WILL BE REQUIRED TO OBTAIN THE REQUIRED SURFACE AND CROSS SECTION. DURING SHAPING OPERATIONS IT MAY BE NECESSARY TO LIGHTLY SCARIFY AND BROOM-DRAW THE SURFACE IN ORDER TO REMOVE RIDGES OR DEPRESSIONS IN EXCESS OF THE PERMITTED TOLERANCE SPECIFIED HEREIN. THE RESULTING SURFACE SHALL THEN BE ROLLED WITH A SMOOTH STEEL-WHEEL ROLLER, WEIGHING NOT LESS THAN TEN TONS, OR PNEUMATIC TIRE ROLLERS, OR BOTH. THE FINAL ROLLING SHALL BE DONE BY A SMOOTH STEEL-WHEEL ROLLER. SEVERAL APPLICATIONS OF WATER MAY BE REQUIRED TO KEEP THE SURFACE AT THE PROPER MOISTURE CONTENT, AS DIRECTED BY THE ENGINEER, DURING THE FINISHING OPERATION. WATER SHALL BE APPLIED BY THE PRESSURE SPRAY BAR METHOD. COMPACTION AND FINISHING SHALL BE DONE IN A MANNER AS TO PRODUCE, IN NOT LONGER THAN TWO HOURS AFTER COMPLETION OF MIXING, A SMOOTH, DENSE SURFACE FREE OF COMPACTION PLANES, CRACKS, RIDGES, OR LOOSE MATERIALS. IMMEDIATELY AFTER ROLLING, THE SURFACE OF THE SOIL CEMENT SHALL BE TESTED FOR TRUENESS, TRANSVERSELY AND LONGITUDINALLY. THE UPPERMOST LAYER INCLUDING ACCESS ROADS AND ALL PERTINENT SOIL CEMENT STRUCTURES SHALL BE CONSTRUCTED WITHIN A VERTICAL TOLERANCE OF 0.1 FT PER ELEVATIONS SHOWN ON THESE PLANS. SURFACE FINISHING SHALL BE COMPLETED IN DAYLIGHT HOURS.

EDGES ON SOIL CEMENT FACE ADJACENT TO SOIL BACKFILL SHALL NOT BE SMOOTHED, BUT SHALL BE LEFT AT RIGHT ANGLES IN A STEPPED FASHION, WITH THE PROJECTING PORTIONS OF EACH STEP TO BE COMPACTED. BACKFILLING SHALL OCCUR IMMEDIATELY AFTER COMPACTION OF EACH STEPPED EDGE, SUCH THAT PLACEMENT OF EACH LAYER AND BACKFILLING OF SOIL TO THAT LEVEL OCCUR AT THE SAME TIME.

ANY PORTION OF THIS COURSE WHICH HAS DENSITY LESS THAN THE SPECIFIED SHALL BE CORRECTED OR REMOVED AND REPLACED TO ITS FULL DEPTH TO MEET THESE SPECIFICATION, AT THE CONTRACTOR'S EXPENSE.

4.10 CURING:

TEMPORARILY EXPOSED SURFACES SHALL BE KEPT MOIST AS SET FORTH HEREIN. CARE MUST BE EXERCISED TO ENSURE THAT NO CURING MATERIAL OTHER THAN WATER IS APPLIED TO THE SURFACES THAT WILL BE IN CONTACT WITH SUCCEEDING LAYERS.

PERMANENTLY EXPOSED SURFACES SHALL BE KEPT IN A MOIST CONDITION FOR SEVEN (7) DAYS, OR THEY MAY BE COVERED WITH SOME SUITABLE CURING MATERIAL, SUBJECT TO THE ENGINEER'S APPROVAL. ANY DAMAGE TO THE PROTECTIVE COVERING WITHIN SEVEN (7) DAYS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

REGARDLESS OF THE MATERIAL USED, THE PERMANENTLY EXPOSED SURFACES SHALL BE KEPT MOIST UNTIL THE PROTECTIVE COVER IS APPLIED. SUCH PROTECTIVE COVER IS TO BE APPLIED AS SOON AS PRACTICABLE, WITH A MAXIMUM TIME LIMIT OF TWENTY-FOUR (24) HOURS BETWEEN THE FINISHING OF THE SURFACE AND THE APPLICATION OF THE PROTECTIVE COVER OR MEMBRANE. WHEN NECESSARY, THE SOIL CEMENT SHALL BE PROTECTED FROM FREEZING FOR SEVEN (7) DAYS AFTER ITS CONSTRUCTION BY COVERING OF LOOSE EARTH, STRAW, OR OTHER SUITABLE MATERIAL.

4.11 CONSTRUCTION JOINTS:

AT THE END OF EACH DAY'S WORK, OR WHENEVER CONSTRUCTION OPERATIONS ARE INTERRUPTED FOR MORE THAN TWO (2) HOURS, A TRANSVERSE CONSTRUCTION JOINT SHALL BE FORMED BY CUTTING BACK INTO THE COMPACTED SOIL CEMENT TO FORM A FULL-DEPTH VERTICAL FACE IN THE LAST LIFT PLACED.

4.12 MAINTENANCE:

THE CONTRACTOR SHALL BE REQUIRED, WITHIN THE LIMITS OF THE CONTRACT TO MAINTAIN THE SOIL CEMENT IN GOOD CONDITION UNTIL ALL WORK IS COMPLETED AND ACCEPTED. MAINTENANCE SHALL INCLUDE IMMEDIATE REPAIRS OF ANY DEFECTS THAT MAY OCCUR. THIS WORK SHALL BE DONE BY THE CONTRACTOR AT HIS OWN EXPENSE AND REPEATED AS OFTEN AS NECESSARY. FAULTY WORK SHALL BE REPLACED FOR A FULL DEPTH OF THE LAYER.

5.0 INSPECTION AND TESTING

THE GEOTECHNICAL ENGINEER AND THE PROJECT DESIGN ENGINEER, WITH THE ASSISTANCE AND COOPERATION OF THE CONTRACTOR, WILL MAKE SUCH INSPECTIONS AND TESTS AS DEEMED NECESSARY TO ENSURE THE CONFORMANCE OF THE WORK TO

THE CONTRACT DOCUMENTS. THESE INSPECTIONS MAY INCLUDE, BUT WILL NOT BE LIMITED TO: (1) FIELD SURVEY CERTIFICATION OF TOP AND TOE OF SOIL CEMENT BANK PROTECTION AS TO ENSURE CONTRACTOR MEETS THE VERTICAL TOLERANCE SPECIFIED IN THESE PLANS, (2) THE TAKING OF THE TEST SAMPLES OF THE SOIL CEMENT AND ITS INDIVIDUAL COMPONENTS AT ALL STAGES OF PROCESSING AND AFTER COMPLETION, AND (3) THE CLOSE OBSERVATION OF THE OPERATION OF ALL EQUIPMENT USED ON THE WORK. ONLY THOSE MATERIALS, MACHINES, AND METHODS MEETING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.

ALL TESTING OF SOIL CEMENT OR ITS INDIVIDUAL COMPONENTS, UNLESS OTHERWISE

PROVIDED SPECIFICALLY IN THE CONTRACT DOCUMENTS, SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE CALIFORNIA, ASTM, OR AASHTO SPECIFICATIONS IN EFFECT AS OF THE DATE OF ADVERTISEMENT FOR BIDS ON THE PROJECT.

TESTING FOR PROPER COMPACTION SHALL BE DONE ON AT LEAST EVERY OTHER LAYER OF COMPACTED SOIL CEMENT AT ANY LOCATION CHOSEN BY THE INSPECTOR. IF THE LAYER BEING TESTED DOES NOT PASS THE MINIMUM 95% OF THE MAXIMUM DENSITY REQUIREMENT AS DETERMINED BY ASTM D1557, IT MUST BE REWORKED UNTIL IT PASSES OR BE REMOVED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOT CONTINUE PLACING LAYERS OF SOIL CEMENT ON ANY LAYER WHICH HAS FAILED THE COMPACTION TESTS UNTIL SUCH TIME AS THAT LIFT HAS BEEN REWORKED, RETESTED, AND PASSED AS TO MEETING DENSITY REQUIREMENTS. THE INITIAL ACCEPTANCE OF MATERIAL SHALL IN NO WAY PRECLUDE FURTHER EXAMINATION AND TESTING AT ANY TIME, DURING THE COURSE OF CONSTRUCTION OR SUBSEQUENT WARRANTY PERIOD, THE GEOTECHNICAL ENGINEER SUSPECTS THAT THE MATERIAL IS NO LONGER PROPERLY REPRESENTED BY THE ACCEPTANCE SAMPLE. THE ACCEPTANCE AT ANY TIME OF ANY MATERIAL INCORPORATED INTO THE WORK SHALL NOT BAR ITS FUTURE REJECTION IF IT IS SUBSEQUENTLY FOUND TO BE DEFECTIVE IN QUALITY OR UNIFORMITY.

6.0 MIX DESIGN FOR THIS PROJECT

FOR BIDDING PURPOSES ONLY, THE ESTIMATED MIX DESIGN FOR THIS PROJECT SHALL BE 11% BY DRY WEIGHT.

THE PERCENT OF CEMENT TO BE USED IN THE MIX SHALL BE CALCULATED TO BE THE WEIGHT OF CEMENT DIVIDED BY THE TOTAL WEIGHT OF THE DRY COMPACTED SOIL CEMENT. THE ACTUAL MIX DESIGN USED ON THIS PROJECT SHALL BE DETERMINED BY LABORATORY TESTS ON MATERIAL STOCKPILED AFTER CONSTRUCTION OF THE STOCKPILE HAS BEEN COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS HEREIN, PER APPROVAL OF THE GEOTECHNICAL ENGINEER.

7.0 STOCKPILING OF AGGREGATE

SOIL AGGREGATE STOCKPILE SHALL BE CONSTRUCTED ON LEVEL, FIRM GROUND FREE OF BRUSH, TREES, STUMPS, ROOTS, RUBBISH, DEBRIS, AND OTHER OBJECTIONABLE OR DELETERIOUS MATERIAL AND SHALL BE LOCATED SO AS TO PROVIDE A DISTANCE OF NOT LESS THAN FIFTY (50) FEET FROM THE OUTSIDE BOTTOM EDGE OF THE CONICAL STOCKPILE BUILD UP UNDER THE PROCESSING PLANT CONVEYER OR ANY OTHER EXISTING STOCKPILE. THE STOCKPILE SHALL BE CONSTRUCTED IN LAYERS, EACH LAYER NOT EXCEEDING TWO (2) FEET IN THICKNESS.

RAMPS FORMED FOR STOCKPILE CONSTRUCTION SHALL BE OF THE SAME MATERIAL AS THAT BEING STOCKPILED, AND WILL BE CONSIDERED A PART OF THE STOCKPILE. BEFORE STEEPENING A RAMP, ANY CONTAMINATED SURFACE MATERIAL SHALL BE REMOVED. THE TOTAL HEIGHT OF THE STOCKPILE SHALL NOT EXCEED FIFTEEN (15) FEET OR THE REACH OF THE EQUIPMENT EMPLOYED TO REMOVE MATERIAL FOR SAMPLING AND UTILIZATION, WHICHEVER IS LESS.

STOCKPILED MATERIAL SHOULD BE THOROUGHLY MIXED THROUGHOUT ITS DEPTH, WIDTH, AND LENGTH BEFORE UTILIZATION. THE MATERIAL SHALL BE HOMOGENOUS AND UNIFORM IN COLOR, GRADATION, AND MOISTURE THROUGHOUT.

DURING CONSTRUCTION OF STOCKPILES TO BE UTILIZED IN THE PRODUCTION OF SOIL CEMENT, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR MONITORING THE QUALITY AND UNIFORMITY OF THE MATERIAL BEING PLACED THEREIN. TO ASSURE CONFORMANCE WITH THE GRADATION REQUIREMENTS SPECIFIED FOR IDEAL SOIL MATERIAL, THE TESTING LABORATORY SHALL SAMPLE AND TEST AT FREQUENT ENOUGH INTERVALS TO DEMONSTRATE SUCH COMPLIANCE TO THE GEOTECHNICAL ENGINEER. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE SOILS REPORTS PREPARED FOR THIS PROJECT AND WHICH ARE AVAILABLE FOR REVIEW AT THE OWNER'S OFFICE.

STOCKPILE SAMPLING WILL BE DONE BY THE GEOTECHNICAL ENGINEER AFTER THE REQUIRED AMOUNT OF SOIL AGGREGATE FOR THE ENTIRE SOIL CEMENT JOB HAS BEEN EXCAVATED AND STOCKPILED. AFTER THE STOCKPILE HAS BEEN SAMPLED AND APPROVED, NO MATERIAL WILL BE ADDED TO IT WITHOUT APPROVAL OF THE GEOTECHNICAL ENGINEER.

UPON COMPLETION OF THE STOCKPILE, THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER IN ORDER TO ALLOW FOR VERIFICATION OF THE SOIL CEMENT MIX DESIGN DETERMINED DURING DESIGN FROM RANDOM SITE SAMPLING. THE CONTRACTOR SHALL PROVIDE THE MANPOWER AND EQUIPMENT NECESSARY TO SAMPLE THE STOCKPILE IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER, THE CONTRACTOR SHALL USE A FRONT-END LOADER TO EXCAVATE A FACE FOR THE FULL HEIGHT OF THE

STOCKPILE, EXTENDING INTO THE STOCKPILE A DISTANCE SPECIFIED BY THE GEOTECHNICAL ENGINEER, AT FOUR (4) DIFFERENT LOCATIONS (N, S, E &W) AROUND THE PERIMETER OF THE STOCKPILE. THE FRONT-END LOADER SHALL THEN BE USED TO CHANNEL THE TOTAL EXCAVATED FACE AT EACH LOCATION FROM THE BOTTOM TO THE TOP IN ONE OPERATION, AND THE MATERIAL OBTAINED SHALL BE DUMPED ON THE GROUND IN PILES. THE GEOTECHNICAL ENGINEER WILL THEN SAMPLE EACH OF THE FOUR (4) PILES BY CHANNELING IT WITH A HAND SHOVEL AT FOUR (4) LOCATIONS EQUALLY SPACED AROUND THE PERIMETER.

APPROVAL OF A STOCKPILE SHALL NOT RELIEVE, IN ANY DEGREE, THE FULLEST RESPONSIBILITY OF THE CONTRACTOR TO FURNISH IN ITS FINAL POSITION, A MATERIAL CONFORMING TO ALL THE SPECIFICATION REQUIREMENTS.

8.0 UTILIZATION OF STOCKPILES

STOCKPILES OF MATERIAL MAY BE USED FOR ANY ITEM FOR WHICH IT IS ACCEPTABLE.

MATERIAL REMOVAL FROM ACCEPTED STOCKPILES FOR PROJECT UTILIZATION SHALL BE BY SIDE EXCAVATION FOR THE FULL HEIGHT OF THE STOCKPILE UNLESS OTHERWISE APPROVED IN WRITING, BY THE GEOTECHNICAL ENGINEER.

UNLESS OTHERWISE STIPULATED, THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL SUPPLIES, MATERIALS, LABOR, WATER, TOOLS, EQUIPMENT, LIGHT, POWER, TRANSPORTATION, AND OTHER FACILITIES NECESSARY FOR EXECUTION AND COMPLETION OF THE PROJECT. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND SUPPLIES SHALL BE NEW AND OF THE BEST QUALITY. THE CONTRACTOR, IF REQUIRED, SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF SUPPLIES AND MATERIALS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR MATERIALS SUPPLIER TO MAINTAIN IN-HOUSE QUALITY CONTROL OF PROCESSED MATERIALS.

THE CONTRACTOR SHALL SUBMIT A REQUEST FOR MATERIALS TESTING FORTY-EIGHT (48) HOURS IN ADVANCE. ALL RE-TESTING OF MATERIALS OR MATERIAL SOURCES SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. THE UNIT CHARGES FOR THESE RE-TESTS ARE AVAILABLE FROM THE GEOTECHNICAL ENGINEER.

STOCKPILE(S) SHALL BE COMPLETED AND APPROVED AT LEAST TEN (10) DAYS PRIOR TO START OF SOIL CEMENT PRODUCTION. MIX DESIGN SHALL THEN BE PERFORMED BY THE GEOTECHNICAL ENGINEER, TO DETERMINE JOB MIX PROPORTIONS.

9.0 TEST PROCEDURE FOR DETERMINATION OF CEMENT REQUIRED FOR SOIL CEMENT MIXTURES AND CYLINDER SPECIMENS PREPARED DURING CONSTRUCTION

THE COMPRESSIVE STRENGTH OF MOLDED SPECIMENS AT VARYING CEMENT CONTENTS SHALL BE DETERMINED BY ASTM D1633 AND SHALL BE USED TO DETERMINE THE PERCENTAGE OF PORTLAND CEMENT REQUIRED IN DEVELOPING SOIL CEMENT MIXTURES. (ASTM D1633 SHALL BE MODIFIED TO USE ASTM D1557 TO PREPARE THE MOLDED SPECIMENS.)

10.0 SOIL CEMENT COMPRESSIVE STRENGTH

THE RUNNING AVERAGE OF 7-DAY COMPRESSIVE STRENGTHS FOR FIELD SPECIMENS OVER ANY THREE CONSECUTIVE DAYS OF CONSTRUCTION SHALL BE 750 PSI. THE MINIMUM 7-DAY COMPRESSIVE STRENGTH FOR ANY SINGLE FIELD SPECIMEN SHALL NOT BE LESS THAN 450 PSI. IF THE RUNNING AVERAGE OF THE 7-DAY COMPRESSIVE STRENGTHS OVER ANY THREE CONSECUTIVE DAYS OF CONSTRUCTION IS BELOW 750 PSI, THE REPRESENTATIVE SPECIMEN FROM THE STAND-BY CYLINDERS CORRESPONDING TO THE LOWEST 7-DAY COMPRESSIVE STRENGTH FROM THE THREE DAY PERIOD SHALL BE TESTED FOR DURABILITY, IN ACCORDANCE WITH ASTM D559 (SEE SECTION 11.0 OF THESE SPECIFICATIONS). THE REPRESENTATIVE SPECIMENS SHALL BE TESTED TO DETERMINE IF SPECIMENS FROM THE THREE DAY PERIOD MEET THE MINIMUM DURABILITY REQUIREMENTS. FOR SPECIMENS THAT DO NOT MEET THE ABOVE PARAMETERS, THE ENGINEER SHALL ANALYZE THE EFFECT ON THE SERVICE LIFE OF THE LINING. SHOULD IT BE DETERMINED THAT THE SERVICE LIFE OF THE LINING IS INADEQUATE, THE AFFECTED AREA OF THE LINING SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE SOIL CEMENT AT THE EXPENSE OF THE CONTRACTOR. TESTING OF IN-PLACE SOIL CEMENT BY BORING OR OTHER METHODS SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR AND AS DIRECTED BY THE ENGINEER FOR TEST SAMPLES THAT FALL OUTSIDE OF THE ESTABLISHED PARAMETERS.

11.0 SCHEDULE OF GEOTECHNICAL TESTING

GEOTECHNICAL ENGINEER SHALL OVERSEE CONSTRUCTION OF THE STOCKPILE, INCLUDING ANY ENGINEERING NECESSARY TO BRING THE FINES CONTENT TO ACCEPTABLE LEVELS. GEOTECHNICAL ENGINEER SHALL ENSURE THAT THE STOCKPILE CONTAINS NO MATERIAL RETAINED ON A 3-INCH SIEVE, NOR ANY ORGANIC OR DELETERIOUS MATERIAL, BEFORE APPROVING IT FOR USE IN CONSTRUCTION OF THE SOIL CEMENT BANK PROTECTION (SEE SECTION 2.3 OF THESE SPECIFICATIONS).

GEOTECHNICAL ENGINEER SHALL, AT JOB START UP, DETERMINE THE SAND EQUIVALENT (SE) OF THE STOCKPILED MATERIAL, USING CALIFORNIA TEST METHOD 217 OR ASTM

D2419 (SEE SECTION B-2.5 OF THESE SPECIFICATIONS).

GEOTECHNICAL ENGINEER SHALL DETERMINE THE FOLLOWING INFORMATION FOR THE STOCKPILE AT THE BEGINNING OF EVERY DAY THAT CONSTRUCTION OF THE SOIL CEMENT BANK PROTECTION IS TO OCCUR, PRIOR TO COMMENCEMENT OF CONSTRUCTION FOR THAT DAY:

A. PERFORM SIEVE ANALYSIS OF STOCKPILED MATERIAL (PASSED THROUGH MIXING APPARATUS) PRIOR TO ADDITION OF CEMENT, IN ACCORDANCE WITH THE METHODS LAID OUT IN ASTM D421 AND ASTM D422 (SEE SECTION 2.5 OF THESE SPECIFICATIONS).

B. PERFORM MOISTURE CONTENT DETERMINATION FOR STOCKPILED MATERIAL PRIOR TO ADDITION OF CEMENT, IN ACCORDANCE TO ONE OF THE FOLLOWING METHODS: AASHTO T 217, ASTM D3017, AASHTO T 239, OR ASTM D4643 (SEE SECTION 4.5 OF THESE SPECIFICATIONS).

C. PERFORM MODIFIED PROCTOR TEST (ASTM D1557) TO DETERMINE REQUIRED IN-PLACE COMPACTION. SOIL CEMENT MUST BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY THIS TEST (SEE SECTION 5.0 OF THESE SPECIFICATIONS).

GEOTECHNICAL ENGINEER SHALL PERFORM THE FOLLOWING AT REASONABLE INTERVALS OR AT LEAST EVERY 500C.Y. OF SOIL CEMENT PLACED, SUCH THAT A MINIMUM OF FOUR SAMPLES ARE OBTAINED TWICE A DAY PER EVERY DAY OF SOIL CEMENT CONSTRUCTION:

A. TAKE IN-PLACE SAMPLES AFTER SOIL CEMENT MIXTURE IS PLACED, BUT PRIOR TO BLADING AND COMPACTION.

B. RECORD STATION AND ELEVATION FROM WHICH SAMPLES WERE TAKEN.

C. PERFORM MOISTURE CONTENT DETERMINATION ON SAMPLES, IN ACCORDANCE WITH THE TEST METHOD SELECTED TO DETERMINE MOISTURE CONTENT FOR STOCKPILED MATERIAL.

D. DETERMINE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE OF SOIL CEMENT MIXTURE IN ACCORDANCE WITH ASTM D1557.

E. PREPARE FOUR CYLINDERS FOR COMPRESSIVE STRENGTH AND DURABILITY TESTING (1, 3, 7 & STAND-BY SPECIMEN). THESE CYLINDERS SHALL BE PREPARED IN ACCORDANCE WITH ASTM D1557.

F. CAP AND SEAL SAMPLES AND SEND TO LAB FOR COMPRESSIVE STRENGTH TESTING AT (1, 3, 7 & STAND-BY SPECIMEN), IN ACCORDANCE WITH ASTM D1633. SAMPLES SHOULD BE KEPT MOIST IN AN AIRTIGHT CONTAINER PRIOR TO TRANSPORT TO LAB, TO ENSURE PROPER CURING.

G. A STAND-BY SPECIMEN SHOULD BE TESTED FOR DETERMINATION OF DURABILITY FOR EVERY 10,000 C.Y. OF SOIL CEMENT PLACED OR AT LEAST TWO PER PROJECT, IN ACCORDANCE WITH ASTM D559.

H. STAND-BY SPECIMEN SHOULD BE TESTED FOR 28-DAY COMPRESSIVE STRENGTH FOR EVERY 5000C.Y. OF SOIL CEMENT PLACED, IN ACCORDANCE WITH ASTM D1633.

GEOTECHNICAL ENGINEER SHALL PERFORM THE FOLLOWING ON EVERY OTHER LAYER OF SOIL CEMENT PLACED:

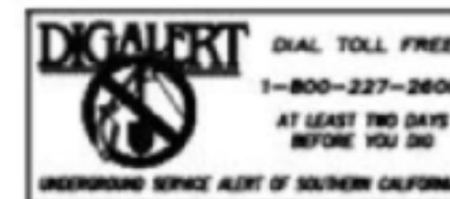
A. VERIFY FIELD COMPACTION TO 95% OF MAXIMUM DENSITY AND MOISTURE CONTENT UTILIZING EITHER ASTM D2922-81 OR ASTM D1556-90 (SEE SECTION 4.7 OF THESE SPECIFICATIONS).

GEOTECHNICAL ENGINEER SHALL PERFORM THE FOLLOWING TO VERIFY THE CEMENT CONTENT UTILIZED FOR SOIL CEMENT CONSTRUCTION:

A. PERFORM NUMERICAL CALCULATIONS USING SCALE VALUES FROM THE PUGMILL TO DETERMINE CEMENT CONTENT. COMPARE TO TARGET CEMENT AND COORDINATE WITH SOIL CEMENT PUGMILL OPERATOR TO ADJUST AS NECESSARY.

B. IF THERE IS INCONSISTENCY IN THE CEMENT CONTENT BEING USED FOR SOIL CEMENT CONSTRUCTION, AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER, THE FOLLOWING TEST SHALL BE PERFORMED:

1) HEAT OF NEUTRALIZATION TEST MAY BE USED TO DETERMINE CEMENT CONTENT OF FRESHLY MIXED SOIL CEMENT USED IN PREPARING SAMPLES, IN PERCENT BY DRY WEIGHT, IN ACCORDANCE WITH ASTM D5982-96. THIS TEST, WHICH CAN BE CONDUCTED IN THE FIELD, PROVIDES A MEANS FOR RELIABLY DETERMINING THE CEMENT CONTENT OF SOIL CEMENT IN APPROXIMATELY 15 TO 20 MINUTES. COMPARE TO TARGET CEMENT AND COORDINATE WITH SOIL CEMENT PUGMILL OPERATOR TO ADJUST AS NECESSARY.



GEOTECHNICAL REVIEW BY:
R.T. FRANKLIN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91350
(818) 531-1501
www.rtfractions.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLICKA RCE # 2558 DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



PRELIMINARY NOT FOR CONSTRUCTION
PROJECT ENGINEER DATE

IN ACCORDANCE WITH RESOLUTION No. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA, DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN IMMUNITY PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.

NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

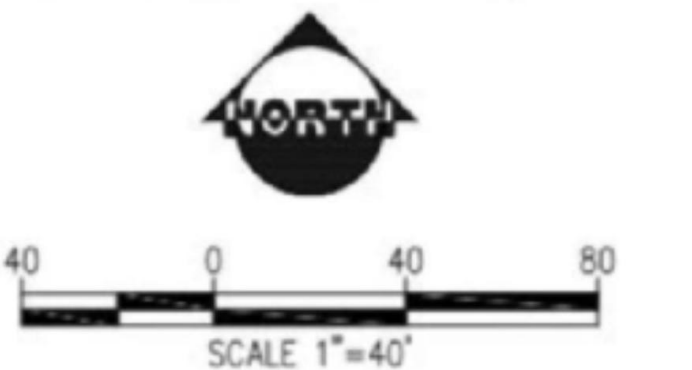
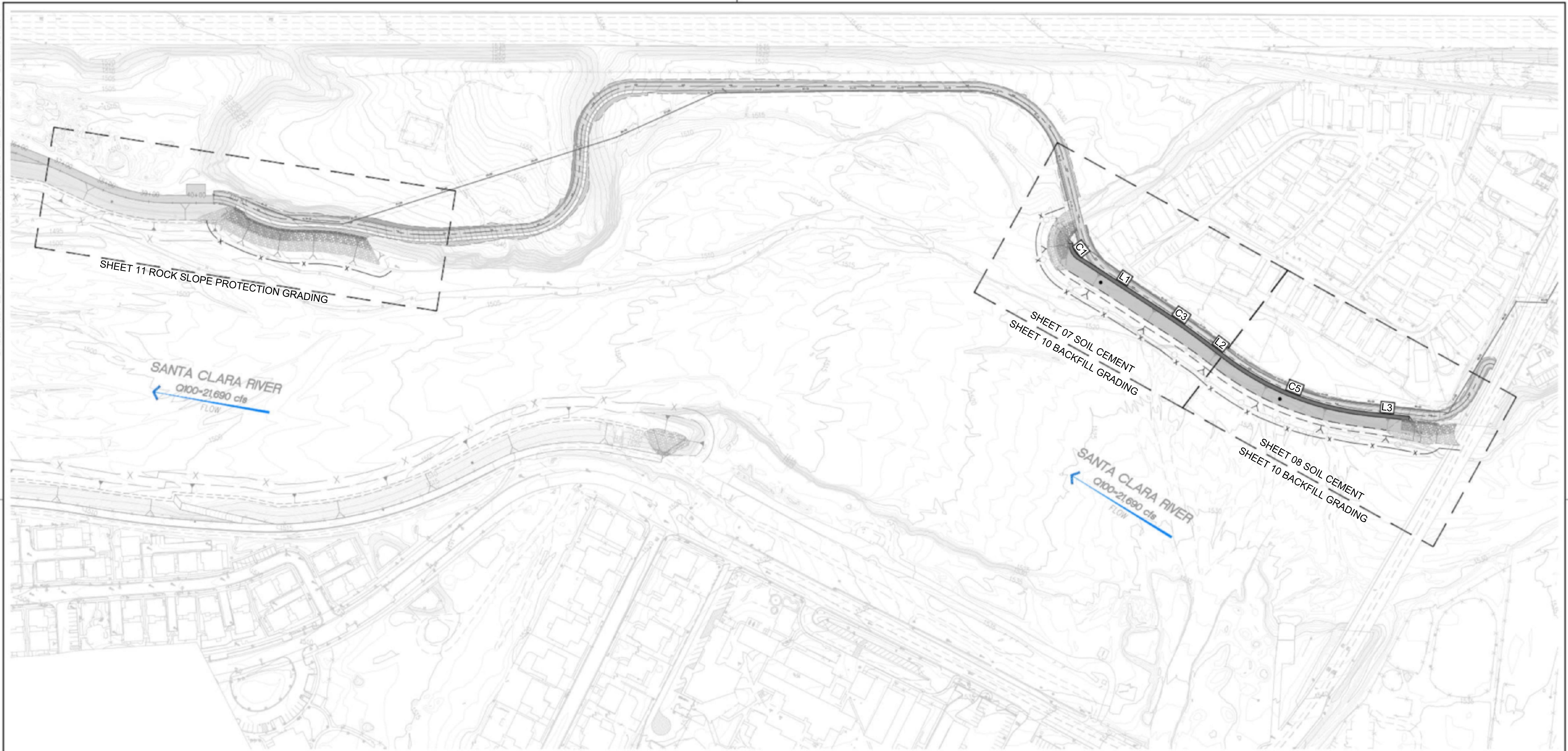
STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

SAND CANYON SEWER BANK PROTECTION
SOIL CEMENT SPECIFICATIONS

DWG SHEET 05 OF 13

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GEOTECHNICAL REVIEW BY:
R.T. FRANKLIN AND ASSOCIATES
25027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91355
(818) 531-1501
www.rtfkng.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLICKA RCE # 2555

DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



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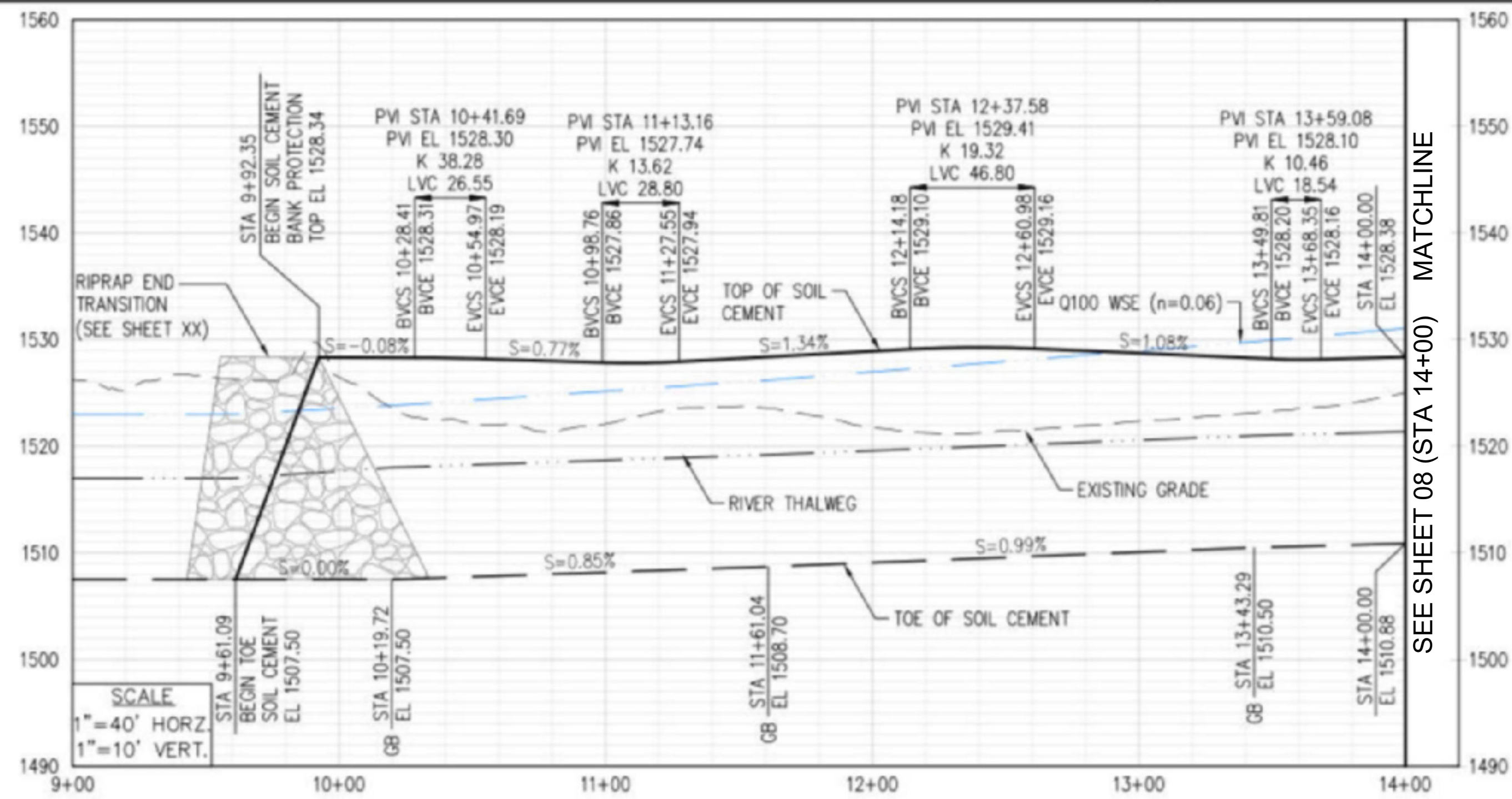
NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

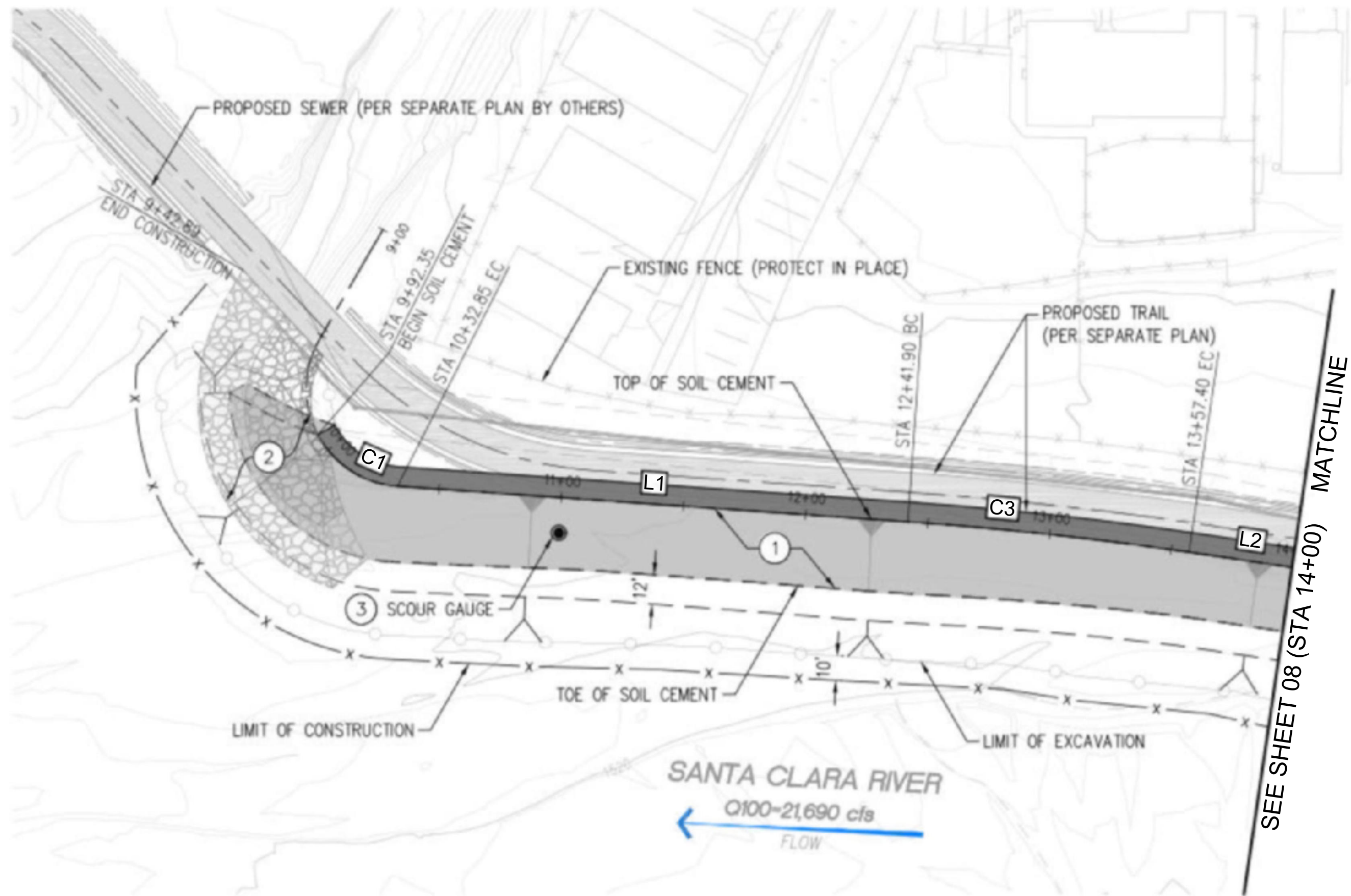
STORM DRAIN PLANS IN TRACT No. XXXXX CITY OF SANTA CLARITA	M.T.D. No. XXXX
SAND CANYON SEWER BANK PROTECTION	SHEET INDEX
DWG	SHEET 06 OF 13

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PROFILE

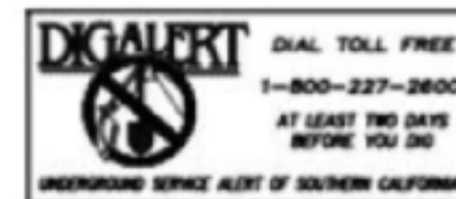
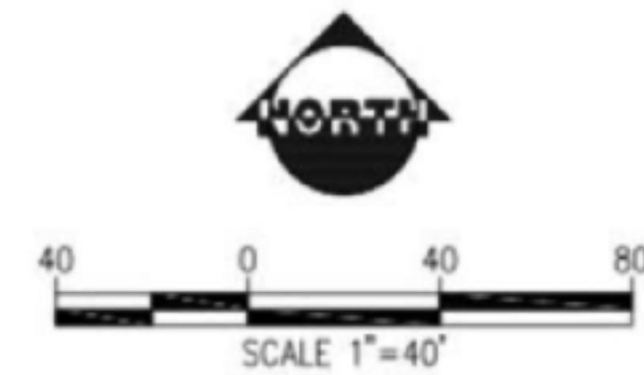


CONSTRUCTION NOTES

1. CONSTRUCT SOIL CEMENT BANK PROTECTION PER PLAN AND PROFILE AS SHOWN, PER SPECIFICATION NOTES ON SHEETS 03, 04, AND 05 AND SECTIONS ON SHEET 09. SOIL CEMENT TO BE BACKFILLED PER GRADING PLAN ON SHEET 10
2. FURNISH AND INSTALL RIPRAP END TRANSITION PER PLAN AND PROFILE AS SHOWN, AND PER DETAILS ON SHEETS XX AND XX
3. FURNISH AND INSTALL SCOUR GAUGE AND MARKER PLATE PER DETAILS ON SHEET 13

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	209.05	S86° 01' 38.52"E
L2	49.04	S81° 36' 55.79"E
L3	90.78	N67° 05' 05.96"E

CURVE DATA				
SEGMENT	LENGTH	RADIUS	TANGENT	DELTA
C1	40.50	40.00	22.18	58.01
C3	115.50	1500.00	57.78	4.41
C5	327.77	600.00	168.08	31.30



GEOTECHNICAL REVIEW BY:
R.T. FRANKIAN AND ASSOCIATES
25027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91355
(818) 531-1550
www.rtfankian.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLICKA RCE # 2555

DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



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PROJECT ENGINEER DATE

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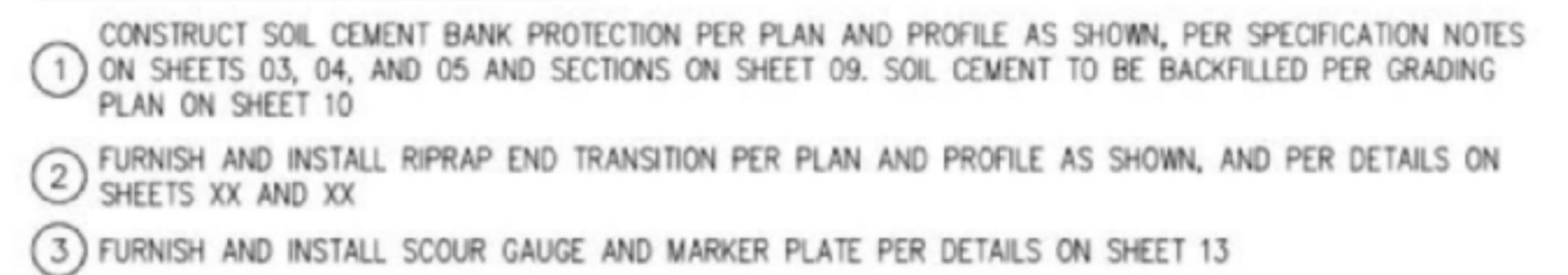
REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

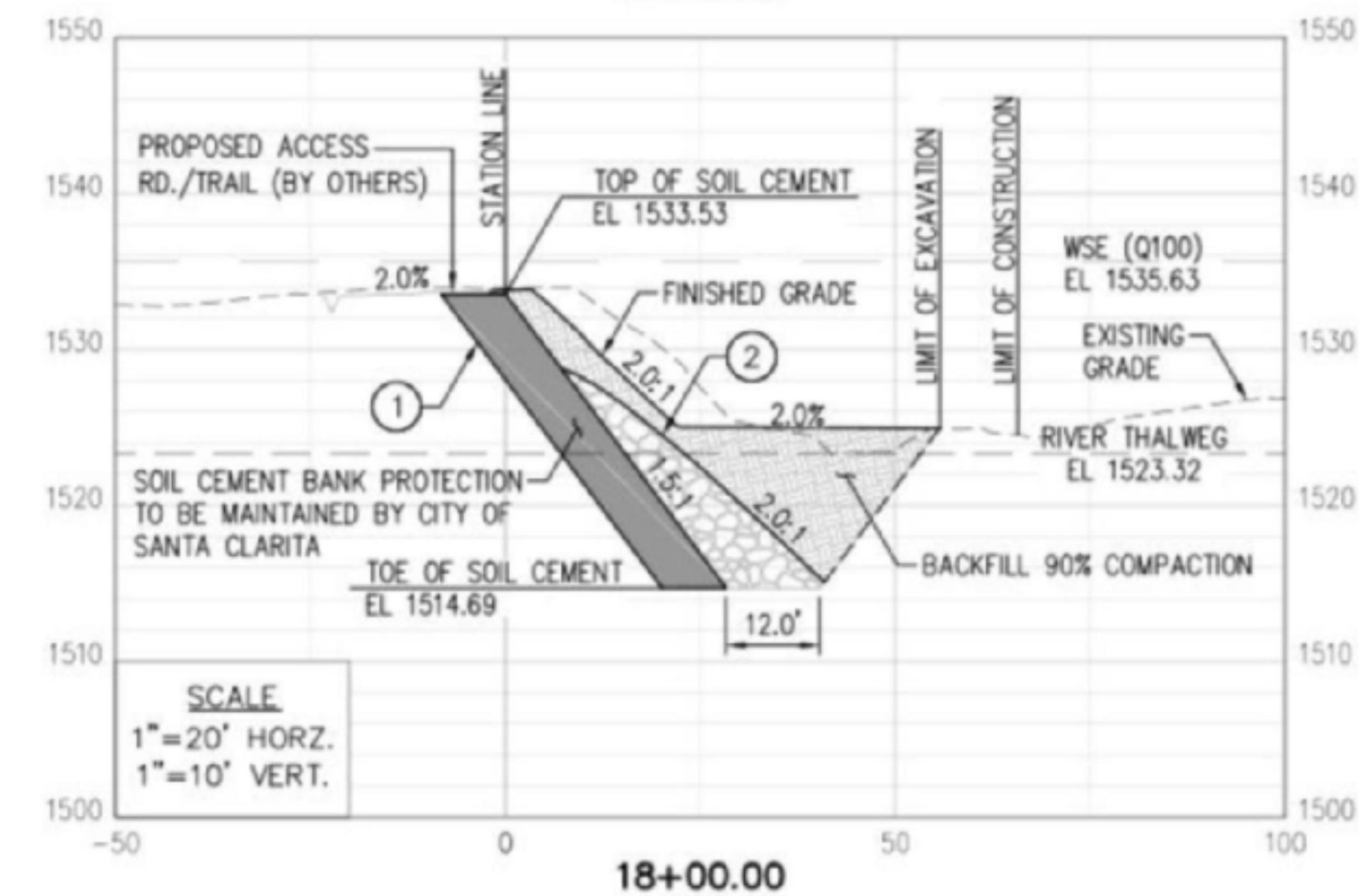
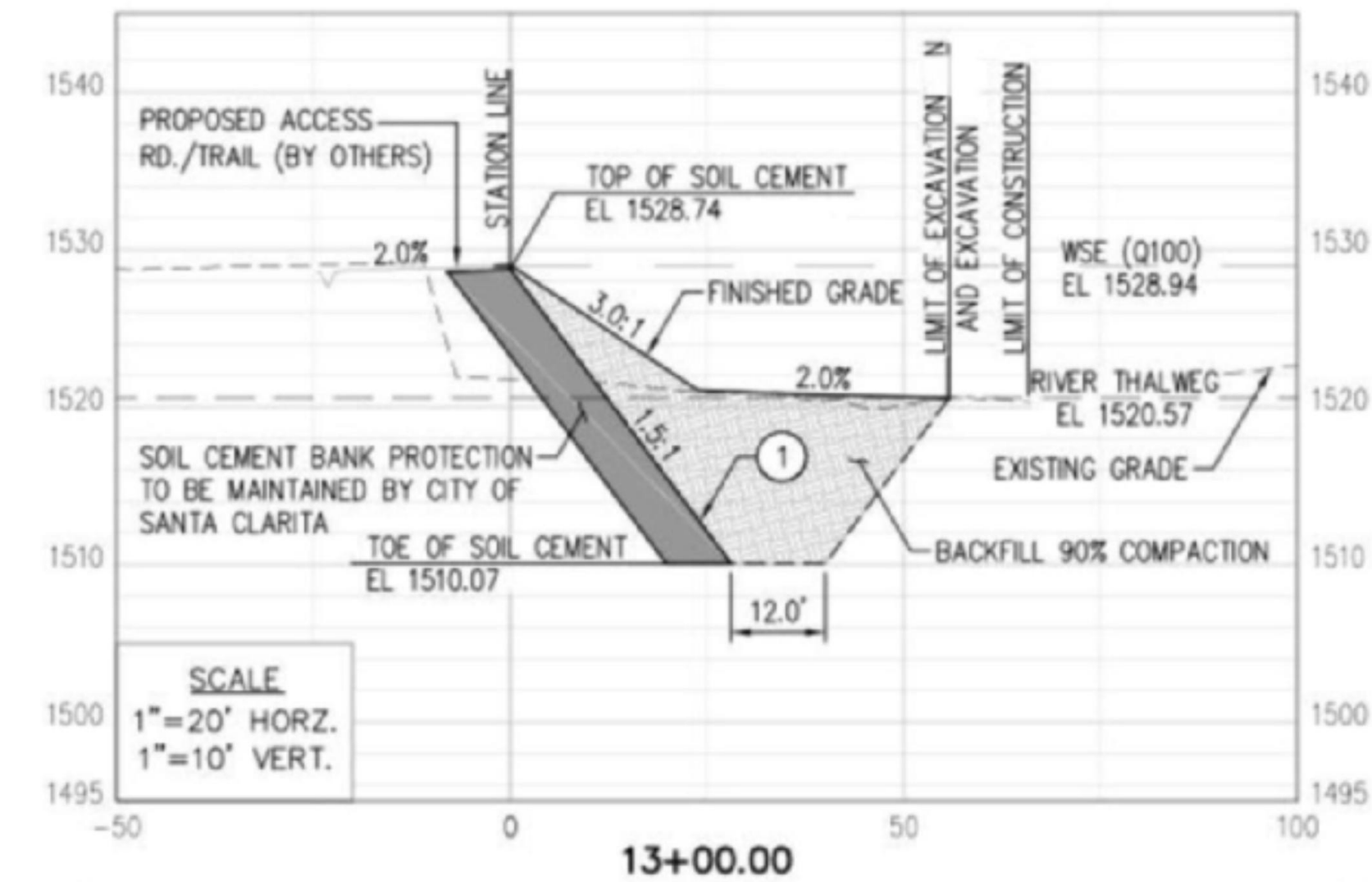
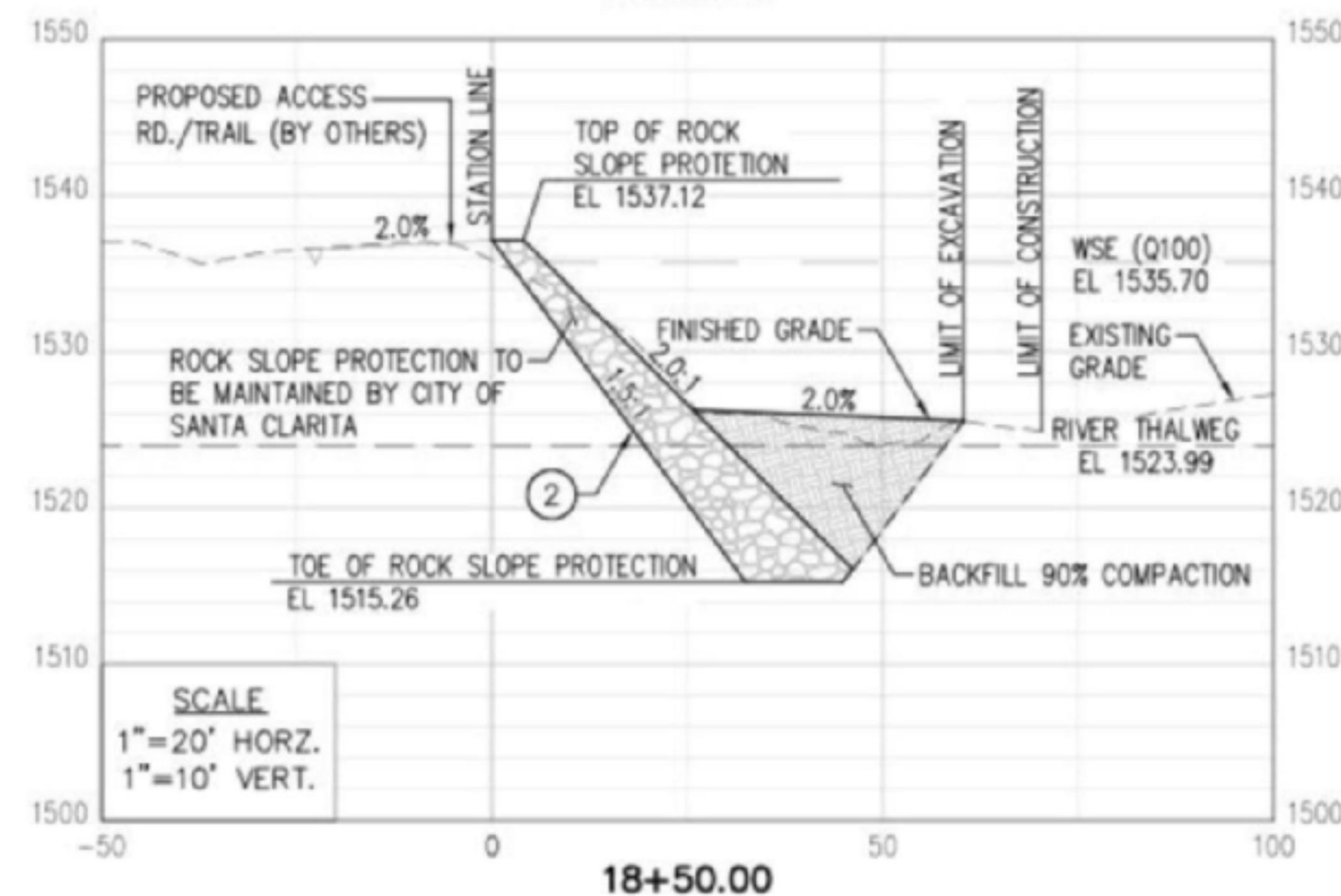
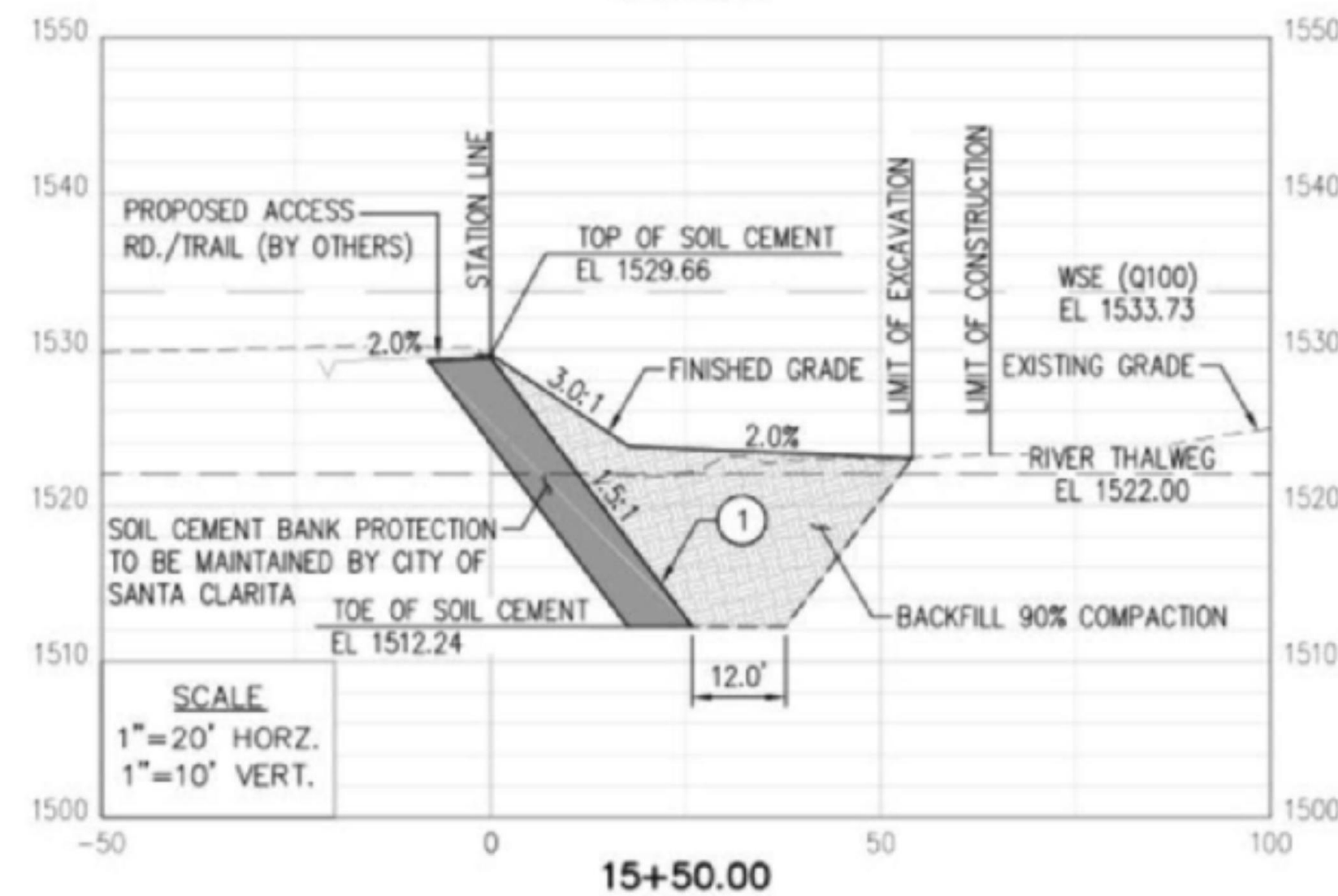
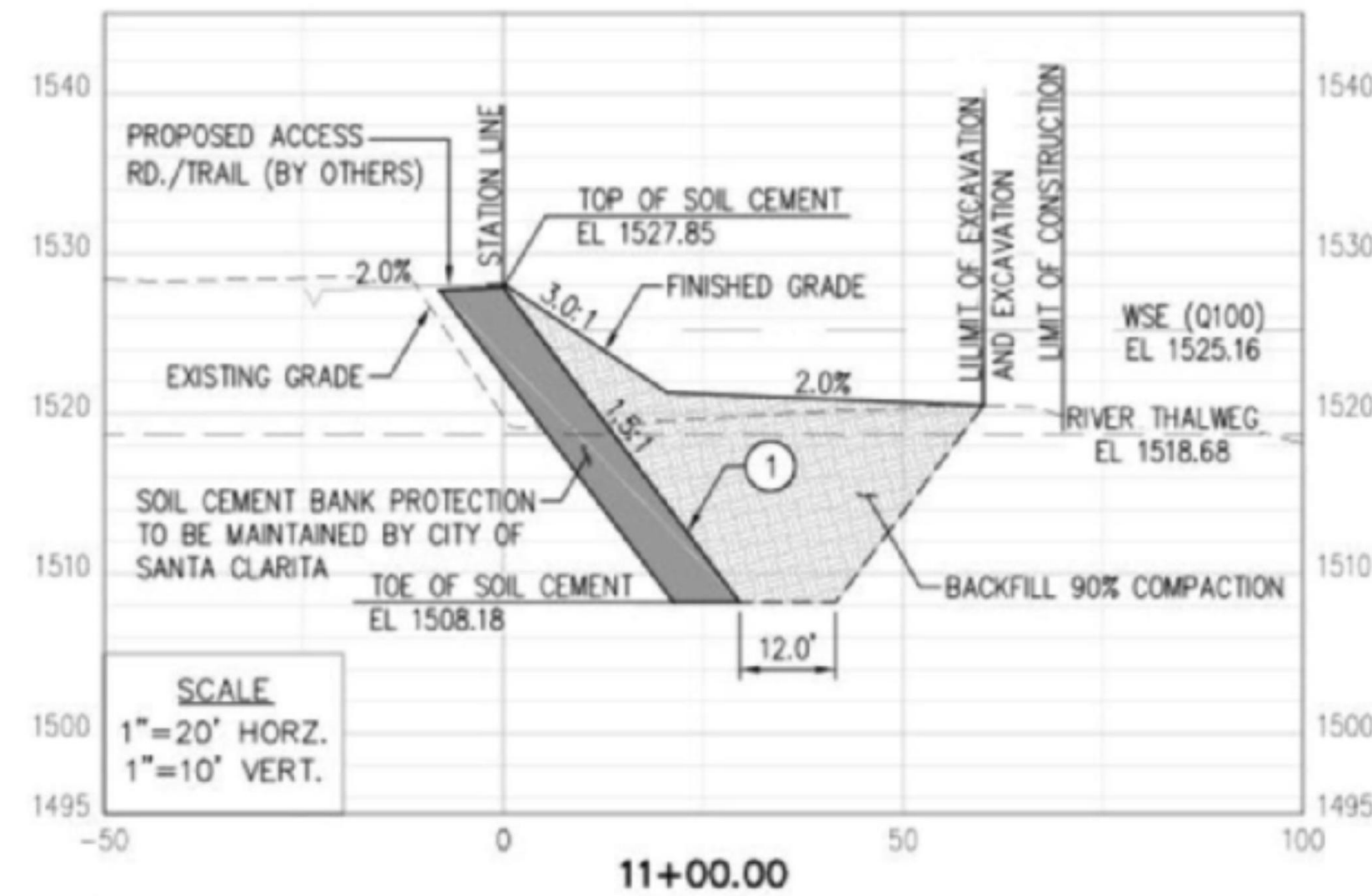
SAND CANYON SEWER BANK PROTECTION
PLAN AND PROFILE
SOIL CEMENT BANK PROTECTION

DWG SHEET 07 OF 13

STD19-00XXX



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CONSTRUCTION NOTES

- CONSTRUCT SOIL CEMENT BANK PROTECTION PER PLAN AND PROFILE AS SHOWN, PER SPECIFICATION NOTES ON SHEETS 03, 04, AND 05, AND PLAN AND PROFILE ON SHEETS 07 AND 08. SOIL CEMENT TO BE BACKFILLED PER GRADING PLAN ON SHEET 10
- FURNISH AND INSTALL RIPRAP END TRANSITION PER PLAN AND PROFILE AS SHOWN, AND PER DETAILS ON SHEETS XX AND XX

GEOTECHNICAL REVIEW BY:
R.T. FRANKLIN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91350
(818) 531-1501
www.rtfiranklin.com

PLANS PREPARED UNDER THE DIRECTION OF:

ALAN RASPLICKA RCE # 2558

DATE

PLANS PREPARED BY:



17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



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PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

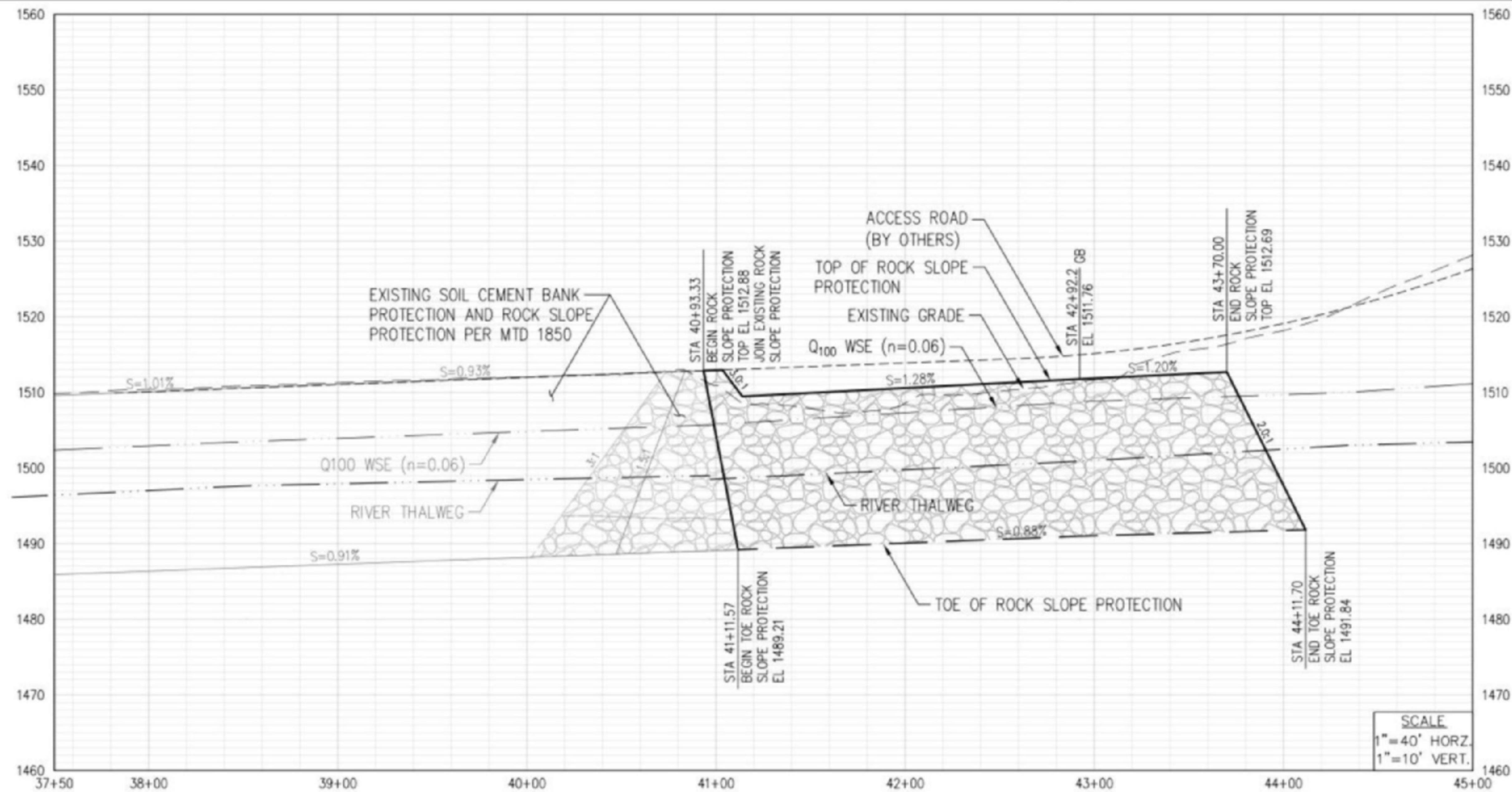
STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

SAND CANYON SEWER BANK PROTECTION
BANK PROTECTION SECTIONS

DWG SHEET 09 OF 13

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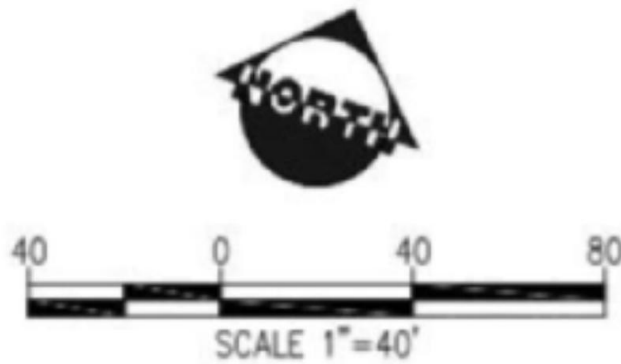
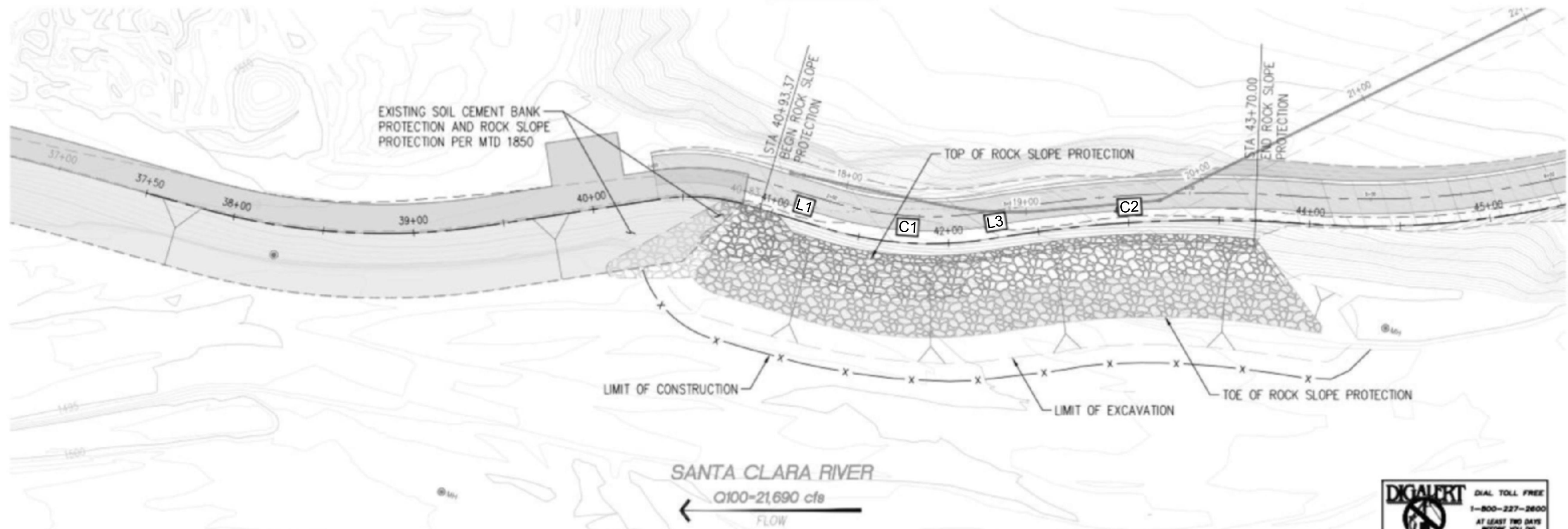
CONSTRUCTION NOTES

- ④ FURNISH AND INSTALL ROCK SLOPE PROTECTION PER PLAN AND PROFILE AS SHOWN, PER CALTRANS SPECIFICATIONS SECTION 72-2 AND PER DETAILS AND SECTIONS SHOWN ON SHEET 12

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	37.40	N86° 34' 34.23"E
L3	9.52	N60° 53' 31.80"E

CURVE TABLE				
SEGMENT	LENGTH	RADIUS	TANGENT	DELTA
C1	91.90	205.00	46.73	25.68
C2	137.81	705.00	69.13	11.20

SCALE
1"=40' HORZ.
1"=10' VERT.



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R.T. FRANKLIN AND ASSOCIATES
25027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91350
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www.rtfk.com

PLANS PREPARED UNDER THE DIRECTION OF:

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DATE

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17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



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NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

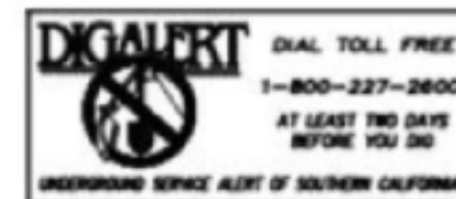
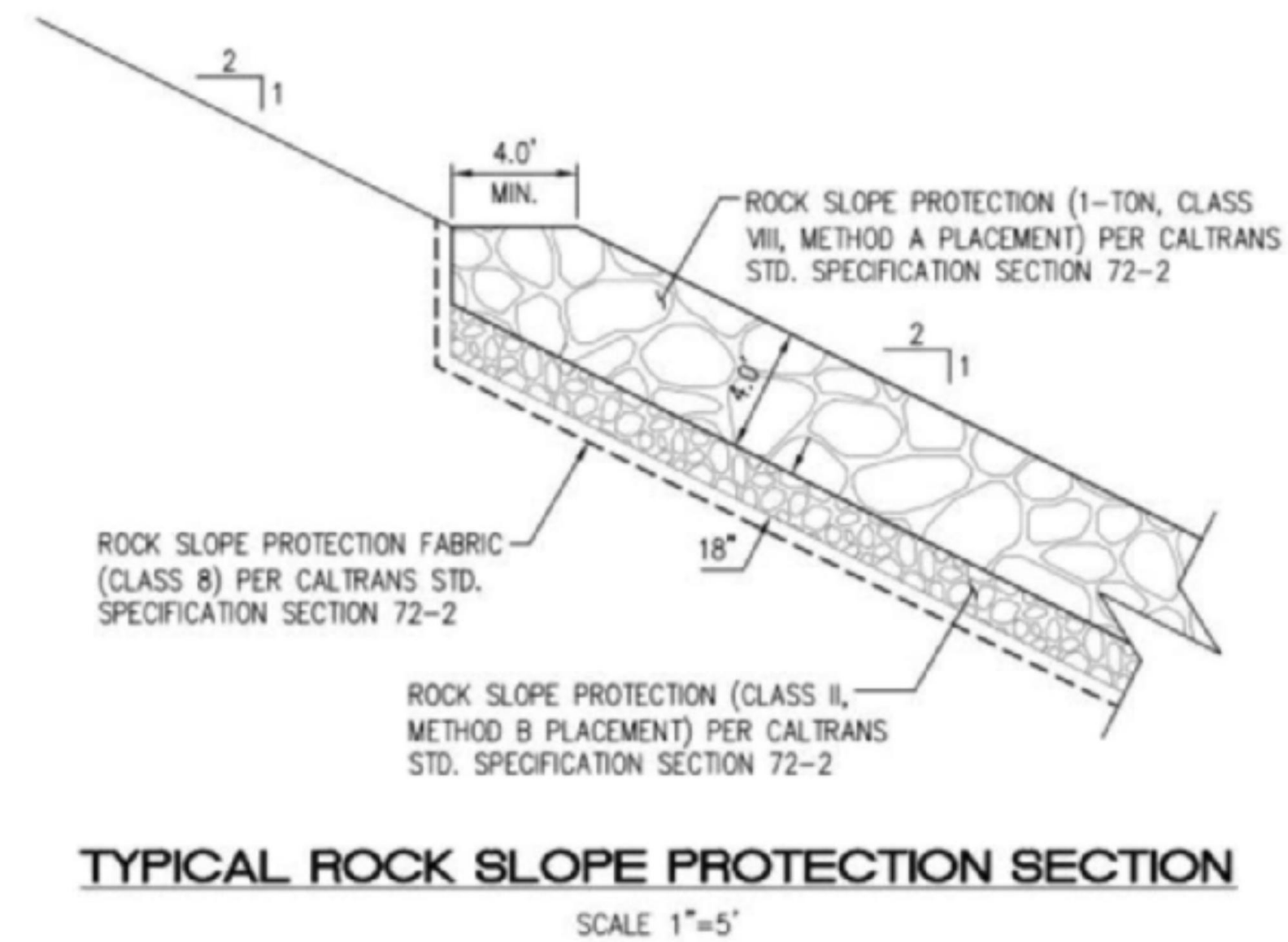
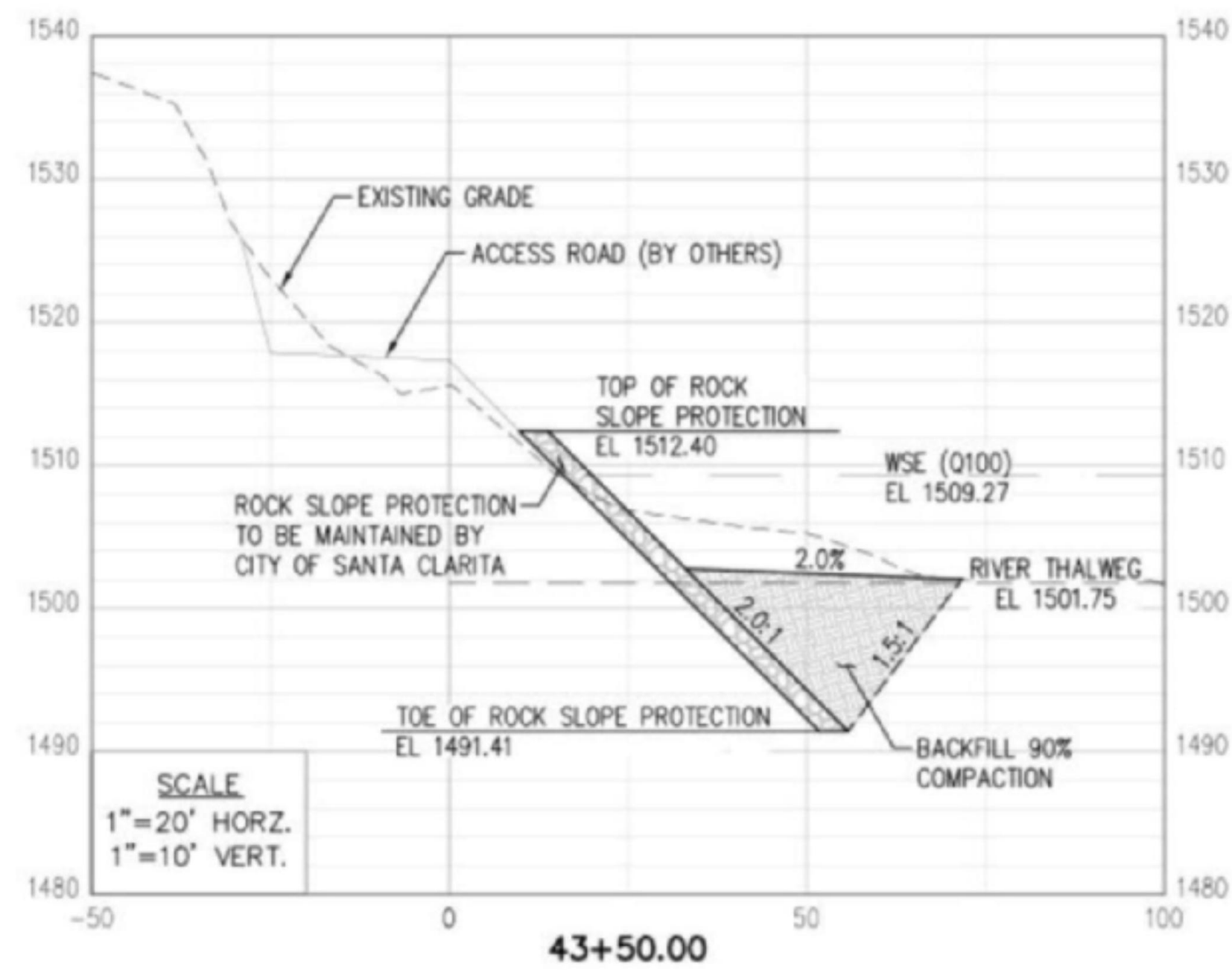
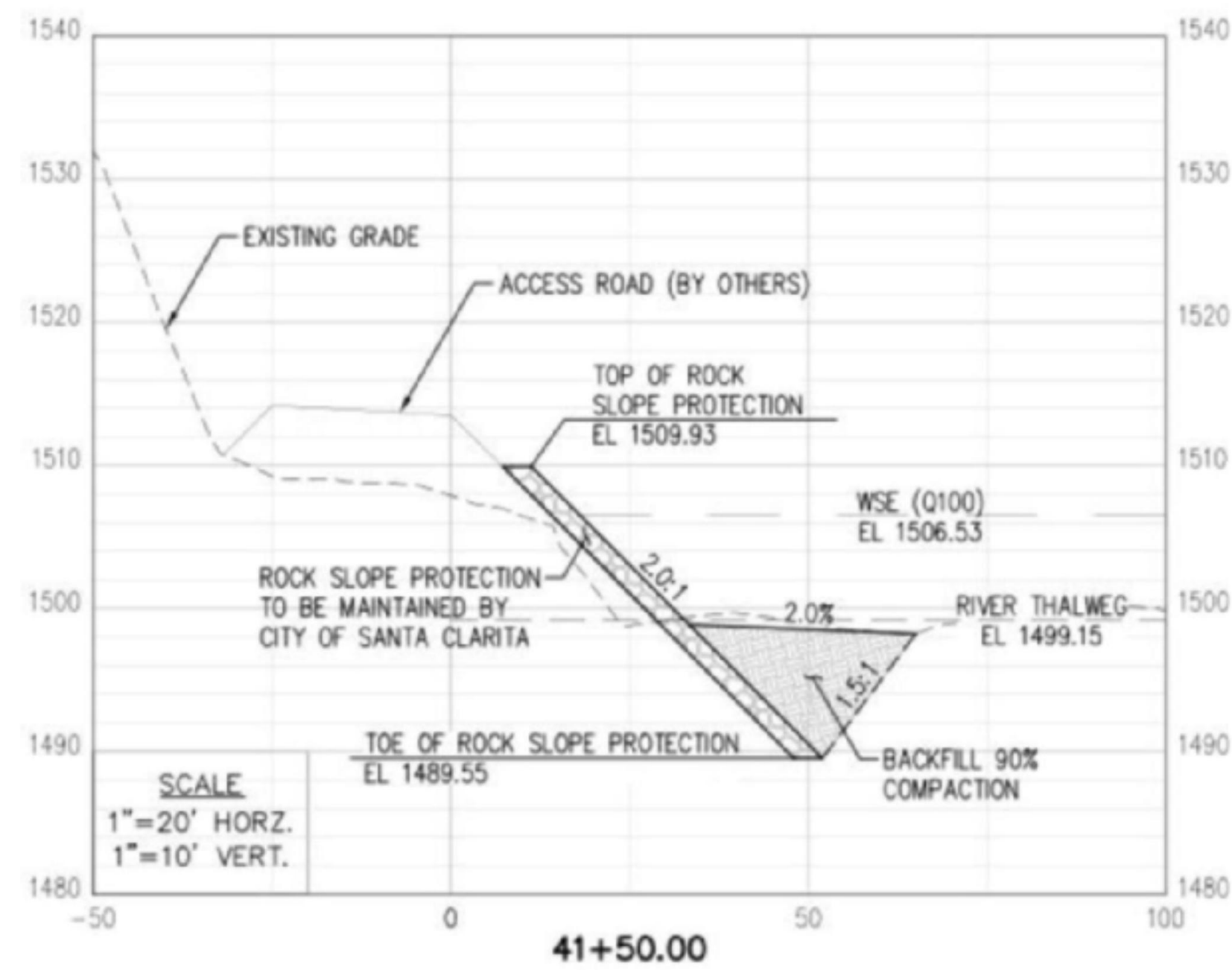
STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

SAND CANYON SEWER BANK PROTECTION
PLAN AND PROFILE
ROCK SLOPE PROTECTION

DWG SHEET 11 OF 13

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R.T. FRANKIAN AND ASSOCIATES
26027 HUNTINGTON LANE, SUITE A
SANTA CLARITA, CA 91355
(818) 531-1501
www.rtfankian.com

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DATE

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17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



PRELIMINARY NOT FOR CONSTRUCTION
PROJECT ENGINEER DATE

IN ACCORDANCE WITH RESOLUTION No. 19-6, AS A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CLARITA DELEGATING DISCRETIONARY AUTHORITY TO THE DIRECTOR OF PUBLIC WORKS, DIRECTOR OF RECREATION AND COMMUNITY SERVICES, DIRECTOR OF NEIGHBORHOOD SERVICES, CITY ENGINEER, AND ASSISTANT CITY ENGINEERS TO APPROVE PLANS AND DESIGNS FOR THE CONSTRUCTION OF OR IMPROVEMENTS TO PUBLIC PROPERTY FOR PURPOSES OF DESIGN IMMUNITY PURSUANT TO GOVERNMENT CODE SECTION 830.6 FOR THE CITY OF SANTA CLARITA, I DO HEREBY EXERCISE THE DISCRETION DELEGATED TO ME AND APPROVE THE PLAN OR DESIGN, OR AMENDMENT OR MODIFICATION TO THE PLAN OR DESIGN, OR A CONSTRUCTION OF, OR AN IMPROVEMENT TO THE PUBLIC FACILITY, STRUCTURE, OR PROPERTY TO WHICH THIS STATEMENT, MY SIGNATURE AND DATE IS AFFIXED.

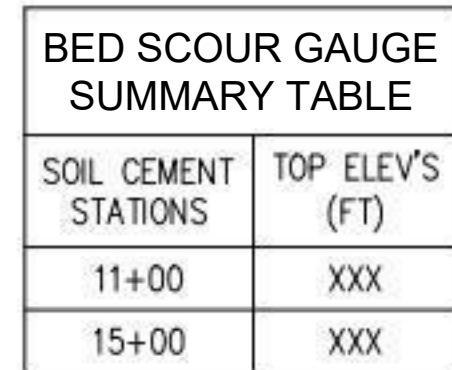
NO.	REVISION	REVISED BY	APPROVED BY	EXECUTION DATE

REVIEWED BY:	
PLAN CHECKER	DATE OF EXECUTION
APPROVED FOR CONSTRUCTION BY:	
DAMON LETZ	DATE OF EXECUTION
CITY ENGINEER	

STORM DRAIN PLANS IN
TRACT No. XXXXX M.T.D. No. XXXX
CITY OF SANTA CLARITA

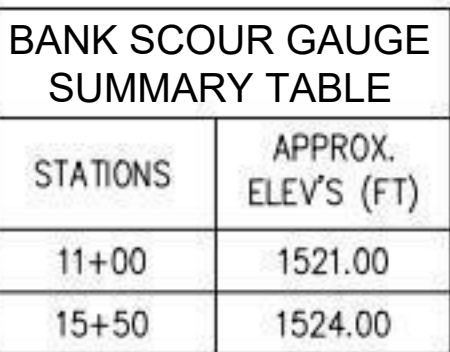
SAND CANYON SEWER BANK PROTECTION
ROCK SLOPE PROTECTION SECTIONS

DWG SHEET 12 OF 13

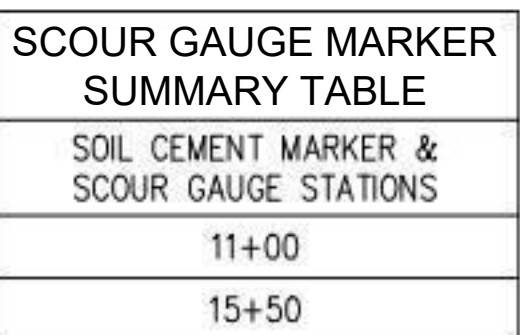


1. BED SCOUR GAUGE HOLE TO BE BACKFILLED WITH COLORED ROCKS. ROCKS TO BE $\frac{1}{2}$ " TO $1\frac{1}{2}$ " WITH A COLOR THAT IS DISTINCTLY DIFFERENT THAN THE SURROUNDING MATERIAL.
2. THE AS BUILT ELEVATIONS OF THE TOP OF EACH BED SCOUR GAUGE IS TO BE ACCURATELY SURVEYED AND RECORDED ON THE AS-BUILT DRAWINGS

A



B



SOIL CEMENT AND SCOUR GAUGE MARKER PLATE ENLARGEMENT

C



Appendix B

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- National Marine Fisheries Service (marine animals and anadromous fishes);
- Los Angeles Regional Water Quality Control Board (waters of the State);
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources); and
- City of Santa Clarita

United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable, tidal, and interstate waters and certain impoundments, tributaries, and wetlands. The agencies' most recent regulatory definition of the term was promulgated in January 2023, following failed attempts in prior years that had been frustrated by legal challenges. However, in May 2023 the U.S. Supreme Court issued its ruling in *Sackett v. Environmental Protection Agency*, which invalidated portions of the updated regulations. To address this ruling, in September 2023 the agencies issued a "conforming rule" (88 FR 61964-61969) modifying their definition of "waters of the United States" to comport with the Court's ruling. This definition is described in detail below.

Waters of the U.S.

Current USACE and USEPA regulations, reflecting of the January 2023 definition as modified by the September 2023 Conforming Rule, define "waters of the United States" as follows (33 CFR 328.3; see also 88 FR 61964-61969):

1. Waters which are:
 - (i) (Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

- (ii) The territorial seas; or
 - (iii) Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
 3. Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
 4. Wetlands adjacent to the following waters:
 - (iv) Waters identified in paragraph (a)(1) of this section; or
 - (v) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
 5. Intrastate lakes and ponds, not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

The definition specifies that the following features are not “waters of the United States” even where they otherwise meet the terms of provisions (2) through (5) above:

1. Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
2. Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
3. Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
4. Artificially irrigated areas that would revert to dry land if the irrigation ceased;
5. Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
6. Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
7. Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
8. Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(c)(1)). As such, waters are recognized in the

field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3(c)(1)). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exert a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurrence in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2020), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the USACE list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5 percent vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Limitations on Jurisdiction based on Sackett v. USEPA Supreme Court

On May 25, 2023, the Supreme Court issued its decision on the petition from the Sacketts, a family in Idaho that was subject to a compliance order from the USEPA for backfilling their lot near Priest Lake, which the USEPA claimed contained federally regulated wetlands. The wetlands in question were adjacent to a ditch that fed a creek that ultimately drained into Priest Lake, a navigable water body. The USEPA asserted that the Sacketts had violated the law by filling the wetlands on their property without a permit. The Court's decision addressed controversy over whether, and under what conditions, the CWA reaches navigable waters' tributaries or adjacent wetlands. The Supreme Court's decision in *Sackett* provides definitive guidance to the agencies in determining the limits of their Clean Water Act authority. Major tenets of the decision have been incorporated into the agencies' current regulations through the September 2023 Conforming Rule.

The Court decided:

- "Adjacent wetlands" are WOTUS only if there is a continuous surface connection between the wetland and a navigable or relatively permanent water body, such that it is difficult to determine the boundary between the wetland and the water body. The opinion notes that "temporary interruptions to surface connection may sometimes occur because of phenomena like low tides or dry spells." The agencies addressed this element by defining the term "adjacent" to mean "having a continuous surface connection" in the Conforming Rule.
- The Significant Nexus Standard, introduced by the Court in prior decisions, is not mentioned in the Clean Water Act and should not be used. The Court determined that the standard applies ecological factors whose use in determining jurisdiction is not supported by the statute. The Conforming Rule removed significant nexus considerations from the definition.

Although jurisdiction over tributaries was not addressed by the Court, the decision stated that "...the [Clean Water Act's] use of "waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." The Conforming Rule makes clear that only relatively permanent tributaries qualify as "waters of the United States."

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank

protection (e.g., rip-rap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a “reasonable period of time” for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State should be protected;
- All activities and factors affecting the quality of water should be regulated to attain the highest water quality within reason; and
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight,

allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not currently established regulations for field determinations of waters of the State except for wetlands. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region, and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

- (i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
- (ii) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- (iii) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020) states waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods should be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) implements several laws protecting the Nation's fish and wildlife resources, including the Endangered Species Act (FESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703 through 711), and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Endangered Species Act

The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA. Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered animal species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories and that a native migratory bird species is one that is present as a result of natural biological or ecological

processes. The Migratory Bird Treaty Reform Act requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from “taking” bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”

“Disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the California Fish and Game Code and administers several state laws protecting fish and wildlife resources and the habitats upon which they depend.

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (California Fish and Game Code Section 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA’s protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 California Code of Regulations Section 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA's "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Fully Protected Species Laws

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is a situation in which a Natural Community Conservation Plan (NCCP) is in place that authorizes take of the Fully Protected species.

Avian Protection Laws

California Fish and Game Code Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Protection of Lakes and Streambeds

California Fish and Game Code Section 1602 states it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Lake/Streambed Alteration Agreement (LSAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft LSAA. Upon review of the Draft LSAA by the applicant, any problematic terms are negotiated with CDFW and a final LSAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
 - References “river,” “stream,” and “lake”
 - References “natural flow”
 - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987)), which interpreted Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
 - Have a source and a terminus
 - Have banks and a channel
 - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
 - Represent the depression between the banks worn by the regular and usual flow of the water
 - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
 - Include the land that is covered by the water in its ordinary low stage
 - Include lands below the OHWM
- **CDFW regulations** defining “stream” for other purposes, including sport fishing (14 California Code of Regulations Section 1.72) and streambed alterations associated with cannabis production (14 California Code of Regulations Section 722[c][21]), which indicate that a stream:
 - Flows at least periodically or intermittently
 - Flows through a bed or channel having banks
 - Supports fish or aquatic life
 - Can be dry for a period of time
 - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, including *A Field Guide to Lake and Streambed Alteration Agreements* (CDFW 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
 - A stream may flow perennially or episodically
 - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
 - Width of a stream course can reasonably be identified by physical or biological indicators
 - A stream may have one or more channels (single thread vs. compound form)
 - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
 - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife

- Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
- The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. The importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

Local Jurisdiction

City of Santa Clarita General Plan

Natural resources within the City of Santa Clarita's (City) limits are regulated according to the City's General Plan (City of Santa Clarita 2011), which includes policies regarding conservation of biological resources and ecosystems as well as protection of sensitive habitat (including wildlife corridors) and endangered species. The City's General Plan includes policies relating to oak trees, protected areas, and Significant Ecological Areas, among others.

Santa Clarita Municipal Code

Natural resources within the City are also regulated by the City's Municipal Code. In particular, the City of Santa Clarita Oak Tree Preservation Ordinance (Santa Clarita Municipal Code Section 17.51.040) protects and preserves oak trees in the City; the City's Parkway Trees Ordinance (Santa Clarita Municipal Code Section 13.76) protects native trees in the City and Santa Clarita Municipal Code Section 17.38.080 protects SEAs within the City.

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Appendix C

Special-status Species Evaluation Tables

Special-status Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Plants and Lichens				
<i>Arenaria paludicola</i> marsh sandwort	FE/SCE G1/S1 1B.1	Perennial stoloniferous herb. Marshes and swamps. Openings, sandy. Elevations: 10-560ft. (3-170m.) Blooms May-Aug.	Not Expected	Intermittent Drainage 1 provides potentially suitable aquatic habitat. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
<i>Berberis nevinii</i> Nevin's barberry	FE/SCE G1/S1 1B.1	Perennial evergreen shrub. Chaparral, cismontane woodland, coastal scrub, riparian scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 230-2705ft. (70-825m.) Blooms (Feb)Mar-Jun.	Not Expected	Potentially suitable chaparral and scrub habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field surveys, and was not observed.
<i>Calochortus catalinae</i> Catalina mariposa lily	None/None G3G4/S3S4 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. In heavy soils, open slopes, openings in brush. Elevations: 50-2295ft. (15-700m.) Blooms (Feb)Mar-Jun.	Low Potential	Potentially suitable chaparral, scrub, and grassland habitat occurs in the APE above the northern bank of the SCR. However, there are no documented CNDDB records within a five mile radius of the APE.
<i>Calochortus clavatus</i> var. <i>avius</i> Pleasant Valley mariposa lily	None/None G4T2/S2 1B.2	Perennial bulbiferous herb. Lower montane coniferous forest. Josephine silt loam and volcanically derived soil; often in rocky areas. Elevations: 1000-5905ft. (305-1800m.) Blooms May-Jul.	Not Expected	Lower montane coniferous forest is absent from the APE.
<i>Calochortus clavatus</i> var. <i>clavatus</i> club-haired mariposa lily	None/None G4T3/S3 4.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Clay, Rocky, serpentinite (usually). Elevations: 100-4265ft. (30-1300m.) Blooms (Mar)May-Jun.	Low Potential	Potentially suitable chaparral, scrub, and grassland habitat occurs in the APE above the northern bank of the SCR. However, there are no documented CNDDB records within a five mile radius of the APE.
<i>Calochortus clavatus</i> var. <i>gracilis</i> slender mariposa lily	None/None G4T2T3/S2S3 1B.2	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. Elevations: 1050-3280ft. (320-1000m.) Blooms Mar-Jun(Nov).	Not Expected	Potentially suitable chaparral, scrub, and grassland habitat occurs in the APE above the northern bank of the SCR. Additionally, there are multiple CNDDB records within a five mile radius of the APE, the closest being approximately 0.6 mile northeast (Occurrence No. 139). However, this species would have been identifiable during the rare plant survey and was not detected.
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa lily	None/None G3T2/S2 1B.2	Perennial bulbiferous herb. Chaparral, lower montane coniferous forest, meadows and seeps. Mesic. Elevations: 2330-7840ft. (710-2390m.) Blooms Apr-Jul.	Not Expected	The APE is outside the known elevation range of the species.
<i>Calochortus plummerae</i> Plummer's mariposa lily	None/None G4/S4 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Granitic, rocky. Elevations: 330-5580ft. (100-1700m.) Blooms May-Jul.	Low Potential	Granitic/rocky areas are generally absent from the APE. The closest CNDDB record (Occurrence No. 188) is approximately 3.5 miles northeast of the APE.
<i>Calystegia peirsonii</i> Peirson's morning-glory	None/None G4/S4 4.2	Perennial rhizomatous herb. Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Often in disturbed areas or along roadsides or in grassy, open areas. Elevations: 100-4920ft. (30-1500m.) Blooms Apr-Jun.	Low Potential	Potentially suitable chaparral, scrub, and grassland habitat occurs in the APE above the northern bank of the SCR. Additionally, disturbed areas adjacent to unpaved access roads also occur to the north of the SCR. However, the only CNDDB records (Occurrence No.'s 5 and 8) within a five mile radius of the APE are more than 30 years old, and this is a perennial species that was not observed during the field surveys.
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	None/None G3T2/S2 1B.1	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. Elevations: 0-1575ft. (0-480m.) Blooms May-Nov.	Not Expected	Aquatic habitat occurs in the SCR and Intermittent Drainage 1. However, Intermittent Drainage 1 is surrounded by dense riparian vegetation that is not preferred by the species, and the SCR is a linear drainage feature with coarse and sandy soils that are not preferred by the species. Additionally, the field surveys were performed in the blooming period for this species, and it was not observed.
<i>Cercocarpus betuloides</i> var. <i>blancheae</i> island mountain-mahogany	None/None G5T4/S4 4.3	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest. Elevations: 100-1970ft. (30-600m.) Blooms Feb-May.	Not Expected	Potentially suitable chaparral and scrub habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field survey, and was not observed.
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	None/SCE G2T1/S1 1B.1	Annual herb. Coastal scrub, valley and foothill grassland. Sandy soils. Elevations: 490-4005ft. (150-1220m.) Blooms Apr-Jul.	Not Expected	Potentially suitable habitat occurs in the chaparral, scrub, and grassland habitat along the upper terrace to the north of the SCR in the northwestern portion of the APE. However, there are no CNDDB records of this species within a five mile radius of the APE. Additionally, this species would have been identifiable during the rare plant survey and was not detected.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	None/None G3T2/S2 1B.1	Annual herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Openings, Rocky (sometimes), sandy (sometimes). Elevations: 900-4005ft. (275-1220m.) Blooms Apr-Jun.	Not Expected	Potentially suitable habitat occurs in the chaparral, scrub, and grassland habitat along the upper terrace to the north of the SCR in the northwestern portion of the APE. However, there are no CNDDB records of this species within a five mile radius of the APE. Additionally, this species would have been identifiable during the rare plant survey and was not detected.
<i>Deinandra minthornii</i> Santa Susana tarplant	None/SCR G2/S2 1B.2	Perennial deciduous shrub. Chaparral, coastal scrub. On sandstone outcrops and crevices, in shrubland. Elevations: 920-2495ft. (280-760m.) Blooms Jul-Nov.	Not Expected	Potentially suitable chaparral and scrub habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field surveys, and was not observed.
<i>Deinandra paniculata</i> paniculate tarplant	None/None G4/S4 4.2	Annual herb. Coastal scrub, valley and foothill grassland, vernal pools. Usually in vernal mesic sites. Sometimes in vernal pools or on mima mounds near them. Elevations: 80-3085ft. (25-940m.) Blooms (Mar)Apr-Nov.	Not Expected	Vernally mesic sites within coastal scrub and/or grassland habitat are absent from the APE.
<i>Dodecahema leptoceras</i> slender-horned spineflower	FE/SCE G1/S1 1B.1	Annual herb. Chaparral, cismontane woodland, coastal scrub. Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Sandy soils. Elevations: 655-2495ft. (200-760m.) Blooms Apr-Jun.	Not Expected	Potentially suitable coastal scrub habitat occurs in the APE within the banks of the SCR, particularly within the lower terraces above the low-flow channel. Additionally, there are multiple CNDDB records within a five mile radius of the APE, the closest recent occurrence (i.e., less than 30 years old) being approximately 3.5 miles northeast (Occurrence No. 279). However, this species was not observed in the APE during field surveys performed in April 2013 (Dudek 2013). Additionally, this species would have been identifiable during the rare plant survey and was not detected.
<i>Dudleya densiflora</i> San Gabriel Mountains dudleya	None/None G2/S2 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. In crevices and on decomposed granite on cliffs and canyon walls. Elevations: 800-2000ft. (244-610m.) Blooms Mar-Jul.	Not Expected	Decompressed granite on cliffs and rocky canyon walls are absent from the APE. The northern bank of the SCR includes a steep face in the eastern portion of the APE. However, soils in this area are loamy/sandy, and do not contain clusters of rocks. Additionally, this is a conspicuous perennial species that that would have been identifiable during the field surveys, and was not observed.
<i>Harpagonella palmeri</i> Palmer's grappplinghook	None/None G4/S3 4.2	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. Elevations: 65-3135ft. (20-955m.) Blooms Mar-May.	Not Expected	Potentially suitable habitat occurs in the chaparral, scrub, and grassland habitat along the upper terrace to the north of the SCR in the northwestern portion of the APE. However, the only CNDDB record (Occurrence No. 60) of this species within a five mile radius of the APE is a non-specific, undated record, and clay soils are absent from the APE.
<i>Hordeum intercedens</i> vernal barley	None/None G3G4/S3S4 3.2	Annual herb. Coastal dunes, coastal scrub, valley and foothill grassland, vernal pools. Vernal pools, dry, saline streambeds, alkaline flats. 5-. Elevations: 15-3280ft. (5-1000m.) Blooms Mar-Jun.	Not Expected	Vernal pools, dry saline streambeds, and alkaline flats are absent from the APE.
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	None/None G4T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevations: 230-2660ft. (70-810m.) Blooms Feb-Jul(Sep).	Low Potential	Potentially suitable chaparral and scrub habitat occurs in the APE. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
<i>Imperata brevifolia</i> California satintail	None/None G3/S3 2B.1	Perennial rhizomatous herb. Chaparral, coastal scrub, meadows and seeps, mojavean desert scrub, riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-. Elevations: 0-3985ft. (0-1215m.) Blooms Sep-May.	Low Potential	Intermittent Drainage 1 and wetted portions of the SCR provide potentially suitable mesic habitat. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
<i>Juglans californica</i> Southern California black walnut	None/None G4/S4 4.2	Perennial deciduous tree. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Slopes, canyons, alluvial habitats. Elevations: 165-2955ft. (50-900m.) Blooms Mar-Aug.	Not Expected	Potentially suitable chaparral and scrub habitat occurs in the APE. However, this is a conspicuous tree species that would have been identifiable during the field surveys, and was not observed.
<i>Juncus acutus</i> ssp. <i>leopoldii</i> southwestern spiny rush	None/None G5T5/S4 4.2	Perennial rhizomatous herb. Coastal dunes, marshes and swamps, meadows and seeps. Moist saline places. Elevations: 10-2955ft. (3-900m.) Blooms (Mar)May-Jun.	Not Expected	Moist saline places are absent from the APE.
<i>Lepechinia fragrans</i> fragrant pitcher sage	None/None G3/S3 4.2	Perennial shrub. Chaparral. Elevations: 65-4300ft. (20-1310m.) Blooms Mar-Oct.	Not Expected	Potentially suitable chaparral habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field surveys, and was not observed.
<i>Lepechinia rossii</i> Ross' pitcher sage	None/None G1/S1 1B.2	Perennial shrub. Chaparral. Soil derived from fine-grained, reddish sedimentary rock. Elevations: 1000-2590ft. (305-790m.) Blooms May-Sep.	Not Expected	Potentially suitable chaparral habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field surveys, and was not observed.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	None/None G5T3/S3 4.3	Annual herb. Chaparral, coastal scrub. Dry soils, shrubland. 4-. Elevations: 5-2905ft. (1-885m.) Blooms Jan-Jul.	Low Potential	Potentially suitable chaparral and coastal scrub habitat occurs in the APE above the northern bank of the SCR. However, there are no documented CNDDB records within a five mile radius of the APE.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> ocellated Humboldt lily	None/None G4T4?/S4? 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Yellow-pine forest or openings, oak canyons. Elevations: 100-5905ft. (30-1800m.) Blooms Mar-Jul(Aug).	Not Expected	Intermittent Drainage 1 and wetted portions of the SCR provide potentially suitable mesic habitat. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	None/None G2/S2 1B.2	Perennial deciduous shrub. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy washes. Elevations: 605-3740ft. (185-1140m.) Blooms Jun-Jan.	Not Expected	Potentially suitable chaparral and coastal scrub habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field surveys, and was not observed.
<i>Mucronea californica</i> California spineflower	None/None G3/S3 4.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy soil. Elevations: 0-4595ft. (0-1400m.) Blooms Mar-Jul(Aug).	Low Potential	Potentially suitable chaparral, coastal scrub, and grassland habitat occurs in the APE above the northern bank of the SCR. However, there are no documented CNDDB records within a five mile radius of the APE.
<i>Nasturtium gambelii</i> Gambel's water cress	FE/SCT G1/S1 1B.1	Marshes and swamps (brackish, freshwater). Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5-305 m. Blooms Apr-Oct.	Not Expected	Intermittent Drainage 1 and the wetted portions of the SCR provide potentially suitable aquatic habitat. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
<i>Navarretia fossalis</i> spreading navarretia	FT/None G2/S2 1B.1	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevations: 100-2150ft. (30-655m.) Blooms Apr-Jun.	Not Expected	Chenopod scrub, vernal pools, and swales are absent from the APE
<i>Navarretia setiloba</i> Piute Mountains navarretia	None/None G2/S2 1B.1	Annual herb. Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Red clay soils, or on gravelly loam. Elevations: 935-6890ft. (285-2100m.) Blooms Apr-Jul.	Low Potential	Limited annual grassland habitat occurs to the north of the northern bank of the SCR. However, red clay soils and gravelly loam are generally absent from this area.
<i>Opuntia basilaris</i> var. <i>brachyclada</i> short-joint beavertail	None/None G5T3/S3 1B.2	Perennial stem. Chaparral, joshua tree woodland, mojavean desert scrub, pinyon and juniper woodland. Sandy soil or coarse, granitic loam. Elevations: 1395-5905ft. (425-1800m.) Blooms Apr-Jun(Aug).	Not Expected	Potentially suitable chaparral habitat occurs in the APE. However, this is a conspicuous perennial species that would have been identifiable during the field survey, and was not observed.
<i>Orcuttia californica</i> California Orcutt grass	FE/SCE G1/S1 1B.1	Annual herb. Vernal pools. Elevations: 50-2165ft. (15-660m.) Blooms Apr-Aug.	Not Expected	Vernal pools are absent from the APE.
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	None/None G4/S2 2B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy, gravelly sites. Elevations: 0-6890ft. (0-2100m.) Blooms (Jul)Aug-Nov(Dec).	Low Potential	Potentially suitable chaparral, coastal scrub and riparian woodland habitat occurs in the banks of the SCR in the APE to support this species. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
<i>Quercus durata</i> var. <i>gabrielensis</i> San Gabriel oak	None/None G4T3/S3 4.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Elevations: 1475-3280ft. (450-1000m.) Blooms Apr-May.	Not Expected	Potentially suitable chaparral habitat occurs in the APE. However, this is a conspicuous shrub species that would have been identifiable during the field survey, and was not observed.
<i>Senecio aphanactis</i> chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).	Not Expected	Alkaline areas within coastal scrub are absent from the APE. Additionally, there are no CNDDB records within a five mile radius of the APE.
<i>Symphyotrichum greatae</i> Greata's aster	None/None G2/S2 1B.3	Perennial rhizomatous herb. Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland. Mesic canyons. Elevations: 985-6595ft. (300-2010m.) Blooms Jun-Oct.	Not Expected	Potentially suitable mesic habitat occurs in Intermittent Drainage 1 and the SCR in the APE. However, this is a conspicuous perennial species that would have been identifiable during the field surveys, and was not observed.
Wildlife				
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Moderate Potential	Potentially suitable habitat occurs in the open scrubby and/or grassland habitat in the APE, including suitable forage genera (e.g., <i>Eriogonum</i>) and open, undeveloped land. One historic CNDDB record (Occurrence No. 135) overlaps the APE, and one recent CNDDB record (Occurrence No. 326) from 2019 is located approximately 3.3 miles south of the APE. This species may utilize the APE for foraging. Crotch bumble bees are not expected nest in the APE, as limited rodent dens were observed in the APE, and a large portion of the APE has been previously disturbed.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/None G3/S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not Expected	Vernal pools are absent from the APE.
<i>Danaus plexippus</i> pop. 1 monarch - California overwintering population	FC/None G4T2T3/S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected	No suitable eucalyptus groves are present within the APE.
<i>Euphydryas editha quino</i> quino checkerspot butterfly	FE/None G5T1T2/S1S2	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants <i>Plantago erecta</i> , <i>P. insularis</i> , and <i>Orthocarpus purpurescens</i> .	Not Expected	The APE is outside the known range of the species and suitable food plants are absent from the APE.
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE/None G1G2/S1S2	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Not Expected	Vernal pools are absent from the APE.
Fish				
<i>Catostomus santaanae</i> Santa Ana sucker	FT/None G1/S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Moderate Potential	Potentially suitable aquatic habitat occurs in the low-flow channel of the SCR, including sandy substrate and presence of algae. However, because there is no permanent water flow in this stretch of the SCR, this species would only occupy the river after a large storm event. One CNDDDB record (Occurrence No. 13) from 1993 is located in the SCR approximately 3.5 miles upstream (east) of the APE.
<i>Gasterosteus aculeatus williamsoni</i> unarmored threespine stickleback	FE/SE G5T1/S1 FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	Moderate Potential	Potentially suitable aquatic habitat occurs in the low-flow channel of the SCR, including presence of aquatic vegetation (e.g., watercress) and slow-moving water. However, because there is no permanent water flow in this stretch of the SCR, this species would only occupy the river after a large storm event. Two CNDDDB records (Occurrence No. 4 and 10) are located in the SCR approximately 3.5 miles upstream (Occurrence No. 4) and 3 miles downstream (Occurrence No. 10) of the APE.
<i>Gila orcuttii</i> arroyo chub	None/None G2/S2 SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Moderate Potential	Potentially suitable aquatic habitat occurs in the low-flow channel of the SCR, including sandy substrate and presence of algae. However, because there is no permanent water flow in this stretch of the SCR, this species would only occupy the river after a large storm event. One CNDDDB record (Occurrence No. 44) from 1999 is located in the SCR approximately 3 miles downstream (west) of the APE.
Amphibians				
<i>Anaxyrus californicus</i> arroyo toad	FE/None G2G3/S2 SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Moderate Potential	Only one CNDDDB record for this species exists within five miles of the APE, and is located approximately four miles upstream (Occurrence No. 48). There is a low probability of the species migrating through the APE because the SCR lacks sufficient water flow in this stretch of the SCR to support arroyo toad breeding. Therefore, this species has a moderate potential to occur.
<i>Spea hammondi</i> western spadefoot	None/None G2G3/S3S4 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Moderate Potential	Vernal pools are absent from the APE. However, suitable grassland habitat occurs to the north of the northern bank of the SCR in the APE, and there are four CNDDDB records (Occurrence No.'s 342-344, 1062) within one mile of the APE. This species may utilize the APE for foraging, but is not expected to use the APE for breeding.
Reptiles				
<i>Anniella</i> spp. California legless lizard	None/None G3G4/S3S4 SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of <i>Anniella</i> not yet assigned to new species within the <i>Anniella pulchra</i> complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	High Potential	Suitable open scrub and grassland habitats in and adjacent to the SCR are present within the APE, as well as loose, moist soil adjacent to the active channel of the SCR. There are multiple CNDDDB records of this species within a five mile radius of the APE, including one record that overlaps the APE (Occurrence No. 67).
<i>Arizona elegans occidentalis</i> California glossy snake	None/None G5T2/S2 SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Low Potential	Suitable open habitat with sandy soils are present within the banks of the SCR in the APE. However, all three CNDDDB records within a five mile radius of the APE are more than 60 years old.
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	High Potential	Suitable open scrub and grassland habitats in and adjacent to the SCR are present within the APE. There are multiple CNDDDB records of this species within a five mile radius of the APE, the closest being 0.2 mile southwest (Occurrence No. 117).

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
<i>Phrynosoma blainvillii</i> coast horned lizard	None/None G3G4/S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Moderate Potential	Suitable open scrub and grassland habitats with loose soils in and adjacent to the SCR are present within the APE. There are multiple CNDDB records of this species within a five mile radius of the APE, the closest being 3.5 miles east in Bee Canyon Wash (Occurrence No. 465).
<i>Thamnophis hammondi</i> two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Low Potential	Potentially suitable riparian habitat occurs in Intermittent Drainage 1 and the SCR. However, permanent sources of fresh water are absent from the APE, as the aforementioned drainage features are subject to periods of drying during summer months.
Birds				
<i>Accipiter cooperii</i> Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Moderate Potential	Potentially suitable nesting and/or foraging habitat is present in the Fremont cottonwood forest and woodland vegetation community in the APE. Additionally, this species was observed in the western portion of the APE in 2009 (City of Santa Clarita 2010).
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	None/None G5T3/S3 WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Low Potential	The western portion of the APE contains potentially suitable coastal scrub and chaparral, which are bounded by the SCR/residential development to the south and SR-14 to the north. Additionally, this species was documented in the western portion of the APE in 2009 (City of Santa Clarita 2010).
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	None/None G5T2T3/S3 WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	Low Potential	While chamise chaparral occurs within the western portion of the APE, this vegetation community contains loosely scattered shrub individuals with many open spaces in between shrubs. Therefore, this species has a low potential to occur.
<i>Athene cunicularia</i> burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low Potential	Suitable open habitat is present in the northern portion of the APE adjacent to the SCR. However, no mammalian activity was limited to a single ground squirrel during the field survey, and few mammal burrows were observed. None of the mammal burrows observed exhibited sign of burrowing owl (i.e., whitewash, pellets, feathers).
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Low Potential	The central and western portions of the APE feature low-quality riparian habitat for nesting and foraging for this species, as it contains a few isolated patches of Fremont cottonwood forest with some mature overstory Fremont cottonwood trees, and understory shrubs such as mulefat. There are no CNDDB occurrences within a five mile radius of the APE, and the APE is not located within USFWS-designated critical habitat for the species.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	FE/SE G5T2/S1	Riparian woodlands in Southern California.	Low Potential	The central and western portions of the APE feature low-quality riparian habitat for nesting and foraging for this species, as it contains a few isolated patches of Fremont cottonwood forest with some mature overstory Fremont cottonwood trees, and understory shrubs such as mulefat. There are no CNDDB occurrences within a five mile radius of the APE, and the APE is not located within USFWS-designated critical habitat for the species. The closest USFWS-designated critical habitat is more than eight miles downstream (west) of the APE.
<i>Eremophila alpestris actia</i> California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	High Potential	This species was previously documented within the western portion of the APE (City of Santa Clarita 2010). Potentially suitable habitat is present in the grassland (i.e., wild oats and annual brome grasslands) and sparse scrub communities in the APE.
<i>Falco mexicanus</i> prairie falcon	None/None G5/S4 WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Low Potential	Suitable breeding habitat (i.e., cliffsides) is absent from the APE. Although the APE contains some open habitat, it is fragmented by development to the north (the SR 14) and the south (residential development). Therefore, foraging habitat is considered low quality. Only one historic CNDDB record (Occurrence No. 465) from 1980 occurs approximately 2.6 miles east of the APE.
<i>Gymnogyps californianus</i> California condor	FE/SE G1/S1 FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	Not Expected	Potentially suitable foraging (i.e., open savannah, grasslands, or foothill chaparral) and breeding (i.e., cliffsides) habitat are absent from the APE.
<i>Lanius ludovicianus</i> loggerhead shrike	None/None G4/S4 SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Low Potential	One CNDDB occurrence almost 5 miles NW. Look for suitable perches/habitat.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
<i>Polioptila californica californica</i> coastal California gnatcatcher	FT/None G4G5T3Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Low Potential	Marginally suitable coastal sage scrub habitat exists in the western portion of the APE. The coastal sage scrub habitat within the APE includes sparsely scattered shrubs (e.g., California sagebrush and California buckwheat), and is fragmented by development to the north and south of the APE. One CNDDDB record overlaps the APE (Occurrence No. 998), but is more than 80 years old and is a non-specific occurrence that overlaps the entirety of Mint Canyon and Forest Park. The closest recent CNDDDB record (Occurrence No. 845) is approximately 2.5 miles southwest. The APE is not located within USFWS-designated critical habitat for the species. The closest USFWS-designated critical habitat is approximately 1.5 miles south of the APE.
<i>Vireo bellii pusillus</i> least Bell's vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Moderate Potential	The western portion of the APE within the Fremont cottonwood forest and woodland and sandbar willow thickets vegetation communities features potentially suitable riparian habitat for nesting and foraging for this species, as it contains a stratified canopy of riparian trees (e.g., Fremont cottonwood, arroyo willow, and red willow) and shrubs (e.g., arroyo willow and sandbar willow). There are no CNDDDB occurrences within a five mile radius of the APE, and the APE is not located within USFWS-designated critical habitat for the species. The closest USFWS-designated critical habitat is more than eight miles downstream (west) of the APE. The closest documented occurrence of the species is approximately 7.5 miles west of the APE at the confluence of San Francisquito Creek and the SCR (CNDDDB Occurrence No. 585). This record included one adult male; no LBVI were observed breeding at this occurrence location (CDFW 2024). In addition, multiple sightings of LBVI are documented in eBird at the confluence between Bouquet Canyon Creek and the SCR approximately six miles west of the APE (eBird 2024).
Mammals				
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls, ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Not Expected	Isolated patches of Fremont cottonwood forest and woodland occur in the southern portion of the APE within the banks of the SCR and Intermittent Drainage 1. However, these areas are situated immediately adjacent to development (e.g., SR 14, commercial and residential development). One historic CNDDDB record (Occurrence No. 305) from 1942 is located approximately 3 miles north of the APE.
<i>Eumops perotis californicus</i> western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	Low Potential	Suitable roosting habitat (rock crevices in cliffs and caves) is absent from the APE. While existing structures are present in the APE, they are frequently disturbed/occupied by humans, and do not provide suitable roosting habitat. Use of the APE by this species would be for foraging only.
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	None/None G5T3T4/S3S4	Occurs in Los Angeles, San Bernardino, Riverside, and San Diego Counties of southern California. Typically found in open shrub habitats. Will also occur in woodland habitats with open understory adjacent to shrublands.	High Potential	Suitable habitat exists within the banks of the SCR throughout the APE, as well as the chaparral and scrub habitats to the north of the SCR. Additionally, there is a recent CNDDDB record (Occurrence No. 106) within the SCR approximately 300 feet southwest of the proposed staging area.
<i>Onychomys torridus ramona</i> southern grasshopper mouse	None/None G5T3/S3 SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Not Expected	Scrub habitat is present within the APE; however, the soils in the APE are primarily sandy, and are not friable. Additionally, only one historic CNDDDB record (Occurrence No. 24) from 1930 occurs within a five mile radius of the APE, approximately five miles northeast.

Regional Vicinity refers to within a nine-quadrangle search area of site.

Scientific Name			Potential to	
Common Name	Status	Habitat Requirements	Occur in Project Area	Habitat Suitability/ Observations
Status (Federal/State)			California Rare Plant Rank (California Native Plant Society)	
FE =	Federal Endangered		1A =	Presumed extirpated in California, and rare or extinct elsewhere
FT =	Federal Threatened		1B =	Rare, Threatened, or Endangered in California and elsewhere
FPE =	Federal Proposed Endangered		2A =	Presumed extirpated in California, but common elsewhere
FPT =	Federal Proposed Threatened		2B =	Rare, Threatened, or Endangered in California, but more common elsewhere
FD =	Federal Delisted		3 =	Need more information (Review List)
FC =	Federal Candidate		4 =	Limited Distribution (Watch List)
SE =	State Endangered		California Rare Plant Rank Threat Code Extension	
ST =	State Threatened		.1 =	Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
SCE =	State Candidate Endangered		.2 =	Moderately threatened in California (20 to 80% of occurrences threatened/moderate degree and immediacy of threat)
SCT =	State Candidate Threatened		.3 =	Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)
SR =	State Rare		Additional notations may be provided as follows	
SD =	State Delisted		T –	Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
SSC =	CDFW Species of Special Concern		Q –	Questionable taxonomy that may reduce conservation priority
FP =	CDFW Fully Protected		? –	Inexact numeric rank
WL =	CDFW Watch List			
Other Statuses				
G1 or S1	Critically Imperiled Globally or Subnationally (state)			
G2 or S2	Imperiled Globally or Subnationally (state)			
G3 or S3	Vulnerable to extirpation or extinction Globally or Subnationally (state)			
G4/5 or S4/5	Apparently secure, common and abundant			
GH or SH	Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery			

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Appendix D

Site Photographs



Photograph 1. Photo Point 1. View of the western portion of the APE where rock slope protection is proposed, showing the SCR on the right and an existing access road on the left, facing east. Note presence of existing rip-rap along the bank of the SCR (August 1, 2023).



Photograph 2. Photo Point 2. View of the western portion of the APE, showing an existing access road and Mitchell Hill to the right (north), facing west (August 1, 2023).



Photograph 3. Photo Point 3. View of the western portion of the APE above the SCR channel on Mitchell Hill. Note presence of wild oats and annual brome grasslands and clustered tarweed fields, facing southwest (August 1, 2023).



Photograph 4. Photo Point 4. View of the chamise chaparral vegetation community in the western portion of the APE, facing southwest. This vegetation community occurs on Mitchell Hill where jack-and-bore construction would occur (August 1, 2023).



Photograph 5. Photo Point 5. View of the western portion of the APE where jack-and-bore activities would occur, facing southwest. Note existing access road and SCR channel (August 1, 2023).



Photograph 6. Photo Point 6. View of the SCR channel in the southwestern portion of the APE where rock slope protection is proposed, facing southeast. Note presence of non-native tree (e.g., blue gum eucalyptus) along the northern bank of the SCR, and California sagebrush – California buckwheat scrub along the side-slope (August 1, 2023).



Photograph 7. Photo Point 7. View of Fremont cottonwood woodland associated with Intermittent Drainage 1 in the western portion of the APE, facing northeast (August 1, 2023).



Photograph 8. Photo Point 8. View of chamise chaparral on Mitchell Hill adjacent to an existing trail in the western portion of the APE, and to the north of the SCR, facing north (August 1, 2023).



Photograph 9. Photo Point 9. View of the SCR channel in the central portion of the APE, immediately south of Intermittent Drainage 1, facing southwest (August 1, 2023).



Photograph 10. Photo Point 10. View of Intermittent Drainage 1 in the central portion of the APE, facing southwest. Note presence of cattails and Fremont cottonwood trees (August 1, 2023).



Photograph 11. Photo Point 11. View of an isolated patch of Fremont cottonwood woodland in the northern portion of the APE, facing west (August 1, 2023).



Photograph 12. Photo Point 12. View of the upland mustards vegetation community in the central portion of the APE and to the north of the SCR channel, facing southwest. The proposed access road would cross this non-native vegetation community (August 1, 2023).



Photograph 13. Photo Point 13. View of the thick-leaved yerba santa scrub vegetation community in the central portion of the APE, facing west. This vegetation community is located within the banks of the SCR (August 1, 2023).



Photograph 14. Photo Point 14. View of the active channel of the SCR in the southwestern portion of the APE, facing west (August 1, 2023).



Photograph 15. Photo Point 15. View of the northern bank of the SCR in the central portion of the APE where soil cement bank protection is proposed, facing west. Note unstable, eroding bank and compacted, barren soils immediately north of the bank (August 1, 2023).



Photograph 16. Photo Point 16. View of Ephemeral Drainage 1 at its confluence with the SCR in the central portion of the APE, facing northwest. Bridge installation is proposed at this location where the access road would cross the drainage feature (August 1, 2023).



Photograph 17. Photo Point 17. View of the California buckwheat scrub (right) and upland mustards (left) in the central portion of the APE, facing west (August 1, 2023).



Photograph 18. Photo Point 18. View of the northern bank of the SCR in the central portion of the APE where soil cement bank protection is proposed, facing east. Note unstable, eroding bank (August 1, 2023).



Photograph 19. Photo Point 19. View of the SCR channel in the eastern portion of the APE, facing southwest. Note dry riverbed and the riverwash land cover type (August 1, 2023).



Photograph 20. Photo Point 20. View of the SCR channel in the eastern portion of the APE, facing west. Note dry riverbed and the riverwash land cover type (August 1, 2023).



Photograph 21. Photo Point 21. View of the SCR near the Sand Canyon Road bridge, facing northeast. Note dry riverbed and isolated Fremont cottonwood tree to the right, and giant reed breaks to the left along the bank (August 1, 2023).



Photograph 22. Photo Point 22. View of the northern bank of the SCR in the northeastern portion of the APE, facing southwest. Note steep bank and presence of mulefat at the toe of the bank (August 1, 2023).



Photograph 23. Photo Point 23. View of the SCR in the northeastern portion of the APE, facing southwest. Note presence of abandoned, flipped car in the river bed (August 1, 2023).



Photograph 24. Photo Point 24. View of the scale broom scrub vegetation community in the northeastern portion of the APE, facing southwest (August 1, 2023).



Photograph 25. Photo Point 25. View of the northern bank of the SCR to the east of the Sand Canyon Bridge, facing southwest. Note presence of rip-rap along the northern bank (August 1, 2023).



Photograph 26. Photo Point 26. View of the Intermittent Drainage 1 culvert outlet that transports flows underneath SR-14 and into the APE, facing north. Note large amount of sediment deposition and riparian vegetation (August 4, 2023).



Photograph 27. Photo Point 27. View of Intermittent Drainage 1, highlighting slow-moving water and presence of riparian vegetation, facing south (August 4, 2023).



Photograph 28. Photo Point 28. View of the SCR channel in the central portion of the APE, facing east. Soil cement bank protection is proposed along the northern bank, which is on the left hand side of the photograph (August 4, 2023).



Photograph 29. Photo Point 29. View of the confluence between Ephemeral Drainage 1 and the SCR, facing northeast (August 4, 2023).



Photograph 30. Photo Point 30. View of the tamarisk thickets vegetation community in the central portion of the APE, facing southeast. These non-native trees are anticipated to be removed as part of access road development (August 4, 2023).



Photograph 31. Photo Point 31. View of wetlands associated with Intermittent Drainage 1 in the central portion of the APE, facing southwest. Bridge installation is proposed at this location where the access road would cross the drainage feature (August 4, 2023).



Photograph 32. Photo Point 32. View of Fremont cottonwood tree that occurs near the eastern bore-pit location, facing northeast. This tree may require trimming and/or removal (August 4, 2023).



Photograph 33. Photo Point 33. View of the developed land cover type in the northeastern portion of the APE, facing northeast (August 4, 2023).



Photograph 34. Photo Point 34. View of the proposed staging area in the southwestern portion of the APE, facing east (October 16, 2023).



Photograph 35. Photo Point 35. View of an existing access road and the SCR channel in the southwestern portion of the APE near the proposed staging area, facing north (October 16, 2023).



Photograph 36. Photo Point 36. View of manhole removal access route from Lost Canyon Road on the southern bank of the SCR, facing northwest. Photograph also shows the unvegetated bed of Sand Canyon Creek (December 13, 2024).



Photograph 37. Photo Point 37. View of manhole removal access route through the unvegetated bed of Sand Canyon Creek, facing northwest (December 13, 2024).



Photograph 38. Photo Point 38. View of western-most manhole removal access route and manhole removal location within the floodplain of the SCR, and showing arroyo willow trees proposed for removal, facing northwest (December 13, 2024).



Photograph 39. Photo Point 39. View of manhole removal location within the bed of the SCR, facing northwest (December 13, 2024).



Photograph 40. View of SP01, facing northwest (August 4, 2023).



Photograph 41. View of SP02, facing south (August 4, 2023).



Photograph 42. View of SP03, facing northeast (August 4, 2023).



Photograph 43. View of SP04, facing west (August 4, 2023).



Photograph 44. View of SP05, facing west (December 13, 2024).



Photograph 45. View of San Fernando Valley spineflower blooming at a known reference site (CNDDDB Occurrence No. 11) within the Santa Monica Mountains (April 18, 2024).



Photograph 46. View of slender mariposa lily blooming at a reference site immediately north of State Route 127, approximately 5 miles west of the unincorporated town of Piru (May 8, 2024).

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Appendix E

Floral and Faunal Compendium

Plant and Wildlife Species Detected in the APE on August 1 and October 16, 2023, and May 8, 2024

Scientific Name	Common Name	Status	Native or Introduced
Plants			
<i>Acacia redolens</i>	catclaw acacia	–	Introduced
<i>Acmispon americanus</i>	Spanish lotus	–	Native
<i>Acmispon glaber</i>	deerweed	–	Native
<i>Acmispon maritimus</i>	coastal lotus	–	Native
<i>Acmispon strigosus</i>	strigose lotus	–	Native
<i>Adenostoma fasciculatum</i>	chamise	–	Native
<i>Ailanthus altissima</i>	tree of heaven	Cal-IPC Moderate	Introduced
<i>Ambrosia acanthicarpa</i>	annual bursage	–	Native
<i>Ambrosia psilostachya</i>	western ragweed	–	Native
<i>Amsinckia menziesii</i>	Menzies' fiddleneck	–	Native
<i>Anemopsis californica</i>	yerba mansa	–	Native
<i>Artemisia californica</i>	California sagebrush	–	Native
<i>Artemisia douglasiana</i>	mugwort	–	Native
<i>Artemisia dracuncululus</i>	tarragon	–	Native
<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	big sagebrush	–	Native
<i>Arundo donax</i>	giant reed	Cal-IPC High	Introduced
<i>Atriplex canescens</i>	fourwing saltbush	–	Native
<i>Atriplex polycarpa</i>	allscale saltbush	–	Native
<i>Avena barbata</i>	slender wild oats	Cal-IPC Moderate	Introduced
<i>Baccharis pilularis</i>	coyote brush	–	Native
<i>Baccharis salicifolia</i>	mulefat	–	Native
<i>Brassica nigra</i>	black mustard	Cal-IPC Moderate	Introduced
<i>Bromus diandrus</i>	ripgut brome	Cal-IPC Moderate	Introduced
<i>Bromus hordeaceus</i>	soft brome	Cal-IPC Limited	Introduced
<i>Bromus rubens</i>	red brome	Cal-IPC High	Introduced
<i>Bromus tectorum</i>	cheat grass	Cal-IPC High	Introduced
<i>Calochortus splendens</i>	splendid mariposa lily	–	Native
<i>Calochortus venustus</i>	butterfly mariposa lily	–	Native
<i>Calyptidium monandrum</i>	pussy paws	–	Native
<i>Calystegia macrostegia</i>	coast morning glory	–	Native
<i>Camissonia contorta</i>	plains evening primrose	–	Native
<i>Camissoniopsis bistorta</i>	California sun cup	–	Native
<i>Camissoniopsis micrantha</i>	Spencer primrose	–	Native
<i>Carduus pycnocephalus</i>	Italian thistle	Cal-IPC Moderate	Introduced
<i>Centaurea melitensis</i>	tocalote	Cal-IPC Moderate	Introduced
<i>Chaenactis glabriuscula</i>	yellow pincushion	–	Native

Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

Scientific Name	Common Name	Status	Native or Introduced
<i>Chenopodium album</i>	white goosefoot	–	Introduced
<i>Chenopodium californicum</i>	California goosefoot	–	Native
<i>Chenopodium rubrum</i>	red goosefoot	–	Introduced
<i>Chorizanthe brevicornu</i>	brittle spineflower	–	Native
<i>Chorizanthe staticoides</i>	Turkish rugging	–	Native
<i>Cirsium occidentale</i>	cobwebby thistle	–	Native
<i>Cirsium vulgare</i>	bull thistle	Cal-IPC Moderate	Introduced
<i>Corethrogyne filaginifolia</i>	common sandaster	–	Native
<i>Croton setiger</i>	doveweed	–	Native
<i>Cryptantha intermedia</i>	common cryptantha	–	Native
<i>Cuscuta californica</i>	California dodder	–	Native
<i>Cylindropuntia prolifera</i>	coast cholla	–	Native
<i>Cyperus eragrostis</i>	tall flatsedge	–	Native
<i>Cyperus involucratus</i>	umbrella plant	–	Introduced
<i>Datura wrightii</i>	sacred datura	–	Native
<i>Deinandra fasciculata</i>	clustered tarweed	–	Native
<i>Elymus condensatus</i>	giant wild rye	–	Native
<i>Encelia farinosa</i>	brittle bush	–	Native
<i>Epilobium ciliatum</i>	fringed willowherb	–	Native
<i>Eriastrum densifolium</i>	giant eriastrum	–	Native
<i>Ericameria linearifolia</i>	narrowleaf goldenbush	–	Native
<i>Ericameria nauseosa</i>	rubber rabbit brush	–	Native
<i>Erigeron canadensis</i>	Canada horseweed	–	Native
<i>Eriodictyon crassifolium</i>	thick-leaved yerba santa	–	Native
<i>Eriogonum elongatum</i>	longstem buckwheat	–	Native
<i>Eriogonum fasciculatum</i>	California buckwheat	–	Native
<i>Eriogonum spergulinum</i>	spurry buckwheat	–	Native
<i>Erodium cicutarium</i>	redstem filaree	Cal-IPC Limited	Introduced
<i>Eschscholzia californica</i>	California poppy	–	Native
<i>Eulobus californicus</i>	California primrose	–	Native
<i>Euphorbia albomarginata</i>	rattlesnake sandmat	–	Introduced
<i>Euphorbia maculata</i>	spotted spurge	–	Introduced
<i>Festuca myuros</i>	rattail fescue	Cal-IPC Moderate	Introduced
<i>Ficus carica</i>	common fig	Cal-IPC Moderate	Introduced
<i>Fraxinus velutina</i>	Oregon ash	–	Native
<i>Gilia angelensis</i>	chaparral gilia	–	Native
<i>Helianthus annuus</i>	annual sunflower	–	Native
<i>Heliotropium curassavicum</i>	alkali heliotrope	–	Native
<i>Hesperoyucca whipplei</i>	chaparral yucca	–	Native
<i>Heterotheca grandiflora</i>	telegraph weed	–	Native

Scientific Name	Common Name	Status	Native or Introduced
<i>Heterotheca sessiliflora</i>	golden aster	–	Native
<i>Hirschfeldia incana</i>	summer mustard	Cal-IPC Moderate	Introduced
<i>Hypochaeris glabra</i>	smooth cat's ears	Cal-IPC Limited	Introduced
<i>Juniperus californica</i>	California juniper	–	Native
<i>Lactuca serriola</i>	prickly lettuce	–	Introduced
<i>Lasthenia californica</i>	California goldfields	–	Native
<i>Lepidium latifolium</i>	perennial pepperweed	–	Introduced
<i>Lepidospartum squamatum</i>	scale broom	–	Native
<i>Lessingia glandulifera</i>	valley lessingia	–	Native
<i>Logfia gallica</i>	narrowleaf cottonrose	–	Introduced
<i>Lupinus bicolor</i>	bicolor lupine	–	Native
<i>Lupinus hirsutissimus</i>	stinging lupine	–	Native
<i>Lupinus microcarpus</i>	chick lupine	–	Native
<i>Lupinus succulentus</i>	arroyo lupine	–	Native
<i>Malacothrix saxatilis</i>	cliff aster	–	Native
<i>Marah sp.</i>	marah	–	Native
<i>Marrubium vulgare</i>	white horehound	Cal-IPC Limited	Introduced
<i>Matricaria discoidea</i>	pineapple weed	–	Introduced
<i>Melica imperfecta</i>	California melicgrass	–	Native
<i>Melilotus albus</i>	white sweetclover	–	Introduced
<i>Melilotus indica</i>	yellow sweetclover	–	Introduced
<i>Microsteris gracilis</i>	slender phlox	–	Native
<i>Mimulus guttata</i>	seep monkeyflower	–	Native
<i>Mirabilis laevis</i>	wishbone bush	–	Native
<i>Muhlenbergia rigens</i>	deergrass	–	Native
<i>Nicotiana glauca</i>	tree tobacco	Cal-IPC Moderate	Introduced
<i>Opuntia basilaris</i> var. <i>basilaris</i>	beavertail cactus	–	Native
<i>Opuntia engelmannii</i>	cactus apple	–	Native
<i>Pectocarya penicillata</i>	winged comb seed	–	Native
<i>Persicaria lapathifolia</i>	common knotweed	–	Native
<i>Phacelia cicutaria</i>	caterpillar phacelia	–	Native
<i>Phacelia distans</i>	distant phacelia	–	Native
<i>Phacelia ramosissima</i>	branching phacelia	–	Native
<i>Pinus spp.</i>	ornamental pine	–	Introduced
<i>Plagiobothrys collinus</i>	Cooper's popcornflower	–	Native
<i>Platanus racemosa</i>	western sycamore	–	Native
<i>Polygonum aviculare</i>	prostrate knotweed	–	Introduced
<i>Polypogon monspeliensis</i>	annual rabbitsfoot grass	Cal-IPC Limited	Introduced
<i>Polypogon viridis</i>	water beard grass	–	Introduced
<i>Populus fremontii</i>	Fremont cottonwood	–	Native

Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

Scientific Name	Common Name	Status	Native or Introduced
<i>Prunus ilicifolia</i>	hollyleaf cherry	–	Native
<i>Pseudognaphalium biolettii</i>	two-color rabbit-tobacco	–	Native
<i>Pseudognaphalium californicum</i>	ladies' tobacco	–	Native
<i>Quercus agrifolia</i>	coast live oak	–	Native
<i>Rafinesquia californica</i>	California chicory	–	Native
<i>Rhus aromatica</i>	fragrant sumac	–	Native
<i>Ribes speciosum</i>	fuchsiaflower gooseberry	–	Native
<i>Ricinus communis</i>	castor bean	Cal-IPC Limited	Introduced
<i>Robinia pseudoacacia</i>	black locust	Cal-IPC Limited	Introduced
<i>Rumex crispus</i>	curly dock	Cal-IPC Limited	Introduced
<i>Rumex pulcher</i>	fiddle dock	–	Introduced
<i>Rumex salicifolius</i>	willow dock	–	Native
<i>Salix exigua</i>	sandbar willow	–	Native
<i>Salix laevigata</i>	red willow	–	Native
<i>Salix lasiolepis</i>	arroyo willow	–	Native
<i>Salsola tragus</i>	Russian thistle	Cal-IPC Limited	Introduced
<i>Salvia apiana</i>	white sage	–	Native
<i>Salvia columbiarae</i>	chia	–	Native
<i>Sambucus mexicana</i>	blue elderberry	–	Native
<i>Schinus molle</i>	Peruvian pepper tree	Cal-IPC Limited	Introduced
<i>Schismus barbatus</i>	Mediterranean grass	Cal-IPC Limited	Introduced
<i>Schoenoplectus</i> spp.	bulrush	–	Native
<i>Sisymbrium altissimum</i>	tumble mustard	–	Introduced
<i>Sisymbrium irio</i>	London rocket	Cal-IPC Limited	Introduced
<i>Solanum xanti</i>	chaparral nightshade	–	Native
<i>Sonchus oleraceus</i>	common sow thistle	–	Introduced
<i>Spartium junceum</i>	Spanish broom	Cal-IPC High	Introduced
<i>Stellaria media</i>	common chickweed	–	Introduced
<i>Stephanomeria cichoriacea</i>	chicoryleaf wirelettuce	–	Native
<i>Stipa miliaceae</i>	smilo grass	–	Introduced
<i>Syagrus romanzoffiana</i>	queen palm	–	Introduced
<i>Tamarix aphylla</i>	athel tamarisk	Cal-IPC Limited	Introduced
<i>Typha</i> spp.	cattail	–	Native
<i>Uropappus lindleyi</i>	silverpuffs	–	Native
<i>Urtica dioica</i>	stinging nettle	–	Native
<i>Verbena lasiostachys</i>	western vervain	–	Native
<i>Veronica anagallis-aquatica</i>	water speedwell	–	Introduced
<i>Washingtonia robusta</i>	Mexican fan palm	Cal-IPC Moderate	Introduced
<i>Xanthium strumarium</i>	rough cocklebur	–	Native
<i>Zeltnera exaltata</i>	desert centaury	–	Native

Scientific Name	Common Name	Status	Native or Introduced
Wildlife			
Birds			
<i>Buteo jamaicensis</i>	red-tailed hawk	—	Native
<i>Charadrius vociferus</i>	killdeer	—	Native
<i>Corvus brachyrhynchos</i>	American crow	—	Native
<i>Corvus corax</i>	common raven	—	Native
<i>Lepus californicus</i>	black-tailed jackrabbit	—	Native
<i>Spinus psaltria</i>	lesser goldfinch	—	Native
Mammals			
<i>Canis latrans</i>	coyote (scat)	—	Native
<i>Canis lupus familiaris</i>	domesticated dog	—	Native
<i>Otospermophilus beecheyi</i>	California ground squirrel	—	Native
Reptiles			
<i>Sceloporus occidentalis</i>	western fence lizard	—	Native

Source: Rincon Consultants biological resources reconnaissance field survey conducted on August 1 and October 16, 2023; Calflora 2023; California Invasive Plant Council (Cal-IPC) 2023, which rates introduced species according to their level of invasiveness.

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Appendix F

Ordinary High Water Mark and Wetland Determination Data Forms

Arid West Ephemeral and Intermittent Streams OHW Data Sheet

Project: SCWA Sand Canyon Project Number: 22-19523 Stream: Santa Clara River Investigator(s): Kyle Green		Date: 8/11/2023 Time: 11:00 a.m. Town: Santa Clara State: CA Photo begin file#: Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: W in SC near Sand Canyon Road Bridge Projection: UTM Datum: NAD83 Coordinates: 34.1123674, -118.422226	
Potential anthropogenic influences on the channel system: Anthropogenic pollution (fluids, trash, water sources), commercial/residential development			
Brief site description: Santa Clara River w/ in eastern limits of Santa Clara. Intermittent portion of drainage w/ multiple low-flow channels			
Checklist of resources (if available): <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> Aerial photography Dates: 2023 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 45%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
<div style="text-align: center;"> <p>Hydrogeomorphic Floodplain Units</p> </div> <p>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</p> <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <input type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Digitized on computer <input type="checkbox"/> Other: </div> 			

Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

Project ID: 22-13773 Cross section ID: SCR 011-01 Date: 8/4/2023 Time: 11:00 am

Cross section drawing: Top of Bank
350 ft wide, 12 ft deep
5 ft wide, 3 ft deep
low flow channels

OHWM
GPS point: Left OHWM: 34.423906, -118.422453
Right OHWM: 34.423556, -118.422067

Indicators:

<input type="checkbox"/> 1 Change in average sediment texture	<input type="checkbox"/> 7 Break in bank slope
<input type="checkbox"/> 2 Change in vegetation species	<input type="checkbox"/> Other: _____
<input type="checkbox"/> 3 Change in vegetation cover	<input type="checkbox"/> Other: _____

Comments:
1 - change from sand in OHWM to pebbles & fine sand above OHWM
2 - generally unvegetated in OHWM, 3 variety of species (e.g. Fremont cottonwood, scale broom, thick-leaved yucca, santa) above OHWM
3 - 7 in veg cover outside OHWM; 11 - observed break in slope

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: same as OHWM

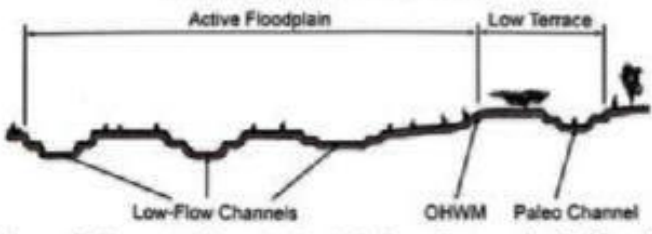
Characteristics of the floodplain unit:
Average sediment texture: Sand
Total veg cover: 5 % Tree: 0 % Shrub: 2.5 % Herb: 2.5 %
Community successional stage:
☐ NA ☐ Mid (herbaceous, shrubs, saplings)
☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

<input type="checkbox"/> Mudcracks	<input checked="" type="checkbox"/> Soil development
<input type="checkbox"/> Ripples	<input type="checkbox"/> Surface relief
<input checked="" type="checkbox"/> Drift and/or debris	<input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Presence of bed and bank	<input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Benches	<input type="checkbox"/> Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHIWM Datasheet

Project: SCWA Sand Canyon Project Number: 22-15423 Stream: Ephemeral drainage 21 Investigator(s): V. Green		Date: 8/11/2023 Town: Castle Rock, CA Photo begin file#: Photo end file#:			
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?		Location Details: Tributary to SCR west of Sand Canyon bridge			
Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Projection: UTM Datum: NAD83 Coordinates: 311 622593, -118.426606			
Potential anthropogenic influences on the channel system: Development, pollution					
Brief site description: Small single-thread ephemeral drainage w/ mulch thickets & buckwheat scrub vegetation flows N → S into SCR					
Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aerial photography Dates: 7/2/23 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </td> </tr> </table>				<input checked="" type="checkbox"/> Aerial photography Dates: 7/2/23 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
<input checked="" type="checkbox"/> Aerial photography Dates: 7/2/23 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event				
Hydrogeomorphic Floodplain Units 					
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"> <input type="checkbox"/> Mapping on aerial photograph <input type="checkbox"/> Digitized on computer </td> <td style="width: 50%;"> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </td> </tr> </table> 				<input type="checkbox"/> Mapping on aerial photograph <input type="checkbox"/> Digitized on computer	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other:
<input type="checkbox"/> Mapping on aerial photograph <input type="checkbox"/> Digitized on computer	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other:				

Project ID: 22-13673 Cross section ID: SD OH-01 Date: 8/4/23 Time: 1:10 PM

Cross section drawing:

OHWM

GPS point: 31.412602, -118.426619

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Change in average sediment texture | <input type="checkbox"/> Break in bank slope |
| <input type="checkbox"/> Change in vegetation species | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Change in vegetation cover | <input type="checkbox"/> Other: _____ |

Comments:

- 1 - Sand in OHWM, fine sand/silt above OHWM
- 2 - BASAL in OHWM, upland shrubs outside OHWM
- 3 - ↑ in veg. cover outside OHWM
- 4 - observed break in slope

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: Same as OHWM

Characteristics of the floodplain unit:

Average sediment texture: Sand

Total veg cover: 30 % Tree: 0 % Shrub: 20 % Herb: 10 %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input checked="" type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input checked="" type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHW Data Sheet

Project: <i>SEWA Sand Canyon</i>	Date: <i>8/11/2023</i>	Time: <i>3:00pm</i>
Project Number: <i>22-12523</i>	Town: <i>Salto County</i>	State: <i>CA</i>
Stream: <i>Intermittent Drainage 01</i>	Photo begin file#:	Photo end file#:
Investigator(s): <i>K. Gagn</i>		

Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Do normal circumstances exist on the site?	Location Details: <i>South of Hwy 14 adjacent to SCR.</i>
---	---

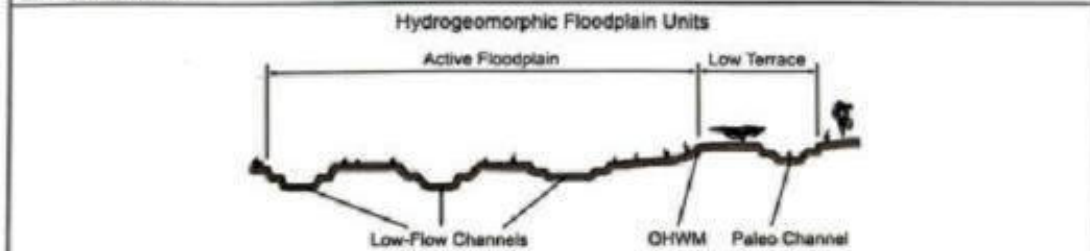
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	Projection: <i>NAD83</i> Datum: <i>NAD83</i>
	Coordinates: <i>34.622078, -118.629524</i>

Potential anthropogenic influences on the channel system:
Anthropogenic water sources (e.g. residential/commercial/agricultural runoff), Pollution (e.g. trash, fluids).

Brief site description:
Intermittent drainage feature that flows N→S under Hwy 14 into SCR. Largely sourced from anthropogenic sources as described above. Large amount of sediment deposition in drainage & trash as well.

Checklist of resources (if available):

<input checked="" type="checkbox"/> Aerial photography Dates: <i>2023</i>	<input type="checkbox"/> Stream gage data Gage number: Period of record:
<input checked="" type="checkbox"/> Topographic maps	<input type="checkbox"/> History of recent effective discharges
<input type="checkbox"/> Geologic maps	<input type="checkbox"/> Results of flood frequency analysis
<input type="checkbox"/> Vegetation maps	<input type="checkbox"/> Most recent shift-adjusted rating
<input type="checkbox"/> Soils maps	<input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
<input type="checkbox"/> Rainfall/precipitation maps	
<input type="checkbox"/> Existing delineation(s) for site	
<input checked="" type="checkbox"/> Global positioning system (GPS)	
<input type="checkbox"/> Other studies	

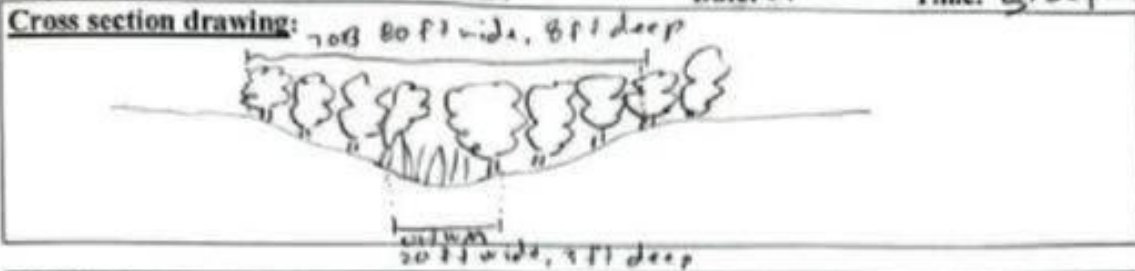


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
 - a) Record the floodplain unit and GPS position.
 - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
 - c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

Project ID: 72-13528 Cross section ID: SD 011-01 Date: 8/11/2023 Time: 3:00pm



OHWM

GPS point: 31. 422 028, -110. 42 9574

Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Change in average sediment texture | <input checked="" type="checkbox"/> Break in bank slope |
| <input checked="" type="checkbox"/> Change in vegetation species | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Change in vegetation cover | <input type="checkbox"/> Other: _____ |

Comments:

- 1 - cattails (Typha spp.) 3 tall flatsedge (Cyperus acrogrus?) occur in OHWM, & do not occur outside OHWM
- 2 - evident break in slope.

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: same as OHWM

Characteristics of the floodplain unit:

Average sediment texture: loam

Total veg cover: 95 % Tree: 50 % Shrub: 0 % Herb: 45 %

Community successional stage:

- | | |
|---|---|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input checked="" type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Mudcracks | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input checked="" type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Database

Project: 1000 Canyon Watershed
Project Number: 21-14523
Stream: 003 (0.154 CFS @ 1/2 mile)
Wetland: 003 (0.154 CFS @ 1/2 mile)
Investigator(s): K. L. Green
Date: 01/15/2004
Time: 10:00
State: CA
Photo end date:

Location Details: (with cross-section sketch)
Projection: UTM
Datum: NAD 83
Coordinates: 39-02-00N, 119-01-40W

Potential anthropogenic influences on the channel system:
 1. Is the site significantly disturbed? ☐ Yes ☒ No
 2. Do normal circumstances exist on the site? ☒ Yes ☐ No

Brief site description:
 0.25 km² watershed, mostly agricultural, some residential. The site is a small, ephemeral stream, mostly dry, with some water in the channel. The stream is located in a desert environment, with some shrubs and grasses. The stream is located in a desert environment, with some shrubs and grasses.

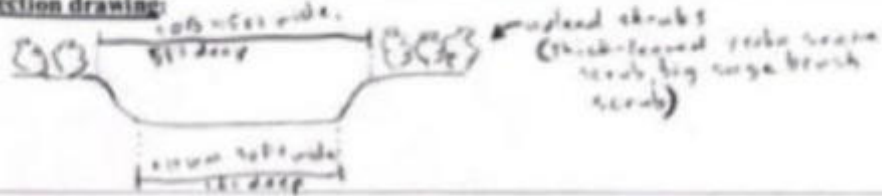
Checklist of resources (if available):
☒ Aerial photography
☒ Topographic maps
☒ Geologic maps
☐ Vegetation maps
☐ Soil maps
☐ Remote sensing maps
☒ Existing determination(s) for site
☒ Global positioning system (GPS)
☐ Other studies

Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:
 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
 4. Record the floodplain unit and GPS position.
 5. Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
 6. Identify any indicators present at the location.
 7. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
 8. Identify the OHWM and record the indicators. Record the OHWM position via:
☐ Mapping on aerial photograph
☐ Digitized on computer
☐ GPS
☐ Other

Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

Project ID: 22-75023 Cross section ID: OH-01 Date: 12/17/25 Time:

Cross section drawing:



OHWM

GPS point: 22-1120058, -118-47-1740

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Change in average sediment texture | <input type="checkbox"/> Break in bank slope |
| <input type="checkbox"/> Change in vegetation species | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Change in vegetation cover | <input type="checkbox"/> Other: _____ |

Comments:

- 1- sand/coarse sand in OHWM, coarse above OHWM
- 2- unvegetated within the OHWM, upland scrub
- 3- observed break in bank slope

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: same as OHWM

Characteristics of the floodplain unit:

Average sediment texture: coarse sand

Total veg cover: 5% Tree: 0% Shrub: 2-5% Herb: 5%

Community successional stage:

- | | |
|--|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input checked="" type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 22-13573 Sand Canyon City/County: San Joaquin/LA Co. Sampling Date: 8/11/2023
 Applicant/Owner: SCUWA State: CA Sampling Point: SP01
 Investigator(s): K. Coern Section, Township, Range: 32S, T04N, R15W
 Landform (hillslope, terrace, etc.): Upland bar in active floodplain of river Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): C-Mediterranean California Lat: 31.433063 Long: -118.171130 Datum: NAD84
 Soil Map Unit Name: riverwash NW classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation X Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation X Soil N or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>	
Remarks: <u>Hydrophytic veg & hydrology Met, but no evidence of hydric soils or problematic hydrology. Therefore, wetland not present.</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30x30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>N/A</u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15x15</u>)				
1. <u>Baccharis californica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Leucospartum sp. novum</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
3. <u> </u>				
<u>6</u> = Total Cover				
Herb Stratum (Plot size: <u>3x5</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≥3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Baccharis californica</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
2. <u>Nototrientalis alba</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
3. <u> </u>				
4. <u> </u>				
<u>2</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15x15</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u>N/A</u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>		% Cover of Biotic Crust <u> </u>		
Remarks: <u>One mullet individual & one scale brom. individual occur in sample radius. Mullet is dominant, therefore qualifying for hydric veg.</u>				

Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 22-13573 Sand Canyon City/County: Santa Clarita/LA Co. Sampling Date: 8/11/2023
Applicant/Owner: SCUWA State: CA Sampling Point: SP01
Investigator(s): K. Coern Section, Township, Range: 32S, T04N, R15W
Landform (hillslope, terrace, etc.): Upland basin Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR): C-Mediterranean California Lat: 34.433063 Long: -118.171130 Datum: NAD84
Soil Map Unit Name: riverwash NW classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation X Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation X Soil N or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>	
Remarks: <u>Hydrophytic veg & hydrology Met, but no evidence of hydric soils or problematic hydric soils. Therefore, wetland not present.</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30x30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>N/A</u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15x15</u>) 1. <u>Baccharis californica</u> <u>5</u> <u>Y</u> <u>FACW</u> 2. <u>Leucospartum sp. nortonii</u> <u>1</u> <u>N</u> <u>FACU</u> 3. <u> </u> 4. <u> </u> 5. <u> </u>				
<u>6</u> = Total Cover				
Herb Stratum (Plot size: <u>3x5</u>) 1. <u>Baccharis californica</u> <u>1</u> <u>N</u> <u>UPL</u> 2. <u>Notolobos alba</u> <u>1</u> <u>N</u> <u>UPL</u> 3. <u> </u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u>				
<u>2</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15x15</u>) 1. <u>N/A</u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u>				Hydrophytic Vegetation Indicators: X Dominance Test is >50% ___ Prevalence Index is >3.0* ___ Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u> % Cover of Biotic Crust <u> </u> Remarks: <u>One mullet individual & one scale brom. individual occur in sample radius. Mullet is dominant, therefore qualifying for hydric veg.</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (minimum of one required, check all that apply)			
— Surface Water (A1)	— Soil Crust (B11)	— Water Marks (B1) (Biverine)	
— High Water Table (A2)	— Biotic Crust (B12)	— Sediment Deposits (B2) (Biverine)	
— Saturation (A3)	— Aquatic Invertebrates (B13)	— Dist Deposits (B3) (Biverine)	
— Water Marks (B1) (Nonriverine)	— Hydrogen Sulfide Odor (C1)	— Drainage Patterns (B10)	
— Sediment Deposits (B2) (Nonriverine)	— Oxidized Rhizospheres along Living Roots (C3)	— Dry-Season Water Table (C2)	
— Dist Deposits (B3) (Nonriverine)	— Presence of Radically Iron (C4)	— Cryptic Burrows (C5)	
— Surface Soil Cracks (B6)	— Recent Iron Reduction in Tilled Soils (C6)	— Saturation Visible on Aerial Imagery (C8)	
— Irregularities Visible on Aerial Imagery (B7)	— Thin Muck Surface (C7)	— Shallow Aquifers (D3)	
— Water-Strained Leaves (B9)	— Other (Explain in Remarks)	— FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photo, previous inspections, if available)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Dist deposits (A1) & Biverine & drainage patterns & direction. New of SCE are present.			

WETLAND DETERMINATION DATA FORM - Arid West Region

Project: 22-13527 Sand Canyon City/County: Santa Clara/Alameda Co. Sampling Date: 8/11/2023

Applicant/Owner: SCWA Investigator(s): K. Green

Location (elevation, etc.): 1410' - 1415' Data (1) Subregion (LRR): C-Mediterranean California

Soil Map Unit Name: 1410' - 1415' Data (1) Subregion (LRR): C-Mediterranean California

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (if no, explain in Remarks)

Are 'Normal Circumstances' present? Yes ☐ No ☒ (if no, explain in Remarks)

Are Vegetation: N Soil ☒ or Hydrology: N naturally problematic? (if needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Hydric Soil Present? Yes ☒ No ☐

Wetland Hydrology Present? Yes ☒ No ☐

Remarks: This water feature (a.k.a. wetland) is a hydrophytic soil (e.g. redoximorphic soil) and is hydrologically connected to the adjacent water body. It is therefore not a natural feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (plot size: 30x30)	Shrub Stratum (plot size: 15x15)	Herb Stratum (plot size: 5x5)	Woody Vine Stratum (plot size: 15x15)	% Bare Ground in Herb Stratum	% Cover of Bare Crust	Hydrophytic Vegetation Present?	Remarks
1. Salix lasiolepis	1. Ficus codon	1. Salix lasiolepis	1. Salix lasiolepis	10	0	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydrophytic downy veg. includes 8 species
2. Salix lasiolepis	2. Salix lasiolepis	2. Salix lasiolepis	2. Salix lasiolepis				
3. Salix lasiolepis	3. Salix lasiolepis	3. Salix lasiolepis	3. Salix lasiolepis				
4. Salix lasiolepis	4. Salix lasiolepis	4. Salix lasiolepis	4. Salix lasiolepis				
5. Salix lasiolepis	5. Salix lasiolepis	5. Salix lasiolepis	5. Salix lasiolepis				
6. Salix lasiolepis	6. Salix lasiolepis	6. Salix lasiolepis	6. Salix lasiolepis				
7. Salix lasiolepis	7. Salix lasiolepis	7. Salix lasiolepis	7. Salix lasiolepis				
8. Salix lasiolepis	8. Salix lasiolepis	8. Salix lasiolepis	8. Salix lasiolepis				
9. Salix lasiolepis	9. Salix lasiolepis	9. Salix lasiolepis	9. Salix lasiolepis				
10. Salix lasiolepis	10. Salix lasiolepis	10. Salix lasiolepis	10. Salix lasiolepis				
11. Salix lasiolepis	11. Salix lasiolepis	11. Salix lasiolepis	11. Salix lasiolepis				
12. Salix lasiolepis	12. Salix lasiolepis	12. Salix lasiolepis	12. Salix lasiolepis				
13. Salix lasiolepis	13. Salix lasiolepis	13. Salix lasiolepis	13. Salix lasiolepis				
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Arid West – Version 2.0

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Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 22-13523 Sand Canyon City/County: Santa Clarita/LA Co. Sampling Date: 8/14/2023
 Applicant/Owner: SCWA State: CA Sampling Point: SP03
 Investigator(s): K. Cavan Section, Township, Range: S23, T04N, R15W
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): C-Mediterranean California Lat: 34.172144 Long: -118.277381 Datum: NAD84
 Soil Map Unit Name: Hanford Sandy Loam, 2-4% Slopes NW classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks: No evidence of wetlands (hydrophytic veg, hydric soils, wetland hydrology). Area sampled under

VEGETATION - Use scientific names of plants. copy of POPPE, w/ upland underdog

Tree Stratum (Plot size: <u>30x30</u>)	Absolute % Cover	Dominant Indicator Species?	Status
1. <u>Yucca fremontii</u>	<u>55</u>	<u>Y</u>	<u>FW</u>
2. <u> </u>			
3. <u> </u>			
4. <u> </u>			

55 = Total Cover

Savanna/Shrub Stratum (Plot size: <u>15x15</u>)	Absolute % Cover	Dominant Indicator Species?	Status
1. <u>N/A</u>	<u> </u>	<u> </u>	<u> </u>
2. <u> </u>			
3. <u> </u>			
4. <u> </u>			
5. <u> </u>			

 = Total Cover

Herb Stratum (Plot size: <u>9x9</u>)	Absolute % Cover	Dominant Indicator Species?	Status
1. <u>Bromus diandrus</u>	<u>60</u>	<u>Y</u>	<u>UPL</u>
2. <u>Stipa mollis</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>
3. <u> </u>			
4. <u> </u>			
5. <u> </u>			
6. <u> </u>			
7. <u> </u>			
8. <u> </u>			

60 = Total Cover

Woody Vine Stratum (Plot size: <u>15x15</u>)	Absolute % Cover	Dominant Indicator Species?	Status
1. <u>N/A</u>	<u> </u>	<u> </u>	<u> </u>
2. <u> </u>			

 = Total Cover

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Remarks:

soil

Sampling Point

503

Profile Description: Describe to the depth needed to document the indicator or confirm the absence of indicators.

[illegible]^aType: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ^bLocation: GS=Pure Lining, M=Matrix.

Hydric Soil indicators: (Applicable to all LARs, unless otherwise noted.)

- | | | | |
|---|-----------------------------------|---|----------------------------|
| — | Horizontal (A1) | — | Sandy Redox (S5) |
| — | Hestic Epoxidation (A2) | — | Strippled Matrix (S6) |
| — | Black Histic (A3) | — | Loamy Mucky Mineral (F1) |
| — | Hydrogen Sulfide (A4) | — | Loamy Clayey Matrix (F2) |
| — | Stratified Layers (A5) (LRR C) | — | Depleted Matrix (F3) |
| — | 1 cm Muck (A6) (LRR D) | — | Redox Dark Surface (F6) |
| — | Depleted Below Dark Surface (A11) | — | Depleted Dark Surface (F7) |
| — | Thick Dark Surface (A12) | — | Redox Depressions (F8) |
| — | Sandy Mucky Mineral (S1) | — | Vernal Pools (F9) |

^bIndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): _____

Restrictive Layer (if present):
Type: N/A
Depth (inches): N/A

Hydric Soil Present? Yes No ^X

N/A	Hydric So
No evidence of hydric soils	

HYDROLOGY

Wetland Hydrology Indicators

Primary indicators (minimum of one required; check all that apply)

- | | | | | |
|---|---|---|---|---|
| Surface Water (A1) | — | Salt Crust (B11) | — | Water Marks (B1) (Riverine) |
| High Water Table (A2) | — | Biotic Crust (B12) | — | Sediment Deposits (B2) (Riverine) |
| Saturation (A3) | — | Aquatic Invertebrates (B13) | — | Drift Deposits (B3) (Riverine) |
| Water Marks (B1) (Nonriverine) | — | Hydrogen Sulfide Odor (C1) | — | Drainage Patterns (B10) |
| Sediment Deposits (B2) (Nonriverine) | — | Oxidized Phosphorus along Living Roots (C3) | — | Dry-Season Water Table (C2) |
| Drift Deposits (B3) (Nonriverine) | — | Presence of Reduced Iron (C4) | — | Crayfish Burrows (C8) |
| Surface Soil Cracks (B6) | — | Recent Iron Reduction in Tilled Soils (C6) | — | Saturation Visible on Aerial Imagery (C9) |
| Inundation Visible on Aerial Imagery (B7) | — | Thin Muck Surface (C7) | — | Shallow Aquifers (D3) |
| Water-Stained Leaves (B9) | — | Other (Eolian in Banks) | — | FAC-Neutral (D5) |

Field Observations:

Surface Water Present?	Yes	No	Depth (inches):
Water Table Present?	Yes	No	Depth (inches):
Saturation Present?	Yes	No	Depth (inches):

Saturation Present? (includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks

No evidence of vegetation hydrology.

US Army Corps of Engineers

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Santa Clarita Valley Water Agency
Sand Canyon Sewer Relocation Project

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 22-13523 Sand Canyon City/County: Santa Clarita/LA Co. Sampling Date: 8/4/23
 Applicant/Owner: SCUWA State: CA Sampling Point: SP04
 Investigator(s): K. Geem Section, Township, Range: S23, T04N, R15W
 Landform (hill slope, terrace, etc.): W. side of S. 1/4 Local relief (concave, convex, none): CONCAVE Slope (%): 2
 Subregion (LRR): C-Mediterranean California Lat: 34.17170 Long: -118.179142 Datum: NAD84
 Soil Map Unit Name: Terrace Escarpments NW classification: NONE
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation N Soil X or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation N Soil X or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
---	---

Remarks: SP04 collected in slow-moving aquatic portion of SCX. Overwhelmingly dominant vegetation is water speed well (vegetation anagallis-aquatic). No evidence of hydric soils.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30x30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. <u> </u>				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. <u> </u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. <u> </u>				
Total Cover: <u>0</u>				
Savanna/Shrub Stratum (Plot size: <u>15x15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Salix lasiolepis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Total % Cover of: <u> </u> Multiply by: <u> </u>
2. <u>Populus fremontii</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	OBL species <u> </u> x 1 = <u> </u>
3. <u> </u>				FACW species <u> </u> x 2 = <u> </u>
4. <u> </u>				FAC species <u> </u> x 3 = <u> </u>
5. <u> </u>				FACU species <u> </u> x 4 = <u> </u>
Total Cover: <u>2</u>				UPL species <u> </u> x 5 = <u> </u>
				Column Totals: <u> </u> (A) <u> </u> (B)
				Prevalence Index = B/A = <u> </u>
Herb Stratum (Plot size: <u>5x5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Veronica anagallis-aquatica</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> Dominance Test is >50%
2. <u>Buxus crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<u> </u> Prevalence Index is <3.0
3. <u>Polypogon monspeliensis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Hesperis matronalis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Melilotus alba</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
6. <u>Nimulus guttatus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
Total Cover: <u>21</u>				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>15x15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>N/A</u>				Yes <u>X</u> No <u> </u>
2. <u> </u>				
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u> </u> % Cover of Biotic Crust <u> </u>				

Remarks: Overwhelmingly dominant herbaceous species is Veronica anagallis-aquatica.

Arid West - Version 2.0

Wetland Hydrology Indicators:	
Distillery Indicators (minimum of one required, check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Black Crust (B12)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B5) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Reduced Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
Secondary Indicators (2 or more required)	
<input type="checkbox"/> Water Marks (B1) (Riverine)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Drift Deposits (B5) (Riverine)	<input type="checkbox"/> Drift Deposits (B5) (Riverine)
<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crypton Burrows (C8)	<input type="checkbox"/> Crypton Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> FAC Neutral Test (D5)	<input type="checkbox"/> FAC Neutral Test (D5)

Field Observations:		
Surface Water Present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u>0</u>
Water Table Present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u>2</u>
Saturation Present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u> </u>
Observed capillary fringe		
Discrete Recorded Data		
(stream gauge, monitoring well, aerial photos, previous inspections, if available)		
Welland Hydrology Present?	Yes <u>X</u>	No <u> </u>

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Appendix B

Cultural Resources Assessment Report Addendum



Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012
213-788-4842

February 26, 2025
Project No: 22-13859

Wai Lan Lee, P.E., Engineer
Santa Clarita Valley Water Agency
26515 Summit Circle
Santa Clarita, California 91350
Via email: wlee@scvwa.org

Subject: Cultural Resources Assessment Report Addendum for the Sand Canyon Sewer Relocation Project, Santa Clarita, Los Angeles County, California

Dear Ms. Lee:

The Santa Clarita Valley Water Agency (SCV Water) retained Rincon Consultants, Inc. (Rincon) to prepare a cultural resources assessment report addendum in support of the Sand Canyon Sewer Relocation Project (project) in Los Angeles County. The project proposes the installation of approximately 3,500 linear feet of new 21-inch and 15-inch sewer pipeline on the north side of the Santa Clara River and removal of the exposed portions of nine manholes from within the Santa Clara River channel. In 2024, SCV Water adopted an Initial Study-Mitigated Negative Declaration (IS-MND) for the new sewer line installation component of the project (herein referred to as the original project) pursuant to the California Environmental Quality Act (CEQA). Since the adoption of the IS-MND for the original project, the manhole removal component of the project (herein referred to as the modified project) has been added to the project and an Addendum to the project IS-MND is being prepared to assess the modified projects pursuant to CEQA.

This cultural resources assessment letter report addendum was prepared to support SCV Water's CEQA documentation. The report summarizes the methods and results of California Historical Resources Information System (CHRIS) records searches through the South Central Coastal Information Center (SCCIC), a Sacred Lands File (SLF) search through the California Native American Heritage Commission, a geoarchaeological review, and cultural resources survey.

Project Background

In 2024, SCV Water adopted an IS-MND prepared for the original project pursuant to CEQA (Rincon 2024; State Clearinghouse [SCH] No. 2024030871). In support of the IS-MND, Rincon prepared a cultural resources assessment report (Vader et al. 2024) that summarized the methods and results of a California Historical Resources Information System (CHRIS) records search through the South Central Coastal Information Center (SCCIC), a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC), Native American and interested party outreach, a geoarchaeological review, a cultural resources survey, and Extended Phase I (XPI) testing. As part of Rincon's 2024 cultural resources assessment, two archaeological resources, P-19-001077 and -004355 were identified within the original project site. Resource P-19-001077 is a multicomponent archaeological resource containing both historic-period (structural remnants) and prehistoric (artifact scatter) components. Resource P-19-004355 is a multicomponent resource containing a historic-period cemetery and prehistoric archaeological deposits. As part of the XPI testing, no subsurface archaeological deposits associated with the two sites were identified. Although no archaeological deposits were identified within the original project site as a result of the XPI testing, Rincon recommended archaeological and Native American monitoring because of the sensitivity of the area.



As part of the 2024 IS-MND, SCV Water engaged in Assembly Bill 52 (AB 52) consultation with the Fernandeño Tataviam Band of Mission Indians (FTBMI) in February 2024. As part of the AB 52 consultation meeting, FTBMI requested tribal monitoring of project-related ground disturbing activities.

Based on Rincon's cultural resources assessment for the original project and SCV Water's AB 52 consultation with FTBMI, the cultural resources and tribal cultural resources sections of the 2024 IS-MND included the following mitigation measures:

- **Cultural Resources Mitigation Measures**
 - CUL-1: Preconstruction Cultural Resources Sensitivity Training
 - CUL-2: Cultural Resources Monitoring
 - CUL-3: Unanticipated Discovery Protocols for Cultural Resources
- **Tribal Cultural Resources Mitigation Measures**
 - TCR-1: Tribal Cultural Resources Construction Monitoring
 - TCR-2: Unanticipated Discovery Protocols for Tribal Cultural Resources
 - TCR-3: Unanticipated Discovery of Human Remains

Modified Project Location and Description

The modified project is located in the city of Santa Clarita in the west-central portion of Los Angeles County within Sections 14 and 23 of Township 4 North, Range 15 West on the *Mint Canyon, CA* United States Geological Survey 7.5-minute topographic quadrangle (Attachment 1, Figure 1). Specifically, the modified project is located in a segment of the Santa Clara River channel where the Sand Canyon Road bridge crosses channel (Attachment 1, Figure 2).

The modified project would include removal of the exposed portions of nine manholes from within the Santa Clara River channel. Each manhole would be capped and cut approximately two feet below the existing bed elevation of the Santa Clara River. Each manhole removal area would require a temporary 20-foot radius work area, which would be accessed by rubber-tracked vehicles from the unvegetated bed of Sand Canyon Creek along the southern bank of the Santa Clara River.

CHRIS Records Searches

On January 19, 2023, a CHRIS records search for the original project were conducted by Rincon staff at the SCCIC, housed at California State University, Fullerton. The records search included a review of all previously recorded cultural resources and previous studies within the original project and a 0.5-mile radius, which includes the entirety of the modified project footprint.

Previous Cultural Resource Studies

The records search results indicate one previous study, LA-10560, overlaps the modified project site. Study LA-10560 is a cultural resource study prepared in 2005 by SWCA Environmental Consultants as part of a Programmatic Environmental Impact Report prepared for an arundo and tamarisk removal plan covering a 2,405-acre corridor along the Santa Clara River, a portion of which includes the southern portion of the modified project (Hunt and Schultz 2005). The study included a CHRIS records search, an SLF search through the NAHC, and Native American consultation. No cultural resources were identified within or adjacent to the modified project as a result of the study.



Previously Recorded Cultural Resources

The records search results indicate six cultural resources have been previously recorded within the 0.5-mile radius of the original project including: two multicomponent resources (P-19-001077 and -004355); two historic-period archaeological resources (P-19-004356 and -004605), and two prehistoric isolates (P-19-100335 and -100336). Of these six cultural resources, two (P-19-001077 and -004355) are located immediately adjacent to (within 100 feet of) the modified project.

Resource P-19-001077 is a multicomponent archaeological resource containing both historic-period (structural remnants) and prehistoric (artifact scatter) components. The resource includes two loci: an eastern locus originally recorded by Robinson in 1980 east of Sand Canyon Road in what is presently a developed area containing fast food restaurants and a gas station; and a western locus recorded by Dudek in 2013 in an undeveloped area south of State Route 14 and west of an existing mobile home park (Robinson 1980; Comeau and Hale 2013). As part of Rincon's cultural resources work completed for the original project in 2023, both loci were subject to survey and the western locus was subject to Extended Phase I (XPI) testing. Given that the mapped location of the eastern locus is a commercially developed area, it was presumed to have been destroyed. No artifacts were noted in the western locus as part of Rincon's 2023 survey, and the XPI testing did not identify the presence of subsurface archaeological deposits. The mapped location for the eastern locus of P-19-001077 is located approximately 70 feet northwest of the modified project's northeastern portion on an elevated terrace overlooking the riverbed.

Resource P-19-004355 is a multicomponent resource originally recorded by W&S Consultants in 2008 as a prehistoric lithic scatter and a historic-period cemetery (Simon 2008). In 2009, W&S Consultants further investigated the site's prehistoric component through the excavation of 16 1-meter by 1-meter TUs (Comeau and Hale 2013). As a result of the excavations, an artifact assemblage comprised of 1,215 pieces of lithic debitage, five projectile points, 12 cores, six pieces of groundstone, three steatite ornaments, two bone tools, and faunal remains were collected (Comeau and Hale 2013). In 2015, Dudek conducted a second investigation within the site's prehistoric component that included systematic surface documentation, and the excavation of 23 Shovel Test Pits (STPs) and one 1-meter by 1-meter TU. The excavations produced an artifact assemblage comprised of 175 pieces of lithic debitage, one projectile point, one biface fragment, two hammerstones, four pieces of groundstone, and 27 faunal bone fragments (Wolf 2015). As part of Rincon's cultural resources work for the original project, the resource was subject to cultural resources survey and XPI testing. The survey identified a sparse scatter of lithic artifacts and the XPI testing did not identify subsurface archaeological deposits within the original project's footprint. The resource is located approximately 60 feet northwest of the modified project western portion on an elevated terrace overlooking the riverbed.

Sacred Lands File Search

The SLF search conducted for the original project by the NAHC on January 27, 2023, did not identify the presence of Native American cultural resources in the vicinity of the original project.

Geoarchaeological Review

A geoarchaeological review was conducted to assess the potential for subsurface archaeological resources to be present within the APE. Sources reviewed as part of this assessment include geologic maps and soil survey maps.

The geologic mapping indicates Holocene-age (11,650 years ago to present) gravel and sand of major stream channels (map unit Qg) is mapped at surface within the modified project (Dibblee and



Ehrenspeck 1996). The Holocene-age alluvium was deposited during a period that entirely encompassed human occupation of the region. Although this geologic unit was deposited during a period that entirely encompassed human occupation of the area, it appears to represent high energy and dynamic alluvial deposits associated with the braided South Fork of the Santa Clara River as indicated by the large clastic particles (i.e., gravel).

Soils mapping indicates riverwash is mapped at the surface within the modified project. Riverwash deposits are comprised of recent sands and gravels deposited within drainage ways and have a typical profile consisting of sand from the ground surface to a depth of 6 inches, followed by stratified coarse sand to sandy loam from 6 to 60 inches below the ground surface (USDA 2022).

The Holocene-age gravel and sand geologic unit mapped at surface within the modified project is of appropriate age to preserve subsurface archaeological deposits. However, the gravel and sand represents a high energy and dynamic landform associated with the braided Santa Clara River and is not conducive to the natural burial and preservation of subsurface archaeological deposits (Waters 1992:126). Therefore, the potential for encountering intact subsurface archaeological deposits during implementation of the modified project is low.

Field Survey

On February 11, 2025, Rincon Cultural Resources Specialist, Catalina Niessen, B.A., conducted a pedestrian field survey of the modified project. The survey area included the proposed access path and the nine manholes plus a 50-foot buffer. Given the variable conditions within the modified project, a combination of systematic and opportunistic survey methodologies were employed to identify cultural resources. Portions of the modified project with visible ground surface were systematically surveyed using transects spaced no more than 15 meters (approximately 50 feet) apart. Portions comprised of dense vegetation were subject to opportunistic survey wherein trails and clearings were inspected for visible ground surface.

Visible ground surfaces were inspected for prehistoric cultural materials (e.g., flaked stone tools, tool-making debris, stone milling tools, ecofacts [marine shell and bone]), soil discoloration that might indicate the presence of prehistoric midden deposits, historic-period debris (e.g., metal, glass, ceramics), and features that indicate the presence of former historic-period structures or buildings (e.g., standing exterior walls, foundations). Survey accuracy was maintained using a handheld Global Positioning System unit and a georeferenced map of the modified project site. Survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained digitally on Rincon's servers.

The modified project is located within the Santa Clara River channel, which contains thick vegetation including willow scrub, California buckwheat, invasive bamboo, and tumbleweed punctuated by patches of bare areas of sandy gravel with large cobbles (Attachment 1, Figure 3 and Figure 4). The vegetated portions of the modified project had ground surface visibility of 5 percent and were subject to opportunistic survey. The bare areas had ground surface visibility ranging from 90 to 100 percent and were subject to systematic survey. Modern debris was noted throughout the survey area; however, no cultural resources were identified as a result of the survey.

Conclusions and Recommendations

No cultural resources were identified within the modified project. The CHRIS records search identified two previously recorded multicomponent resources (P-19-001077 and -004355) immediately adjacent to the modified project on the terrace overlooking the Santa Clara River channel. There is no



evidence that the archaeological components of these two resources extend into the river, which, as indicated by the geoarchaeological review, represents a dynamic environment and would not provide a stable landform for the accumulation of archaeological materials. Further, given the dynamic nature of the river channel, it also not conducive to the natural burial and preservation of archaeological materials, and, therefore, the modified project has low potential to contain intact subsurface archaeological deposits. As such, the modified project will not result in impacts to known cultural resources that qualify as historical resources or unique archaeological resources pursuant to CEQA. Further, ground disturbance associated with the modified project is not likely to encounter subsurface archaeological deposits qualifying as historical resources or unique archaeological resources. In the unlikely event that subsurface archaeological deposits are encountered, implementation of the mitigation measures outlined in the cultural resources and tribal cultural resources elements of the IS-MND prepared for the original project would reduce potential impacts to less than significant.

Should you have any questions concerning this study, please do not hesitate to contact the undersigned at 619-241-9238 or mvader@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.

A handwritten signature in black ink, appearing to read "M. Vader", written over a light blue grid background.

Michael Vader, B.A.
Senior Archaeologist

A handwritten signature in black ink, appearing to read "Chris Duran", written over a light blue grid background.

Christopher A. Duran, M.A., RPA
Cultural Resources Principal

Attachments

Attachment 1 Figures



References

Dibblee, T.W., and H.E. Ehrenspeck

- 1996 Geologic map of the Newhall quadrangle, Los Angeles County, California. Dibblee Geological Foundation.

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- 2013 Cultural Resources Survey Report for the Newhall County Water District Sewer Relocation Project, Santa Clarita, Los Angeles County, California. Prepared for Alliance Engineer by Dudek.

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- 2005 Final Confidential: Cultural Resources Study for the Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program Long-Term Implementation Plan, Program Environmental Impact Report/Environmental Assessment, Los Angeles County, California. Report on file at the South Central Coastal Information Center, California State University, Fullerton.

Robinson, R.W.

- 1980 Report on Preliminary Mitigation Efforts Associated with Archaeological Site No. LAN-1077 in North Los Angeles County, California. On file at the South Central Coastal Information Center, California State University, Fullerton.

Simon, J.M.

- 2008 Archaeological Site Record for P-19-004355. On file at the South Central Coastal Information Center, California State University, Fullerton.

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- 2022 RG - Riverwash. Electronic resource, https://websoilsurvey.sc.egov.usda.gov/WssProduct/vpm3r2430dhfm343legudfkq/vpm3r2430dhfm343legudfkq/20230501_18071506321_21_Map_Unit_Description_Riverwash-Antelope_Valley_Area_California.pdf (Accessed February 2025).

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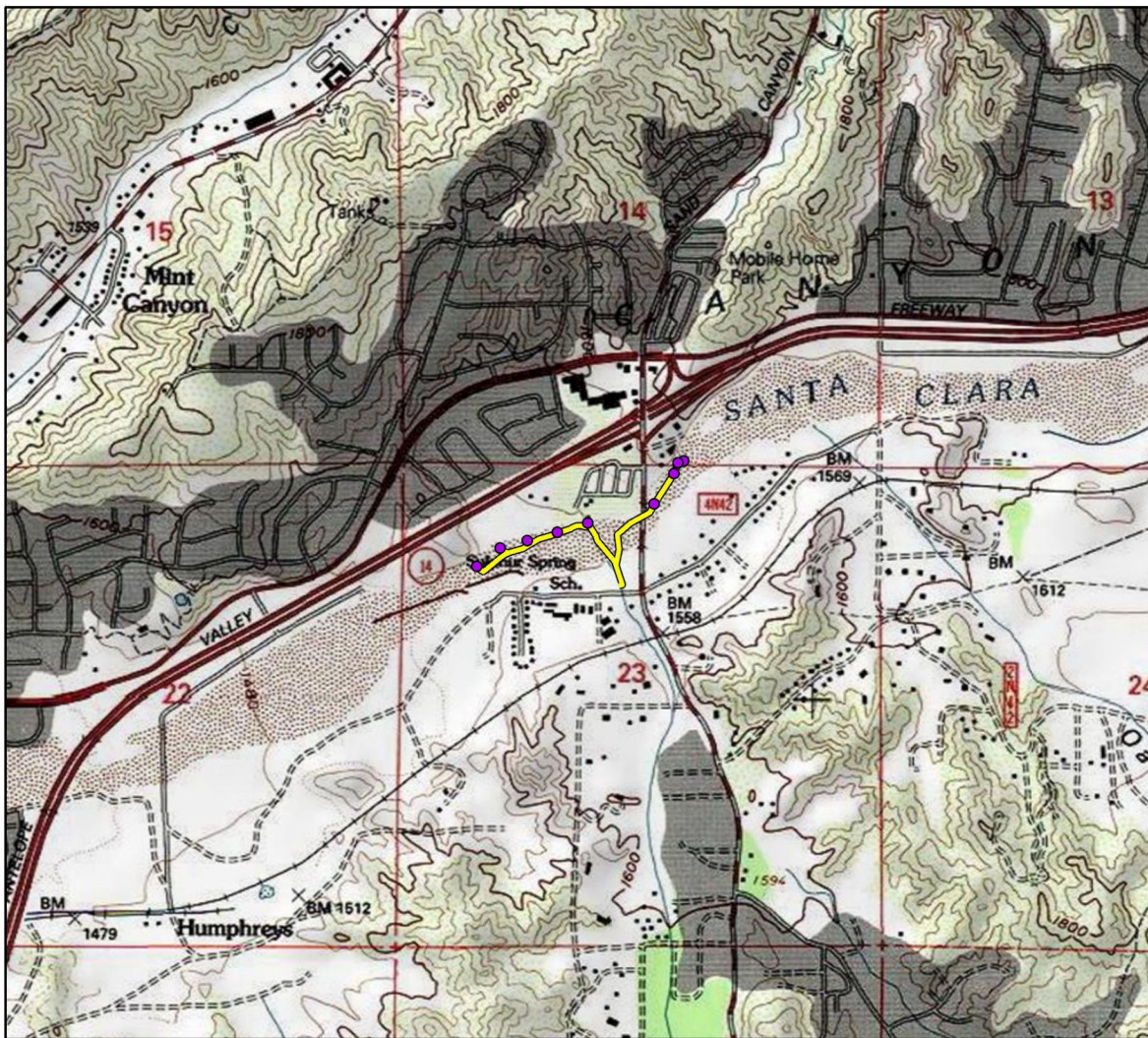
Wolf, Scott

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Attachment 1

Figures

Figure 1 Regional Location



Basemap provided by National Geographic Society, Esri and their licensors
© 2025. Mint Canyon Quadrangle. T04N R15W S23. The topographic
representation depicted in this map may not portray all of the features
currently found in the vicinity today and/or features depicted in this map
may have changed since the original topographic map was assembled.

22-13859 CR
CRFig 1 Proj Locn Map

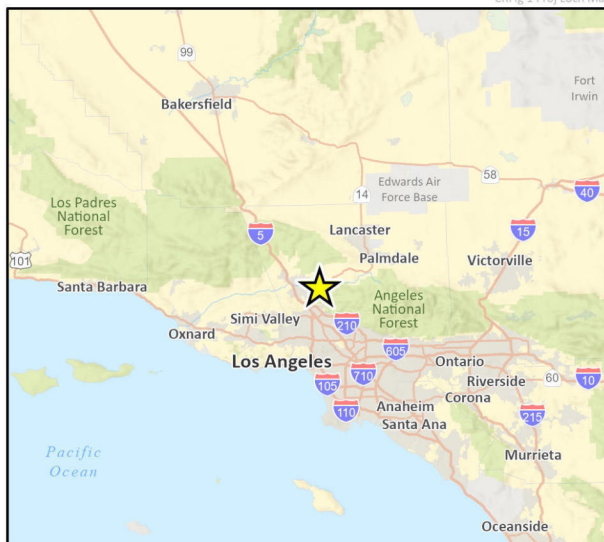
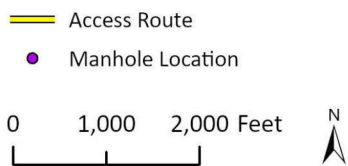


Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2025.

22-13859 CR
 CRFig 2 Project Site

Figure 3 Overview of Dense Vegetation within Eastern Portion of the Modified Project, View to West



Figure 4 Overview of Bare Area within Central Portion of the Modified Project, View to SE

