Smilax-Mimosa Sewer Improvements Project

Addendum to the 2017 Comprehensive Sewer Master Plan Supplemental Program Environmental Impact Report

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January 2022

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

This Addendum to the certified Supplemental Program Environmental Impact Report (SPEIR; State Clearinghouse [SCH] #2007091072) for the 2017 City of Vista (City)/Buena Sanitation District (District) Comprehensive Sewer Master Plan (CSMP) is intended to address infrastructure improvements previously identified for the Smilax Road/Mimosa Avenue Capital Improvements Project [(CIP) #8301]. The 2017 CSMP SPEIR was prepared to provide an updated evaluation the District's anticipated infrastructure improvement projects originally identified in the 2007 Sewer Master Plan Update (SMPU) and the associated certified City of Vista 2007 Sewer Master Plan Update Program EIR (2008 PEIR; SCH No. 2007091072).

The California Environmental Quality Act (CEQA) Guidelines Sections 15162 through 15164 set forth the criteria for determining the appropriate additional environmental documentation, if any, to be completed when there is a previously adopted Negative Declaration (ND) or a previously certified EIR covering the project for which a subsequent discretionary action is required. This Environmental Review Update Checklist Form has been prepared in accordance with CEQA Guidelines Section 15164(e) to explain the rationale for determining whether any additional environmental documentation is needed for the subject discretionary action. In accordance with CEQA Guidelines Section 15164, this document tiers from the more recently certified 2017 CSMP SPEIR which updates the 2008 PEIR. The Buena Sanitation District serves as the lead agency, as defined by CEQA Guidelines Section 15367, for review and approval of the CEQA Addendum. CEQA Guidelines Section 15164(a) states that 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 or Supplemental EIR have occurred. Pursuant to CEQA Guidelines §15164(e), the analysis provided herein is intended to evaluate whether a change in circumstances has occurred, or whether new information available for the project since the time of certification of the 2017 CSMP SPEIR triggers the need to prepare a subsequent EIR or MND, to provide justification for the preparation and use of this Addendum. Pursuant to CEQA Guidelines §15164(d), this Addendum is intended to inform the District's consideration and action on the project.

1.1 Project Location

Lands affected by the proposed sewer infrastructure improvements are located in the City of San Marcos and the County of San Diego; refer to Figure 1, Regional/Local Vicinity Map, and Figure 3, Proposed Improvements. The affected land areas are generally located to the north and south of State Route 78 (SR 78) between Mimosa Avenue to the west and just west of Community Drive to the east. The Buena Sanitation District provides sewer service for the project area, but it lies within the jurisdiction of the County and San Marcos.

All improvements would occur along existing sewer alignments within roadway rights-of-way or existing public easements, either currently under District ownership or other affected agencies, with exception of limited improvements within the Coral Tree Manor (apartments) and Springdale Estates (mobile home park) developments which would be located within existing public easements or on privately owned property.

1.2 Project Background

The 2007 SMPU and 2017 CSMP were developed to restore the City's sewer system to an acceptable physical condition, provide adequate hydraulic capacity to minimize sanitary sewer overflows, and address newly approved State wastewater regulations. The 2008 PEIR and 2017 CSMP SPEIR provide comprehensive analyses of the sewer system and needed improvements through a combination of operations input, maintenance assessments, and hydraulic modeling resulting in several capacity- and condition-related capital improvement program recommendations involving thousands of sewer components, including those related to the proposed improvements (CIP #8301).

The City of Vista 2007 SMPU and 2017 CSMP identify four types of capital improvement projects (CIPs) for implementation. These include the following:

- Category 1: CIP Capacity and Condition Project (Hardscape Environs)
- Category 2: CIP Capacity and Condition Projects (Cross-Country Environs)
- Category 3: Operations and Management (O&M) Program Operations and Pump Station Operations, Maintenance, and Rehabilitation; and
- Category 4: Out-of-Service Area Project(s)

The improvements to the Smilax Road/Mimosa Avenue (CIP #8301) were originally identified in the 2007 SMPU and 2017 CSMP and were considered a Category 2 (Cross-Country) CIP; however, such improvements have been revised based upon further analysis and, as currently designed, the alignment for the proposed Smilax Road/Mimosa Avenue sewer infrastructure improvements vary from that originally analyzed in the 2008 SMPU PEIR and 2017 CSMP SPEIR; refer to Figure 2, Mimosa Avenue Improvements Identified in CSMP, and Figure 3, Proposed Improvements.

The proposed CIP improvements (sewer realignment) would extend down the centerline of Mimosa Avenue within the existing right-of-way, are now considered to meet the Category 1 (Hardscape) classification; refer to Section 1.4, Project Description. As such, the environmental impacts and required mitigation measures for the currently proposed project would be similar to those previously evaluated for Category 1 projects in the 2017 CSMP SPEIR. The proposed improvements would be implemented to redirect existing flows away from downstream pipelines having insufficient capacity and would not result in any new significant environmental impacts or mitigation measures compared to those evaluated in the previous 2008 SMPU PEIR and 2017 CSMP SPEIR, nor would it result in a greater degree of significance of impacts. For these reasons, CEQA review of the proposed improvements does not warrant preparation of a subsequent or supplemental EIR or Mitigated Negative Declaration. The proposed action is considered to be covered by the scope of the 2017 CSMP SPEIR. Therefore, the proposed project that is the basis of this Addendum may be approved by the District as a subsequent activity covered within the scope of the 2017 CSMP SPEIR.

Additionally, other associated activities (i.e., manhole construction and rehabilitation, pipe relining to support adequate wastewater flows and prevent leakage and/or failure, etc.) considered to be maintenance activities by the District are proposed to ensure that the sewer infrastructure system continues to function properly and that adequate service can be provided to District customers. These improvements were not specifically identified as capital improvement projects in the 2007 SMPU or 2017 CSMP, and therefore, were not evaluated in the associated EIRs. However, such improvements are considered and evaluated herein in association with CIP #8301, as appropriate.

Existing Conditions

The District has identified several sewer mains that have insufficient capacity or are structurally deficient in the vicinity of Smilax Road and Mimosa Avenue. To address these issues, a new bypass sewer line is proposed to be constructed in order to bypass flows around overloaded pipelines, and structurally deficient pipelines will be repaired. Such improvements are identified as Capital Improvement Project #8301 in the City of Vista's CIP.

The pipelines with insufficient capacity are located south of Mimosa Avenue, between Smilax Road and Poinsettia Avenue. These pipelines are installed in easements crossing through private property and environmentally sensitive areas, which make the installation of larger pipelines prohibitively difficult. Instead, flows will be redirected away from these pipelines with bypass sewers installed in Mimosa Avenue, south of SR 78.

Additionally, previous sewer assessments have shown that several sewer pipelines in the vicinity of the Springdale Estates and Coral Tree Manor north of SR 78 have structural deficiencies and infiltration through

the pipe walls. Two of these pipelines, between manholes B03166 and B03168, are located with an area that may support environmentally sensitive resources and are difficult to access.

A previous assessment of the sewer main B03172-B03173 reported concerns with its structural integrity and hydraulic capacity. This pipeline is critical to the sewer system as it crosses through the Caltrans right-of-way (ROW) for SR 78.

Additionally, nine manholes within the project vicinity have been identified to be rehabilitated (manholes B03174-B03182 and B04106). Seven are located south of SR 78, between Mimosa Avenue and Smilax Road. Two are located in Smilax Road, just north of SR 78. The locations of these manholes are shown in Figure 3, Proposed Improvements.

1.3 Project Description

The proposed improvements are generally comprised of the following: 1) Mimosa Avenue relief sewer that will reroute flow away from the overcapacity sewer mains running between manhole B03173 and B02078, 2) Springdale Estates rehabilitation between manholes B03166 and B03168; 3) evaluation of point repairs (needed to support relining of pipe or just needed in lieu of relining entire segment); 4) Caltrans right-of-way crossing; and, 5) evaluation of individual manholes to be rehabilitated.

Mimosa Avenue Sewer Realignment

A sewer main realignment is proposed within the Mimosa Avenue right-of-way; refer to Figure 3, Proposed Improvements. The proposed improvements consist of approximately 1,306 linear feet of new 12-inch diameter PVC sewer beginning at a proposed sewer manhole installed at the intersection of Mimosa Avenue and Smilax Road, just northerly of manhole B03173. This will reroute flow away from the overcapacity sewer mains downstream of manhole B03173.

The majority of such improvements would be constructed via cut-and-cover trenching construction methods. Trenchless construction methods are anticipated for two segments due to the presence of existing reinforced concrete box culverts and access restraints. Trenchless construction methods may include pipejacking and/or pipe ramming. Construction activities would be subject to District standards for the protection of stormwater and implementation of a water quality management plan prepared and implemented by a qualified stormwater professional in compliance with the requirements of the National Pollution Discharge Elimination System (NPDES) General Construction Permit. Best management practices for the protection of stormwater are anticipated to include the installation of gravel bags around storm drain inlets and the covering of any stockpiles to achieve erosion and sedimentation control. Such practices would be implemented by the construction contractor as part of the right-of-way permit issued for the proposed improvements. The water quality management plan will be subject to review and approval by the City of Vista Engineer prior to the commencement of work.

Additionally, maintenance improvements are proposed to ensure that facilities continue to function properly and that adequate service can be provided to District customers. These improvements are as follows:

Springdale Estates

Four locations between the two pipelines between manholes B03166 and B03168 that are experiencing infiltration and mineral deposits and therefore require trenchless repairs. The existing lining between the manholes is structurally intact for much of the pipeline. Removing the existing liner to install a new liner would not provide a significant benefit. To avoid excessive damage to the existing liner, the mineral deposits surrounding points of infiltration will be removed using a high-pressure water sprayer. Chemical grout injection will be used to repair the infiltration points, and liner point repairs are proposed to repair damage to the existing liner.

Coral Tree Manor

The pipeline segment between B03172 and B03171 is exhibiting circumferential cracking in several locations and would be relined. There are two laterals along this portion of the pipeline that would be reconnected after the liner is installed. There are also two locations exhibiting large cracks that will require an open cut repair to enhance the integrity of the host pipe prior to relining.

The pipeline segment between B03171 and B03170 is experiencing external infiltration approximately midway along the pipe segment and multiple cracks are present in the pipe just upstream from manhole B03171. This entire segment will be relined. Additionally, there are four service laterals that will be reconnected after the liner is installed. There are also encrusted deposits along this pipeline segment that will be removed during the cleaning process, prior to the liner insertion.

Caltrans Crossing

The existing 8-inch vitrified clay pipeline (VCP) is generally structurally intact and in good condition, but has experienced debris buildup and a possible sag may occur approximately 490 feet downstream of manhole B03172. A proposed manhole will be installed approximately 355 feet downstream of manhole B03172. No action is needed for the sewer main between manhole B03172 and the proposed manhole. The sewer main between the proposed manhole and the lateral connection at 460 feet downstream of manhole B03172, approximately 90 feet of existing sewer line will be abandoned.

The existing sewer lateral for the house at 366 Smilax Road will remain connected to the existing sewer main, and therefore, the section of pipeline between the lateral and manhole B03173 will remain in service. A proposed manhole will be constructed directly upstream of this lateral, and the pipeline between the lateral and manhole B03173 will be cleaned and rehabilitated with cured-in-place-pipe (CIPP) lining. Additionally, manhole B03172 and manhole 3114 in Smilax Road will be rehabilitated. A size increase to accommodate future flows is not required for this sewer main.

Manhole Rehabilitation

Existing manholes in the reach that include the B03174-B03182 alignment, south of Mimosa Avenue and east of Smilax Road, and B04106 in Mimosa Avenue, are recommended for rehabilitation. The rehabilitation would consist of two parts: 1) sandblasting and relining the interior of the manholes, and 2) replacing the existing frame and covers with three-foot diameter frames and covers. The lining would consist of application of 100% solids, high build epoxy. The replacement of the frame and covers would also include removal and replacement of the cone sections of the manhole to accommodate the larger manhole covers. In order to perform this work, the top section of the manholes would be excavated, and the cone sections removed; this will entail additional pavement removal and replacement for those manholes that are currently in paved areas.

Site Access

Short-Term Construction Access and Staging

Generally, the areas where improvements are proposed are located within existing public easements or roadway rights-of-way and would therefore be easily accessed. Access may be more restricted within improvement areas located within easements or on privately owned property. Outreach to the residents and property owners of the Coral Tree Manor complex and Springdale Estates would be required to coordinate access to the affected pipelines or other infrastructure requiring rehabilitation adjacent to these developments. Coordination may include processing blanket easements and/or temporary right of entry to enable the proposed maintenance activities.

Construction staging areas would be temporarily located within existing public utility easements or roadway rights-of-way and not on private lands. Construction staging would occur along the affected alignments to

allow for ready access to construction equipment and materials in proximity to areas where active construction is undertaken. Equipment and materials would be removed once construction is completed.

Long-Term Operations and Maintenance Access

Access to the infrastructure facilities for ongoing maintenance purposes would occur similar to that as for the construction phase. Access would continue to be provided via existing public utility easements and/or roadway rights-of-way, with permissions granted for facilities located on private properties on an as-needed basis.

Lighting

Construction would occur during typical daytime hours (generally 7:00 a.m. to 7:00 p.m. Monday through Saturday) consistent with applicable agency regulations pertaining to allowable hours of construction. However, limited nighttime lighting may be required for temporary construction occurring during nighttime hours to avoid or minimize service disruptions. Any nighttime lighting would be temporary, and would be shielded and directed downward to reduce potential adverse lighting effects on surrounding land uses. As the proposed improvements would occur underground, no permanent nighttime lighting would be installed for access or maintenance purposes.

Construction

Site Earthwork and Excavation

Site preparation and construction would occur in accordance with accepted construction standards and requirements. Pipe trenching and export of approximately 193 cubic yards of deleterious material and of similar quantities of pipe bedding material is anticipated. Based on inspection, a similar quantity of material may need to be exported and more favorable material imported for trench backfill.

It is anticipated that excavation associated with the proposed improvements would extend to a maximum of approximately 18 feet below ground surface. Such excavations would require use of a concrete saw to remove the existing pavement and allow for access to the affected pipelines. Following completion of construction, all ground surface areas disturbed by the proposed improvements would be returned to their prior condition.

Schedule

Project construction activities generally fall into three main categories: (1) site preparation, (2) repair and/or installation, and (3) cleanup. Construction of the proposed improvements is anticipated to be completed over a period of approximately 5 months.

Construction would primarily occur during daylight hours, generally Monday through Friday, between 7:00 a.m. and 7:00 p.m., as required to meet the construction schedule, and consistent with restrictions set forth in the City of Vista Noise Ordinance (Municipal Code, Chapter 8.32, Noise Control); San Diego County Code Sections 36.408 and 36.409, Construction Equipment; and City of San Marcos Noise Ordinance (Municipal Code, Chapter 10.25, Noise), as applicable. However, it is anticipated that some nighttime work would be required in order to minimize disruption of sewer service to surrounding residents (i.e., in proximity to Coral Tree Manor and Springdale Estates Mobile Home Park) during peak demand hours. Such nighttime work is expected to require potential temporary shut-off of service. Construction work performed outside of the normal work schedule would be coordinated with other affected agencies as appropriate and would conform to applicable public notification requirements to ensure that affected residents are aware of and can plan for any temporary disruption in service.

Operations and Maintenance

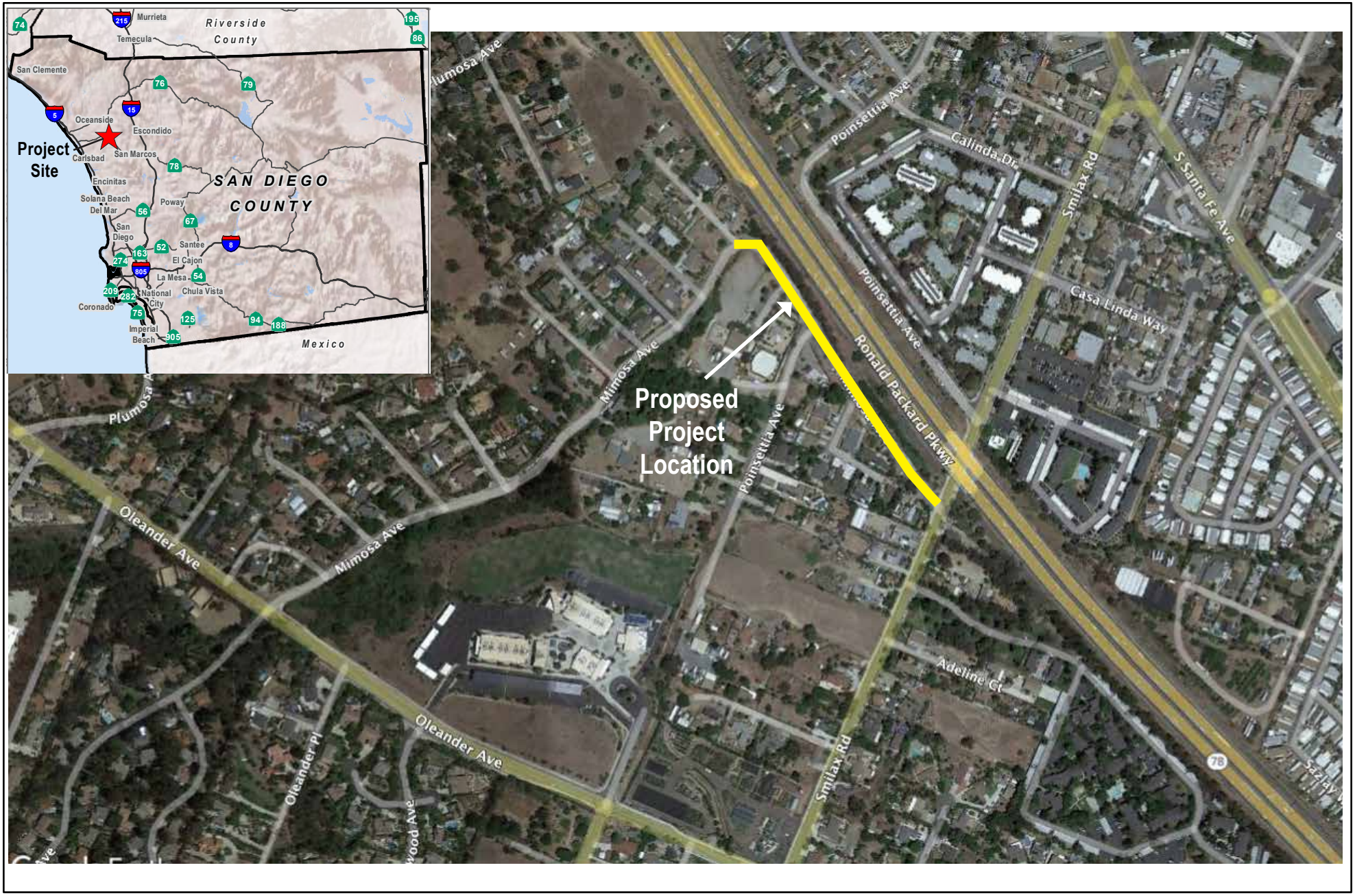
Typical ongoing operations and maintenance activities over the long-term would be the responsibility of the District and would include, but may not be limited to, routine monitoring, documentation, and reporting of equipment conditions and maintenance needs; routine maintenance; and, repair on an as-needed or

emergency basis. It is anticipated that any ongoing monitoring and maintenance would require a minimal number of staff. Additional staff may be required for intermittent repair or replacement purposes, depending upon the nature of the work to be performed.

Anticipated Permits

A construction phase Water Quality Control Plan will be implemented in accordance with the City of Vista watershed and jurisdictional plan, Vista Municipal Code, Chapter 13.18, Stormwater Management and Discharge Control Program. This will be coordinated with the County of San Diego and City of San Marcos to ensure compliance with the required right-of-way permit. If dewatering is required, it is anticipated to be discharged into the Buena Sanitation sewer system. Dewatering would not be applicable if the proposed improvements are not extended near/below the groundwater level. The need for dewatering during construction, if applicable, would be identified during the pending geotechnical investigation. A Special Use Discharge Permit would be required from the Encina Wastewater District should groundwater be encountered or identified.

Additionally, coordination with potentially affected utility companies (electrical, cable, etc.) would be required to avoid potential conflicts.



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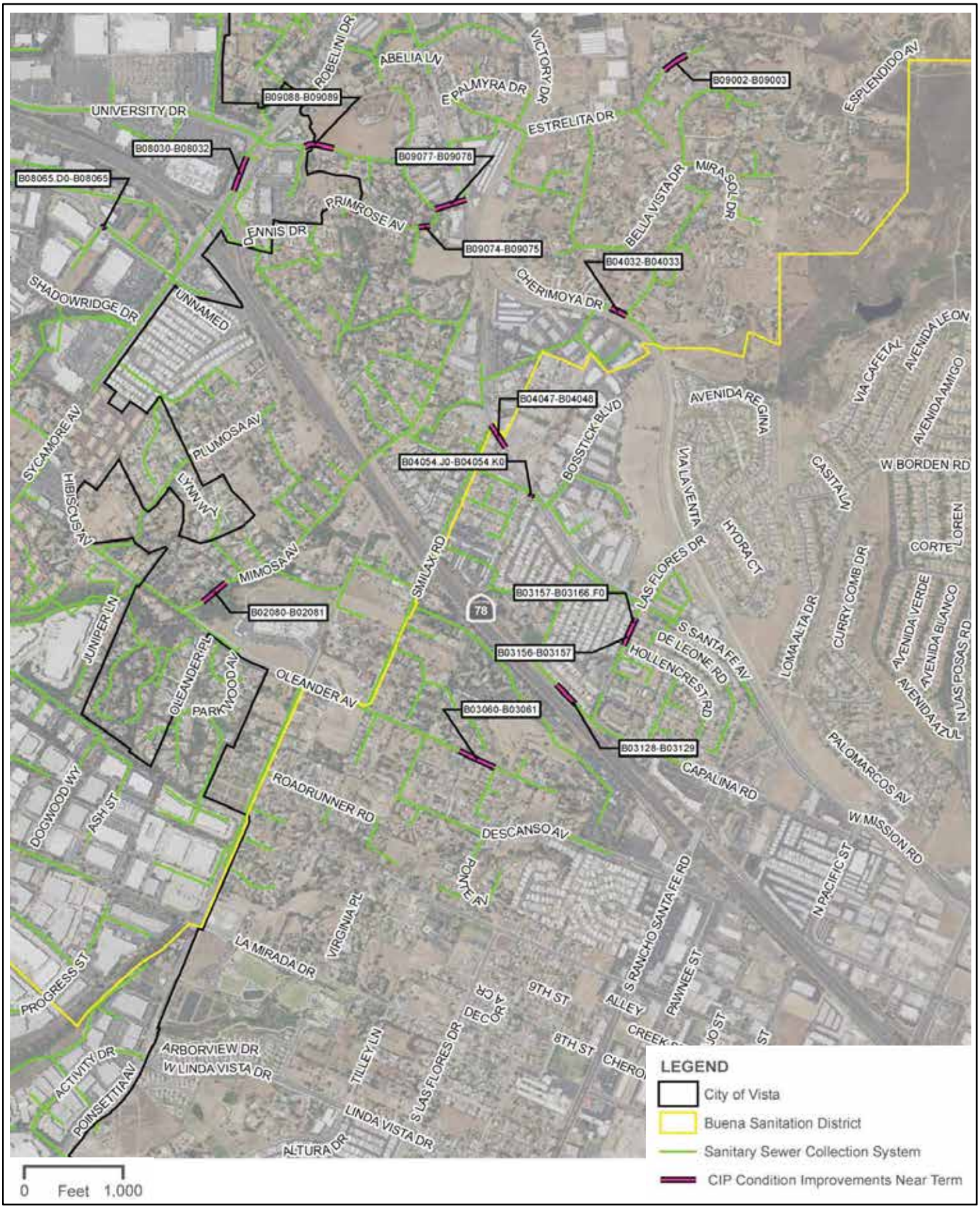
Not to Scale

Source: Google Earth 2021

SMILAX-MIMOSA SEWER IMPROVEMENTS PROJECT

Regional/Local Vicinity Map

Figure 1



SMILAX-MIMOSA SEWER IMPROVEMENTS PROJECT

Mimosa Avenue Improvements Identified in CSMP

Figure 2

Source: City of Vista 2017 CSMP Supplemental Program EIR (Figure 3-17)

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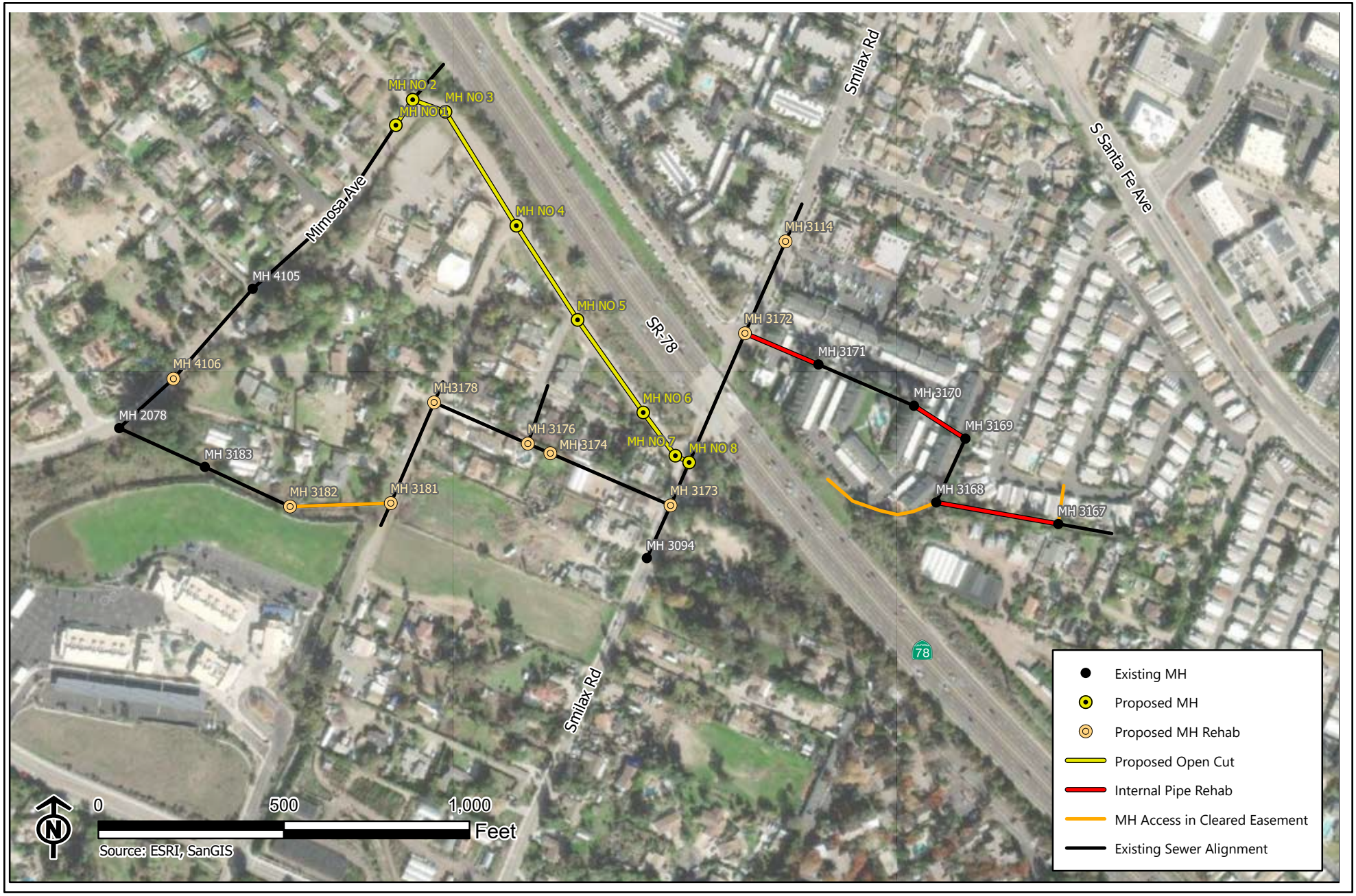

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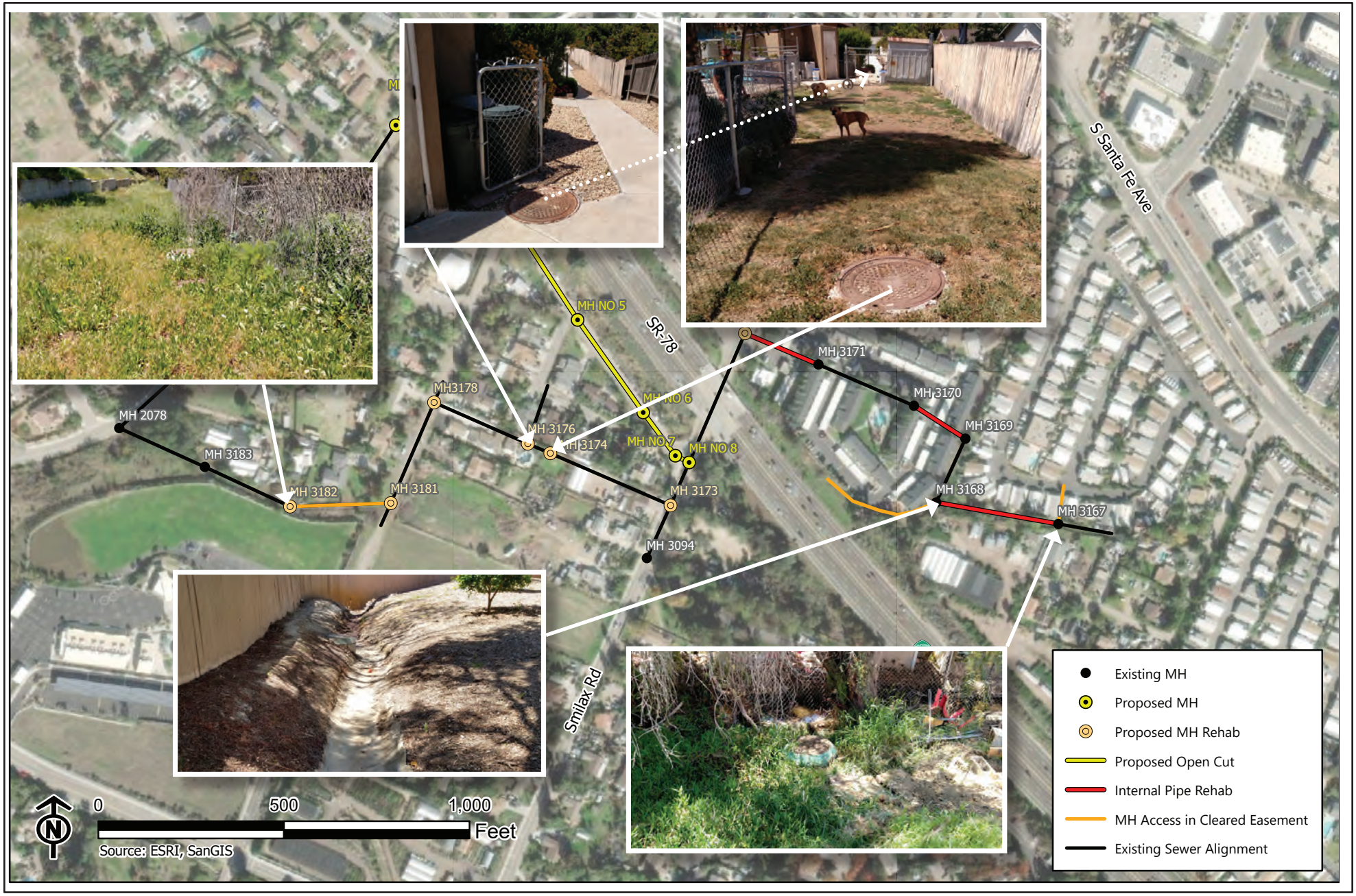
SMILAX-MIMOSA SEWER IMPROVEMENTS PROJECT

Proposed Improvements

Figure 3



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SMILAX-MIMOSA SEWER IMPROVEMENTS PROJECT

Existing Conditions - Manhole Locations

Figure 4

1.4 Purpose of this Addendum and Basis for Decision to Prepare Addendum

CEQA Guidelines Sections 15162 through 15164 set forth the criteria for determining the appropriate additional environmental documentation, if any, to be completed when there is a previously adopted Notice of Determination for a previously certified EIR for a project.

The previous 2008 SMPU PEIR and 2017 CSMP SPEIR referenced above comply with CEQA Guidelines §15168(a), which requires that a programmatic environmental document be prepared for a series of actions that can be characterized as one large program, with each action related as logical parts in the chain of contemplated actions. Typically, such a program can involve individual activities/projects carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways (§15168[a][4]). PEIRs generally analyze broad environmental effects of the program acknowledging that site-specific environmental reviews may be required for subsequent implementing activities/projects. When a subsequent project within the program is proposed for implementation, it must undergo additional CEQA review (§15168[c]) to confirm whether it would result in any new significant environmental effects or increase the severity of any previously identified environmental effects. CEQA Guidelines §15162-15164 provide the circumstances under which a subsequent project that has been evaluated in a previously certified PEIR may warrant a subsequent EIR or Mitigated Negative Declaration (MND), a supplement to an EIR or MND, or an Addendum to an EIR or MND, based on the significance or severity of new or increased environmental impacts that could result from project changes, new information, changing circumstances, or changes to mitigation measures or alternatives. If determined that a subsequent project would not have any new or greater significant environmental effects than what was concluded for that project in a PEIR, then a subsequent or supplemental EIR or MND is not required, and the Lead Agency may rely on a CEQA Addendum to approve the subsequent project (§15164[a] and [b]).

For CIP #8301, the currently proposed project is different from its counterparts as described and evaluated in the 2017 CSMP PSEIR. The analysis in this Addendum is based on current detailed design plans for CIP #8301 involving a new pipeline alignment and associated improvements; refer to Figure 2.

Pursuant to CEQA Guidelines §15164(e), the analysis provided herein is intended to evaluate whether a change in circumstances has occurred, or whether new information available for the project since the time of certification of the 2017 CSMP SPEIR triggers the need to prepare a subsequent EIR or MND, to provide justification for the preparation and use of this Addendum. Pursuant to CEQA Guidelines §15164(d), this Addendum is intended to inform the District's consideration and action on the project. District approval of this Addendum requires concurrence by the City of Vista's Community Development Director that all procedures required by the District were followed. Pursuant to CEQA Guidelines §15164(c), this Addendum need not be circulated for public review.

The project could potentially result in one or more of the following environmental effects. As appropriate, mitigation measures identified in the 2017 SPEIR EIR would be implemented to reduce potential environmental effects resulting with the proposed improvements to a level of less than significant. Refer to the evaluations provided in Section 2.0, Environmental Initial Study Checklist, below, for additional discussion.

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

1.5 Determination

On the basis of this initial evaluation :

●	I find that the proposed project WOULD NOT have any significant effects on the environment that either have not already been analyzed in the prior SPEIR or that are more significant than previously analyzed. Pursuant to CEQA Guidelines Section 15168(c), CEQA does not apply to such effects. A Notice of Determination (Section 15094) will be filed.
○	I find that the proposed project will have effects that either have not been analyzed in the prior SPEIR or are more significant than described in the prior SPEIR. With respect to those effects that are subject to CEQA, I find that such effects WOULD NOT be significant and a NEGATIVE DECLARATION will be prepared.
○	I find that the proposed project will have effects that either have not been analyzed in the prior SPEIR or are more significant than described in the prior SPEIR. I find that although those effects could be significant, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
○	I find that the proposed project would have effects that either have not been analyzed in a prior SPEIR or are more significant than described in the prior SPEIR. I find that those effects WOULD be significant, and an ENVIRONMENTAL IMPACT REPORT is required to analyze those effects that are subject to CEQA.

John Conley
Signature

3/9/2022
Date

John Conley
Printed Name

Buena Sanitation
For

1.6 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. For the purposes of this checklist, "prior SPEIR" means the environmental impact report certified for the 2017 CSMP.
4. Once the lead agency has determined that a particular physical impact may occur as a result of an improvement contemplated under the CSMP, then the checklist must indicate whether that impact has already been analyzed in the prior SPEIR or whether the new significant impact is due to unusual circumstances or substantial new information, as indicated in the column headings. If the effect of the project is not more significant than what has already been analyzed, that effect of the project is not subject to CEQA. The brief explanation accompanying this determination should include page and section references to the portions of the prior SPEIR containing the analysis of that effect. The brief explanation shall also indicate whether the prior SPEIR included any mitigation measures to substantially lessen that effect and whether those measures have been incorporated into the project.
5. If all effects of an improvement contemplated under CSMP were analyzed in the prior SPEIR, CEQA does not apply to the project, and the lead agency shall file a Notice of Determination.
6. Effects of an improvement contemplated under CSMP that has not been analyzed in a prior EIR are subject to CEQA. With respect to those effects of individual improvements contemplated under CSMP that are subject to CEQA, the checklist shall indicate whether impacts have been previously analyzed in the SPEIR, new significant impacts due to unusual circumstances or substantial new information, less than significant impact with SPEIR mitigation measures applied, less than significant impact, or no impact If there are one or more "Significant Impact" entries when the determination is made, an EIR is required. The EIR should be limited to analysis of those effects determined to be significant. (Section 15128).
7. "SPEIR Mitigation Measure(s) Applicable" applies where the incorporation of mitigation measures from the SPEIR will reduce an effect of a project that is subject to CEQA from "Significant Impact" to a "Less than Significant Impact." The lead agency must describe the SPEIR mitigation measures, and briefly explain how those measures reduce the effect to a less than significant level.
8. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significance.

2.0 ENVIRONMENTAL INITIAL STUDY CHECKLIST

I. AESTHETICS

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	■	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	■	☐	☐

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

No Impact. Temporary construction activities would be visible at the time when the proposed improvements are being undertaken, with a limited number of construction-related vehicles and equipment being present within the areas where improvements would occur; however, once completed, such improvements would be underground and would not be discernible within the affected area. The City of Vista General Plan 2030 does not identify any designated scenic vistas on lands affected by the project or within the project vicinity. Additionally, no designated scenic vistas are identified in either the County of San Diego General Plan (County of San Diego 2011) or the City of San Marcos General Plan (City of San Marcos 2012) as being in the project vicinity.

Due to such conditions, the project would not have a substantial adverse effect on such resources. No impact would occur in this regard.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The project improvements are located just to the south and north of State Route (SR) 78; refer to Figure 3, Proposed Improvements. SR 78 is not identified as an officially designated as a scenic highway by the California Department of Transportation (Caltrans) (Caltrans 2018). No other scenic highways are located within proximity to the project area. As such, the proposed project would not damage scenic resources within a state scenic highway. No impact would occur in this regard.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. The project area is highly urbanized and built out and does not support features or elements having high scenic value or character. Some temporary disturbance would be visible during construction, but would be limited to the area in proximity to the proposed improvements. All equipment and vehicles would be removed once the improvements are completed. Such temporary disturbance is therefore not anticipated to substantially degrade the existing visual character or quality of the site and its surroundings. Additionally, the project proposes improvements to an existing sewer pipeline and laterals, as well as a number of manholes; such elements would be located below ground surface and would not be visible once construction is completed. Impacts relative to this issue are considered to be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less than Significant Impact. Some nighttime construction may be required to minimize potential service disruption to area residential uses (i.e., residents of Vista Meadows Mobile Home Community). As such, nighttime lighting may be utilized in proximity to the affected areas and would be limited to that required to ensure worker safety and visibility. It is anticipated that such construction activity would be limited to two to three nights. Such activities would be subject to conformance with applicable nighttime construction lighting requirements and approval by the affected jurisdiction. All nighttime lighting would be localized and limited to that needed for safety and adequate access. All such lighting would be shielded and directed downward to avoid the potential for light trespass or spillover onto adjacent properties. Any nighttime lighting used would be removed from the affected areas upon the completion of construction.

Upon completion of the proposed improvements, all project-associated improvements would be below ground, and therefore, would not require illumination or incorporate elements with the potential for adverse glare effects. Therefore, impacts would be less than significant in regard to this issue.

II. AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circumstances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	■	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	■	☐	☐

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	■	☐	☐
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	■	☐	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	■	☐	☐

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The proposed project site is located in a highly urbanized area within the County of San Diego and the City of San Marcos. Surrounding land uses generally include single- and multi-family residential uses. The lands affected by the improvements are currently disturbed and/or developed, with the majority of lands currently surfaced with asphaltic pavement; refer to Figure 3, Proposed Improvements.

No lands affected by the proposed project support agricultural resources or lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program; rather, all affected lands are designated as Urban and Built-Up Land, which are lands "occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures" (CDC 2018). Therefore, the project would not convert any designated Farmland to a non-agricultural use. No impact would occur relative to this issue.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. Refer to Response II(a), above. As the proposed improvements along Mimosa Avenue are within the roadway right-of-way, the land is not zoned; properties surrounding the areas where improvements would occur are generally zoned for single-family and multi-family residential use and are not intended for agricultural use purposes. Additionally, none of the affected lands are under a Williamson Act Contract. Therefore, the project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. Refer to Response II(a), above. The project site does not contain forestlands or timberland. The County of San Diego does not have any existing Timberland Production Zones. Therefore, project implementation would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland production zones. No impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Refer to Response II(a), above. The project site does not contain any forestlands as defined in Public Resources Code Section 12220(g); therefore, project implementation would not result in the loss or conversion of forestland to a non-forest use. In addition, the project is not located in the vicinity of off-site forest resources. No impact would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. Refer to Response II(a), above. The project site and surrounding area within a radius of a quarter mile do not contain any active agricultural operations or lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (CDC 2018). No designated forestland occurs within the project area. Therefore, the proposed project would not involve changes in the existing environment that would result in conversion of farmland to nonagricultural use or conversion of forestland to non-forest use. Therefore, no impact would occur relative to this issue.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Conflict with or obstruct implementation of the applicable air quality plan?	■	☐	■	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	■	☐	■	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	■	☐	☐

d) Expose sensitive receptors to substantial pollutant concentrations?	■	☐	■	☐	☐
e) Create objectionable odors affecting a substantial number of people?	■	☐	■	☐	☐

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

Less than Significant Impact.

Direct Effects - Construction and Operations: The area affected by the proposed improvements is located within the San Diego Air Basin (SDAB). The San Diego Air Pollution Control District (SDAPCD) implements the County of San Diego's portion of the State Implementation Plan (SIP) which identifies guidance to be applied as part of the Regional Air Quality Strategy (RAQS) to achieve acceptable air quality. A significant impact would occur if a project would result in a conflict with or obstruct implementation of the San Diego County RAQS or the SIP.

As analyzed in the 2017 CSMP SPEIR, construction emissions from CSMP projects are not anticipated to exceed the SDAPCD thresholds or obstruct implementation of the RAQS for the SDAB. Projects that are consistent with existing General Plan documents, used to develop air emissions budgets for air quality planning and attainment, would be considered consistent with the RAQS and the SIP. To be consistent with the existing General Plan, a project must propose the same or less development as accounted for in the General Plan. If General Plan consistency is demonstrated, the project would be in compliance with applicable rules and regulations adopted by the SDAPCD through its air quality planning process, and a conflict would not occur.

The 2017 CSMP was determined to be consistent with the General Plans for the Cities of Vista, Oceanside, Carlsbad, and San Marcos as well as the San Diego County General Plan and North County Metro Subregional Plan. The latest SANDAG growth forecasts were used to develop assumptions regarding future growth and associated sewer infrastructure needs in the affected area. As a result, the 2017 CSMP was determined to be in compliance with applicable rules and regulations adopted by the SDAPCD, and would not conflict with or obstruct implementation of the RAQS or SIP. Consequently, projects identified in the 2017 CSMP would be consistent with applicable air quality plans.

The proposed improvements would not result in changes to the City's or County's General Plan land use designations, nor would they generate unplanned area population growth. Impacts would be less than significant in this regard.

Indirect Effects: The proposed improvements would enhance the existing sewer infrastructure system to ensure that the District can provide adequate reliable service to its customers and reduce the potential for system failure or emergency maintenance. Such improvements would not indirectly generate new area population growth or serve unplanned growth. No indirect impacts would occur.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact.

The SDAPCD establishes daily significance thresholds for the certain criteria air pollutants including carbon monoxide (CO), nitrogen oxides (NO_X), reactive organic gases (ROG), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), and respirable particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$). A significant impact on air quality would

occur if a project exceeded the significance thresholds and resulted in violations of air quality standards and/or substantial contributions to existing or anticipated air quality violations.

Direct Effects – Construction: Construction of the proposed infrastructure improvements would result in short-term emissions that would include fugitive dust from ground disturbance activities and from operation of construction equipment and vehicles (i.e., ROG, NO_X, CO, SO_2). The proposed improvements would require limited ground disturbance. Standard SDAPCD dust control practices would be implemented during the construction phase. Additionally, exhaust emissions from construction equipment and vehicles would vary depending on the type and intensity of the construction activity. Construction of the proposed improvements is anticipated to take approximately 5 months and would therefore be relatively short-term in nature.

The 2008 SMPU PEIR evaluated a conservative construction scenario which considered a scenario in which all near-term capacity-related improvements, up to 11,781 feet of pipeline installation, would occur within the period of one year. Under such a scenario, it was concluded that resulting emissions would not exceed applicable thresholds. Such findings were incorporated into the 2017 CSMP SPEIR. As the proposed improvements would be reduced as compared to the whole of CIP projects evaluated in the 2008 SMPU PEIR, emissions from construction of the proposed improvements would not be expected to exceed SDAPCD daily significance thresholds.

Construction of the proposed improvements would not exceed an air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Direct Effects - Operations: Ongoing maintenance activities associated with the proposed improvements would require a limited number of worker vehicle trips for purposes of inspection on a routine basis. The 2017 CSMP SPEIR considered an operations scenario which included potential air pollutant emissions associated with 15 maintenance workers, or 30 daily trips for CIP projects. It was determined that operational emissions under this scenario would be less than SDAPCD thresholds. Based on the limited scope of the proposed sewer infrastructure improvements, it is anticipated that associated maintenance activities would involve fewer than 15 workers on a routine basis. Operational emissions associated with the proposed improvements are therefore anticipated to be below the adopted thresholds. A less than significant impact would result.

Indirect Effects: Due to the nature of the proposed improvements, the indirect generation of criteria pollutant emissions would not result. The improvements would not spur new area population growth or a change in land use that would generate air pollutant emissions. No indirect impacts would occur.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact.

Direct Effects - Construction: The SDAB is designated as nonattainment for the federal standard for ozone and the state standards for ozone, PM_{10}, and $PM_{2.5}$. Significant cumulative air quality impacts may result from emissions of the ozone precursors volatile organic compounds (VOCs) and NO_X, as well as PM_{10} and $PM_{2.5}$. Cumulatively considerable net increases may occur if two or more projects located within proximity would be constructed simultaneously, or if emissions generated by construction of a project exceed adopted thresholds for VOC, NO_X, PM_{10}, or $PM_{2.5}$.

As the land area affected by the proposed improvements is limited, it is not anticipated that construction activities would occur adjacent to and at the same time as another construction project. In addition, construction criteria pollutant emissions generated by the proposed improvements would be below SDAPCD thresholds; refer to Response III(B), above. As a result, construction of the proposed improvements is not considered to contribute to a potential cumulative air quality impact. Impacts would be less than significant.

Direct Effects - Operations: Limited emissions would be generated by routine maintenance of the proposed improvements. Based on the discussion under Response III(b) above, cumulative air quality impacts resulting from operations would therefore be less than significant.

Indirect Effects: The proposed improvements are intended to enhance and maintain the District's sewer infrastructure system and would not result in the generation of new area population growth that could generate air pollutant emissions that would contribute to a cumulatively considerable impact. No indirect impacts would occur in this regard.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact.

Direct Effects - Construction and Operations: Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. Sensitive receptors in the vicinity of the proposed improvements are existing single- and multi-family residences located along Mimosa Avenue, Smilax Road, and other affected alignments where such uses are present (Coral Tree Manor and Springdale Estates mobile home park).

As identified in the 2017 CSMP PSEIR, air emissions that could result from both construction and operation of projects identified in the 2017 CSMP would be below significance thresholds. Furthermore, the existing sewer facilities do not generate substantial sources of toxic air contaminant (TAC) emissions that could pose or contribute to a health risk. Additionally, the construction period would be temporary and short-term. Potential impacts related to substantial pollutant concentrations are considered less than significant.

Indirect Effects: Due to the nature of the proposed improvements (underground), the proposed improvements would not generate pollutants and would therefore not indirectly result in the exposure of sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant Impact.

Direct Effects - Construction: Potential odors generated during construction of the proposed improvement may include use of asphalt during repaving activities and/or emissions from diesel engines (i.e., from construction vehicles or equipment). As the area affected by the proposed improvements is limited, and construction would be short-term, construction activities are not anticipated to expose a substantial number of people to odors. Further, odors (i.e., diesel exhaust) tend to dissipate within short distances. As such, impacts are considered less than significant.

Direct Effects - Operations: Objectionable odors may be generated by the sewer system, due to its nature of collecting and transporting wastewater. The pipeline improvements proposed would not result in a new source of odors in the area. New or rehabilitated manholes would still be located in proximity to local residential (i.e., sensitive) uses; however, SDAPCD Rule 51 prohibits emissions, including odor emissions, in such quantities of air contaminants or other material, which may result in injury, detriment, nuisance, or annoyance to public health. Impacts pertaining to operational odors would remain less than significant.

Indirect Effects: Due to the nature of the proposed improvements (underground), the project would not create objectionable odors affecting a substantial number of people. Minor odors may be generated during routine maintenance activities, but would be limited to the affected area and temporary. No impact would occur in this regard.

IV. BIOLOGICAL RESOURCES

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	■	☐	☐	■	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	■	☐	■	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	■	☐	■	☐	☐
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?	■	☐	■	☐	☐

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Based upon relevant database searches conducted, 74 federal or state endangered, threatened, or candidate plant and wildlife species have been documented within the project area (CNDDB 2021; CNPS 2021); refer to Appendix A for a full list of such species, along with the current federal, state, and CDFW status of each, as applicable. Sensitive wildlife species with the potential to occur in the area include, but are not limited to: tri-colored blackbird; coastal California gnatcatcher; California black rail; southwestern willow flycatcher; least Bell's vireo; monarch - California overwintering population; and, Quino checkerspot butterfly. Sensitive plant species with the potential to occur in the area include: San Diego button-celery; Encinitas bacccharis; Del Mar manzanita; San Diego thorn-mint; spreading navarretia; and thread-leaved brodiaea.

Although such resources may have been documented in the project area, as discussed in greater detail below, it is not anticipated that project construction or operational activities would directly or adversely affect any such species due to the highly developed (i.e., paved surface) and/or disturbed nature of lands upon which the proposed improvements would occur, combined with the absence of suitable habitat that would have the potential to support such species.

Additionally, Buena Creek, trends generally north/south in the vicinity of the project area. The creek flows under SR 78 and is identified as supporting riverine habitat (USFWS 2021).[1]

SPEIR Mitigation Measure Applicable.

Direct Effects - Construction: The project site is located within a highly urbanized area and is developed/disturbed in nature. As stated, project construction activities would be limited to existing roadway rights-of-way, with some general maintenance activities (manhole replacement/rehabilitation and slip lining pipeline repairs) occurring within limited portions of existing easements or privately owned property, which may support ornamental vegetation. Due to the existing disturbed/developed conditions, high-quality habitat is not present. However, limited suitable nesting habitat in the form of non-native and ornamental trees may be present in areas adjacent to the proposed improvements. As such, bird species covered under the Migratory Bird Treaty Act (MBTA) may be affected by project construction, if such activities occur during the nesting season (generally January 16 to August 31). To ensure that potential project effects on migratory species are minimized, mitigation measure BIO-1 from the 2017 CSMP SPEIR would be implemented. Impacts would be reduced to less than significant with mitigation incorporated.

Direct Effects - Operations: Any ongoing operational maintenance activities would occur in previously disturbed/developed areas where sewer infrastructure is already in place. As such, it is not anticipated that project operations would require the removal of any sensitive vegetation or habitat. Direct impacts would be less than significant in this regard.

Indirect Effects: As the proposed improvements would be located underground, the project would not indirectly affect any known special-status species or their habitats. No impact would occur.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact.

[1] Riverine includes all wetlands and deep water habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens; and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

Direct Effects – Construction and Operations: The area affected by the proposed improvements is highly urbanized and developed/disturbed. Improvements would occur within existing roadway rights-of-way or within developed residential properties; no riparian or other sensitive natural community occur within the areas that would be disturbed by the proposed improvements. Impacts would be less than significant.

Indirect Effects: The proposed improvements would be located underground. No riparian habitat or other sensitive natural communities would be indirectly affected. Impacts would be less than significant.

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

Less than Significant Impact.

Direct Effects - Construction and Operations: The area affected by the proposed improvements is highly urbanized and developed/disturbed. Improvements would occur within existing roadway rights-of-way or within developed residential properties.

Improvements within Mimosa Avenue would occur within the roadway right-of-way and surface disturbance would be limited. The proposed improvements would not result in the disturbance of any wetland habitat. Additionally, the proposed maintenance improvements have been designed to avoid potential disturbance of any such resources through sensitive construction techniques (i.e., limited surface disturbance and/or slip lining of affected pipelines). Therefore, project construction and operations would not adversely affect any federally protected wetlands, as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. Impacts would be less than significant.

Indirect Effects: The proposed improvements would be located underground. No indirect effects on wetlands would therefore result, and no impact would occur.

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

Less than Significant Impact.

Direct Effects - Construction and Operations: The project area is highly urbanized and developed/disturbed in nature; no established wildlife corridors or nursery sites are present on lands affected by the proposed improvements. A less than significant impact would occur. Refer also to Response IV(a), above.

Indirect Effects: The proposed improvements would be located under the ground surface and would not affect migratory species or established migratory wildlife corridors. No indirect impacts would occur.

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

No Impact.

Direct Effects - Construction and Operations: The proposed improvements would occur within existing roadway rights-of-way or within developed/disturbed residential properties and/or public easements. Due to the disturbed nature of the site, the project would not involve the removal of mature trees or other sensitive vegetation types. Limited removal of ornamental landscape trees and/or shrubs that are not protected under local policies or ordinances may occur to allow access; however, the removal of any sensitive or protected plant species is not required or proposed. The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact would occur.

Indirect Effects: The proposed improvements would be constructed below the ground surface. The project would therefore not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact would occur.

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?

Less than Significant Impact.

Construction and Operations: The County of San Diego's Multiple Species Conservation Program (MSCP) is a comprehensive planning process intended to address the protection of multiple plant and animal species in San Diego County. The MSCP is currently being developed, and therefore, has not yet been adopted. The MSCP is a The MSCP is comprised of three separate planning areas covering unincorporated regions of San Diego. The MSCP Plans associated with each of the planning areas are the County Subarea Plan (South County Plan), North County Plan, and East County Plan, respectively. The North County Plan will extend the scope of the MSCP to contribute to the conservation of sensitive species and habitats while providing a streamlined permitting process for landowners, agricultural operators, businesses, and residents in the unincorporated regions of northwestern San Diego County. The North County Plan Area encompasses approximately 345,000 acres in and around the unincorporated communities of Bonsall, De Luz, Fallbrook, Harmony Grove, Rancho Santa Fe, Lilac, Pala, Pauma Valley, Rainbow, Ramona, Rincon Springs, Twin Oaks Valley, and Valley Center within the County's jurisdiction (County of San Diego n.d.) and includes the project area.

As a joint Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP), the North County Plan will provide the basis for the County to receive a federal and state incidental take permit to "cover" specific animal and plant species. This allows the incidental take permit to be extended to future development projects that comply with the MSCP, so that such projects are not required to secure their own separate incidental take permit from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

However, as the land areas where the proposed improvements would occur are developed/disturbed and do not support sensitive biological resources, the project would not conflict with the provisions of the MHCP or other approved local, regional, or state habitat conservation plan. Impacts would be less than significant in this regard.

Indirect Effects: The proposed improvements would be constructed below the ground surface. Therefore, the project would not result in physical improvements that would conflict with the provisions of the County's MSCP or other approved local, regional, or state habitat conservation plan. No impact would occur.

SPEIR Mitigation Measure(s) Applicable

2017 CSMP SPEIR Mitigation Measure BIO-1: MBTA Nest Avoidance.

If construction activities occur between January 15 and September 15, a preconstruction survey (within seven days prior to construction activities) shall be conducted by a qualified biologist to determine if active nests are present within or adjacent to the area proposed for development in order to avoid the nesting activities of breeding birds/raptors. The results of the survey shall be submitted to the District (and made available to the Wildlife Agencies, upon request) prior to initiation of any construction activities.

If nesting activities within 200 feet of the proposed work area are not detected, construction activities may proceed. If nesting activities are confirmed, construction activities shall be delayed within an appropriate buffer (e.g., 300 feet) from the active nest until the young birds have fledged and left the nest or until the nest is no longer active as determined by a qualified biologist based on field conditions. The results of all biological monitoring shall be submitted to the District (and made available to the Wildlife Agencies, upon request).

V. CULTURAL RESOURCES

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	■	☐	☐	■	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	■	☐	☐	■	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	■	☐	☐	■	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	■	☐	☐	■	☐
e) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code §21074?	■	☐	☐	■	☐

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

SPEIR Mitigation Measure Applicable.

Direct Effects - Construction and Operations: The proposed improvements would not result in the realignment of an existing local roadway that may have the potential to directly impact existing off-site historic resources. Any ground disturbance would occur within existing public rights-of-way, easements, or on limited private property and would be temporary.

No historic resources identified in the Vista General Plan 2030 Update are located within proximity to the proposed sewer infrastructure improvements (City of Vista 2011a). Similarly, according to the San Diego County General Plan Final Program EIR, no historic resources are located on lands affected by the proposed sewer infrastructure improvements (County of San Diego 2011).

In conformance with mitigation measure CULT-2 of the 2017 CSMP SPEIR, Michael Baker International prepared a Cultural Resources Memorandum for the project (Michael Baker 2022). A records search of the project area and a one-quarter-mile radius was conducted at the South Coastal Information Center (SCIC) on October 11, 2021. The SCIC at San Diego State University is part of the California Historical Resources Information System, an affiliate of the California Office of Historic Preservation (OHP). The SCIC is the official state repository of cultural resources records and reports for San Diego County.

As part of the records search and other background research, the following federal and state inventories were reviewed: California Points of Historical Interest (2022); California Historical Landmarks (2022); Archaeological Determinations of Eligibility for San Diego County (2012); and Built Environment Resources Directory (2021) (Michael Baker 2022). The directory includes resources evaluated for listing and listed in the National Register of Historic Places (NRHP), National Historic Landmarks, California Register of Historical

Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest for San Diego County.

Based on the results of the searches conducted, no previously recorded cultural resources were identified within the project area. Twelve cultural resources were identified within one-quarter mile of the project area. The records search identified 23 previous cultural resources studies that have been conducted within one-quarter mile of the project area, 11 of which included portions of the project area (Michael Baker 2022).

Additionally, on October 6, 2021, Michael Baker submitted a request to the Native American Heritage Commission (NAHC) to conduct a records search of the Sacred Lands File for the project area. On November 14, 2021, the NAHC relayed the results of the Sacred Lands File search were negative for cultural resources (Michael Baker 2022).

Based on the negative results of the SCIC records search and Sacred Lands search, project construction activities would not occur within 25 feet of a known NRHP or CRHR eligible or listed historic structure. Although project construction activities would occur within 25 feet of buildings in the Coral Tree Manor apartments complex, the complex was developed in 1987 and does not require consideration for potential historical significance. Construction activities would occur within the Springdale Estates mobile home park, but not within 25 feet of any permanent structures.

Pursuant to mitigation measure CULT-2 of the 2017 CSMP SPEIR, on December 13, 2021, a letter and maps were sent to Ms. Cami Mojado of the San Luis Rey Band of Mission Indians via U.S. mail and via email to notify her of the proposed project. Ms. Mojado replied via email on December 17, 2021, stating she was having a problem opening the file and asked if Michael Baker could resend it. Michael Baker emailed the letter again to Ms. Mojado the same day, and let her know the hard copy sent via U.S. mail was delivered on December 15, 2021, according to the delivery receipt. Michael Baker sent a follow-up email to Ms. Mojado on December 27, 2021. No response has been received to date (Michael Baker 2022).

Based on the negative results of the SCIC records search and the Sacred Lands File search, and lack of correspondence received from the San Luis Rey Band of Mission Indians, no known or potential historical or Native American cultural resources have been identified within the project area. With conformance to the requirements identified in mitigation measure CULT-2 of the 2017 CSMP SPEIR, the project would not cause a substantial adverse change in the significance of a historical resource as defined in §15064, and potential impacts would be less than significant.

Indirect Effects: Construction activities may cause ground vibration to occur which can indirectly result in damage to adjacent structures or other physical elements. Due to the limited nature and scope of the proposed infrastructure improvements, it is not anticipated that construction methods or equipment anticipated to be used would generate substantial groundborne vibration that may adversely affect area land uses or structures. No indirect impacts to historic resources are anticipated in this regard.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

SPEIR Mitigation Measure Applicable.

Direct Effects - Construction and Operations: Refer to Response V(a), above. In conformance with mitigation measure CULT-2 of the 2017 CSMP SPEIR, a SCIC records search and Sacred Lands File search were conducted, and notification was sent to the San Luis Rey Band of Mission Indians. As previously described, based on the results of such efforts, no known historical or cultural resources would be adversely affected

by construction and/or operation of the project as proposed. Further, as indicated in mitigation measure CULT-2, as such results were found to be negative, archaeological monitoring during project construction is not required (as described in 2017 CSMP SPEIR mitigation measure CULT-3, Archaeological Monitoring); however, the District may elect to implement such monitoring efforts as desired based on District standards for construction projects.

With conformance to the requirements identified in mitigation measure CULT-2 of the 2017 CSMP SPEIR, the project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5. Potential impacts would be less than significant.

Indirect Effects: Due to the nature of the project, the proposed infrastructure improvements would not induce new area growth or development that could indirectly cause ground disturbance or adversely affect archaeological resources. No indirect impacts would occur.

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

SPEIR Mitigation Measure Applicable.

Direct Effects - Construction and Operations: Lands affected by the proposed improvements are underlain by geologic deposits of the Peninsular Ranges geomorphic province. Geologic units consist of the Eocene-age Santiago Formation and Cretaceous-age Granitic Rock (Tonalite) (Geocon 2021). No unique geologic features are present on lands affected by the proposed improvements.

Project trenching for the proposed improvements in Mimosa Avenue is estimated to reach a maximum of approximately 18 feet. As indicated in the 2017 CSMP SPEIR, pipeline improvements, where extending to a depth of 10 feet or greater, located in areas characterized with a moderate to high sensitivity for paleontological resources have the potential to directly destroy paleontological resources during excavation activities. Therefore, mitigation measure CULT-4 as identified in the 2017 CSMP SPEIR, is required to reduce potential impacts to paleontological resources through implementation of a monitoring and reporting program.

Indirect Effects: Due to the nature of the project, the proposed sewer infrastructure improvements would not induce new area growth that could indirectly affect unknown paleontological resources. No indirect impacts would occur.

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

SPEIR Mitigation Measure Applicable.

Direct Effects - Construction: Refer to Response V(b), above. Due to the developed/disturbed character of the affected area, is not anticipated that human remains would be encountered during construction of the limited infrastructure improvements proposed. However, undiscovered human remains may be encountered during limited ground disturbing activities. Implementation of mitigation measure CULT-5 of the 2017 CSMP SPEIR would be required to reduce potential impacts to human remains to less than significant.

Direct Effects - Operations: The proposed improvements would be constructed below the ground surface. Operational maintenance activities would require limited ground disturbance and would occur at areas previously disturbed by infrastructure improvements. As such, operations are not anticipated to disturb human remains. Impacts would be less than significant.

Indirect Effects: Due to the nature of the project, the proposed improvements would not induce new area growth that could disturb areas where unknown human remains may be discovered. No indirect impacts would occur.

e) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code §21074?

SPEIR Mitigation Measure Applicable

Direct Effects – Construction: Refer to Response V(b), above. As described above, in conformance with mitigation measure CULT-2 of the 2017 CSMP SPEIR, a SCIC records search and Sacred Lands File search were conducted, and notification was sent to the San Luis Rey Band of Mission Indians. Based on the results of such efforts, no known historical or cultural resources would be adversely affected by construction and/or operation of the project as proposed. With conformance to the requirements identified in mitigation measure CULT-2 of the 2017 CSMP SPEIR, the project would not cause a substantial adverse change in the significance of any known resources, and potential impacts would be less than significant.

Direct Effects – Operations: Once operational, the proposed improvements would be below the ground surface and are not anticipated to disturb any buried tribal cultural resources. Direct impacts in this regard would be less than significant.

Indirect Effects: Due to the nature of the project, the proposed improvements would not induce new area growth that would have the potential to adversely affect tribal cultural resources. No indirect impacts would occur.

SPEIR Mitigation Measures Applicable

2017 CSMP SPEIR Mitigation Measure CULT-2: Project-Specific Archaeological Survey.

Prior to the issuance of project-specific construction documents for CIP Capacity and Condition Projects (Hardscape and Cross County Environs), Pump Station Rehabilitations, and Out-of-Service Area Projects, a Qualified Archaeologist approved by the City shall contact the NAHC regarding a Sacred Lands File Search for the project area. In addition, the City shall request a written response from the San Luis Rey Band of Mission Indians (SLR Band) (a tribe traditionally and culturally affiliated with the site) regarding whether the site of the 2017 CSMP improvement project may potentially affect Native American resources. If the NAHC and/or the SLR Band confirms potential known resources, a pedestrian survey (i.e., physical walk over) shall first be conducted by the Qualified Archaeologist and a TCA (traditionally and culturally affiliated) Native American Monitor. Should the pedestrian survey identify Native American cultural resources, the Qualified Archeologist shall, in consultation with the TCA Native American monitor and the SLR Band, make an immediate written evaluation of the significance and appropriate treatment of the resource, including any avoidance measures, additional testing and evaluations, or data recovery plans, and Pre-Excavation Agreements with the Tribe. If the SLR Band confirms, in consultation with the Qualified Archaeologist, that there is a potential for unknown resources to be uncovered during construction activities, then Mitigation Measure CULT-3, Archaeological Monitoring, shall be implemented.

2017 CSMP SPEIR Mitigation Measure CULT-4: Paleontological Monitoring.

Monitoring during construction grading or trenching shall be required for all CIP conveyance projects (Hardscape and Cross-Country Environs) that would excavate to a depth of ten feet or more. Prior to the issuance of project specific construction documents, the District Engineer shall retain a Professional Paleontologist to observe all earth-disturbing activities. All fossil materials recovered during mitigation monitoring shall be cleaned, identified, cataloged, and analyzed in accordance with standard professional practices. The results of the field work and laboratory analysis shall be submitted in a technical report and the entire collection transferred to an approved facility.

2017 CSMP SPEIR Mitigation Measure CULT-5: Disturbance to Human Remains.

As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office by telephone. No further excavation or disturbance of the discovery or any nearby area reasonably suspected

to overlie adjacent remains (as determined by the Qualified Archaeologist and/or the traditionally and culturally affiliated [TCA] Native American Monitor) shall occur until the Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected (as determined by the Qualified Archaeologist and/or the TCA Native American Monitor), and consultation and treatment could occur as prescribed by law. As further defined by State law, the Coroner would determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the NAHC within 24 hours. The NAHC would make a determination as to the Most Likely Descendent. If Native American remains are discovered, the remains shall be kept "*in situ*" ("in place"), or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on site in the presence of the TCA Native American Monitor.

VI. GEOLOGY AND SOILS

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	■	☐	☐
ii. Strong seismic ground shaking?	☐	☐	■	☐	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐	☐
iv. Landslides?	☐	☐	■	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	■	☐	☐

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	■	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	■	☐	☐

A Geotechnical Investigation (Geocon 2021; see Appendix C) was prepared by Geocon, Inc. for the project. Relevant findings from the reports are incorporated below.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Less than Significant Impact. As stated in the City of Vista General Plan 2030 Update PEIR, the City is not located on any known active or potentially active faults as defined by the California Geological Survey and is not located within an Alquist-Priolo Earthquake Fault Zone. Similarly, the County of San Diego General Plan Update Final Program EIR does not identify the land areas affected by the proposed improvements as being within an Alquist-Priolo fault zone, nor are any known active of potentially active faults identified on or near the project site (County of San Diego 2011). As indicated in the City of San Marcos General Plan Safety Element, no known active or potentially active regional faults are located within San Marcos (City of San Marcos 2012).

The Rose Canyon Fault is located approximately 12 miles west of the City and is the nearest earthquake fault zone. As such, fault rupture within the City is considered to be low (City of Vista 2011b) and it is not anticipated that this fault would adversely affect the project site. Further, the project would be required to conform with current seismic structural design standards of the CCR Title 24 (California Building Standards Code) to ensure stability and minimize potential adverse effects from potential ground rupture. As such, impacts would be less than significant.

ii. Strong seismic ground shaking?

Less than Significant Impact. Refer also to Response VI(a)(i), above. A seismic event along the Rose Canyon Fault could result in seismic ground shaking at the project site. Seismic ground shaking may have the potential to affect the in-ground structures associated with the proposed improvements. Project compliance with design recommendations identified in the project-specific Geotechnical Investigation (Geocon 2021; see Appendix C), in combination with seismic design standards identified in the current version of the California Building Standards Code, which have been incorporated into the District's construction standards, would reduce the potential to expose people or structures to potential substantial adverse effects, including

the risk of loss, injury, or death from strong seismic ground shaking. Project conformance with such recommendations and standards would reduce potential impacts to less than significant.

iii. Seismic-related ground failure, including liquefaction?

No Impact. Refer also to Responses VI(a)(i) and (ii), above. Liquefaction is the phenomenon whereby soils lose shear strength and exhibit fluid-like flow behavior. Loose granular soils are most susceptible to these effects, with liquefaction generally restricted to saturated or near-saturated soils at depths of less than 50 feet. Liquefaction normally occurs in soils such as sand in which the strength is purely friction. However, liquefaction has occurred in soils other than clean sand. Liquefaction occurs under vibratory conditions such as those induced by a seismic event.

Due to the lack of a permanent, near-surface groundwater table and the very dense nature of the underlying formational materials, liquefaction potential for the affected area is considered to be very low (Geocon 2021). As such, it is not anticipated that the project would result in exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. No impact would occur in this regard.

iv. Landslides?

No Impact. Non-seismically induced landslides can be caused by water from rainfall, septic systems, landscaping, or other origins that infiltrate slopes with unstable material. The land area affected by the proposed improvements is generally flat and does not contain steep slopes (i.e., greater than 25 percent) that would be susceptible to the potential for landslide occurrence. According to findings in the Geotechnical Investigation (Geocon 2021; see Appendix C), no signs or evidence of previous or potential slope instability was observed during the field exploration for the improvements along Mimosa Drive; no landslides are present on or adjacent to the subject site. Therefore, no impact would occur from the exposure of people or structures to potential adverse effects from landslides.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. During the project construction period, ground disturbance would result in the exposure of soils which may be susceptible to erosion. The project would be subject to conformance with the City of Vista Grading and Erosion Control Ordinance, as applicable, to minimize the potential for erosion to occur. Upon completion of the proposed improvements, disturbed areas within the existing roadways would be repaved as needed; other improvements proposed would occur below the ground surface and would therefore not substantially disturb affected soils or result in the potential for surface erosion. No stockpiles or open soil would remain at the completion of construction activities. As such, it is not anticipated that the project would result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than Significant Impact. Refer to Response VI(a), above. As indicated in the Geotechnical Investigation prepared for the project, the subject site is underlain by granite rock, with areas of artificial fill and the Santiago Formation (below the artificial fill). Due to the dense nature of the underlying geologic formations, the potential for liquefaction is considered to be very low. Additionally, affected soils are not susceptible to landslide (Geocon 2021; see Appendix C) and are considered to be relatively stable. It is anticipated that other maintenance improvements proposed (e.g., manhole maintenance) would not result in potential adverse effects due to an unstable geologic unit or soil or result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, due to the nature of the proposed activities. Impacts would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact. The Geotechnical Investigation prepared for the proposed project indicates that on-site soils encountered are considered to be non-expansive as defined by the California Building Code Section 1803.5.3, and it is anticipated that the majority of soils encountered possess a very low to medium expansion potential (Geocon 2021; see Appendix C). No impact would occur in this regard.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The project is a sewer infrastructure improvement project and does not propose development of residential or other land uses that would generate the need for the use of septic tanks or other alternative wastewater disposal systems. No impact would occur in this regard.

VII. GREENHOUSE GAS EMISSIONS

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	■	☐	■	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	■	☐	■	☐	☐
c) Result in the wasteful, inefficient, or unnecessary consumption of energy?	■	☐	■	☐	☐

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Prominent GHGs contributing to the greenhouse effect are carbon dioxide ($CO_{2)}$, methane (CH_4), and nitrous oxide (N_2O). Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming.

The project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in Executive Order (EO) S-03-05 and SB 32. EO S-03-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. SB 32 establishes a statewide GHG emissions reduction target whereby the California Air Resources Board (CARB), in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective

GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40 percent below 1990 levels by December 31, 2030.

In order to meet the statewide GHG emissions reduction targets set for 2020 and 2050, the City of Vista developed an interim threshold in 2016; however, no guidance or revised thresholds have since been adopted to address the GHG reduction target beyond 2020. The 2016 interim guidance identifies a "bright line" threshold which considers future anticipated development within the City. A level of 1,185 metric tons (MT) of carbon dioxide equivalent (CO_2e) was identified as capturing an estimated 90 percent of the City's GHG emissions attributable to such anticipated future development. In evaluating whether a proposed development project is substantially contributing to achievement of the established GHG emissions targets identified in the CAP and AB 32, total GHG emissions of a project in its first fully operational year must not exceed the identified "bright line" threshold. If project emissions do not exceed the threshold, a project is not considered to have a significant environmental impact, either directly or indirectly, due to the generation of GHG emissions.

Direct Effects – Construction and Operations: The evaluation of annual GHG emissions resulting with implementation of the 2017 CSMP considered a conservative scenario in which all near-term capacity-related improvements identified in the CMSP occurred at the same time (not amortized). Such a scenario was intended to provide a worst-case scenario for the potential generation of GHG emissions resulting with the intended improvements to the District's infrastructure facilities. Such annual GHG emissions from construction were calculated to reach approximately 1,059 MT CO_2e. As such, under a worst-case scenario, the adopted threshold of 1,185 MT CO_2e would not be exceeded.

Project construction would require the operation of construction vehicles and equipment, delivery of supplies, and worker-generated vehicle trips. Due to the nature and extent of the proposed improvements, such project-related construction emissions would be limited and short term. Over the long term, routine maintenance of the affected sewer infrastructure facilities would occur on a periodic basis and would require use of maintenance vehicles and equipment that would generate GHG emissions; however, long-term maintenance requirements are not expected to generate a substantial number of vehicle trips or GHG-related emissions from equipment operation, due to the typical limited scale and nature. Additionally, the proposed improvements would not result in an increase in wastewater treatment demands, which could have the potential to increase GHG-related emissions.

The proposed infrastructure improvements are consistent with those anticipated in the District's Master Plan. Therefore, it can be assumed that anticipated GHG emissions generated by the proposed improvements would result in a less than significant impact, similar to that identified in the 2017 CSMP SPEIR. Impacts in this regard are therefore considered to be less than significant.

Indirect Effects: Construction and operation of the proposed improvements are not anticipated to result in a net increase in indirect GHG emissions from energy use, solid waste disposal, or water use. The resulting infrastructure would be passive and would not generate solid waste or result in energy or water use. The proposed improvements would therefore not result in a net increase in energy demand. Indirect effects in this regard would be less than significant.

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

Less than Significant Impact. Refer to Response VII(a), above. The project would generate limited GHG emissions during construction and operations and would not exceed the significance threshold adopted by the City of Vista. As such, the project is not anticipated to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

c) Result in the wasteful, inefficient, or unnecessary consumption of energy?

Direct Effects – Construction: Refer to Response VII(a), above. Energy use during short-term construction of the proposed improvements would result in the consumption of fossil fuels from operation of construction vehicles and equipment. Standard construction practices and equipment would be utilized and would not be anticipated to result in the wasteful, inefficient, or unnecessary consumption of energy as a result. Impacts would be less than significant in this regard.

D**irect Effects – Operations:** Refer to Response VII(a), above. Operation is not anticipated to result in a net increase in energy use, due to the nature of the sewer infrastructure improvements proposed. Therefore, operation would not result in the wasteful, inefficient, or unnecessary consumption of energy. Impacts would be less than significant.

Indirect Effects: The proposed improvements would not result in indirect effects related to energy as construction and operation would not enable or encourage any off-site energy use. No impact would occur.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	■	☐	■	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	■	☐	☐	■	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	■	☐	■	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	☐	■	☐	☐

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	■	☐	■	☐	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people	■	☐	■	☐	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	■	☐	☐	■	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	■	☐	☐	■	☐

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact.

Direct Effects - Construction: Construction activities would require limited use of potentially hazardous substances that may include fuels and oils associated with construction vehicles and equipment, hydraulic fluids, and/or solvents. The construction contractor would be required to implement standard construction practice and safety procedures related to the transport, use, and disposal of hazardous materials. With conformance to applicable federal, state, and local regulations pertaining to the use and handling of hazardous substances, typical use of construction-related hazardous materials for the proposed improvements would not create a significant hazard to the public. Impacts would be less than significant.

Direct Effects - Operations: Due to the nature of the sewer infrastructure system, the use of hazardous materials in operations is not anticipated. Such activities would not create a hazard to the public of the environment through the routine transport, use, or disposal of hazardous materials. No impact would occur.

Indirect Effects: Short-term construction activities may involve the transport, use, and disposal of hazardous materials. These activities are unlikely to result in adverse, indirect effects to adjacent land uses. Indirect impacts are considered less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

SPEIR Mitigation Measure Applicable.

Direct Effects - Construction: Construction of the proposed improvements would require the limited use of toxic and/or hazardous substances that are typical for construction-related activities (i.e., oils, fuels, hydraulic fluids, and solvents). Although the potential for accidental releases (e.g., spilling of hydraulic fluids or diesel fuel from on-site construction equipment maintenance) does exist, it is anticipated any such incidents would be limited to small volumes and/or low concentrations. The construction contractor would be required to implement standard construction controls and safety procedures to avoid accident conditions and properly minimize such conditions in such an event. Additionally, construction would involve excavation activities, which could encounter undocumented contaminated soils and/or groundwater. Implementation of mitigation measure HAZ-1 as identified in the 2017 CSMP SPEIR would be required to reduce potential impacts to less than significant.

Direct Effects - Operations: The proposed improvements are intended to reduce the potential for pipeline leaks or infrastructure failure that could create a significant hazard to the public or the environment. Potential direct effects from system operations are anticipated to be less than significant in this regard.

Indirect Effects: Potential indirect effects resulting with the proposed improvements may occur with accidental release of hazardous materials during construction. Implementation of mitigation measure HAZ-1 as identified in the 2017 CSMP SPEIR would reduce indirect impacts to less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact.

Direct Effects - Construction: The nearest school to the project site is the Joli Ann Leichtag Elementary School, located at 653 Poinsettia Avenue, adjacent to the southern portion of where maintenance improvements are proposed (manhole rehabilitation). However, due to the limited nature of the intended construction activities and conformance with applicable federal, state, and local standards for the handling and disposal of hazardous substances, it is not anticipated that the proposed improvements would result in the emission or handling of hazardous materials that would cause a significant effect to the existing school. Impacts would be less than significant.

Direct Effects - Operations: The proposed sewer infrastructure system would operate underground and would not generally require the use of hazardous materials. Once constructed, the proposed improvements would not adversely affect any area schools. Impacts are considered less than significant.

Indirect Effects: No adverse indirect impacts to schools from project implementation are anticipated.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact.

Direct Effects - Construction and Operations: The affected land area is not located on a site included on a list of hazardous material sites pursuant to Government Code Section 65962.5. No sites identified in the State Water Resources Control Board's (SWRCB) Geotracker database (SWRCB 2021) or the California Department of Toxic Substances Control's (DTSC) Envirostor database (DTSC 2021) occur on the affected lands. One site was listed at the Joli Ann Leichtag Elementary School, located adjacent to the south of where improvements would occur; however, this site was an investigation and no action was required (DTSC 2021). Impacts would be less than significant in this regard.

Indirect Effects: No adverse, indirect impacts associated with hazardous materials sites have been identified.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact.

Direct Effects - Construction and Operations: The affected area is not located within an airport influence area. The nearest airport to the project site is the McClellan-Palomar Airport, located approximately 4.4 miles to the southwest. Due to distance, the proposed improvements would not result in an airplane safety hazard for the temporary construction workers or occasional maintenance workers. No impact would occur.

Indirect Effects: No adverse indirect impacts to airports are anticipated from project implementation.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips located in the vicinity of the project site. Therefore, no impact would occur relative to this issue.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction: Construction occurring within Mimosa Avenue, Smilax Road, and/or other public rights-of-way, easements, or private properties may have the potential to result in temporary effects on circulation in the area. Lane reductions may result in impaired emergency vehicle access. Potential impacts would be reduced with incorporation of 2017 CSMP SPEIR mitigation measure TR-1, as appropriate to the improvements undertaken, to reduce impacts to less than significant. Refer also to Section XVI, Transportation and Traffic.

Direct Effects - Operations: Once constructed, the proposed improvements would be located underground. As such, no impairment or physical interference with an adopted emergency response plan or emergency evacuation plan would result. No impact would occur.

Indirect Effects: The proposed improvements would be underground and would not interfere with emergency access. No indirect impacts would occur.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction and Operation: The project site is located in a highly urbanized area. According to the California Department of Fire and Forestry (Calfire) the site is not identified as a Very High Fire Hazard Severity Zone (VHFHSZ) for a Local Responsibility Area (SRA) (Calfire 2021) or a Local Responsibility Area (LRA) (Calfire 2021), and therefore, the potential risk of wildfire is considered to be low. As proposed infrastructure improvements would occur below the ground surface, the project would not result in structural elements that would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. However, per the 2017 CSMP SPEIR, mitigation measures HAZ-3 and HAZ-4 would be implemented to ensure that the risk for wildfire is minimized to the extent feasible by keeping

construction and staging areas clear of combustible materials and by ensuring that sufficient fire suppression equipment is available if needed. Impacts would be reduced to less than significant with incorporation of mitigation measures HAZ-3 and HAZ-4.

Indirect Effects: The proposed improvements would be located underground and would therefore not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.

Applicable Mitigation Measures

2017 CSMP SPEIR Mitigation Measure HAZ-1: Halt Construction Work if Potentially Hazardous Materials are Encountered.

All construction contractors shall immediately stop all surface or subsurface activities in the event that potentially hazardous materials are encountered, an odor is identified, or considerably stained soil is visible. Contractors shall follow all applicable local, state, and federal regulations regarding discovery, response, disposal, and remediation for hazardous materials encountered during the construction process. These requirements shall be included in the contractor specifications.

If any hazardous materials, waste sites, or vapor intrusion risks are identified prior to or during construction, a qualified professional, in consultation with appropriate regulatory agencies, will develop and implement a plan to remediate the contamination and properly dispose of the contaminated material.

If material imports are proposed, the contractor shall furnish the City with appropriate documentation certifying that the imported materials are free of contamination.

2017 CSMP SPEIR Mitigation Measure HAZ-3: Keep Construction Area Clear of Combustible Materials.

During construction, construction contractors shall ensure that staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of combustible vegetation or other materials that could serve as fire fuel. All vegetation clearing shall be coordinated with a qualified biologist and any required permits prior to removal. The contractor shall keep these areas clear of combustible materials in order to maintain a firebreak. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws.

2017 CSMP SPEIR Mitigation Measure HAZ-4: Provide Accessible Fire Suppression Equipment.

Work crews shall be required to have sufficient fire suppression equipment readily available to ensure that any fire resulting from construction activities is immediately extinguished. All off-road equipment using internal combustion engines shall be equipped with spark arrestors.

IX. HYDROLOGY AND WATER QUALITY

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Violate any water quality standards or waste discharge requirements?	■	☐	☐	■	☐

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre- existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	■	☐	■	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	■	☐	■	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?	■	☐	■	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	■	☐	■	☐	☐
f) Otherwise substantially degrade water quality?	■	☐	☐	■	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	■	☐	■	☐	☐
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	■	☐	■	☐	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	■	☐	■	☐	☐
j) Inundation by seiche, tsunami, or mudflow?	■	☐	■	☐	☐

a) Violate any water quality standards or waste discharge requirements?

SPEIR Mitigation Measure Applicable

Direct Effects - Construction: Construction activities associated with the proposed improvements may generate potential sediments, fuels, hydraulic fluids, solvents, and/or other substances that may have the potential to affect water quality. Construction activities would require demolition, excavation/trenching, stockpiling of soils, re-paving, and/or similar activities. Construction would generally occur within paved public rights-of-ways or developed/disturbed properties (i.e., parking lots) and run-off would be discharged into the local storm drain system.

The proposed improvements would be subject to local erosion control and grading standards to ensure that the potential for construction-related contaminants to enter local storm drains and receiving waters is minimized. Construction activities would be subject to District standards for the protection of stormwater and implementation of a water quality management plan prepared and implemented by a qualified stormwater professional in compliance with the requirements of the NPDES General Construction Permit, in order to minimize any pollutant discharge generated. Best management practices for the protection of stormwater are anticipated to include the installation of gravel bags around storm drain inlets and the covering of any stockpiles to achieve erosion and sedimentation control. Such practices would be implemented by the construction contractor as part of the right-of-way permit issued for the proposed improvements. The water quality management plan will be subject to review and approval by the City of Vista Engineer prior to the commencement of work. Furthermore, the project would be subject to implementation of mitigation measure HWQ-1, as identified in the 2017 CSMP SPEIR, for stormwater protection. Therefore, with incorporation of mitigation measure HWQ-1, construction of the proposed improvements would not violate water quality standards or waste discharge requirements, and impacts would be less than significant.

Direct Effects - Operations: Periodic maintenance of the proposed improvements would be performed via existing/proposed manholes and would not be anticipated to require any ground disturbance. Maintenance would require minimal ground disturbing activities and is not anticipated to contribute to or result in water quality contamination. Operational impacts would be less than significant in this regard.

Indirect Effects: The proposed improvements would enhance operation and functionality of the affected sewer system while reducing the potential for leaks or infrastructure failure, which may in turn, indirectly contribute to decreased water quality. No indirect impacts would occur.

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

Less than Significant Impact.

Direct Effects - Construction: The proposed improvements would not involve the use of groundwater. Dewatering of the construction area along Mimosa Avenue is not anticipated to be required based upon the fact that groundwater was not encountered during the geotechnical field investigation (Geocon 2021). If dewatering is required, it is anticipated to be discharged into the Buena Sanitation sewer system. Dewatering would not be applicable if the proposed improvements are not extended near/below the groundwater level. The need for dewatering during construction, if applicable, would be identified during the pending geotechnical investigation. A Special Use Discharge Permit would be required should groundwater be encountered or identified. Any potential effects on groundwater would be short-term and would occur in conformance with applicable state and local regulations and permitting requirements. Impacts would be less than significant.

Direct Effects - Operations: Operation of the proposed improvements would not require the use of groundwater. No impact would occur.

Indirect Effects: Following construction, disturbed surfaces would be restored to existing conditions; no increase in impervious surfaces is anticipated. The project would therefore not contribute to indirect effects on groundwater supplies or recharge. No impact would occur.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than Significant Impact.

Direct Effects - Construction: Construction activities (for example, trenching) may temporarily alter surface runoff drainage patterns in the areas affected by the proposed improvements. Such activities would be required to comply with County of San Diego's Grading Ordinance requirements to ensure that substantial erosion or siltation on- or off-site do not occur. Construction impacts would be less than significant in this regard.

Direct Effects - Operations: Upon completion of the infrastructure improvements, disturbed ground surfaces would be restored to existing conditions, and no substantial erosion or siltation effects would occur. Impacts to drainage patterns would be less than significant in this regard.

Indirect Effects: The proposed improvements would be located below ground and would therefore not result in potential indirect effects on surface drainage patterns. No impact would occur.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less than Significant Impact.

Direct Effects - Construction: Due to nature of the proposed improvements and limited surface disturbance required, no increase in the rate or amount of surface runoff or potential for on-site or off-site flooding would occur. Impacts would be less than significant.

Direct Effects - Operations: Following completion of the proposed improvements, any disturbed surface areas would be restored to existing conditions, and no increase in impervious surfaces or surface runoff would occur that may result in flooding. Impacts would be less than significant.

Indirect Effects: The proposed improvements would be located below ground and would therefore not result in potential indirect effects on surface drainage patterns. No impact would occur.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact.

Direct Effects - Construction: Refer to Response IX(a), above, regarding stormwater water quality. As stated, due to the nature of the proposed improvements and limited surface disturbance required, no increase in the rate or amount of surface runoff is anticipated. Therefore, the proposed improvements are not anticipated to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

Direct Effects - Operations: Following construction, areas disturbed by the proposed improvements would be restored to existing conditions; no increase in impervious surfaces or surface runoff would occur. Project

operations would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. No impact would occur.

Indirect Effects: The proposed improvements are intended to improve the existing infrastructure system and reduce the potential for leaking and/or associated effects on water quality deterioration. No indirect impacts would occur in this regard.

f) Otherwise substantially degrade water quality?

SPEIR Mitigation Measure Applicable

Direct Effects - Construction: Refer Response IX(a), above.

Direct Effects - Operations: Refer to Response IX(a), above.

Indirect Effects: Refer Response IX(a), above.

g) Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact.

Direct Effects - Construction and Operations:. No new housing is proposed, nor would the proposed improvements generate new population growth or the need for construction of additional housing that would be located within a 100-year flood hazard area. No impact would occur as a result of project implementation.

Indirect Effects: The project is intended to ensure that adequate wastewater services can continue to be provided by the District. No new housing is proposed, nor would the proposed improvements generate new population growth or the need for construction of additional housing that would be located within a 100-year flood hazard area. No indirect impacts would occur as a result of project implementation.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact.

Direct Effects - Construction and Operations: The proposed improvements would be constructed underground and would require minimal ground disturbance during installation. No substantial change to on-site drainage patterns would occur; no structures would be placed within a 100-year flood hazard area. Therefore, the project would not impede or redirect existing flood flows. No impact would occur in this regard.

Indirect Effects: The project does not propose the construction of any physical structures within a 100-year flood hazard area. No indirect impacts would result with project implementation.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less than Significant Impact. Maerkle/Squires Dam is located approximately 2.8 miles southwest of the project area in the City of Carlsbad. According to the 2008 SMPU PEIR, the area affected by the proposed infrastructure improvements is not subject to inundation in the event of dam failure (City of Vista 2008). Impacts would be less than significant.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. The project area is located approximately 7.5 miles to the east of the Pacific Ocean; due to distance and topography, the potential for inundation by tsunami is considered to be low (Geocon 2021).

Additionally, no large bodies of water are located in the project vicinity that would be subject to a seiche event. The lands affected by the proposed improvements are generally flat and no steep slopes are present. Due to such conditions, inundation of the site by seiche or mudflow is considered to be low. No impact would occur in this regard.

SPEIR Mitigation Measures Applicable

2017 CSMP SPEIR Mitigation Measure HWQ-1: Assess Project Risk, Receiving Water Vulnerability, and Implement a Water Quality Protection Strategy.

The construction contractor will assess the receiving water vulnerability and develop a SWPPP that complies with the requirements of the NPDES General Construction Permit (Order2009-0009-DWQ as amended by 2010 0014-DWQ and 2012-006-DWQ) based on the project-specific risk level subject to the City Engineer's approval. The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions, local jurisdictional requirements. and shall be reviewed and approved by the City Engineer prior to commencement of work.

The SWPPP shall be prepared by a qualified SWPPP developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (e.g., inadvertent petroleum release) is required to determine adequacy of the measure.

The SWPPP shall also address other project-specific water quality threats, as required for individual improvements including but not limited to, temporary dewatering, hydrostatic testing, and other resources permits as required under the Federal Clean Water Act, County Grading Ordnance, and State Fish and Game Code, as applicable. Construction and post-construction BMPs will be designed to avoid the creation of standing water and potential mosquito breeding habitat.

X. LAND USE AND PLANNING

Would the Project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Physically divide an established community?	■	☐	■	☐	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	■	☐	■	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	■	☐	■	☐	☐

a) Physically divide an established community?

Less than Significant Impact.

Direct Effects - Construction: Construction of the proposed sewer infrastructure improvements and maintenance activities would require improvements along Mimosa Drive, Smilax Road, and other public rights-of-way, easements, and private properties. Due to the nature of the proposed improvements (i.e., below ground surface), it is not anticipated that construction would result in the physical division an established community; however, temporary disturbances may occur to area access routes. Potential construction effects on the surrounding community would be minimized due to the limited area affected by the proposed improvements and the length of time required to complete the intended improvements. Construction impacts would be less than significant in this regard.

Direct Effects - Operations: The area affected by the proposed improvements is highly urbanized occurs on previously developed/ and/or disturbed lands, generally surrounded by multi-family and single-family residential uses. The project does not include significant new infrastructure, such as major roadways or water supply systems or utilities, that would induce population growth or alter existing land uses. Additionally, the proposed improvements would not remove barriers to growth, generate extraordinary economic growth, generate an indirect inducement to significant growth, be a precedent-setting action, or encroach into open space. Therefore, project operations would not significantly disrupt or divide the established community. No impact would occur.

Indirect Effects: Due to the nature of the intended sewer infrastructure improvements, the project does not propose any physical elements that would result in the division of an established community. Once construction is completed, the result of any project-related disturbance would be underground. No impact would occur in this regard.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact.

Direct Effects - Construction: Land uses adjacent to the proposed improvement areas are largely single- and multi-family residential. Construction would occur primarily within or adjacent to existing roadway rights-of-way, easements, or within private property and could result in temporary disruption of circulation on affected streets and/or neighborhood access, increased noise and dust, and public safety effects, among other effects.

As identified in the 2017 CSMP SPEIR, the proposed improvements are considered to be consistent with the general plans of the cities of Vista, Carlsbad, Oceanside, San Marcos, and the County of San Diego as such plans do not preclude construction of new or updated sewer facilities. Additionally, the proposed improvements would reduce potential environmental harm that may result with failure of old and degraded sewer infrastructure. As such, construction of the proposed improvements would not conflict with plans and polices of an agency with jurisdiction over the project area adopted for the purpose of avoiding or mitigating for adverse environmental effects. Impacts would be less than significant.

Direct Effects - Operations: The improvements identified in the 2017 CSMP were based on the latest regional growth forecasts developed by the San Diego Association of Governments (SANDAG), consistent with the adopted land uses defined in the City's General Plan 2030 Update and adopted land use plans of other adjacent jurisdictions within the City and District service area boundaries. The proposed improvements would be consistent with the 2017 CSMP and would serve the projected service populations of the City and District, consistent with SANDAG projections.

Additionally, the proposed improvements would not conflict with the goals and policies of the Public Safety, Facilities, and Services Element of the City's General Plan 2030 Update, and would support Goal PSFS 9 for

the provision of sanitary sewer facilities to accommodate the safe, efficient, and cost-effective disposal of waste, commensurate with existing and anticipated future development. For development approval by local jurisdictions outside of the City, but within the City's service areas, conformance with Policy LU-14.1 of the San Diego County General Plan and Policy LU-14.1 of the San Marcos General Plan, which pertain to coordination between local service providers to ensure provision of an adequate wastewater system, is required.

As discussed in Response VII(a), the City adopted a CAP in 2013 to reduce GHG emissions in accordance with AB 32. In 2016, the City adopted interim guidance for evaluating discretionary projects in compliance with AB 32 requirements. The proposed improvements would not exceed the threshold and would not generate GHG emissions that may have a significant impact on the environment. Therefore, implementation of the proposed infrastructure improvements would not conflict with the interim guidance or the CAP.

As identified in the 2017 CSMP PSEIR, all future projects identified in the 2017 CSMP Update are considered to be either compatible with local land use regulations or would be compatible, subject to use permit limitations. The proposed improvements would be underground and would not be visible once construction is complete. Construction of the improvements would not preclude existing land uses on surrounding properties, nor future development of surrounding lands. Impacts are considered less than significant.

Indirect Effects: No new, unplanned development or change in existing or planned land uses would occur with the proposed infrastructure improvements. Impacts would be less than significant.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Less than Significant Impact.

Direct Effects – Construction and Operation: Refer to Responses IVa) and IVf), above pertaining to existing conditions affecting the project site. The project area is located within the boundaries of the County's MSCP which is currently being developed, and therefore, has not yet been adopted. The North County Plan Area encompasses approximately 345,000 acres in and around the unincorporated communities of Bonsall, De Luz, Fallbrook, Harmony Grove, Rancho Santa Fe, Lilac, Pala, Pauma Valley, Rainbow, Ramona, Rincon Springs, Twin Oaks Valley, and Valley Center within the County's jurisdiction (County of San Diego n.d.).

Due to the nature of the proposed improvements and the developed character of lands affected by the proposed improvements, the developed nature of surrounding lands, and the lack of sensitive biological resources, the project is not anticipated to conflict with the MSCP. Impacts would be less than significant.

Indirect Effects: No new, unplanned development or change in existing or planned land uses would occur with the proposed infrastructure improvements. Indirect impacts would be less than significant.

XI. MINERAL RESOURCES

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	■	☐	☐
b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	■	☐	☐

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The term "mineral resource" refers to a concentration or occurrence of a naturally occurring material in such form or amount that economic extraction of a commodity is currently potentially feasible.

Less than Significant Impact. Mineral resources that would be of future value to the state or region have not been identified in the project area. The County of San Diego General Plan identifies lands potentially affected by the proposed improvements as MRZ-3 (County of San Diego 2011). Areas designated as MRZ-3 have undetermined mineral resource significance; the significance of areas containing mineral deposits cannot be evaluated from available data.

The proposed improvements would not result in the extraction of any mineral resources, and therefore, such resources would remain available for extraction if future mining is indeed proposed. Additionally, the project area is generally surrounded by developed lands supporting single- and multi-family residential uses, which would be incompatible with any future extraction of mineral resources. A future mining operation at the project site would likely create a significant impact to neighboring properties relative to noise, air quality, traffic, and/or other issues. As such, mineral extraction is currently infeasible.

Therefore, project implementation would not result in the loss of availability of a known mineral resource. Impacts would be less than significant.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. As described above, the project site is located in an area designated as MRZ-3. The proposed improvements would largely occur within existing roadway rights-of-way or within residential properties, within a highly urbanized area (i.e., developed/disturbed lands). No locally important mineral resource recovery sites delineated on a local general plan, specific plan, or other land use plan occur within the project area. Therefore, the loss of availability of any such resources would not occur with project implementation. No impact would occur in this regard.

XII. NOISE

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	■	☐	☐	■	☐
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	■	☐	■	☐	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐	■	☐	☐
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐	☐	■	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to	■	☐	■	☐	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	■	☐	■	☐	☐

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction: The proposed improvements would result in the generation of noise from operation of construction equipment and vehicles, trenching, pipe and manhole installation and repair, backfilling, and repaving, as appropriate.

The City of Vista adopted the County of San Diego's Noise Control Ordinance by reference, which is enforced through the City's Municipal Code. The City's Code limits operational noise generation at a common property line with a residential zone to 50 dBA L_{eq} (1-hour) between 7:00 a.m. and 10:00 p.m. and 45 dBA L_{eq} (1-hour) between 10:00 p.m. and 7:00 a.m. (Municipal Code Chapter 8.32, Noise Control). Construction noise in excess of 75 dBA L_{eq} (8-hour) at residences or between the hours of 7:00 p.m. and 7:00 a.m. of the next day,

on Sundays, or on a holiday is prohibited. Additionally, Chapter 10.24, Noise, of the City of San Marcos Municipal Code restricts noise resulting with the erection or demolition of building, grading or excavation of land, or the start-up and use of heavy equipment such as dump trucks and graders or jack hammers, to Monday through Friday between the hours of 7:00 a.m. and 6:00 p.m. and on Saturdays 8:00 a.m. to 5:00 p.m. (City of San Marcos 2021).

The analysis in the 2017 CSMP SPEIR assumed that during peak excavation and earthwork activities, each individual improvement project identified in the 2017 CSMP may involve up to two construction crews working simultaneously. Construction activities associated with the identified projects would result in a temporary increase in ambient noise levels above existing conditions. Sound levels of typical construction equipment generally range from 70 dBA (A-weighted sound level) to 90 dBA at 50 feet from the source. When multiple pieces of equipment operate at the same time, combined noise levels increase. However, such noise levels attenuate with increasing distance from the source.

Construction-related noise associated with the 2017 CSMP was determined to have the potential to exceed the thresholds established in the City of Vista Noise Control Ordinance and the County of San Diego Noise Control Ordinance of 75 dBA for more than 8 hours during any 24 hour period; measured at the property line where the noise source is located or on any occupied property where the noise is being received. Construction and rehabilitation efforts for the proposed components would result in potential noise impacts to various types of sensitive receptors in the surrounding vicinity (i.e., residential uses). The proposed construction activities would increase ambient noise levels above existing conditions, which may be perceived as annoying to area sensitive receptors. Therefore, short-term noise impacts associated with construction of the 2017 CSMP improvements could potentially be significant. Where construction activities occur within 200 feet of noise sensitive land uses, mitigation measure NV-1 of the 2017 CMP SPEIR would be implemented to minimize potential construction noise. Potential impacts would be reduced to less than significant with incorporation of such mitigation. It should also be noted that any temporary noise effects generated by project-related construction would be substantially reduced due to the existing ambient noise environment influenced by traffic traveling along SR 78.

Vehicle trips associated with delivery of supplies to the staging areas and affected improvement areas, as well as worker-related trips, would be limited and anticipated to generate only minimal and temporary noise on local roadways that may potentially affect nearby sensitive uses. However, it is not anticipated that such activities would result in exceedance of established noise standards. Further, as stated in the 2017 CSMP PSEIR, assuming an average crew size of 15, including inspectors, construction activities could generate up to 60 round-trip personal automobile trips per day for the identified CIP projects. Compared to the existing vehicle trips that occur on major arterial, collector, and local roadways within the City on a daily basis, the SPEIR found that noise generated by construction traffic associated with the 2017 CSMP would not be discernable. Such impacts would be less than significant.

Direct Effects - Operations: Operational noise may be generated by routine maintenance of the affected infrastructure components over the long-term which may involve on-site improvements, construction worker and delivery vehicle trips, and use of equipment. However, it is anticipated that system maintenance would occur intermittently and would be short-term and would not substantially differ from existing maintenance and repair activities currently undertaken by the District. As such, noise generated by future maintenance activities is not anticipated to exceed established noise limits for residential properties within the project vicinity and would not result in exposure of sensitive receptors to excessive noise levels. A less than significant impact would occur.

Indirect Effects – The proposed improvements to the sewer infrastructure system would not indirectly result in population or other area growth that would increase existing noise levels. No indirect noise impacts would occur.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact.

Direct Effects - Construction: Increases in groundborne vibration and noise levels attributable to the proposed improvements would be primarily associated with short-term construction-related activities. Construction would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers and jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Excessive groundborne vibration and noise can result from construction activities such as trenching, uses of vibratory rollers for soil compaction, or blasting.

As evaluated in the 2017 CSMP SPEIR, typically, vibration levels equal to or greater than 0.2 PPV (peak particle velocity) in units of inches per second, or 94 velocity decibel (VdB), are considered significant as that is the level at which building damage may occur to fragile non-engineered timber and masonry structures (City of Vista 2017). Vibratory rollers can generate groundborne vibration at 0.210 at a distance of 25 feet; however, the vibration level dissipates to below the threshold by adding only 1 additional foot of separation from the source. Pile driving would not be required for the proposed improvements. Other construction equipment (i.e., small vibratory plate compactor or hand held equipment) would generate substantially less groundborne vibration than a vibratory roller. It is not anticipated that equipment used for the proposed improvements would result in substantial groundborne vibration levels which exceed 0.2 in/sec PPV or greater at adjacent residences in the affected areas. Impacts associated with construction equipment are considered to be less than significant based on the speed at which groundborne vibration and noise dissipate from the source.

Direct Effects - Operations: Operation of the affected sewer infrastructure would not generate groundborne vibration. Impacts would be less than significant.

Indirect Effects – The proposed improvements would not result in indirect effects that would generate substantial groundborne vibration levels. No indirect vibration impacts would occur.

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. Refer to Response XII(a), above. Limited noise may be generated by periodic maintenance activities in routine investigations and/or repair. However, such activities would not be anticipated to exceed allowable noise thresholds adopted for residential properties s identified in the City's Noise Ordinance. Further, all maintenance work, including routine or emergency repairs, would be subject to conformance with the City's Noise Ordinance, and incorporation of noise-reduction measures (i.e., use of sound blankets or temporary noise screens) if appropriate to minimize disturbance to adjacent properties. Impacts would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

SPEIR Mitigation Measures Applicable.

Direct Effects – Construction: Refer to Response XII(a), above. Project construction may temporarily generate noise levels in excess of standards set forth in the City's Noise Ordinance. Mitigation measure NV-1, as identified in the 2017 CSMP SPEIR, would be implemented to reduce potential project-generated construction noise.

Direct Effects – Operation: Refer to Response XII(a), above.

Indirect Effects: Refer to Response XII(a), above.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project area is not located within the boundaries of an airport land use plan. The nearest airport to the site is the McClellan-Palomar Airport, located approximately 4.4 miles to the southwest. Additionally, the Oceanside Municipal Airport is located approximately 9.1 miles to the northwest, and the U.S. Marine Corps Air Station Camp Pendleton lies approximately 12.7 miles to the northwest of the site. The project would therefore not expose people residing or working in the area to excessive noise levels, due to distance from any public airports. No impact would occur.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no private airstrips located in the vicinity of the project site. Therefore, no impact would occur relative to this issue.

Applicable Mitigation Measures

2017 CSMP SPEIR Mitigation Measure NV-1: Construction Noise Reduction Measures.

The Construction Contractor shall demonstrate to the satisfaction of the City Engineer that the following noise control techniques are implemented during the clearing, demolition, grading and construction phases of projects identified in the 2017 CSMP within 200 feet of noise-sensitive land uses.

- Heavy equipment repair and contractor staging shall be conducted at sites as far as practical from nearby residences.
- Construction equipment, including vehicles, generator and compressors, shall be maintained in proper operating condition and shall be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, acoustical lagging, and/or engine enclosures).
- Temporary sound barriers (or curtains), stockpiles or excavated materials, or other effective shielding or enclosure techniques shall be used where construction noise would exceed 90 dBA within less than 50 feet from a noise sensitive receptor.
- Construction work, including on-site equipment maintenance and repair, shall be limited to the hours specified in the noise ordinance of the affected jurisdiction(s).
- Electrical power shall be supplied from commercial power supply, wherever feasible, in order to avoid or minimize the use of engine-driven generators.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion powered equipment, where feasible.
- Unnecessary idling of internal combustion engines (i.e., in excess of 5 minutes) shall be prohibited.
- Operating equipment shall be designed to comply with all applicable local, state, and federal noise regulations.
- Construction site and access road speed limits shall be established and enforced during the construction period.
- If lighted traffic control devices are to be located with 500 feet of residences, the devices shall be powered by batteries, solar power, or similar sources, and not be an internal combustion engine.

- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
- No project-related public address or music system shall be audible at any adjacent sensitive receptor.
- The construction contractors shall provide advance notice, between 2 and 4 weeks prior to construction, by mail to all residents or property owners within 200 feet of the alignment. The announcement shall state specifically where and when construction will occur in the area. If construction delays or more than seven days occur, an additional notice shall be made, either in person or by mail. The City shall publish a notice of impending construction on the City website, stating when and where construction will occur.
- The construction contractors shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise and other construction disturbance. The construction contractors shall also establish a program for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with the information above.

XIII. POPULATION AND HOUSING

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	■	☐	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	■	☐	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	■	☐	☐

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed improvements to the existing sewer infrastructure system are intended to ensure the continued provision of adequate wastewater services to the District's service population, consistent with that intended by the 2017 CSMP. The proposed improvements would not induce substantial area population growth, either directly or indirectly. No impact would occur in this regard.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The majority of the proposed improvements would occur within existing rights-of-way; limited improvements would occur within existing easements and/or on privately owned residential properties. However, the project would not result in the displacement of any existing housing, and no construction of replacement housing is required. No impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The majority of the proposed improvements would occur within existing rights-of-way; limited improvements would occur within existing easements and/or on privately owned residential properties. However, the project would not result in the displacement of any people, and no construction of replacement housing is required. No impact would occur.

XIV. PUBLIC SERVICES

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
a) Fire protection?	☐	☐	■	☐	☐
b) Police protection?	☐	☐	■	☐	☐
c) Schools?	☐	☐	■	☐	☐
d) Parks?	☐	☐	■	☐	☐
e) Other public facilities?	☐	☐	■	☐	☐

a) Fire protection?

b) Police protection?

c) Schools?

d) Parks?

e) Other public facilities?

XIV.a) No Impact. The City of Vista Fire Department and Vista Fire Protection District provide fire protection services to the project site and surrounding community. The Vista Fire Department serves the residents of the City of Vista and the Vista Fire Protection District. The Fire Department is a full service department, providing services including fire prevention and suppression, emergency medical services, and technical rescue and hazardous materials mitigation. The Fire Department oversees and administers the contract with

the Vista Fire Protection District and provides support to the District Board, advising them on policy and procedures (City of Vista n.d.).

The Fire Department operates six strategically located fire stations. Vista Station Number 4, located at 2121 Thibodo Road, Vista, approximately 0.7 miles northwest of the project site, provides fire protection services to the project area.

Construction activities would be short term and the need for fire protection services is not anticipated, due to the nature of the project. Once the sewer infrastructure is fully operational, all such improvements would be underground, and would therefore not be anticipated to pose a potential fire risk. The proposed project does not include new homes or other land uses that would require additional fire protection services or that would adversely affect local response times for emergency vehicles.

The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. Therefore, no impact would occur relative to fire protection.

XIV.b) No Impact. Police protection services for the project area are provided by the San Diego County Sheriff's Department, which is under contract with the City. The sheriff's department operates from its main station located at 325 South Melrose Drive, Suite 210, approximately 3.4 miles northwest of the proposed project site.

Construction activities would be short term and the need for law enforcement services is not anticipated, due to the nature of the project. Once the sewer infrastructure is fully operational, all such improvements would be underground, and would therefore not be anticipated to pose a risk for vandalism or other security risk. The proposed project does not include new homes or other land uses that would require additional law enforcement services or that would adversely affect local response times in the event of an emergency.

The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Therefore, no impact would occur relative to police protection.

XIV.c) No Impact. The project would not change existing demand for school services, as the project would not result in an increase in area population. Therefore, the project would have no impact related to school services.

XIV.d) No Impact. The project would not result in an increase in area population and would not prompt the need for new or altered parks. Therefore, the project would have no impact related to parks.

XIV.e) No Impact. The project would not result in an increase in area population and would not prompt the need for new or altered other public services, such as libraries. Therefore, the project would have no impact in this regard.

XV. RECREATION

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	■	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	■	☐	☐

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed project would not result in improvements that would generate an increase in area population that would, in turn, have the potential to increase demand for recreational resources within the service area. Therefore, the project would not be anticipated to increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No impact would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. Due to the nature of the proposed sewer infrastructure improvements, the project does not include recreational facilities, nor does it require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No impact would occur in this regard.

XVI. TRANSPORTATION AND CIRCULATION

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	■	☐	■	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	■	☐	☐	■	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	■	☐	■	☐	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	■	☐	☐	■	☐
e) Result in inadequate emergency access?	■	☐	☐	■	☐
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	■	☐	☐	■	☐

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than Significant Impact.

Direct Effects – Construction: The North County Transit District operates its BREEZE bus service within the City of Vista. Route 332 runs along Sycamore Avenue, La Mirada Drive, and Poinsettia Avenue to the northwest/southwest/south; Route 305 runs along South Santa Fe Avenue/Mission Road to the north/east. Due to distance from the area where improvements are proposed, project construction would not interfere or conflict with the provision of BREEZE bus services (NCTD 2021).

No designated bicycle lanes are present along Mimosa Avenue in the area where improvements are proposed, nor along other streets where other infrastructure improvements (maintenance) would occur. An existing sidewalk segment (approximately 250 feet in length with no connection to other sidewalks) is present along the west side of Mimosa Avenue in the western portion of the alignment affected by the improvements and along both sides of Smilax Avenue; sidewalks are not present along other roadways affected by the proposed improvements. Temporary sidewalk closure of the sidewalk along Mimosa Avenue may be required; however, as it does not provide connection to a larger pedestrian network, temporary closure is not anticipated to disrupt pedestrian movement in the area or decrease the performance or safety of such facilities.

Due to the limited and short-term nature of the proposed improvements, and the lack of access to public transit or other non-motorized travel (pedestrian and bicycle movement) in the affected area, the proposed improvements are not anticipated to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system; refer also to Response XVI(f), below. Impacts would be less than significant.

Direct Effects – Operations: The proposed sewer infrastructure improvements would be undergrounded and operations would not directly affect surface circulation systems once construction is completed. No impact would occur.

Indirect Effects: Due to the nature of the proposed sewer infrastructure improvements and the condition that such improvements would be undergrounded, no indirect effects are anticipated. No impact would occur.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction: All improvements would occur along existing sewer line alignments within existing public easements or roadway rights-of-way either currently under District ownership or other affected agencies, with exception of limited segments within the Coral Tree Manor and Springdale Estates developments which are located within easements on privately owned property.

Construction-related activities would have the potential to result in temporary disruption to circulation along public streets due to the proposed improvements that may require partial street or lane closures, as well as temporary disruption of access to residences and businesses along the construction route. The District would maintain, to the extent feasible, safe and adequate pedestrian and vehicular access; however, if access is blocked by construction, an alternative access route would be provided. Mitigation measure TR-1 is proposed to address temporary, construction-related impacts to the circulation network through the preparation of a project-specific traffic control plan.

As stated in the 2017 CSMP SPEIR, the analysis assumed that, based on trip generation characteristics, each improvement project may require up to two construction crews of 15 persons each generating up to 60 personal commute round trips per day, as well as up to 10 daily haul trucks trips to accommodate the delivery of construction materials and equipment and/or soil import/export (City of Vista 2017a). The SPEIR determined that under this scenario, the improvement projects identified would not result in significant impacts to roadway operations or capacity. Therefore, it is anticipated that the traffic generated by

construction of the proposed improvements would be consistent with that analyzed in the SPEIR; construction impacts in this regard would be less than significant.

Direct Effects - Operations: Once construction is completed, affected roadways would be returned to their prior condition to ensure that the proposed improvements do not result in any permanent effects to area circulation. Due to the nature of the proposed improvements and operational characteristics, the project would not conflict with an applicable congestion management program, or plan, ordinance, or policy related to the performance of the circulation system. Impacts would be less than significant.

Indirect Effects: During construction, area traffic may avoid Mimosa Avenue and therefore be redistributed within the area; however, affected roads are generally low volume and any temporary redistribution of traffic would not be anticipated to adversely affect other area roadways and/or intersections. Indirect impacts are considered less than significant in this regard.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed infrastructure improvements would occur underground and no physical structures are proposed that would affect air traffic patterns, cause an increase air traffic, or cause a change in location that would result in potential safety risks. No impact would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction: During construction, temporary lane closures may be required to allow for the proposed improvements within the affected right-of-way. To ensure public safety and minimize potential safety hazards, mitigation measure TR-1, as identified in the 2017 CSMP SPEIR, would require preparation and implementation of a Traffic Control Plan for roadways and intersections affected by the proposed project. Implementation of mitigation measure TR-1 would reduce potential impacts to less than significant.

Direct Effects - Operations: The proposed improvements would not include new permanent design features or incompatible uses that would adversely affect vehicular or other means of transportation on affected roadways. Additionally, as the improvements would be installed underground, no physical design features or incompatible uses that could decrease public safety would result. Impacts are considered to be less than significant.

Indirect Effects: Due to the nature of the proposed infrastructure improvements (underground), the project would not include installation of any roadway design features (e.g., sharp curves or dangerous intersections) or incompatible uses that would increase safety hazards. However, construction-related traffic may temporarily affect vehicular (including buses), bicycle, and pedestrian movement along affected roadways, thereby potentially affecting public safety or restricting or delaying access to existing land uses. Mitigation measure TR-1 of the CSMP SPEIR would be implemented to reduce potential safety hazards by requiring the preparation of a project-specific Traffic Control Plan prior to the start of construction. Impacts would be reduced to less than significant with mitigation incorporated.

e) Result in inadequate emergency access?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction: Project construction would result in disturbance within the roadway right-of-way that may temporarily affect emergency access. Such activity may require lane closures and/or a reduction in the width of travel ways during the construction phase. Implementation of mitigation measure TR-1, as identified in the 2017 CSMP SPEIR, would be required to reduce potential impacts on emergency access to less than significant.

Direct Effects - Operations: The proposed sewer infrastructure improvements would be located underground. No direct effects on emergency access would therefore result. No impact would occur in this regard.

Indirect Effects: The proposed infrastructure improvements would be located underground. No indirect effects on emergency access would therefore result. No impact would occur in this regard.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

SPEIR Mitigation Measures Applicable.

Direct Effects - Construction: Refer to Response XVI(a), above. The proposed improvements may result in reduced travel width of roadways and sidewalks within the project area. Alternative means of transportation and circulation patterns in proximity to the project area may therefore be temporarily affected and may include direct disruption of bus service or pedestrian or bicycle access on adjacent lands or roadways. Mitigation measure TR-1 is proposed to address temporary access for alternative transportation modes and would reduce potential impacts to less than significant. With incorporation of such mitigation, the project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Direct Effects - Operations: The proposed improvements would be underground and the proposed improvements would function similar to existing sewer infrastructure maintained by the District. Impacts would be less than significant**.**

Indirect Effects: The proposed infrastructure improvements would be located underground. No indirect effects on public transit, bicycle, pedestrian facilities or other such transportation systems would therefore result. No impact would occur in this regard.

Applicable SPEIR Mitigation Measures

2017 CSMP SPEIR Mitigation Measure TR-1: Prepare and Implement a Traffic Control Plan. The construction contractor shall prepare a Traffic Control Plan for roadways and intersections affected by individual 2017 CSMP improvements for approval by the District Engineer. The Traffic Control Plan shall include, but not be limited to, the following elements based on local site and roadway conditions:

- Provide street layout showing location of construction activity and surrounding streets to be used as detour routes, including "special signage." Post a minimum 72-hour advance warning of construction activities within affected roadways to allow motorists to select alternative routes.
- Restrict delivery of construction materials to non-peak travel periods (9:00 a.m. – 3:00 p.m.) as appropriate. Weekend and night work shifts will be allowed in non-residential areas only.
- Maintain the maximum travel-lane capacity during non-construction periods and provide flagger-control at construction sites to manage traffic control and flows.
- Limit the construction work zone in each block to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone.
- Maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified.
- Require temporary steel-plate trench crossings, as needed, to maintain reasonable access to homes, businesses, and streets. When required by the applicable encroachment permit, maintain the existing lane configuration during nonworking hours by covering the trench with steel plates or by using temporary backfill.
- Require appropriate warning signage and safety lighting for construction zones.

- Access for emergency vehicles shall be maintained at all times. Police, fire, and emergency services shall be notified of the timing, location, and duration of construction activities that could hinder and/or delay emergency access through the construction period.
- Coordinate with NCTD to plan, as needed, for the temporary relocation of bus stops and/or detour of transit routes on affected pipeline alignments.
- Identify detours, where available, for bicyclists and pedestrians in areas potentially affected by project construction.
- Provide adequate off-street parking locations for workers' vehicles and construction equipment in those areas where on-street parking availability is insufficient.
- Repair and restore the roadway ROW to its original conditions or better upon completion of work.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	■	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐	☐
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	■	☐	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the	☐	☐	■	☐	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	■	☐	☐

Would the project:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	■	☐	☐

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than Significant Impact. The project is intended to provide improvements to the existing sewer infrastructure system and would not generate new population growth or substantially increase demand for wastewater services that would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. The project would be consistent with infrastructure improvements identified in the 2017 CSMP to address needed enhancements to the sewer system to ensure that adequate wastewater service can be maintained by the District over the long term. Impacts would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant Impact. The Encina Wastewater Authority's Water Pollution Control Facility accommodates wastewater that flows through the sewer infrastructure affected by the proposed improvements. The facility has adequate capacity to accommodate existing and projected flows within the infrastructure elements affected by the project (City of Vista 2017b). The proposed improvements would not generate new area population growth that would create new demands for water or wastewater treatment facilities or expansion of existing facilities, and would instead serve the same service area as under existing conditions. Impacts would be less than significant.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed improvements would not require the construction of new stormwater drainage facilities or expansion of existing facilities. Any areas disturbed by the project would be restored to existing conditions once construction is complete. The project would not result in an increase in stormwater runoff that would require new drainage facilities. No impact would occur.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Due to the nature of the project (sewer infrastructure improvements), the proposed improvements would not generate the need for domestic water supplies. No impact would occur relative to this issue.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. See Response XVII(a), above. The project would result in improvements to the District's existing sewer infrastructure system in conformance with the intent of the 2017 CSMP to ensure that adequate wastewater service can continue to be provided over the long term to District customers. No increase in area population or demand for wastewater treatment services would occur as a result of the proposed improvements. As such, the project would not adversely affect the capacity of the District to serve the provider's existing commitments. No impact would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. The City of Vista is served by the Sycamore Landfill, located at 8514 Mast Boulevard in San Diego. The landfill has a maximum permitted throughput of 5,000 tons of solid waste per day and a remaining capacity of 113,972,637 cubic yards (CalRecycle 2019).

Due to the nature of the project, on-site construction and maintenance activities may generate a limited amount of solid waste (e.g., removed asphalt or soils). As such, any waste generated would be minimal and would not exceed the permitted capacity of Sycamore Landfill.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less than Significant Impact. The project would be required to comply with applicable federal, state, and local statutes and regulations related to solid waste disposal, including disposal of any construction waste. Impacts would be less than significant.

XVIII. MANDATORY FINDINGS

Environmental Issue Area:	Impact Analyzed in the SPEIR	New Significant Impact due to Unusual Circum-stances or Substantial New Information	No Impact or Less than Significant Impact	SPEIR Mitigation Measure(s) Applicable	New Mitigation Measure(s) Required
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	■	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects)?	☐	☐	■	☐	☐
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	■	☐

a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

SPEIR Mitigation Measures Applicable.

Due to the developed/disturbed nature of the area affected by the proposed improvements, and the general absence of biological resources on the site(s), the proposed improvements would have a low potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining level, threaten to eliminate a plant or animal community, or restrict the range of a rare or endangered plant or animal. The proposed improvements would implement 2017 CSMP SPEIR mitigation measure BIO-1 to avoid potential impacts that may occur to breeding birds protected under the MBTA and that may nest is nearby ornamental trees during construction.

Similarly, due to the developed/disturbed nature of the affected lands, it is not anticipated that the proposed improvements would eliminate important examples of the major period of California history or prehistory. Through implementation of the above-identified mitigation, impacts would be less than significant.

b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects)?

Less than Significant Impact. The proposed improvements are located within a highly urbanized area and substantial new development projects are not anticipated to occur in the vicinity. Due to the limited scope of the proposed improvements and short-term construction period, combined with a lack of potential impacts resulting with operations, cumulatively considerable impacts are not anticipated when such improvements are considered in connection with other projects. The proposed improvements identified in the 2017 CSMP would be required to implement mitigation measures from the 2017 CSMP SPEIR, as appropriate, thereby further reducing potentially significant impacts. Impacts in this regard are considered to be less than significant.

c) Have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?

SPEIR Mitigation Measures Applicable.

Potential impacts resulting from the release of hazardous materials, impairment of emergency access, and generation of noise during the temporary construction period would have the potential to adversely affect human beings. Compliance with standard regulations and implementation of the mitigation measures identified herein, consistent with the 2017 CSMP SPEIR, would reduce impacts to less than significant levels.

Standard construction controls and safety procedures would be implemented during construction to minimize potential associated with exposure to hazardous materials such as oils, fuels, hydraulic fluids, and/or solvents used during construction. Mitigation measure HAZ-1 from the 2017 CSMP SPEIR would be implemented to reduce potential impacts associated with any undocumented contaminated soils and/or groundwater that may be encountered during excavation activities. Additionally, implementation of mitigation measure TR-1 from the 2017 CSMP SPEIR would ensure that sufficient emergency access is maintained along affected roadways during construction. Implementation of mitigation measure NV-1 from the 2017 CSMP SPEIR would reduce potential construction noise levels at nearby residential uses to within limits identified in the City's noise ordinance. Incorporation of these mitigation measures would ensure that the proposed improvements would not have potential environmental effects that may cause a substantial adverse effect on human beings. Impacts would be reduced to less than significant.

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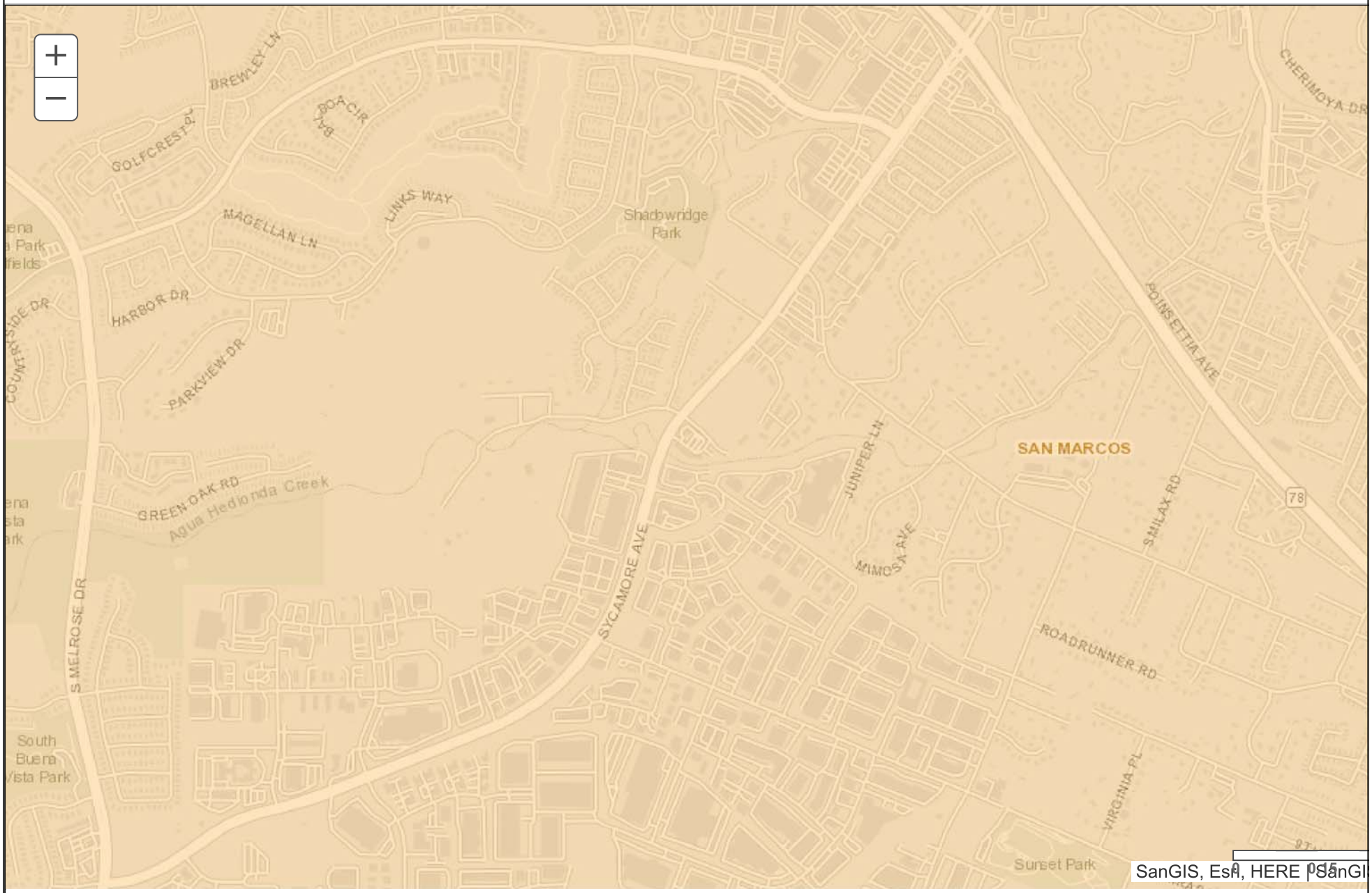
APPENDIX A:
BIOLOGICAL RESOURCES

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Welcome Guest! Register Log in



CDFW California Natural Diversity Database Results; USGS Quad - San Marcos; October 2021

Element_Type	Scientific_Name	Common_Name	Element_Code	Federal_Status	State_Status	CDFW_Status	CA_Rare_F	Quad_Code	Quad_Name	Data_Status	Taxonomic_Sort
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP ; WL	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Laterallus jamaicensis coturniculus	California black rail	ABNME03041	None	Threatened	FP	-	3311722	SAN MARCOS	Mapped	Animals - Birds - Rallidae - Laterallus jamaicensis coturniculus
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Trochilidae - Calypte costae
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3311722	SAN MARCOS	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Crustaceans	Branchinecta sandiegonensis	San Diego fairy shrimp	ICBRA03060	Endangered	None	-	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta sandiegonensis
Animals - Insects	Danaus plexippus pop. 1	monarch - California overwintering population	IILEPP2012	Candidate	None	-	-	3311722	SAN MARCOS	Unprocessed	Animals - Insects - Nymphalidae - Danaus plexippus pop. 1
Animals - Insects	Euphydryas editha quino	quino checkerspot butterfly	IILEPK405L	Endangered	None	-	-	3311722	SAN MARCOS	Unprocessed	Animals - Insects - Nymphalidae - Euphydryas editha quino
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - Mammals	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Mammals - Heteromyidae - Chaetodipus fallax fallax
Animals - Mammals	Dipodomys simulans	Dulzura kangaroo rat	AMAFD03170	None	None	-	-	3311722	SAN MARCOS	Unprocessed	Animals - Mammals - Heteromyidae - Dipodomys simulans
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	3311722	SAN MARCOS	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus xanthinus	western yellow bat	AMACC05070	None	None	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus xanthinus
Animals - Reptiles	Anniella stebbinsi	Southern California legless lizard	ARACC01060	None	None	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Reptiles - Anniellidae - Anniella stebbinsi
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3311722	SAN MARCOS	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Diadophis punctatus similis	San Diego ringneck snake	ARADB1001A	None	None	-	-	3311722	SAN MARCOS	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus similis
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea
Animals - Reptiles	Coleonyx variegatus abbotti	San Diego banded gecko	ARACD01031	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Reptiles - Gekkonidae - Coleonyx variegatus abbotti
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3311722	SAN MARCOS	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Plestiodon skiltonianus interparietalis	Coronado skink	ARACH01114	None	None	WL	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Reptiles - Scincidae - Plestiodon skiltonianus interparietalis
Animals - Reptiles	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	None	None	WL	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis hyperythra
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Crotalus ruber	red-diamond rattlesnake	ARADE02090	None	None	SSC	-	3311722	SAN MARCOS	Mapped and Unprocessed	Animals - Reptiles - Viperidae - Crotalus ruber
Community - Terrestrial	San Diego Mesa Claypan Vernal Pool	San Diego Mesa Claypan Vernal Pool	CTT44322CA	None	None	-	-	3311722	SAN MARCOS	Mapped	Community - Terrestrial - San Diego Mesa Claypan Vernal Pool
Community - Terrestrial	Southern Riparian Forest	Southern Riparian Forest	CTT61300CA	None	None	-	-	3311722	SAN MARCOS	Mapped	Community - Terrestrial - Southern Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3311722	SAN MARCOS	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3311722	SAN MARCOS	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Plants - Bryophytes	Sphaerocarpos drewiae	bottle liverwort	NBHEP35030	None	None	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Bryophytes - Sphaerocarpaceae - Sphaerocarpos drewiae
Plants - Vascular	Eryngium aristulatum var. parishii	San Diego button-celery	PDAPI0Z042	Endangered	Endangered	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Apiaceae - Eryngium aristulatum var. parishii
Plants - Vascular	Asplenium vespertinum	western spleenwort	PPASP021P0	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Aspleniaceae - Asplenium vespertinum
Plants - Vascular	Artemisia palmeri	San Diego sagewort	PDAST0S160	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Asteraceae - Artemisia palmeri
Plants - Vascular	Baccharis vanessae	Encinitas baccharis	PDAST0W0P0	Threatened	Endangered	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Asteraceae - Baccharis vanessae
Plants - Vascular	Centromadia parryi ssp. australis	southern tarplant	PDAST4R0P4	None	None	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Asteraceae - Centromadia parryi ssp. australis
Plants - Vascular	Holocarpha virgata ssp. elongata	curving tarplant	PDAST4X041	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Asteraceae - Holocarpha virgata ssp. elongata
Plants - Vascular	Isocoma menziesii var. decumbens	decumbent goldenbush	PDAST57091	None	None	-	1B.2	3311722	SAN MARCOS	Mapped	Plants - Vascular - Asteraceae - Isocoma menziesii var. decumbens
Plants - Vascular	Microseris douglasii ssp. platycarpa	small-flowered microseris	PDAST6E062	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Asteraceae - Microseris douglasii ssp. platycarpa
Plants - Vascular	Psilocarphus brevissimus var. multiflorus	Delta woolly-marbles	PDAST7R012	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Asteraceae - Psilocarphus brevissimus var. multiflorus
Plants - Vascular	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	None	None	-	4.2	3311722	SAN MARCOS	Mapped and Unprocessed	Plants - Vascular - Boraginaceae - Harpagonella palmeri
Plants - Vascular	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	None	None	-	4.3	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Brassicaceae - Lepidium virginicum var. robinsonii
Plants - Vascular	Convolvulus simulans	small-flowered morning-glory	PDCON05060	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Convolvulaceae - Convolvulus simulans
Plants - Vascular	Dichondra occidentalis	western dichondra	PDCON08060	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Convolvulaceae - Dichondra occidentalis
Plants - Vascular	Arctostaphylos glandulosa ssp. crassifolia	Del Mar manzanita	PDERI040E8	Endangered	None	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos glandulosa ssp. crassifolia
Plants - Vascular	Comarostaphylis diversifolia ssp. diversifolia	summer holly	PDERI0B011	None	None	-	1B.2	3311722	SAN MARCOS	Mapped	Plants - Vascular - Ericaceae - Comarostaphylis diversifolia ssp. diversifolia
Plants - Vascular	Tetracoccus dioicus	Parry's tetracoccus	PDEUP1C010	None	None	-	1B.2	3311722	SAN MARCOS	Mapped	Plants - Vascular - Euphorbiaceae - Tetracoccus dioicus
Plants - Vascular	Quercus dumosa	Nuttall's scrub oak	PDFAG050D0	None	None	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Fagaceae - Quercus dumosa
Plants - Vascular	Quercus engelmannii	Engelmann oak	PDFAG050K0	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Fagaceae - Quercus engelmannii
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Acanthomintha ilicifolia	San Diego thorn-mint	PDLAM01010	Threatened	Endangered	-	1B.1	3311722	SAN MARCOS	Mapped and Unprocessed	Plants - Vascular - Lamiaceae - Acanthomintha ilicifolia
Plants - Vascular	Monardella hypoleuca ssp. lanata	felt-leaved monardella	PDLAM180A2	None	None	-	1B.2	3311722	SAN MARCOS	Mapped	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. lanata
Plants - Vascular	Hordeum intercedens	vernal barley	PMPOA380E0	None	None	-	3.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Poaceae - Hordeum intercedens
Plants - Vascular	Navarretia fossalis	spreading navarretia	PDPLM0C080	Threatened	None	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Polemoniaceae - Navarretia fossalis
Plants - Vascular	Adolphia californica	California adolphia	PDRHA01010	None	None	-	2B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Rhamnaceae - Adolphia californica
Plants - Vascular	Ceanothus verrucosus	wart-stemmed ceanothus	PDRHA041J0	None	None	-	2B.2	3311722	SAN MARCOS	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus verrucosus
Plants - Vascular	Chamaebatia australis	southern mountain misery	PDROS0A010	None	None	-	4.2	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Rosaceae - Chamaebatia australis
Plants - Vascular	Horkelia truncata	Ramona horkelia	PDROS0W0G0	None	None	-	1B.3	3311722	SAN MARCOS	Mapped	Plants - Vascular - Rosaceae - Horkelia truncata
Plants - Vascular	Selaginella cinerascens	ashy spike-moss	PPSEL01090	None	None	-	4.1	3311722	SAN MARCOS	Unprocessed	Plants - Vascular - Selaginellaceae - Selaginella cinerascens
Plants - Vascular	Brodiaea filifolia	thread-leaved brodiaea	PMLIL0C050	Threatened	Endangered	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Themidaceae - Brodiaea filifolia
Plants - Vascular	Brodiaea orcuttii	Orcutt's brodiaea	PMLIL0C0B0	None	None	-	1B.1	3311722	SAN MARCOS	Mapped	Plants - Vascular - Themidaceae - Brodiaea orcuttii

California Native Plant Society (CNPS) Database, Rare Plant Program, 2021
Inventory of Rare and Endangered Plants of California (USGS 7.5' Quadrangle San Marcos, 3311722) Onlir 3E+06
Website https://www.rareplants.cnps.org [accessed 29 October 2021].

ScientificName	CommonName	Family	Lifeform	CRPR	GRank	SRank	CESA	FESA	BloomingP	Habitat	ElevationLow	ElevationHi	CAEndemic	EOTotal	EOA	EOB	EOC	EOD	EOX	EOU	EOHistoric	EORecent	EOExtant	EOPossibly	EOExtirpat	EOThreatL	DateAdded	LastUpdate
Acanthomintha ilicifolia	San Diego thorn-mint	Lamiaceae	annual herb	1B.1	G1	S1	CE	FT	Apr-Jun	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools	35	3150	FALSE	85	5	24	10	8	26	12	42	43	59	19	7	78	1/1/1974 0:00	7/14/2021 0:00
Baccharis vanessae	Encinitas baccharis	Asteraceae	perennial deciduous shrub	1B.1	G1	S1	CE	FT	Aug-Nov	Chaparral, Cismontane woodland	195	2360	TRUE	31	1	8	1	5	4	12	16	15	27	0	4	20	1/1/1980 0:00	8/25/2021 0:00
Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	G2	S2	CE	FT	Mar-Jun	Chaparral, Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland,	80	3675	TRUE	141	8	21	22	15	12	63	32	109	129	6	6	72	1/1/1974 0:00	8/25/2021 0:00
Eryngium aristulatum var. parishii	San Diego button-celery	Apiaceae	annual/perennial herb	1B.1	G5T1	S1	CE	FE	Apr-Jun	Coastal scrub, Valley and foothill grassland, Vernal pools	65	2035	FALSE	83	2	14	8	13	12	34	37	46	71	2	10	60	1/1/1974 0:00	5/26/2021 0:00

U.S. Fish and Wildlife Service
National Wetlands Inventory

National Wetlands Inventory 2

October 28, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

APPENDIX B:
CULTURAL RESOURCES

Michael Baker INTERNATIONAL

We Make a Difference

January 17, 2022

City of Vista and Buena Sanitation District
Michael Hilker, Capital Projects Manager
Engineering Department
200 Civic Center Drive
Vista, California 92084

SUBJECT: CULTURAL RESOURCES MEMORANDUM FOR THE PROPOSED SMILAX-MIMOSA SEWER IMPROVEMENTS PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA

Dear Mr. Hilker:

Michael Baker International (Michael Baker) prepared this memorandum in support of the proposed Smilax-Mimosa Sewer Improvements Project (project) located in the City of San Marcos and the County of San Diego, California. The project is proposed by the City of Vista (City)/Buena Sanitation District (District) which serves the project area. The District serves as the lead agency under the California Environmental Quality Act (CEQA). Michael Baker conducted a literature review which included the previously certified *Supplemental Program Environmental Impact Report (EIR) for the 2017 City of Vista/Buena Sanitation District Comprehensive Sewer Master Plan* (CSMP) (HDR 2017), and the previously certified *City of Vista 2007 Sewer Master Plan Update Program EIR* (Dudek 2008), a cultural resources records search at the South Coastal Information Center (SCIC), a Sacred Lands File search by the Native American Heritage Commission (NAHC), and notification of the project to the San Luis Rey Band of Mission Indians. Michael Baker prepared this memorandum to document efforts satisfying cultural resources mitigation measure CULT-2 of the 2017 CSMP Supplemental Program EIR.

PROJECT LOCATION AND DESCRIPTION

The project area is located in the City of San Marcos and the County of San Diego, generally to the north and south of State Route 78, between Mimosa Avenue to the west, and approximately Community Drive to the east. The project area is depicted in an unsectioned area of Township 12 South, Range 3 West, on the United States Geological Survey *San Marcos, California* 7.5-minute quadrangle. The project area is generally developed with single-family, multi-family, and institutional properties, roads, and State Route 78.

The proposed capital improvement program (CIP) improvements (sewer realignment) would extend down the centerline of Mimosa Avenue within the existing right-of-way and are considered to meet the Category 1 (CIP Capacity and Condition Project - Hardscape Environs) classification as defined in CSMP. The proposed improvements would be implemented to redirect existing flows away from downstream pipelines having insufficient capacity. Additionally, other associated activities considered to be maintenance activities by the District (e.g., manhole construction and rehabilitation, pipe relining to support adequate wastewater flows and prevent leakage and/or failure) are proposed to ensure that the sewer infrastructure system continues to function properly and that adequate service can be

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provided to District customers. The maximum depth of excavation is anticipated to be 18 feet below ground surface for trenching for the proposed improvements.

Improvements would primarily occur along existing sewer alignments within roadway rights-of-way or existing public easements, either currently under District ownership or other affected agencies, with the exception of limited improvements within the Coral Tree Manor apartments and Springdale Estates mobile home park, which would be located within existing public easements or on privately owned property. The Coral Tree Manor apartments were developed in 1987 and the Springdale Estates mobile home park was developed circa early 1970s. No alterations or demolition activities are proposed for any of the buildings or structures on either property.

CULTURAL RESOURCES RECORDS SEARCH

Per Michael Baker's request, the SCIC conducted a records search of the project area and a one-quarter-mile radius on October 11, 2021. The SCIC at San Diego State University is part of the California Historical Resources Information System, an affiliate of the California Office of Historic Preservation (OHP). The SCIC is the official state repository of cultural resources records and reports for San Diego County. As part of the records search and background research, the following federal and state inventories were reviewed:

- California Points of Historical Interest (OHP 2022).
- California Historical Landmarks (OHP 2022).
- Archaeological Determinations of Eligibility for San Diego County (OHP 2012).
- Built Environment Resources Directory (OHP 2021). The directory includes resources evaluated for listing and listed in the National Register of Historic Places (NRHP), National Historic Landmarks, California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest for San Diego County.

No previously recorded cultural resources were identified within the project area. Twelve cultural resources were identified within one-quarter mile of the project area, and are described briefly in the table below.

Resource Name/ P-Number/ Trinomial	Address	Type	OHP Status Code/ Eligibility Status	Historical Resource under CEQA?	Relationship to Project Area
P-37-018190	2732 South Santa Fe Avenue	Industrial building	Under 50 years of age at time of recording; recommended ineligible for NRHP; not evaluated for CRHR or local listing	No	Within approximately 0.17 mile
P-37-018191	2709 South Santa Fe Avenue	Commercial building	Under 50 years of age at time of recording; recommended ineligible for NRHP; not evaluated for CRHR or local listing	No	Within approximately 0.15 mile
P-37-018193	144 Smilax Road	Single-family residence	Recommended ineligible for NRHP; not evaluated for CRHR or local designation	No	Within approximately 0.10 mile
P-37-018194	139 Smilax Road	Single-family residence	Recommended ineligible for NRHP; not evaluated for CRHR or local designation	No	Within approximately 0.10 mile
P-37-018195	135 Smilax Road	Single-family residence	Under 50 years of age at time of recording; recommended ineligible for NRHP; not evaluated for CRHR or local listing	No	Within approximately 0.10 mile

Resource Name/ P-Number/ Trinomial	Address	Type	OHP Status Code/ Eligibility Status	Historical Resource under CEQA?	Relationship to Project Area
P-37-018196	121 Smilax Road	Single-family residence	Under 50 years of age at time of recording; recommended ineligible for NRHP; not evaluated for CRHR or local listing	No	Within approximately 0.15 mile
P-37-018197	113 Smilax Road	Single-family residence	Under 50 years of age at time of recording; recommended ineligible for NRHP; not evaluated for CRHR or local listing	No	Within approximately 0.15 mile
N/A	333 Poinsettia Avenue	Single-family residence	6Y: Determined ineligible for NRHP by consensus through Section 106 process – Not evaluated for CRHR or local listing	No	Within approximately 0.70 mile
P-37-025309/ CA-SDI-016787	N/A	Prehistoric site – lithic workshop/ hunting station	Found to be a significant resource under CEQA	Yes	Within approximately 200 feet
P-37-030664/ CA-SDI-019476	N/A	Prehistoric site – lithic scatter	Not evaluated	No	Within approximately 0.10 mile
Highway 395/ P-37-033557	Highway 395	Road	Recommended eligible for NRHP and CRHR	Yes	Within approximately 0.45 mile
P-37-038298	425 Smilax Road	Single-family residence	Recommended ineligible for NRHP and CRHR	No	Within approximately 180 feet

The records search identified 23 previous cultural resources studies that have been conducted within one-quarter mile of the project area, 11 of which included portions of the project area. See summary table below.

Report No.	Author(s)	Date	Title	In Project Area?	Identified Resources in Project Area?
SD-00224	Carrico, Richard	1977	Archaeological Survey of the San Marcos General College Community Plan Area San Marcos, California	No	No

Report No.	Author(s)	Date	Title	In Project Area?	Identified Resources in Project Area?
SD-00696	Fink, Gary R.	1974	Archaeological Survey for the Proposed Widening of South Santa Fe Avenue, Vista, California	No	No
SD-01031	Gallegos, Dennis	1983	Archaeological Report for Business/Industrial, Richmar, Lake San Marcos and Barham/Discovery Community Plan, San Marcos, California	Yes	No
SD-01600	White, Robert S.	1990	An Archaeological Assessment of A 16+/- Acre Parcel in the 700 Block of Plumosa Avenue, Vista, San Diego County	No	No
SD-03075	Carrico, Richard, Andrew Pigniolo, Brian Glenn, and Kathleen Crawford	1995	Historic Property Survey Report for the State Route 78 Corridor Enhancement Project Ii-Sd-78, P.M. 5.3-9.8, 965100, City of Vista, California	Yes	No
SD-03374	Glenn, Brian K.	1993	A Positive Archaeological Survey Report for the Sycamore Avenue Interchange Project 11-SD-78 PM 8.7/9.8 11221-184970 Vista, California	Yes	No
SD-06162	Glenn, Brian	1993	A Positive Archaeological Survey Report for the Sycamore Avenue Interchange Project	No	No
SD-06698	White, Robert	1990	An Archaeological Assessment of A 16+ Acre Parcel in the 700 Block of Plumosa Avenue, Vista, San Diego County	No	No
SD-07157	Smith, Brian	1999	Negative Archaeological Survey Report: the Northwoods Apartment Project	No	No
SD-07274	Carrico, Richard	1995	Historic Property Survey Report for the State Route 78 Corridor Enhancement Project 11-SD-78, P.M. 5.3-9.8, 965100 City of Vista, California	Yes	No
SD-08546	Dolan, Christy	2003	First Supplemental Historic Property Survey Report: South Santa Fe Avenue Reconstruction Project	No	No
SD-09579	Guerrero, Monica C., Dennis R. Gallegos, and Tracy Stropes	2004	Cultural Resource Survey and Test Report for the San Marcos School District San Marcos, California	Yes	No
SD-09600	Cook, John	2005	Cultural Resources Survey for Smilax Road Extension Project, San Diego County, California	Yes	No

Report No.	Author(s)	Date	Title	In Project Area?	Identified Resources in Project Area?
SD-10551	Arrington, Cindy	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Yes	No
SD-11228	Marben-Laird Associates	1987	Historic Resource Survey, A Project of the City of Vista, California	No	No
SD-11524	Rosenberg, Seth A., Adriane Dorrler, and Brian F. Smith	2007	A Cultural Resources Evaluation for the Vista and Buena Sanitation District 2007 Sewer Master Plan Update	Yes	No
SD-12039	Guerrero, Monica and Dennis R. Gallegos	2007	Cultural Resources Monitoring Report for the North County Transit District (NCTD) Sprinter Rail Project Oceanside to Escondido, California	No	No
SD-12418	Clowery-Moreno, Sara and Brian F. Smith	2008	Results of the Mitigation Monitoring and Data Recovery Program for the San Marcos Unified School District Elementary School #2 Project	Yes	No
SD-14140	Robbins-Wade, Mary	2003	Archaeological Records Search and Literature Review, Vallecitos Water District Master Plan Update San Diego County, California	No	No
SD-15740	Sarah A. Williams and Carried D. Wills	2015	Cultural Resource Records Search and Site Visit Results for Verizon Wireless Candidate 'Smilax', 2638 South Santa Fe Avenue, San Marcos, San Diego County, California. EBI Project No. 61140935	No	No
SD-17337	Gilbert, Rebecca H.	2016	Archaeological Monitoring Report for Hqt Homes Oleander Avenue Project in San Marcos, San Diego County, California	No	No
SD-17813	Tang, Bai and Terri Jacquemain	2019	Historic-Period Building Evaluation 425 Smilax Road Assessor's Parcel Number 217-191-02 San Marcos-Vista Area, San Diego County, California	Yes	No
SD-18211	Campbell-King, Breana and Joe Power	2018	Cultural Resources Due Diligence Study for the Smilax Project, Unincorporated San Diego County, California	Yes	No

NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE RECORDS SEARCH

On October 6, 2021, Michael Baker submitted a request to the NAHC to conduct a records search of the Sacred Lands File for the project area. On November 14, 2021, the NAHC relayed the results of the Sacred Lands File search were negative for cultural resources.

NATIVE AMERICAN TRIBAL NOTIFICATION

Pursuant to mitigation measure CULT-2 in the 2017 CSMP Supplemental Program EIR, on December 13, 2021, a letter and maps were sent to Ms. Cami Mojado of the San Luis Rey Band of Mission Indians (SLR Band) via USPS mail and email to notify her of the proposed project. Ms. Mojado replied via email on December 17, 2021, stating she was having a problem opening the file and asked if Michael Baker could resend it. Michael Baker emailed the letter again to Ms. Mojado the same day, and let her know the hard copy sent via USPS mail was delivered on December 15, 2021, according to the delivery receipt. Michael Baker sent a follow-up email to Ms. Mojado on December 27, 2021. No response has been received as of the date of this memorandum.

APPLICABLE MITIGATION MEASURES

The table below summarizes the cultural resources mitigation measures identified in the previously certified CSMP Supplemental Program EIR (HDR 2017), and the applicability of the mitigation measures to the current project.

MM #	LANGUAGE	APPLICABILITY
CULT-1	**Construction-Related Vibration.** Prior to the issuance of project-specific construction documents for CIP Capacity and Condition Projects (Hardscape Environs), the City Engineer shall determine whether construction activities would occur within 25 feet of a NRHP or CRHR eligible or listed historic structure. For structures that have not been previously evaluated, the City Engineer shall consult with a qualified Architectural Historian approved by the City to conduct an evaluation of the structure. If the structure is determined eligible or already eligible or listed in the NRHP or CRHR, a structural evaluation shall be conducted by a Professional Structural Engineer to identify maximum allowable levels of vibration during construction. If a historic determination is required, the engineer shall provide recommendations on approaches to stabilization in conjunction with vibration monitoring. Permanent stabilization measures shall follow the Secretary of the Interior's guidelines for the treatment of historic properties. If the buildings are temporarily stabilized for the duration of construction activities, when removed, the buildings shall be restored to their pre-construction condition when the stabilization measures are removed.	No. CULT-1 does not apply, as project construction activities would not occur within 25 feet of a known NRHP or CRHR eligible or listed historic structure. Although project construction activities would occur within 25 feet of buildings in the Coral Tree Manor apartments complex, the complex was developed in 1987 and does not require consideration for potential historical significance. Construction activities would occur within the Springdale Estates mobile home park, but not within 25 feet of any permanent structures.
CULT-2	**Project-Specific Archaeological Survey.** Prior to the issuance of project-specific construction documents for CIP Capacity and Condition Projects (Hardscape and	Yes. CULT-2 applies because the current project qualifies as a "CIP Capacity and Condition Project

	Cross County Environs), Pump Station Rehabilitations, and Out-of-Service Area Projects, a Qualified Archaeologist approved by the City shall contact the NAHC regarding a Sacred Lands File Search for the project area. In addition, the City shall request a written response from the San Luis Rey Band of Mission Indians (SLR Band) (a tribe traditionally and culturally affiliated with the site) regarding whether the site of the 2017 CSMP improvement project may potentially affect Native American resources. If the NAHC and/or the SLR Band confirms potential known resources, a pedestrian survey (i.e., physical walk over) shall first be conducted by the Qualified Archaeologist and a TCA (traditionally and culturally affiliated) Native American Monitor. Should the pedestrian survey identify Native American cultural resources, the Qualified Archeologist shall, in consultation with the TCA Native American monitor and the SLR Band, make an immediate written evaluation of the significance and appropriate treatment of the resource, including any avoidance measures, additional testing and evaluations, or data recovery plans, and Pre-Excavation Agreements with the Tribe. If the SLR Band confirms, in consultation with the Qualified Archaeologist, that there is a potential for unknown resources to be uncovered during construction activities, then Mitigation Measure CULT-3, Archaeological Monitoring, shall be implemented.	(Hardscape and Cross County Environs)".
CULT-3	**Archaeological Monitoring.** Cultural resource mitigation monitoring shall be conducted to provide for the identification, evaluation, treatment, and protection of any cultural resources that are affected by or may be discovered during the construction of the proposed project. The monitoring shall consist of the full-time presence of a Qualified Archaeologist and a TCA (traditionally and culturally affiliated) Native American Monitor, and the monitoring activities shall be identified and defined in a Pre-Excavation Agreement between the City's Engineering Department and the San Luis Rey Band. The purpose of this agreement shall be to formalize protocols and procedures for the protection, treatment, and disposition of, but not limited to, such items as Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through the cultural resource mitigation monitoring program in conjunction with the construction of the proposed project, including	No. CULT-3 does not currently apply as no known archaeological resources have been identified within the project area, and the potential for unknown archaeological resources to be uncovered during construction activities has not been identified.

	additional archaeological surveys and/or studies, excavations, geotechnical investigations, soil surveys, grading, or any other ground disturbing activities. Other tasks of the monitoring program shall include the following: • The requirement for cultural resource mitigation monitoring shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. • The Qualified Archaeologist and TCA Native American Monitor shall attend all applicable pre-construction meetings with the Contractor and/or associated Subcontractors. • The Qualified Archaeologist shall maintain ongoing collaborative consultation with the TCA Native American Monitor during all ground disturbing or altering activities, as identified above. • The Qualified Archaeologist and/or TCA Native American Monitor may halt ground-disturbing activities if archaeological artifact deposits or cultural features are discovered. In general, ground-disturbing activities shall be directed away from these deposits for a short time to allow a determination of potential significance, the subject of which shall be determined by the Qualified Archaeologist and the TCA Native American Monitor, in consultation with the San Luis Rey Band. Ground disturbing activities shall not resume until the Qualified Archaeologist, in consultation with the TCA Native American Monitor, deems the cultural resource or feature has been appropriately documented and/or protected. At the Qualified Archaeologist's discretion, the location of ground disturbing activities may be relocated elsewhere on the project site to avoid further disturbance of cultural resources. • The Qualified Archaeologist and/or TCA Native American Monitor may also halt ground disturbing activities around known archaeological artifact deposits or cultural features if, in their respective opinions, there is the possibility that they could be damaged or destroyed. • The avoidance and protection of discovered unknown and significant cultural resources and/or unique archaeological resources is the	

	preferable mitigation for the proposed project. If avoidance is not feasible, a Data Recovery Plan may be authorized by the City as the Lead Agency under CEQA. If data recovery is required, then the San Luis Rey Band shall be notified and consulted in drafting and finalizing any such recovery plan. • Prior to the release of any Bonds associated with the construction of improvements noted in the 2017 CSMP, a Monitoring Report and/or Evaluation Report, which describes the results, analysis and conclusions of the cultural resource mitigation monitoring efforts (such as, but not limited to, a Data Recovery Program) shall be submitted by the Qualified Archaeologist, along with the TCA Native American Monitor's notes and comments, to the City's Director of Community Development for approval.	
CULT-4	**Paleontological Monitoring.** Monitoring during construction grading or trenching shall be required for all CIP conveyance projects (Hardscape and Cross-Country Environs) that would excavate to a depth of ten feet or more. Prior to the issuance of project specific construction documents, the City Engineer shall retain a Professional Paleontologist to observe all earth-disturbing activities. All fossil materials recovered during mitigation monitoring shall be cleaned, identified, cataloged, and analyzed in accordance with standard professional practices. The results of the field work and laboratory analysis shall be submitted in a technical report and the entire collection transferred to an approved facility.	Yes. CUL-4 applies because the current proposed project qualifies as a "CIP conveyance project (Hardscape and Cross County Environs)" and excavation is anticipated to reach 18 feet below ground surface.
CULT-5	**Disturbance to Human Remains.** As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office by telephone. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie adjacent remains (as determined by the Qualified Archaeologist and/or the TCA (traditionally and culturally affiliated) Native American Monitor) shall occur until the Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. If such a	Yes. CULT-5 applies because it is required by the California Health and Safety Code should human remains be found on the project site during project construction or archaeological activities.

	discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected (as determined by the Qualified Archaeologist and/or the TCA Native American Monitor), and consultation and treatment could occur as prescribed by law. As further defined by State law, the Coroner would determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would make a determination as to the Most Likely Descendent. If Native American remains are discovered, the remains shall be kept "in situ" ("in place"), or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of the TCA Native American Monitor.	

This memorandum satisfies the requirements of mitigation measure CULT-2, which includes completing a Sacred Lands File search for the project area, and notification of the project to the SLR Band. Neither the Sacred Lands File search nor the SLR Band identified known or potential Native American cultural resources within the project area, and therefore, no impacts to known cultural or historic resources are anticipated.

Although mitigation measure CULT-3 – Archaeological Monitoring does not apply, the City/District may request the SLR Band to provide TCA Native American monitoring services should the City/District consider it necessary during the course of project construction.

PREPARER QUALIFICATIONS

This memorandum was prepared by Michael Baker International Senior Architectural Historian Susan Zamudio-Gurrola, MHP, and Senior Archaeologist Kholood Abdo, MA, RPA, and reviewed for quality control by Senior Cultural Resources Manager Margo Nayyar, MA.

Ms. Zamudio-Gurrola is an architectural historian with eight years of experience in cultural resource management. Her experience includes conducting archival research and built environment surveys, conducting evaluations for the NRHP, CRHR, and local designations, assessing integrity of historic resources, developing historic context statements, reviewing projects for conformance with the Secretary of the Interior's Standards, and preparing cultural resources studies in compliance with the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), and local ordinances. She also prepares cultural resources sections for CEQA environmental documents such as initial studies and environmental impact reports, and has demonstrated experience preparing Caltrans-format cultural resources studies, finding of effect documents, and Historic American Buildings Survey/Historic American Engineering Record documentation for buildings and structures. Ms. Zamudio-Gurrola meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history.

Ms. Abdo is an archaeologist with 26 years of experience in prehistoric and historical archaeology and cultural resources management. Her experience includes writing technical reports, including NEPA, NHPA, and CEQA compliance documents. She has supervised and managed all phases of archaeological fieldwork, including survey, Phase II testing and evaluations and data recovery, and monitoring at sites throughout California and Arizona since 1999. In her current capacity as senior archaeologist and laboratory director, Ms. Abdo oversees the processing, analysis, and curation of artifact collections from both prehistoric and historical sites. Her cultural material analysis experience includes flaked and ground stone lithics, glass, prehistoric and historic ceramic, and bead analysis. Ms. Abdo meets the Secretary of the Interior's Professional Qualification Standards for prehistory and historical archaeology.

Ms. Nayyar is a senior architectural historian with 12 years of cultural management experience in California, Nevada, Arizona, Idaho, Texas, and Mississippi. Her experience includes built environment surveys, evaluation of historic-era resources using guidelines outlined in the NRHP and CRHR, and preparation of cultural resources technical studies pursuant to CEQA and Section 106 of the NHPA, including identification studies, finding of effect documents, memorandum of agreements, programmatic agreements, and Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey mitigation documentation. She prepares cultural resources sections for CEQA environmental documents, including infill checklists, initial studies, and environmental impact reports, as well as NEPA environmental documents, including environmental impact statements and environmental assessments. She also specializes in municipal preservation planning, historic preservation ordinance updates, Native American consultation, and provision of Certified Local Government training to interested local governments. She develops Survey 123 and Esri Collector applications for large-scale historic resources surveys, and authors NRHP nomination packets. Ms. Nayyar meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history.

Sincerely,

Susan Zamudio-Gurrola, MHP
Senior Architectural Historian

Kholood Abdo, RPA
Senior Archaeologist

Attachments:

Attachment 1 – Figures
Attachment 2 – NAHC Sacred Lands File Search
Attachment 3 – Native American Tribal Notification

REFERENCES

California Office of Historic Preservation (OHP). 2012. Archaeological Determinations of Eligibility for San Diego County.

— 2021. Built Environment Resources Directory for San Diego County. Accessed January 4, 2022, https://ohp.parks.ca.gov/?page_id=30338

— 2022. "California Historical Resources". Accessed January 4, 2022, https://ohp.parks.ca.gov/listedresources/

HDR. 2017. *Supplemental Program Environmental Impact Report for the 2017 City of Vista/Buena Sanitation District Comprehensive Sewer Master Plan* (CSMP). On file with Michael Baker International.

Attachment 1
Figures

PN: 181869

Michael Baker INTERNATIONAL

N

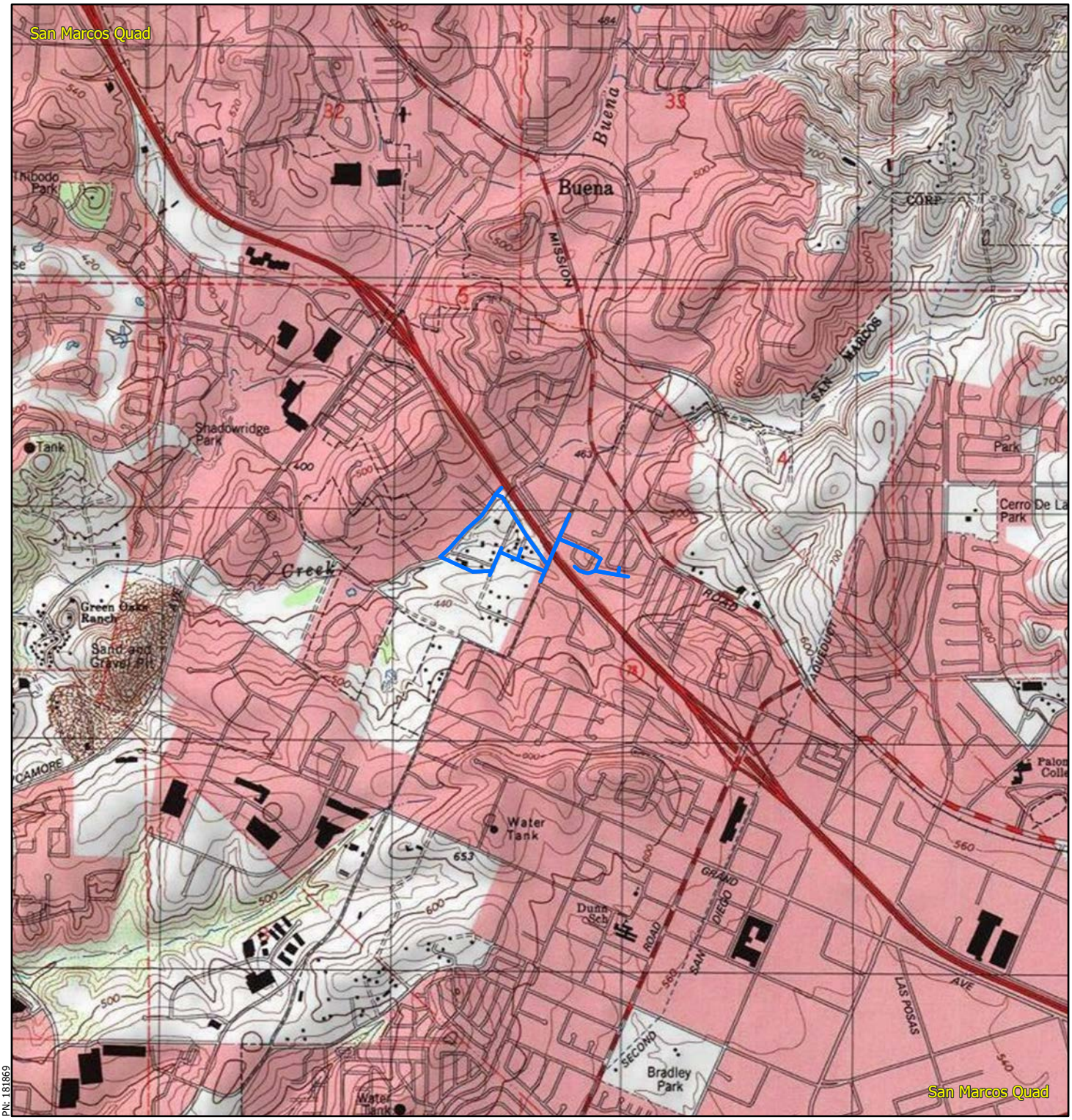
0 2.5 5 10 Miles

Source: Esri, ArcGIS Online, National Geographic World Map: *Vista, California*

SMILAX-MIMOSA SEWER IMPROVEMENT PROJECT

Regional Vicinity

Figure 1



PN: 181869

Project Area

Michael Baker INTERNATIONAL

N

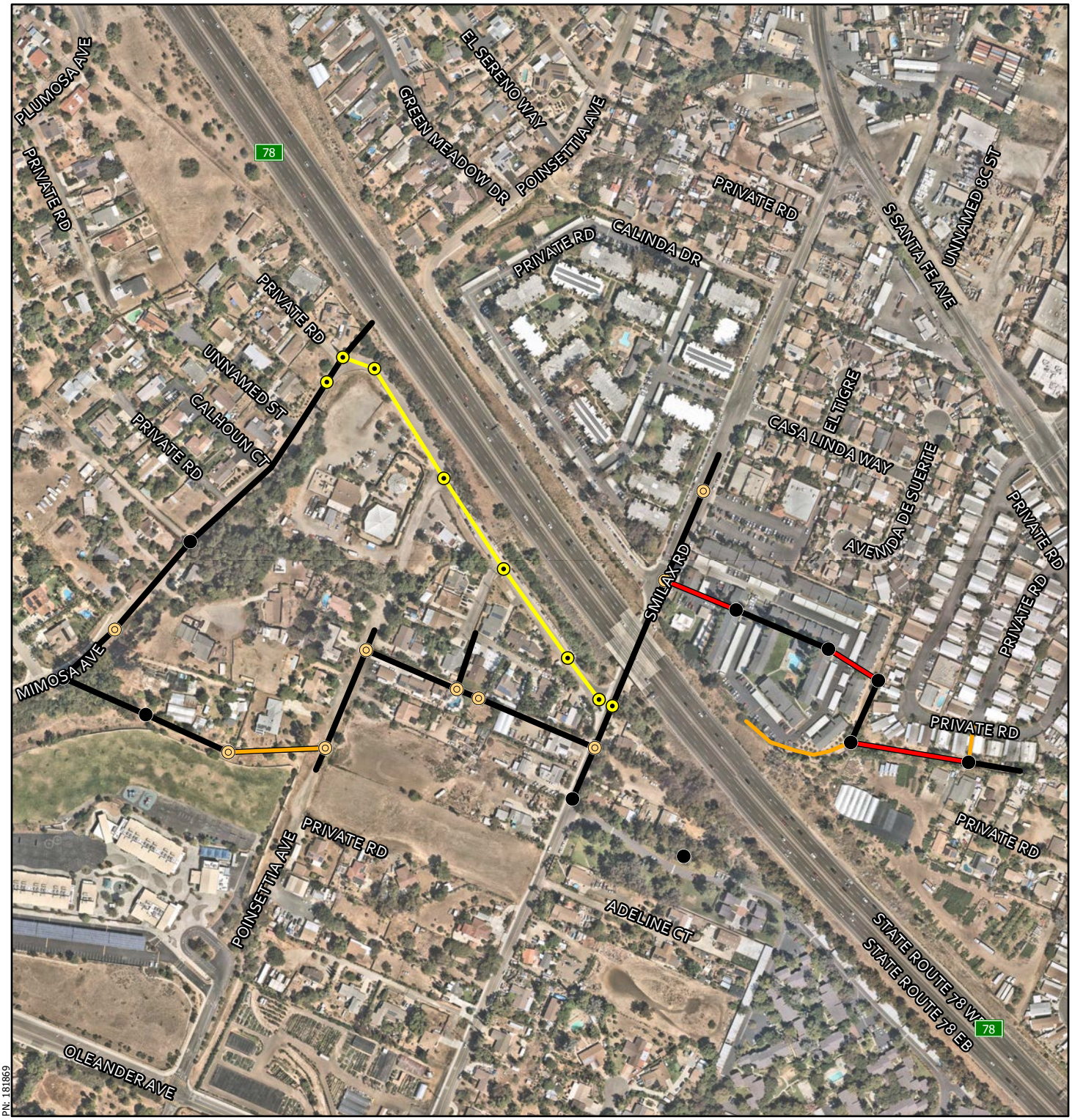
0 0.25 0.5 1 Miles

Source: Esri, ArcGIS Online, USGS 7.5-Minute topographic quadrangle maps: *Vista, California*

SMILAX-MIMOSA SEWER IMPROVEMENT PROJECT

Project Vicinity

Figure 2



PN: 181869

- Proposed Open Cut
- MH Access in Cleared Easement
- Internal Pipe Rehab
- Existing Sewer Alignment
- Existing MH
- Proposed_MH
- Proposed MH Rehab

Michael Baker INTERNATIONAL

N

0 250 500 1,000 Feet

Source: Esri, ArcGIS Online, 2021 Nearmap Imagery: *Vista, California*

SMILAX-MIMOSA SEWER IMPROVEMENT PROJECT

Project Area

Figure 3

Attachment 2
NAHC Sacred Lands File Search

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

November 14, 2021

Margo Nayyar
Michael Baker International

Via Email to: margo.nayyar@mbakerintl.com & nmarotz@mbakerintl.com

Re: Mimosa Avenue Sewer Addendum Project, San Diego County

Dear Ms. Nayyar:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Attachment 3
Native American Tribal Notification

From: ZamudioGurrola, Susan
To: cjmojado@slrmissionindians.org; cmslrmissionindians@gmail.com
Cc: mhilker@cityofvista.com; Thomas.Acuna@nv5.com; Marotz, Nicole
Subject: Notification - Smilax-Mimosa Sewer Improvements Project
Date: Monday, December 13, 2021 1:33:00 PM
Attachments: 2021-12-13_Notification Letter_SLR Band of Mission Indians.pdf

---

Dear Ms. Mojado,

Please see the attached notification letter and maps for the Smilax-Mimosa Sewer Improvements Project. A copy of this letter is also being sent via USPS mail.

Thank you for your time,

Susan Zamudio-Gurrola, MHP | Senior Architectural Historian| she/her
5051 Verdugo Way, Suite 300 | Camarillo, CA 93012 | [O] 805-384-4090 | [M] 310-592-0815
susan.zamudiogurrola@mbakerintl.com | www.mbakerintl.com

Michael Baker
INTERNATIONAL

We Make a Difference

December 13, 2021

San Luis Rey Band of Mission Indians
Attention: Cami Mojado
1889 Sunset Drive
Vista, CA 92081
cjmojado@slrmissionindians.org
cmslrmissionindians@gmail.com

RE: NOTIFICATION FOR THE SMILAX-MIMOSA SEWER IMPROVEMENTS PROJECT, CITY OF VISTA & BUENA SANITATION DISTRICT

Dear Ms. Mojado:

This correspondence has been prepared on behalf of the City of Vista (City) and Buena Sanitation District (District) to provide notification of the proposed Smilax-Mimosa Sewer Improvements Project (proposed project).

As indicated on the attached maps, the land areas affected by the proposed project are located in the City of San Marcos and unincorporated San Diego County, generally to the north and south of State Route 78, between Mimosa Avenue to the west and Community Drive to the east. The proposed sewer improvements would redirect existing flows away from downstream pipelines that have insufficient capacity. Associated activities would include manhole construction and rehabilitation and pipe relining to prevent leakage or breaks. All improvements would occur along existing sewer alignments within roadway rights-of-way or existing public easements. It is anticipated that project construction will commence in the 1st quarter of 2022.

The proposed action was evaluated in the Supplemental Program Environmental Impact Report (SPEIR) for the 2017 City of Vista/Buena Sanitation District Comprehensive Sewer Master Plan. The SPEIR includes mitigation requirements to protect tribal cultural resources. It is anticipated that construction mitigation monitoring will be provided consistent with mitigation measures CULT-2, -3, -4, and -5 of the Final 2017 SPEIR (available at https://www.cityofvista.com/home/showpublisheddocument/13661/636450396562570000).

In compliance with mitigation requirements of the SPEIR, the City and District completed a records search and requested a Sacred Lands File search from the Native American Heritage Commission. Both searches yielded negative results. In order to complete mitigation requirements, the City and District are required to contact you directly in the event you have record of any known resources that may be affected by the project and wish to provide comments.

If you have any questions or concerns regarding this project relative to tribal cultural resources, please respond within 14 days from receipt of this letter. I can be contacted at (805) 384-4090 or via e-mail at Susan.ZamudioGurrola@mbakerintl.com. Alternatively, you may contact Michael Hilker, Capital Projects Manager, of the City of Vista and Buena Sanitation District at 760-643-5428 or mhilker@cityofvista.com.

Please also note that the City/District will be contracting with NV5 for the proposed project. Mr. Tom Acuna, Environmental Manager, at NV5 is available at 858-385-2195 or Thomas.Acuna@nv5.com, and will be the contact for any during-construction monitoring, as needed.

Thank you for your assistance.

Sincerely,

Senior Architectural Historian

Attachments: Attachment 1 – Figures

CC: Mr. Michael Hilker, Capital Projects Manager, City of Vista & Buena Sanitation District
Mr. Thomas Acuna, NV5

PN: 181869

Michael Baker INTERNATIONAL

N

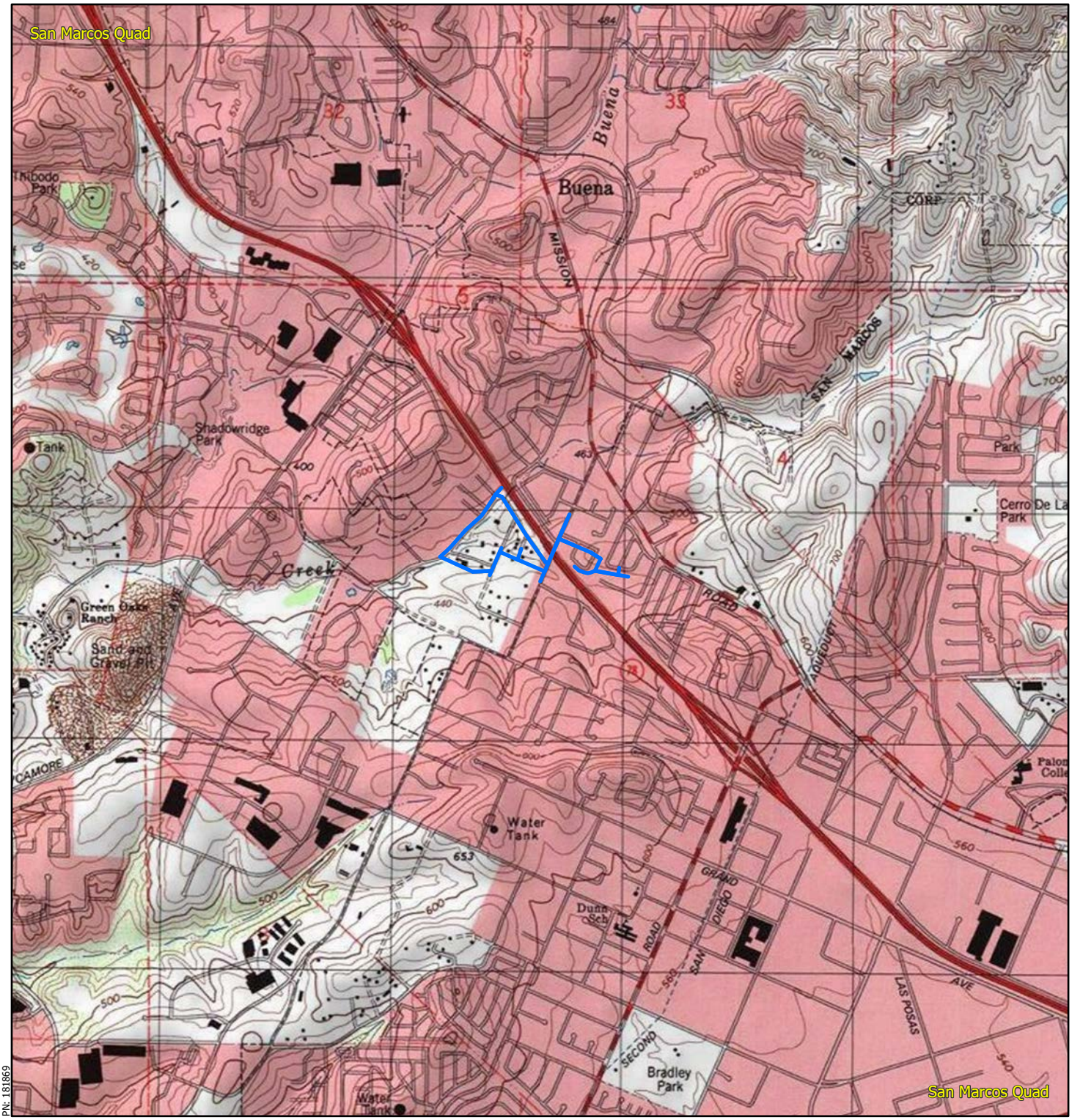
0 2.5 5 10 Miles

Source: Esri, ArcGIS Online, National Geographic World Map: *Vista, California*

SMILAX-MIMOSA SEWER IMPROVEMENT PROJECT

Regional Vicinity

Figure 1



PN: 181869

Project Area

Michael Baker INTERNATIONAL

N

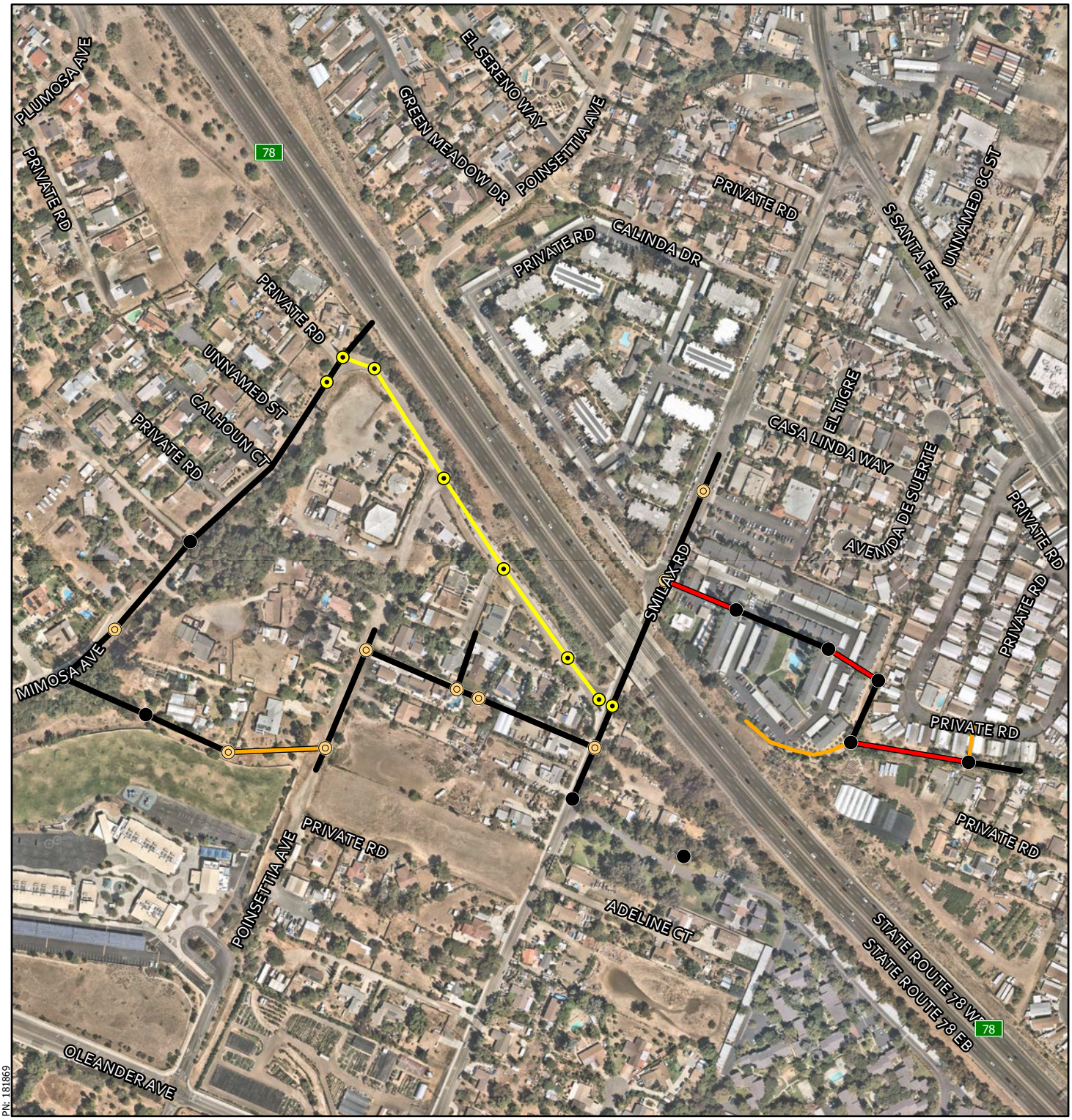
0 0.25 0.5 1 Miles

Source: Esri, ArcGIS Online, USGS 7.5-Minute topographic quadrangle maps: *Vista, California*

SMILAX-MIMOSA SEWER IMPROVEMENT PROJECT

Project Vicinity

Figure 2



PN: 181869

- Proposed Open Cut
- MH Access in Cleared Easement
- Internal Pipe Rehab
- Existing Sewer Alignment
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- Proposed MH Rehab

Michael Baker INTERNATIONAL

N

0 250 500 1,000 Feet

Source: Esri, ArcGIS Online, 2021 Nearmap Imagery: *Vista, California*

SMILAX-MIMOSA SEWER IMPROVEMENT PROJECT

Project Area

Figure 3

ZamudioGurrola, Susan

From: Carmen Mojado <cjmojado@slrmissionindians.org>
Sent: Friday, December 17, 2021 9:10 AM
To: ZamudioGurrola, Susan
Subject: EXTERNAL: Re: Notification - Smilax-Mimosa Sewer Improvements Project

Hi Susan,

Can you please resend the notification letter, we are having problem opening the file on this end.

Hope all is well,

Carmen Mojado
President of Saving Sacred Sites

Saving Sacred Sites | Vista, CA
cjmojado@icloud.com

> On Dec 13, 2021, at 1:33 PM, ZamudioGurrola, Susan <Susan.ZamudioGurrola@mbakerintl.com> wrote:
>
> Dear Ms. Mojado,
>
> Please see the attached notification letter and maps for the Smilax-Mimosa Sewer Improvements Project. A copy of this letter is also being sent via USPS mail.
>
> Thank you for your time,
>
> **Susan Zamudio-Gurrola, MHP** | Senior Architectural Historian| she/her
> 5051 Verdugo Way, Suite 300 | Camarillo, CA 93012 | [O] 805-384-4090 | [M] 310-592-0815
> susan.zamudiogurrola@mbakerintl.com | www.mbakerintl.com
>
> Michael Baker | We Make a D
>
> <2021-12-13_Notification Letter_SLR Band of Mission Indians.pdf>

ZamudioGurrola, Susan

From: ZamudioGurrola, Susan
Sent: Friday, December 17, 2021 9:22 AM
To: Carmen Mojado
Subject: RE: EXTERNAL: Re: Notification - Smilax-Mimosa Sewer Improvements Project
Attachments: 2021-12-13_Notification Letter_SLR Band of Mission Indians.pdf

Yes, of course. A copy is attached. Also, the hard copy of the letter was delivered on December 15, 2021 to 1889 Sunset Drive, Vista, CA according to the USPS delivery receipt.

Thank you,

Susan Zamudio-Gurrola, MHP | Senior Architectural Historian| she/her
Michael Baker International | *We Make a Difference*
5051 Verdugo Way, Suite 300 | Camarillo, CA 93012
[O] 805-384-4090 | [M] 310-592-0815
susan.zamudiogurrola@mbakerintl.com | www.mbakerintl.com

From: Carmen Mojado <cjmojado@slrmissionindians.org>
Sent: Friday, December 17, 2021 9:10 AM
To: ZamudioGurrola, Susan <Susan.ZamudioGurrola@mbakerintl.com>
Subject: EXTERNAL: Re: Notification - Smilax-Mimosa Sewer Improvements Project

Hi Susan,

Can you please resend the notification letter, we are having problem opening the file on this end.

Hope all is well,

Carmen Mojado
President of Saving Sacred Sites

Saving Sacred Sites | Vista, CA
cjmojado@icloud.com

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> Dear Ms. Mojado,
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> susan.zamudiogurrola@mbakerintl.com | www.mbakerintl.com

<2021-12-13_Notification Letter_SLR Band of Mission Indians.pdf>

UNITED STATES POSTAL SERVICE

December 15, 2021

Dear Susan Zamudio Gurrola:

The following is in response to your request for proof of delivery on your item with the tracking number: **9514 8066 8321 1347 7416 31**.

Item Details

Status:	Delivered, Left with Individual
Status Date / Time:	December 15, 2021, 12:02 pm
Location:	VISTA, CA 92081
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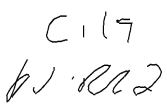
Street Address:	1889 SUNSET DR
City, State ZIP Code:	VISTA, CA 92081-6314

Recipient Signature

Signature of Recipient:



Address of Recipient: 1889 SUNSET DR VISTA, CA 92081

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Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

ZamudioGurrola, Susan

From: ZamudioGurrola, Susan
Sent: Monday, December 27, 2021 12:04 PM
To: Carmen Mojado
Subject: FW: EXTERNAL: Re: Notification - Smilax-Mimosa Sewer Improvements Project
Attachments: 2021-12-13_Notification Letter_SLR Band of Mission Indians.pdf

Hello again,

I wanted to follow-up and check if you have any comments or questions regarding the Smilax-Mimosa Sewer Improvements Project?

Thanks for your time,

Susan Zamudio-Gurrola, MHP | Senior Architectural Historian| she/her
Michael Baker International | *We Make a Difference*
5051 Verdugo Way, Suite 300 | Camarillo, CA 93012
[O] 805-384-4090 | [M] 310-592-0815
susan.zamudiogurrola@mbakerintl.com | www.mbakerintl.com

From: ZamudioGurrola, Susan
Sent: Friday, December 17, 2021 9:22 AM
To: Carmen Mojado <cjmojado@slrmissionindians.org>
Subject: RE: EXTERNAL: Re: Notification - Smilax-Mimosa Sewer Improvements Project

Yes, of course. A copy is attached. Also, the hard copy of the letter was delivered on December 15, 2021 to 1889 Sunset Drive, Vista, CA according to the USPS delivery receipt.

Thank you,

Susan Zamudio-Gurrola, MHP | Senior Architectural Historian| she/her
Michael Baker International | *We Make a Difference*
5051 Verdugo Way, Suite 300 | Camarillo, CA 93012
[O] 805-384-4090 | [M] 310-592-0815
susan.zamudiogurrola@mbakerintl.com | www.mbakerintl.com

From: Carmen Mojado <cjmojado@slrmissionindians.org>
Sent: Friday, December 17, 2021 9:10 AM
To: ZamudioGurrola, Susan <Susan.ZamudioGurrola@mbakerintl.com>
Subject: EXTERNAL: Re: Notification - Smilax-Mimosa Sewer Improvements Project

Hi Susan,

Can you please resend the notification letter, we are having problem opening the file on this end.

Hope all is well,

Carmen Mojado
President of Saving Sacred Sites

APPENDIX C:

GEOTECHNICAL INVESTIGATION

GEOTECHNICAL INVESTIGATION

SMILAX-MIMOSA SEWER IMPROVEMENTS (CIP 8301) COUNTY OF SAN DIEGO AND CITY OF SAN MARCOS, CALIFORNIA

GEOCON
INCORPORATED

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

TC CONSTRUCTION COMPANY, INC.
SANTEE, CALIFORNIA

SEPTEMBER 3, 2021
PROJECT NO. G2689-22-01

Project No. G2689-22-01
September 3, 2021

TC Construction Company, Inc.
10540 Prospect Avenue
Santee, California 92071

Attention: Mr. Elan Schier

Subject: GEOTECHNICAL INVESTIGATION
SMILAX-MIMOSA SEWER IMPROVEMENTS (CIP 8301)
COUNTY OF SAN DIEGO AND CITY OF SAN MARCOS, CALIFORNIA

Dear Mr. Schier:

In accordance with your request and authorization of our Proposal No. LG-20343 dated August 11, 2020 (revised August 13, 2020), Task 2, we performed our geotechnical investigation to evaluate the underlying soil and geologic conditions and potential geologic hazards for the subject project.

The accompanying report presents the results of our study and conclusions and recommendations pertaining to geotechnical aspects of the proposed project. The site is suitable for the proposed improvements provided the recommendations of this report are incorporated into the design and construction of the planned project.

Should you have questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Yong Wang
GE 2775

Michael C. Ertwine
CEG 2659

YW:MCE:arm

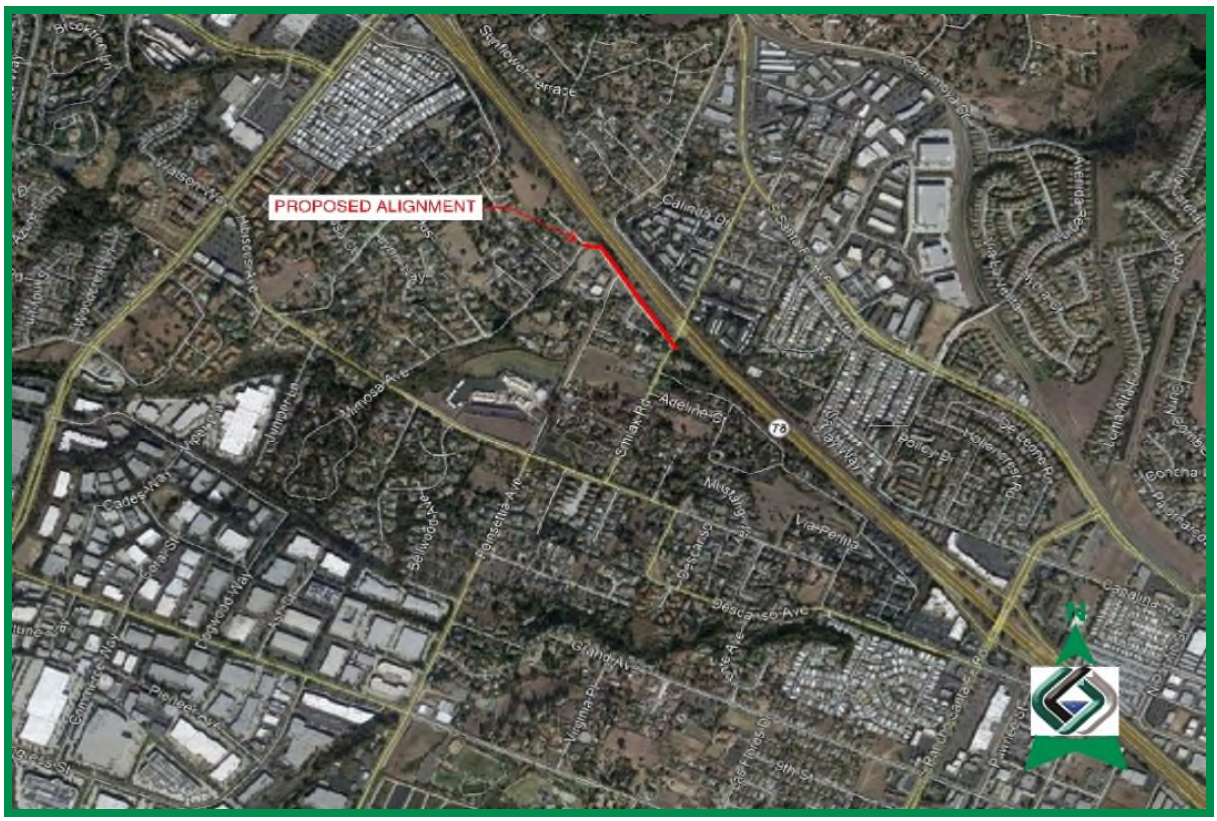
(e-mail) Addressee

TABLE OF CONTENTS

GEOLOGIC RECONNAISSANCE

1. PURPOSE AND SCOPE

This report presents the results of our geotechnical investigation for the proposed Smilax-Mimosa Sewer Improvements (CIP 8301) project in the County of San Diego and the City of San Marcos, California (see Vicinity Map). In general, the project is located near Smilax Road and Mimosa Avenue where they are adjacent to State Route 78 (SR-78) corridor. The purpose of this geotechnical investigation is to evaluate the surface and subsurface geologic conditions, construction conditions along the project alignment, and to provide recommendations regarding geotechnical aspects of constructing the proposed sewer improvements.



Vicinity Map

The scope of this investigation included reviewing readily available published and unpublished geologic literature (see List of References), performing a field investigation and laboratory testing, performing engineering analyses and preparing this report. We also performed a partial observation of the subsurface condition during the recent potholing operations arranged by TC Construction, Inc.

We performed a field investigation on August 5 and 6, 2021, that included drilling 5 small diameter exploratory borings to a maximum depth of approximately 19½ feet. Boring logs and other details of

the field investigation are presented in Appendix A. The approximate locations of the borings are shown on *Site Plan/Geologic Map*, Figure 1. We tested selected soil samples obtained during the field investigation to evaluate pertinent physical and chemical properties for engineering analyses and to assist in providing recommendations for the installation of the sewer pipeline. Details of the laboratory tests and a summary of the test results are presented in Appendix B.

The recommendations presented herein are based on analysis of the data obtained from the exploratory borings, laboratory test results, and our experience with similar soil and geologic conditions.

2. SITE AND PROJECT DESCRIPTION

The final project plans are not available for our use at the time of preparing this report. Based on the currently available project plans and information, we understand that the proposed improvements consist of approximately 1,257 LF of new 12-inch diameter PVC sewer extending from Station 10+00 to Station 22+57. The *Site Plan/Geologic Map*, Figure 1 shows the approximate plan view and profile view of the proposed sewer alignment. The surface elevations along the project alignment range between approximately 434 and 444 feet above mean sea level (MSL), and the planned invert levels of the sewer pipeline are between approximately 422 and 433 feet (MSL).

We further understand that the majority of the proposed improvements will be constructed via cut-and-cover trenching construction methods. Trenchless construction methods are considered for 2 segments due to the presence of existing Reinforced Concrete Box (RCB) culverts and access restraints near the Stations 10+57 and 17+20 as depicted on the profile view of Figure 1, *Site Plan/Geologic Map*. The trenchless construction methods may include pipejacking and/or pipe ramming.

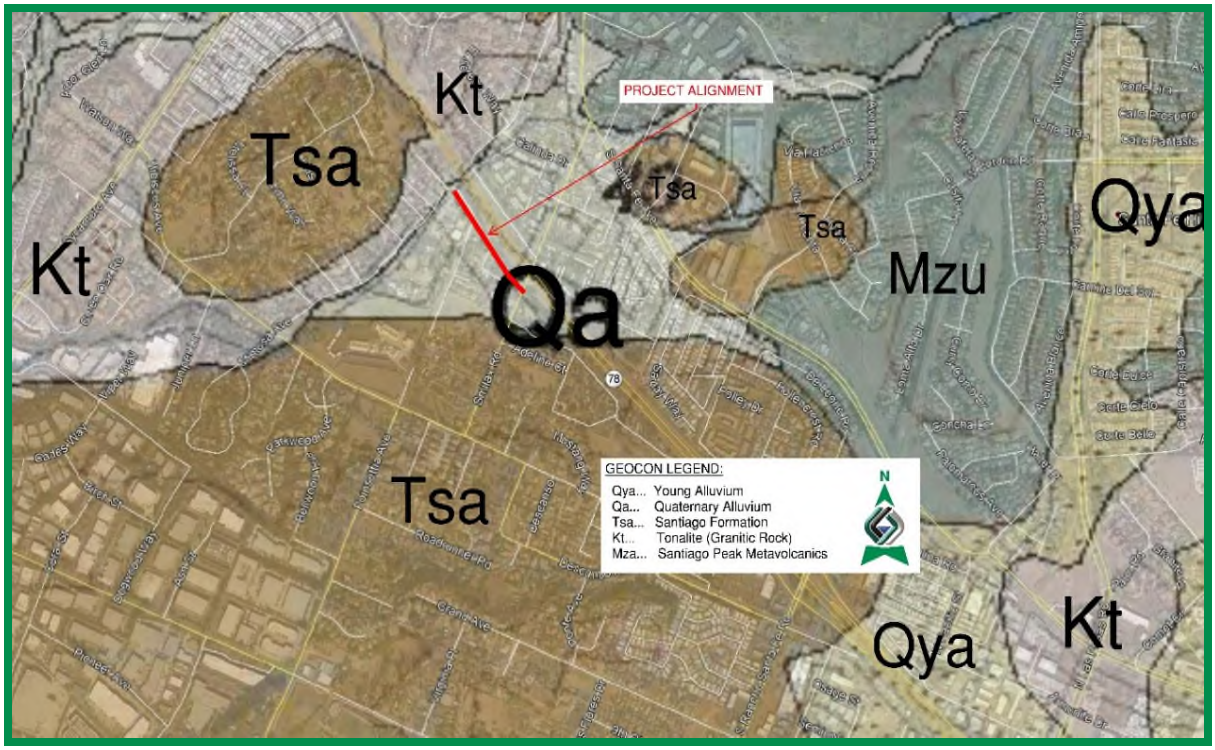
The site description and proposed development are based on a site reconnaissance, review of the geologic literature, and currently available project information. If final project plans differ from those described herein, Geocon Incorporated should be contacted for review of the plans and possible revisions to this report.

3. GEOLOGIC SETTING

Regionally, the site is located in the Peninsular Ranges geomorphic province. The province is bounded by the Transverse Ranges to the north, the San Jacinto Fault Zone on the east, the Pacific Ocean coastline on the west, and the Baja California on the south. The province is characterized by elongated northwest-trending mountain ridges separated by straight-sided sediment-filled valleys. The northwest trend is further reflected in the direction of the dominant geologic structural features of the province that are northwest to west-northwest trending folds and faults, such as the nearby Rose Canyon fault zone. The site is within the coastal plain of San Diego County. The coastal plain is underlain by a thick sequence of relatively undisturbed and non-conformable sedimentary bedrock units that thicken to the

west and range in age from Upper Cretaceous age through the Pleistocene-age which have been deposited on Cretaceous-age to Jurassic-age igneous and volcanic bedrock. Geomorphically, the coastal plain is characterized by a series of 21, stair-stepped marine terraces (younger to the west) which have been dissected by westly flowing drainages. The coastal plain is a relatively stable block that is dissected by relatively few faults consisting of the potentially active La Nacion Fault Zone and the active Rose Canyon Fault Zone.

Locally, the site is located on the western margin of the coastal plain. Younger marine and non-marine sedimentary units unconformably overly older the intrusive igneous rock and make up the geologic sequence along the alignment. These geologic units consist the Eocene-age Santiago Formation, and the Cretaceous-age Granitic Rock (Tonalite). We expect artificial fills were placed during historic development in the local area along with the construction of SR-78. We did not encounter alluvium within the current exploratory borings. The Regional Geologic Map (Kennedy Tan, 2008) presents the geologic units within the vicinity of the site.



Regional Geologic Map

4. SOIL AND GEOLOGIC CONDITIONS

We encountered one surficial soil units (consisting of artificial fill) and two formational units (consisting of the Santiago Formation, and Granitic Rock) during our field exploration. The occurrence, distribution, and description of each unit encountered is shown on the *Site Plan/Geologic*

Map, Figure 1, and on the boring logs in Appendix A. The surficial soil and geologic units are described herein in order of increasing age.

4.1 Artificial Fill (Qaf)

We encountered artificial fill in each of the borings to depths ranging from about 15 to 18 feet below the existing roadway surface. In general, the upper 5 feet of the artificial fill consists of medium dense silty sand and clayey sand, and stiff sandy clay. The artificial fill at depths of greater than 5 feet generally consists of stiff to very stiff, sandy to fat clays with few layers of gravel within the fill matrix.

4.2 Santiago Formation (Ts)

We encountered the Tertiary-age Santiago Formation in Boring B-2 through B-5, below the artificial fill to the maximum depth explored of 19½ feet. This sedimentary geologic unit encountered consists of very stiff to hard, sandy to clayey siltstones, and dense clayey sandstone.

4.3 Tonalite (Granitic Rock) (Kt)

We encountered Cretaceous-age granitic rock in Boring B-1 at approximately 15 feet below the artificial fill. In published literature this geologic unit is described as "Tonalite" because of the mostly coarse-grained texture, and composition of hornblende and biotite minerals (Kennedy and Tan, 2005). The Granitic Rock in this geomorphic region is generally at various stages of the weathering process and possesses a medium- to coarse-grained phaneritic (visible) texture with corestones interspersed within the unit. The granitic rock unit encountered in Boring B-1, to the maximum extent explored of 19½ feet, consists of completely weathered (saprolite) to moderately weathered, weak to moderately strong granitic rock, which excavates to a silty, fine to coarse-grained sand. This unit typically exhibits low expansion potential and adequate shear strength.

5. GROUNDWATER

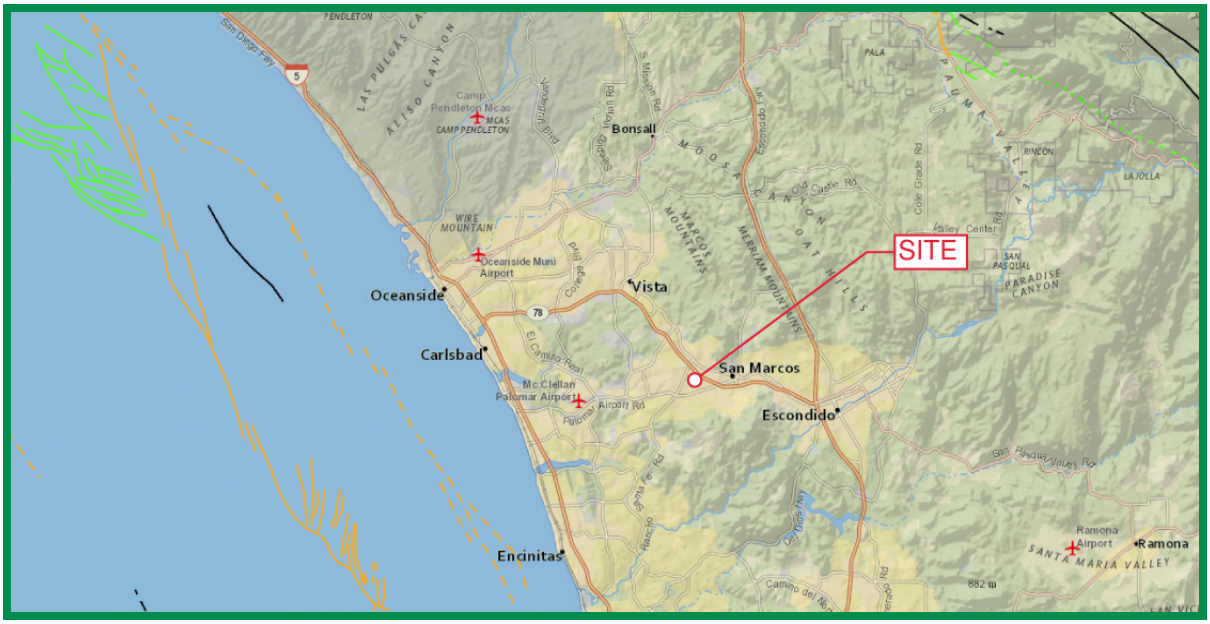
We did not encounter groundwater or seepage during our site investigation. However, it is not uncommon for shallow seepage conditions to develop where none previously existed when sites are irrigated or infiltration is implemented. Seepage is dependent on seasonal precipitation, irrigation, land use, among other factors, and varies as a result. Proper surface drainage will be important to future performance of the project. We do not expect groundwater to be encountered during construction of the proposed improvements.

6. GEOLOGIC HAZARDS

6.1 Regional Faulting and Seismicity

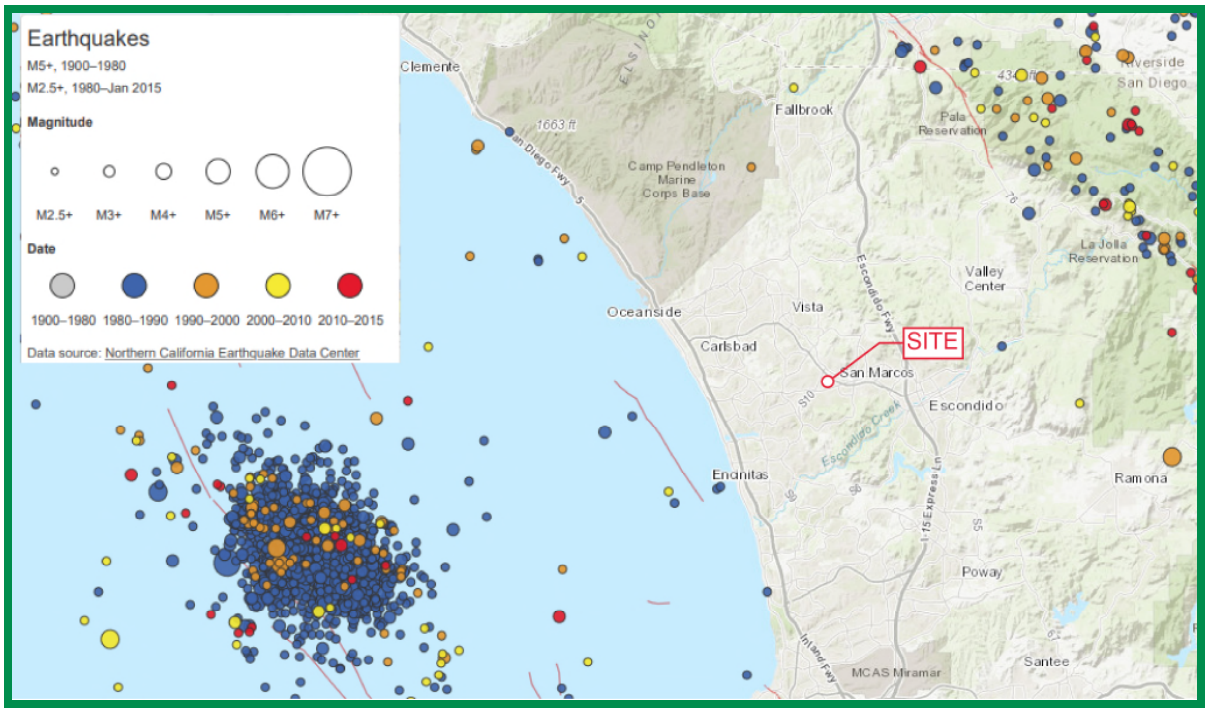
A review of the referenced geologic materials and our knowledge of the general area indicate the site is not underlain by active, inactive, or potentially active faults. An active fault is defined by the California Geological Survey (CGS) as a fault showing evidence for activity within the last 11,700 years. The site is not located within a State of California Earthquake Fault Zone.

The USGS has developed a program to evaluate the approximate location of faulting in the area of properties. The following figure presents the location of the existing faulting in the San Diego County and Southern California region. The fault traces are shown as solid, dashed and dotted that represent well-constrained, moderately constrained and inferred, respectively. The fault line colors represent faults with ages less than 150 years (red), 15,000 years (orange), 130,000 years (green), 750,000 years (blue) and 1.6 million years (black).



Faults in Southern California

The San Diego County and Southern California region is seismically active. The following figure presents the occurrence of earthquakes with a magnitude greater than 2.5 from the period of 1900 through 2015 according to the Bay Area Earthquake Alliance website.



Earthquakes in Southern California

Considerations important in seismic design include the frequency and duration of motion and the soil conditions underlying the site. Seismic design of structures should be evaluated in accordance with the California Building Code (CBC) guidelines currently adopted by the local agency.

6.2 Liquefaction

Liquefaction typically occurs when a site is located in a zone with seismic activity, onsite soils are cohesionless or silt/clay with low plasticity, groundwater is encountered within 50 feet of the surface and soil densities are less than about 70 percent of the maximum dry densities. If the four previous criteria are met, a seismic event could result in a rapid pore water pressure increase from the earthquake-generated ground accelerations. Due to the lack of a permanent, near-surface groundwater table and the very dense nature of the underlying formational materials, liquefaction potential for the site is considered very low.

6.3 Storm Surge, Tsunamis, and Seiches

Storm surges are large ocean waves that sweep across coastal areas when storms make landfall. Storm surges can cause inundation, severe erosion and backwater flooding along the waterfront. The site is located approximately 7½ miles from the Pacific Ocean and an elevation of approximately 430 feet or greater above Mean Sea Level (MSL); therefore, the potential of storm surges affecting the site is considered low.

A tsunami is a series of long period waves generated in the ocean by a sudden displacement of large volumes of water. Causes of tsunamis include underwater earthquakes, volcanic eruptions, or offshore slope failures. We consider the risk of a tsunami hazard at the site to be low due to the distance from the Pacific Ocean and the site elevations.

A seiche is a run-up of water within a lake or embayment triggered by fault- or landslide-induced ground displacement. The site is not located adjacent to a body of water. Therefore, we consider the potential for seiches to impact the site low.

6.4 Landslides

We did not observe evidence of previous or incipient slope instability at the site during our study. Published geologic mapping indicates that landslides are not present on or adjacent to the site. Therefore, we opine the potential for a landslide is not a concern for this project.

6.5 Erosion

The site is gently sloping to the northwest and is not located adjacent to the Pacific Ocean or a free-flowing drainage where active erosion is occurring. We do not expect erosion to be a concern for this project. In addition, we expect the proposed improvement would not increase the potential for erosion if properly designed.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 From a geotechnical engineering standpoint, it is our opinion that subsurface conditions along the project alignment are suitable for the proposed pipeline improvement, provided the recommendations presented herein are implemented in design and construction of the project.

7.1.2 Our field investigation indicates artificial fill, Santiago Formation and granitic rock underlie the proposed sewer alignment. The proposed sewer will likely be installed within artificial fill and Santiago Formation.

7.1.3 We did not encounter groundwater in our borings. Other than nuisance perched water, groundwater is not expected to significantly affect the proposed construction.

7.1.4 With the exception of possible strong seismic shaking, significant geologic hazards were not observed or are known to exist on the site that would adversely affect the proposed improvement.

7.2 Excavation and Soil Characteristics

7.2.1 Excavation of the in-situ soil should be possible with moderate to heavy effort using conventional heavy-duty equipment. Excavation of the formational materials will require very heavy effort and may generate oversized material using conventional heavy-duty equipment during the grading operations. If granitic rock is encountered, very heavy effort or rock breaking could be needed to excavate.

7.2.2 The soil encountered in the field investigation is considered to be “non-expansive” and “expansive” (expansion index [EI] of less than 20 and greater than 20, respectively) as defined by 2019 California Building Code (CBC) Section 1803.5.3. We expect a majority of the soil encountered possess a “very low” to “medium” expansion potential (expansion index of 90 or less) in accordance with ASTM D 4829. Table 7.2 presents soil classifications based on the expansion index.

TABLE 7.2
EXPANSION CLASSIFICATION BASED ON EXPANSION INDEX

Expansion Index (EI)	ASTM D 4829 Expansion Classification	2019 CBC Expansion Classification
0 – 20	Very Low	Non-Expansive
21 – 50	Low	Expansive
51 – 90	Medium	
91 – 130	High	
Greater Than 130	Very High	

7.3 Temporary Slope and Excavation Support

7.3.1 Temporary excavations should be made in conformance with OSHA requirements. The artificial fill should be considered a Type B (Type C soil if seepage or groundwater is encountered) soil and the Santiago Formation and granitic rock should be considered a Type A soil (Type B soil if seepage or groundwater is encountered) in accordance with OSHA requirements. However, the contractor's competent person should confirm and make the final decision of these soil types based on the soils encountered during construction. In general, special shoring requirements will not be necessary if temporary excavations will be less than 5 feet in height. Temporary excavations greater than 5 feet in height, however, should be sloped back at an appropriate inclination. These excavations should not be allowed to become saturated or to dry out. Surcharge loads should not be permitted to a distance equal to the height of the excavation from the top of the excavation. The top of the excavation should be a minimum of 15 feet from the edge of existing improvements. Excavations steeper than those recommended or closer than 15 feet from an existing surface improvement should be shored in accordance with applicable OSHA codes and regulations.

7.3.2 Temporary, unsupported cuts in undocumented fill should not be steeper than 1:1 (horizontal:vertical) up to 20 feet in height. Again, the contractor's competent person should make the final decision on excavation inclinations based on conditions encountered during construction. In general, excavations in the Santiago Formation and granitic rock can be made with slopes of ¾:1. Excavation slopes should be checked by an engineering geologist or geotechnical engineer to evaluate the existence of zones of weakness, groundwater seepage, or adversely oriented fractures that could form local areas of slope instability to aid the contractor's competent person in selecting appropriate inclinations. Flatter slopes, shoring or safety shields will be needed in areas where sloughing, raveling or running is encountered. The contractor should be made aware of this potential and have the equipment available on site to flatten slopes or install shoring if necessary. Loose or easily erodible soils may be present locally and should be removed from the faces of excavation side slopes before personnel begin work below the slopes.

7.3.3 Where a portable safety shield is used to protect workers, the sidewall of the trench is not directly supported. Therefore, use of a shield generally should be limited to open areas to minimize the effects on adjacent improvements or settlement of the ground surface behind the shield. Shields should be sized to minimize clearance between trench and shield walls. Unsupported trenches should be backfill immediately after removal of the shield.

7.3.4 Temporary cantilevered shoring can be designed for an active soil pressure equivalent to the pressure exerted by a fluid density of 25 pcf. Temporary multi-braced shoring should be designed using a lateral pressure envelope acting uniformly on the back of the shoring and

applying a pressure equal to 16H, where H is the height of the shoring in feet (resulting pressure in pounds per square foot). Also, lateral earth pressure due to the surcharging effects of adjacent structures or traffic loads should be considered where appropriate during design of the shoring system.

7.3.5 Passive soil pressure resistance for embedded portions of soldier piles can be estimated based on an equivalent fluid weight of 300 pounds per cubic foot (pcf) for artificial fill, and 400 pcf for Santiago Formation and granitic rock.

7.3.6 Lateral movement of shoring is associated with vertical ground settlement outside of the excavation. It is important that the shoring system allow limited amounts of lateral displacement. We recommend that horizontal movements of the shoring wall be accurately monitored and recorded during excavation if adjacent settlement sensitive improvements are present.

7.3.7 Lagging should keep pace with excavation. The excavation should not be advanced deeper than three feet below the bottom of lagging at any time. These unlagged gaps of up to 3 feet should only be allowed to stand for short periods of time in order to decrease the probability of soil instability and should never be unsupported overnight. Backfilling should be conducted when necessary between the back of lagging and excavation sidewalls to reduce sloughing in this zone, and all voids should be filled by the end of each day.

7.3.8 The condition of existing streets and other structures around the perimeter of the planned excavation should be documented prior to the start of shoring and excavation work. Special attention should be given to documenting existing cracks or other indications of differential settlement within these adjacent pavements and other improvements.

7.4 Jacking Pit and Thrust Block

7.4.1 We understand that trenchless construction methods including pipejacking and/or ramming are considered for the installation or propose sewer beneath the 2 existing RCB boxes near the Stations 10+57 and 17+20.

7.4.2 Shoring for the excavation of jacking and reception pits, if applicable, should be designed utilizing the parameters in Section 7.3. Shoring should generally be extended 10 feet or more below the excavation bottoms if sheet piles or similar systems are used in soil sites. Sealing sheet-pile into formation may also be utilized to accommodate bottom heave if groundwater is encountered and formational material is competent. If dewatering is used to drain only the interior of the pit, inclusion of hydrostatic pressure is considered necessary.

7.4.3 Excavated soil should not be placed within a horizontal distance equal to the depth of excavation from the edge of the excavation. If soil is stored within this zone, a vertical surcharge pressure of 130H psf (where H equals the height of the stockpiled soils) should be added to the above active pressures.

7.4.4 If heavy seepage and/or groundwater is encountered, bottom heave should be taken into consideration if the shoring system represents an impermeable barrier to water. A layer of freely draining gravel or crushed rock (2 or more feet thick) would assist in reducing the potential for piping as well as to provide a working pad for trenchless construction.

7.4.5 Thrust blocks used to resist lateral loads from the connecting pipes can be designed with an allowable lateral bearing pressure of 300 psf per foot of depth for artificial fill, and 400 psf per foot for Santiago Formation and granitic rock. Frictional resistance between the thrust restraint system and the supporting soil can be calculated using an ultimate friction factor of 0.4. Allowable lateral loads and friction values should be determined by the designer using factors of safety appropriate to the load conditions.

7.4.6 The design and construction of thrust block should take into account the potential for settlement behind the supports, including settlement resulting from deflection of bracing.

7.4.7 Any fill associated with the jacking/receiving pits should be mechanically compacted in layers to the finish ground surface. Backfill should be compacted to at least 90 percent of maximum dry density as determined by ASTM D 1557 at or slightly above optimum moisture content.

7.5 Trenchless Construction

7.5.1 Pipe jacking and/or microtunneling should be constructed in accordance with the *Greenbook Standard Specifications for Public Works Construction,* Sections 306-2 and/or 306-8, to maintain the line and grade of the proposed pipe. All underground openings should be constructed in strict compliance with the California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Unit, OSHA, and Cal-OSHA for work safety and public liability.

7.5.2 Along the proposed trenchless construction near the approximate Station 10+57, granitic rock with varying degree of weathering were encountered few feet below the proposed sewer invert level in our boring. The contractor should select the appropriate drill bits or tunneling machine cutting tools suitable to accommodate cemented zones and resistant materials if encountered.

7.5.3 The line friction load acting on the pipeline as it is jacked behind the shield is influenced by many factors and is therefore difficult to estimate. However, line friction load during jacking operation can be reduced by the application of lubricating fluids, such as bentonite-based lubricants or polymer-based lubricants. The selection and application of such a lubricant should be determined by the contractor.

7.6 Ground Control and Improvement

7.6.1 Earth pressure counter-balance tunneling systems are available which rely on mechanical systems to balance earth pressures. By reducing changes in pressures experienced by the ground as tunneling proceeds, potential deflections at the ground surface can be reduced. The type of tunneling, drilling, pipejacking, or pipe ramming system used can be selected by the contractor. It is important that the contractor be provided with complete soil, underground utility, and groundwater information so that appropriate equipment can be mobilized. In addition, providing adequate information before the project starts will be vital if claims for changed conditions are filed during construction.

7.6.2 The contractor should monitor existing pavement areas and adjacent improvements for surface deflection (settlement or heave) during construction so that appropriate modification to the excavation and shoring system as well as pipejacking, pipe bursting, pipe ramming, directional drilling, and microtunneling equipment are implemented to minimize the surface deflection in a timely manner.

7.6.3 In addition to existing improvements, other underground utilities may exist near and above the proposed pipe. The actual depths and locations of some of these pipes may not be known accurately. The bedding for these pipes may also carry significant quantities of water. To reduce the settlement potential and avoid damaging adjacent pipelines (by undermining the pipe if the bedding material is encountered in the heading), the bedding material supporting the overlying pipe can be stabilized locally using cement grout from the ground surface.

7.7 Bearing Capacity for Pipeline

7.7.1 Our test borings indicated that on-site soils generally have adequate bearing capacity for support of the proposed pipeline. If unsuitable materials, as determined during construction by the engineer, are encountered near trench bottom elevations, they should be overexcavated to firm materials, in accordance with the latest edition of the *Greenbook, Standard Specifications for Public Works Construction.* The weight of the pipe, water and compacted backfill above the pipe will not result in a significant increase in load over the present overburden. Consequently, pipeline settlement should be negligible.

7.8 Design of Flexible Pipe

7.8.1 Loading on the pipeline will depend on the depth of cover and the unit weight of compacted backfill. An average total unit weight of 130 pounds per cubic feet (pcf) can be used to calculate the overburden pressure on the pipe. The modulus of soil reaction (E′) used in determination of pipe deflection depends mainly on the compacted densities of bedding and backfill materials. It also varies slightly with the depth of pipe and the soil type. The estimated soil modulus for the subject pipeline is approximately 1,700 pounds per square inch (psi), assuming bedding materials will be imported and the backfill materials will be derived locally and compacted to a minimum relative compaction of 90 percent (based on ASTM D 1557).

7.9 Corrosion

7.9.1 We tested soil sample for potential of hydrogen (pH) and resistivity, water-soluble sulfate content, and chloride content laboratory tests to aid in evaluating the corrosion potential to subsurface structures. Appendix B presents the laboratory test results. The test results indicate the on-site materials at the location tested possesses "S0" sulfate exposure to concrete structures as defined by 2019 CBC Section 1904 and ACI 318-14 Chapter 19. The presence of water-soluble sulfates is not a visually discernible characteristic; therefore, other soil samples from the site could yield different concentrations. Additionally, over time landscaping activities (i.e., addition of fertilizers and other soil nutrients) may affect the concentration.

7.9.2 According to Caltrans Corrosion Guidelines (Version 3.2, May 2021), a site is considered corrosive to structural elements if one or more of the following conditions exist for the representative soil and/or water samples taken at the site: chloride concentration is 500 ppm or greater, sulfate concentration is 1500 ppm or greater, or the pH is 5.5 or less. Caltrans LRFD Memo to Designer 3-1 (MTD 3-1, June 2014) provides the similar criteria with an additional condition that the soil has a minimal resistivity of 1000 ohm-centimeters or less. The soil sample we tested does not meet the definition of a corrosive environment per Caltrans Corrosion Guidelines.

7.9.3 Geocon Incorporated does not practice in the field of corrosion engineering. If corrosion sensitive improvements are planned, we recommend that further evaluations by a corrosion engineer be performed to incorporate the necessary precautions to avoid premature corrosion on buried metal pipes and concrete structures in direct contact with the soils.

7.10 Dewatering

7.10.1 Groundwater was not encountered during our field investigation that was generally extended below the currently proposed sewer invert level. Significant amounts of seepage, if encountered during pit and/or trench excavation, should be pumped away to facilitate the installation of pipeline.

7.11 Pipe Bedding and Trench Backfill

7.11.1 Pipe bedding is defined as that material supporting, surrounding and extending to 1 foot above the top of the pipe, in accordance with the latest edition of the *Greenbook, Standard Specifications for Public Works Construction.* Materials used for pipe bedding should consist of free draining granular soil such as sand, gravel or crushed aggregate containing no rocks greater than 1 inch in maximum dimension and having a sand equivalent of not less than 30. Pipe bedding should conform to the *Greenbook.* Placement should be performed in accordance with these specifications.

7.11.2 Trench backfill is the material placed above the bedding, starting at 1 foot above the top of the pipe. Backfill should be predominately granular and should contain no organic debris and no rocks greater than 6 inches in maximum dimension.

7.11.3 Trench backfill should be mechanically compacted. Flooding or jetting should not be allowed. In general, backfill should be placed in lifts 8 inches or less in loose thickness, moisture conditioned to near the optimum moisture content, and compacted to at least 90 percent relative compaction based on the ASTM D 1557 laboratory test method. The upper 12 inches of backfill beneath paved areas should be compacted to at least 95 percent relative compaction. All references to optimum moisture content and relative compaction in this report are based on the ASTM D 1557 test method.

7.12 Suitability of Excavated Materials as Pipe Bedding and Trench Backfill

7.12.1 Soils excavated from on-site materials will have variable quantities of fine particles and oversized materials are not expected to be suitable for use as pipe bedding without processing but will generally be suitable for use as trench backfill (without oversize materials), from a geotechnical engineering standpoint. A sample of on-site materials was tested for sand equivalent that yields a result of 21 (see Appendix B).

7.12.2 All deleterious materials should be replaced and not be used in backfill. Disposal of unsuitable materials should follow relevant environmental and governmental regulations. No materials considered hazardous or that would require special handling, removal and disposal were encountered in boring.

7.13 Preliminary Pavement Recommendations

7.13.1 The existing pavement along the project alignment appears to be in poor to fair condition. The thickness of asphalt concrete encountered in our borings generally ranged between 5 and 6 inches. We performed laboratory R-Value test on a collected subgrade soil sample to provide preliminary recommendations for structural pavement sections for the subject roadway. An R-Value of 16 was tested for a sample taken from the upper 5 feet of subgrade soil in Boring B-5. For the purposes of preliminary design, we recommended 5 inches of asphalt concrete over 15 inches of Class II aggregate base for the pavement structural sections assuming a traffic index identify (TI) of 8.0. Subgrade soils with the R-Value less than the recommended for design (16), if encountered during construction, should be mitigated and/or replacement.

7.13.2 The upper 12 inches of the subgrade soil should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density based on ASTM D 1557 near to slightly above optimum moisture content beneath pavement sections.

7.13.3 Base materials should conform to Section 26-1.028 of the *Standard Specifications for The State of California Department of Transportation (Caltrans)* with a ¾-inch maximum size aggregate. The asphalt concrete should conform to Section 203-6 of the *Standard Specifications for Public Works Construction (Greenbook)*. The Class 2 base material should also be compacted to a dry density of at least 95 percent of the laboratory maximum dry density based on ASTM D 1557 near to slightly above optimum moisture content beneath pavement sections.

7.13.4 Asphalt concrete should be compacted to a density of at least 95 percent of the laboratory Hveem density in accordance with ASTM D 2726.

7.14 Plan Review

7.14.1 We recommend that the final plans and specifications be reviewed by Geocon Incorporated to evaluate if the plans and details have been prepared in substantial conformance with the recommendations contained within this report.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

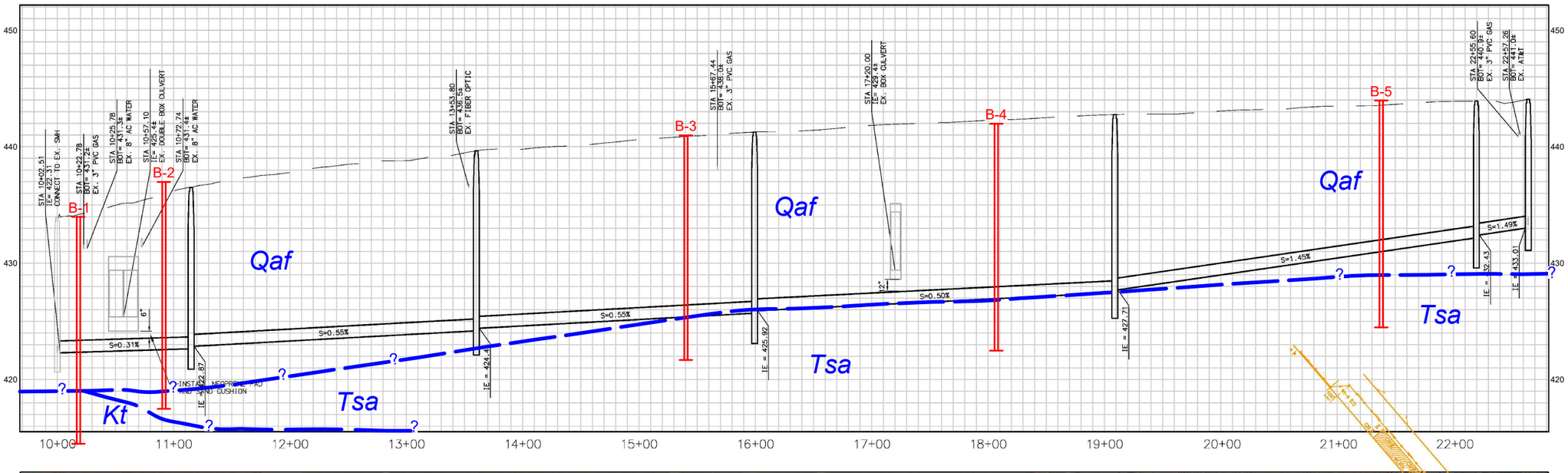
1. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

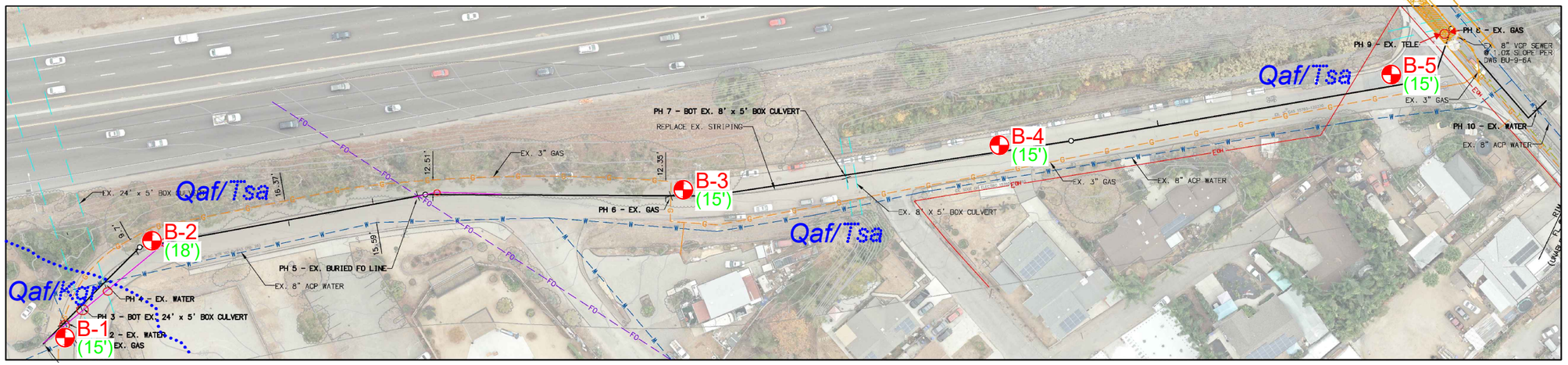
2. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon Incorporated should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon Incorporated.

3. This report is issued with the understanding that it is the responsibility of the owner or his representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

4. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

SMILAX-MIMOSA SEWER IMPROVEMENTS
SAN DIEGO COUNTY, CALIFORNIA





GEOCON LEGEND

Qaf .....ARTIFICIAL FILL

Tsa .....SANTIAGO FORMATION ((Dotted Where Buried)

Kt .....TONALITE (GRANITIC ROCK) (Dotted Where Buried)

.....APPROX. LOCATION OF GEOLOGIC CONTACT (Dotted Where Buried)

B-5 .....APPROX. LOCATION OF BORING

(18') .....APPROX. DEPTH TO FORMATION (In Feet)

SITE PLAN/GEOLOGIC MAP

GEOCON INCORPORATED
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PROJECT NO. G2689 - 22 - 01
FIGURE 1
DATE 09 - 03 - 2021

Plotted:09/07/2021 4:57PM | By:ALVIN LADRILLONO | File Location:Y:\PROJECTS\G2689-22-01 (Smilax-Mimosa Sewer Improvements)\SHEETS\G2689-22-01 Geo Map.dwg

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

We performed our field exploration on August 5 and 6, 2021, which consisted of a site reconnaissance, and drilling 5 exploratory borings. The Site Plan/Geologic Map, Figure 1, shows the approximate locations of the exploratory borings. The boring logs are presented in this Appendix. We located the borings in the field using a measuring tape and existing reference points; therefore, actual boring locations may deviate slightly. The geotechnical borings were drilled to a depth of approximately 19½ feet below existing grade using an Ingersoll Rand (IR) A-300, track-mounted drill rig equipped with 8-inch-diameter hollow-stem augers.

We obtained samples during our subsurface exploration using either a California sampler or a Standard Penetration Test (SPT) sampler. Both samplers are composed of steel and are driven to obtain relatively undisturbed soil samples. The California sampler has an inside diameter of 2.5 inches and an outside diameter of 2.875 inches. Up to 18 rings are placed inside the sampler that is 2.4 inches in diameter and 1 inch in height. The SPT sampler has an inside diameter of 1.5 inches and an outside diameter of 2 inches. We obtained ring samples at appropriate intervals, placed them in moisture-tight containers, and transported them to the laboratory for testing. The type of sample is noted on the exploratory boring logs.

The samplers were driven 12 inches and 18 inches for Modified California sampler and SPT sampler, respectively. The sampler is connected to A rods and driven into the bottom of the excavation using a 140-pound hammer with a 30-inch drop. Blow counts are recorded for every 6 inches the sampler is driven. The penetration resistances shown on the boring logs are shown in terms of blows per foot. The values indicated on the boring logs are the sum of the last 12 inches of the sampler. If the sampler was not driven for 12 inches, an approximate value is calculated in term of blows per foot or the final 6-inch interval is reported. These values are not to be taken as N-values as adjustments have not been applied. We estimated elevations shown on the boring logs either from a topographic map or by using a benchmark.

We visually examined, classified, and logged the soil encountered in the borings in general accordance with American Society for Testing and Materials (ASTM) practice for Description and Identification of Soils (Visual-Manual Procedure D 2488). The logs depict the soil and geologic conditions observed and the depth at which samples were obtained.

PROJECT NO. G2689-22-01

BORING B 1

ELEV. (MSL.) **434'** DATE COMPLETED **08-05-2021**

EQUIPMENT **IR A-300** BY: **M. ERTWINE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					5" **ASPHALT CONCRETE**			
	B1-1			SC	**ARTIFICIAL FILL (Qaf)** Medium dense, moist, dark brown, Clayey, fine to coarse SAND			
2				CL	Stiff, moist, grayish brown, Silty CLAY			
4								
	B1-2			SC	Dense, moist, dark brown, Clayey, fine to coarse SAND	29	115.7	13.5
6								
8					-Gravel layer			
10	B1-3				-Abundant gravel in sandy clay matrix	34		
12								
14								
	B1-4				**GRANITIC ROCK (Kt)** Dense, damp, yellowish brown, Clayey, fine to coarse SAND; decomposed GRANITIC ROCK (Saprolite)	50	112.5	14.9
16								
18	B1-5				Highly weathered, moderately strong, yellowish brown GRANITIC ROCK; excavates with heavy effort	97/9"		
					BORING TERMINATED AT 19.5 FEET Groundwater not encountered			

Figure A-1,
Log of Boring B 1, Page 1 of 1

G2689-22-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. G2689-22-01

BORING B 2

ELEV. (MSL.) **437'** DATE COMPLETED **08-05-2021**

EQUIPMENT **IR A-300** BY: **M. ERTWINE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					6" **ASPHALT CONCRETE**			
				SM-SC	**ARTIFICIAL FILL (Qaf)** Medium dense, moist, grayish brown, Silty, fine coarse SAND; some clay and trace gravel			
2								
4								
	B2-1			CL	Very stiff, moist, brown, Silty CLAY; trace gravel	37		
6								
8								
10	B2-2				-Few gravel and cobble in Sandy CLAY matrix, sampling unsuccessful	48		
12								
					-Gravel lense			
14								
	B2-3				Very dense, damp, brown, Silty SAND; abundant gravel, poor recovery	50/5.5"		
16								
18								
	B2-4			ML	**SANTIAGO FORMATION (Tsa)** Very stiff, moist, light gray mottled reddish brown, Clayey SILTSTONE	30	93.1	27.3
					BORING TERMINATED AT 19.5 FEET Groundwater not encountered			

Figure A-2,
Log of Boring B 2, Page 1 of 1

G2689-22-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. G2689-22-01

BORING B 3

ELEV. (MSL.) **441'** DATE COMPLETED **08-05-2021**

EQUIPMENT **IR A-300** BY: **M. ERTWINE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					5" **ASPHALT CONCRETE**			
2				SC	**ARTIFICIAL FILL (Qaf)** Medium dense, moist, grayish brown, Clayey, fine to coarse SAND; trace gravel			
4	B3-1			CL	Stiff, moist, grayish brown, Silty CLAY			
6	B3-2			CL	Very stiff, yellowish to grayish brown, Sandy CLAY; some gravel	19		
8								
10	B3-3			SM	Medium dense, moist, brown, Silty, fine to coarse SAND	20	114.2	8.1
12								
14								
16	B3-4			ML	**SANTIAGO FORMATION (Tsa)** Hard, moist, light gray, Sandy SILTSTONE	59		
18	B3-5					88/9"		
					BORING TERMINATED AT 19.3 FEET Groundwater not encountered			

Figure A-3,
Log of Boring B 3, Page 1 of 1

G2689-22-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. G2689-22-01

BORING B 4

ELEV. (MSL.) **442'** DATE COMPLETED **08-05-2021**

EQUIPMENT **IR A-300** BY: **M. ERTWINE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					5" **ASPHALT CONCRETE**			
				SM	**ARTIFICIAL FILL (Qaf)** Medium dense, moist, dark brown, Silty, fine coarse SAND			
2								
4								
	B4-1			CL	Stiff, moist, dark brown, Sandy CLAY	14		
6								
8								
10	B4-2			CH	Very stiff, moist, brown to grayish brown, fat CLAY	28	109.6	19.6
12								
14								
	B4-3			ML	**SANTIAGO FORMATION (Tsa)** Hard, moist, gray, Sandy SILTSTONE	41		
16								
18								
	B4-4			SM	Dense, moist, light brown, Silty, fine to coarse SANDSTONE	47		
					BORING TERMINATED AT 19.5 FEET Groundwater not encountered			

Figure A-4,
Log of Boring B 4, Page 1 of 1

G2689-22-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. G2689-22-01

BORING B 5

ELEV. (MSL.) **444'** DATE COMPLETED **08-06-2021**

EQUIPMENT **IR A-300** BY: **M. ERTWINE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					6" **ASPHALT CONCRETE**			
	B5-1			SM	**ARTIFICIAL FILL (Qaf)** Medium dense, moist, dark gayish brown, Silty, fine coarse SAND			
2				CL	Stiff, moist, brown, Silty CLAY			
4								
	B5-2			CH	Very stiff, moist, dark brown, mottled grayish brown, fat CLAY	43	119.6	14.3
6								
8								
10	B5-3			CH	Stiff, moist, brown mottled grayish brown, fat CLAY	15		
12								
14								
	B5-4			SC	**SANTIAGO FORMATION (Tsa)** Dense, moist, gray to grayish brown, Clayey SANDSTONE	54	104.7	19.8
16								
18	B5-5				-Trace gravel clasts; weathered saprolitic	50/5"		
					BORING TERMINATED AT 19.5 FEET Groundwater not encountered			

Figure A-5,
Log of Boring B 5, Page 1 of 1

G2689-22-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

APPENDIX B

APPENDIX B

LABORATORY TESTING

We performed laboratory tests in accordance with generally accepted test methods of the American Society for Testing and Materials (ASTM) or other suggested procedures. Selected soil samples were tested for in-place dry density and moisture content, maximum density and optimum moisture content, direct shear strength, plasticity index, gradation, sand equivalent, corrosion potential, and R-Value characteristics. The results of our laboratory tests are presented herein. The in-place dry density and moisture content of the samples tested are presented on the boring logs in Appendix A.

SUMMARY OF LABORATORY MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT TEST RESULTS ASTM D 1557

Sample No.	Description (Geologic Unit)	Maximum Dry Density (pcf)	Optimum Moisture Content (% dry wt.)
B3-1	Grayish brown, Clayey, fine to coarse SAND	138.8	6.3

SUMMARY OF LABORATORY WATER-SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Depth (feet)	Geologic Unit	Water-Soluble Sulfate (%)	ACI 318 Sulfate Exposure
B3-1	1 to 5	Qaf	0.016	S0

SUMMARY OF LABORATORY CHLORIDE TEST RESULTS AASHTO T 291

Sample No.	Depth (Feet)	Geologic Unit	Chloride Ion Content (ppm)	Chloride Ion Content (%)
B3-1	1 to 5	Qaf	81	0.008

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (PH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

Sample No.	Depth (Feet)	Geologic Unit	pH	Minimum Resistivity (ohm-centimeters)
B3-1	1 to 5	Qaf	8.4	2,000

SUMMARY OF LABORATORY DIRECT SHEAR TEST RESULTS
ASTM D 3080

Sample No.	Depth (feet)	Geologic Unit	Dry Density (pcf)	Moisture Content (%)		Peak [Ultimate[1]] Cohesion (psf)	Peak [Ultimate[1]] Angle of Shear Resistance (degrees)
				Initial	Final		
B1-2	5	Qaf	115.7	13.5	18.1	1790 [1550]	16 [18]
B2-4	18.5	Tsa	93.1	27.3	32.4	910 [600]	29 [28]
B3-3	10	Qaf	114.2	8.1	16.0	380 [380]	35 [35]
B4-2	10	Qaf	109.2	19.6	21.9	450 [270]	30 [31]
B5-2	5	Qaf	119.6	14.3	17.8	1200 [920]	18 [20]

[1] Ultimate at end of test at 0.25 inch deflection.

SUMMARY OF LABORATORY SAND EQUIVALENT TEST RESULTS
ASTM D 2419

Sample No.	Depth (feet)	Geologic Unit	Sand Equivalent
B1-1	1 to 5	Qaf	21

SUMMARY OF LABORATORY PLASTICITY INDEX TEST RESULTS
ASTM D 4318

Sample No.	Depth (Feet)	Geologic Unit	Liquid Limit	Plastic Limit	Plasticity Index
B1-1	1 to 5	Qaf	33	21	12
B3-1	1 to 5	Qaf	32	19	13
B5-1	1 to 5	Qaf	33	16	17

NP = Non-Plastic

SUMMARY OF LABORATORY RESISTANCE VALUE (R-VALUE) TEST RESULTS
ASTM D 2844

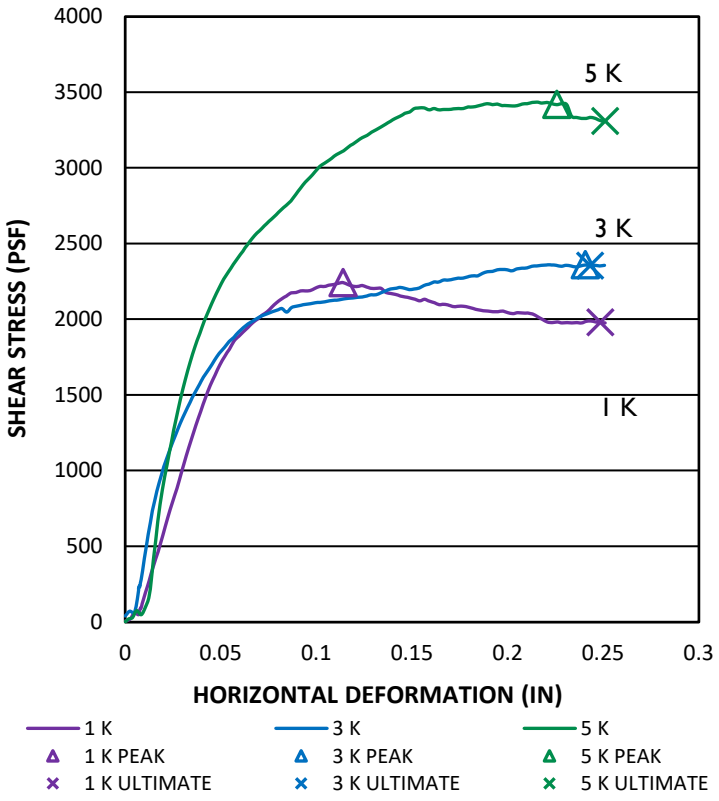
Sample No.	Approx. Sample Depth (ft)	Description (Geologic Unit)	R-Value
B5-1	1 to 5	Qaf	16

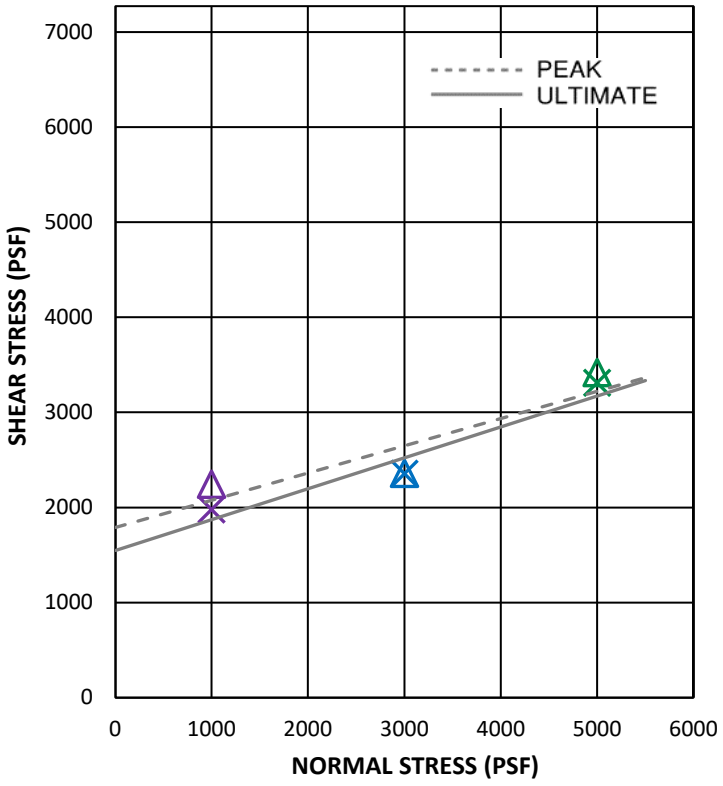
SAMPLE NO.:	**B1-2**	GEOLOGIC UNIT:	**Qaf**
SAMPLE DEPTH (FT):	**5**	NATURAL/REMOLDED:	**N**

INITIAL CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
ACTUAL NORMAL STRESS (PSF):	1000	3000	5000	--
WATER CONTENT (%):	12.5	16.1	12.0	13.5
DRY DENSITY (PCF):	122.5	108.6	115.9	115.7

AFTER TEST CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
WATER CONTENT (%):	16.5	21.7	16.0	18.1
PEAK SHEAR STRESS (PSF):	2243	2360	3419	--
ULT.-E.O.T. SHEAR STRESS (PSF):	1980	2353	3309	--

RESULTS		
PEAK	COHESION, C (PSF)	1790
	FRICTION ANGLE (DEGREES)	16
ULTIMATE	COHESION, C (PSF)	1550
	FRICTION ANGLE (DEGREES)	18





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PHONE 858 558-6900 - FAX 858 558-6159

DIRECT SHEAR - ASTM D 3080

SMILAX-MIMOSA

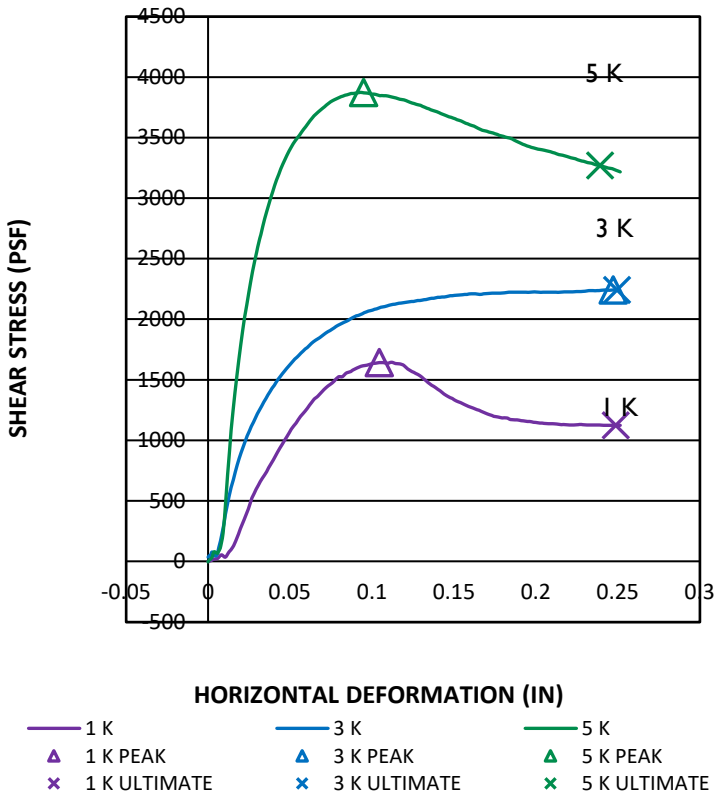
PROJECT NO.: G2689-22-01

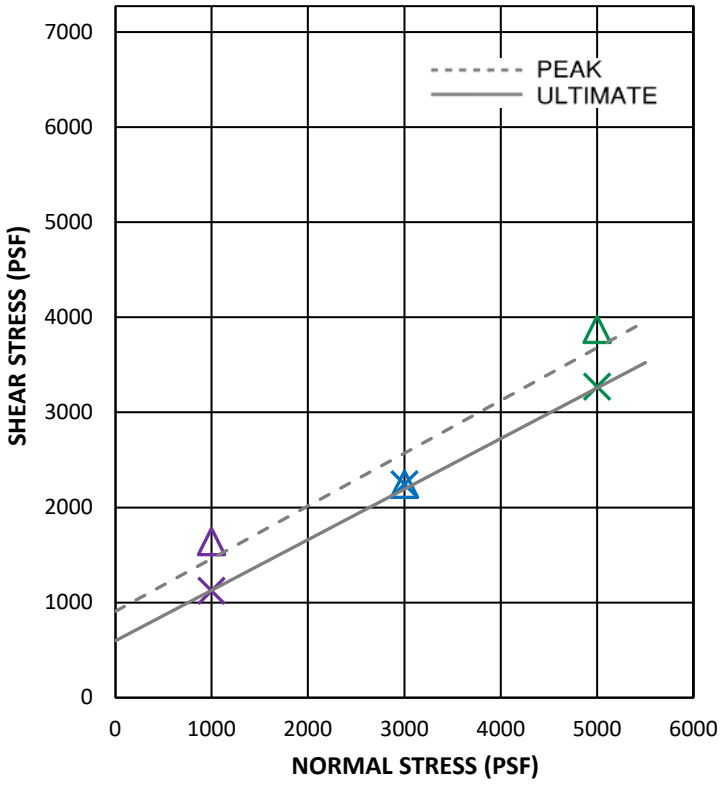
SAMPLE NO.:	**B2-4**	GEOLOGIC UNIT:	**Tsa**
SAMPLE DEPTH (FT):	**18.5**	NATURAL/REMOLDED:	**N**

INITIAL CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
ACTUAL NORMAL STRESS (PSF):	1000	3000	5000	--
WATER CONTENT (%):	27.4	26.7	27.8	27.3
DRY DENSITY (PCF):	94.0	90.0	95.2	93.1

AFTER TEST CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
WATER CONTENT (%):	32.0	34.0	31.1	32.4
PEAK SHEAR STRESS (PSF):	1641	2243	3871	--
ULT.-E.O.T. SHEAR STRESS (PSF):	1125	2243	3270	--

RESULTS		
PEAK	COHESION, C (PSF)	910
	FRICTION ANGLE (DEGREES)	29
ULTIMATE	COHESION, C (PSF)	600
	FRICTION ANGLE (DEGREES)	28





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DIRECT SHEAR - ASTM D 3080

SMILAX-MIMOSA

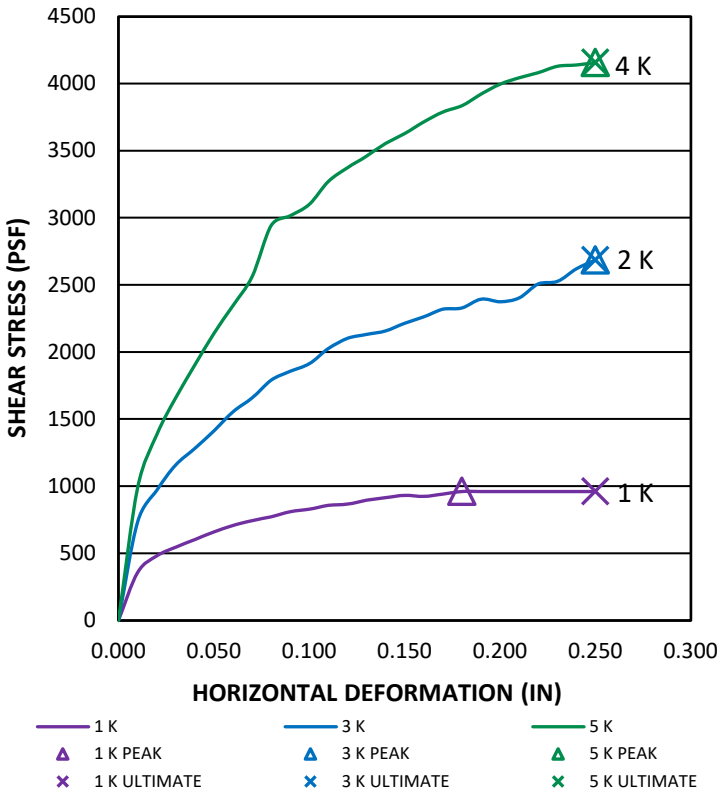
PROJECT NO.: G2689-22-01

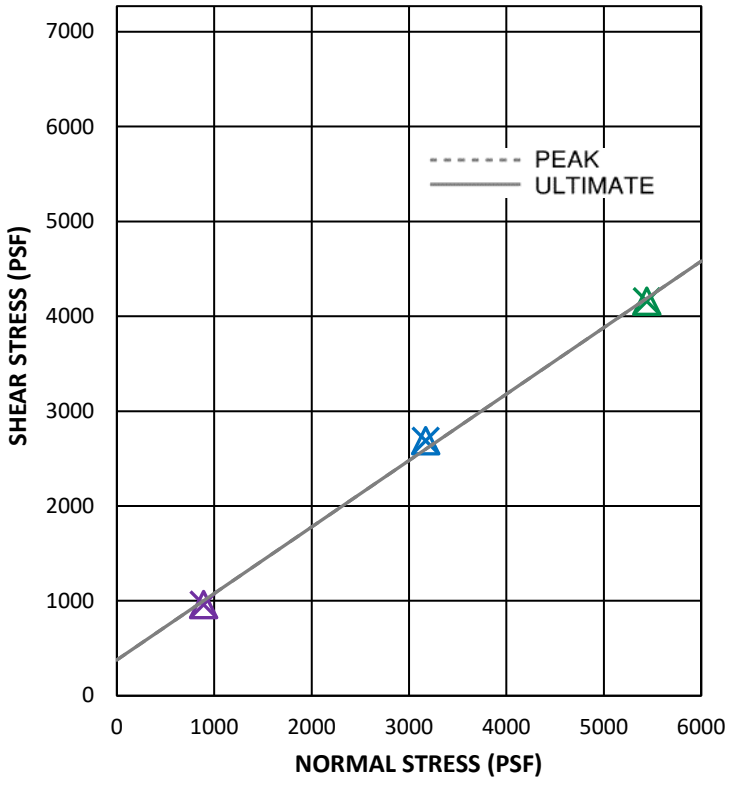
SAMPLE NO.:	**B3-3**	GEOLOGIC UNIT:	**Qaf**
SAMPLE DEPTH (FT):	**10**	NATURAL/REMOLDED:	**N**

INITIAL CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
ACTUAL NORMAL STRESS (PSF):	890	3170		--
WATER CONTENT (%):	9.4	5.9	9.0	8.1
DRY DENSITY (PCF):	121.7	109.6	111.4	114.2

AFTER TEST CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
WATER CONTENT (%):	13.6	16.7	17.6	16.0
PEAK SHEAR STRESS (PSF):	962	2687	4157	--
ULT.-E.O.T. SHEAR STRESS (PSF):	962	2687	4157	--

RESULTS		
PEAK	COHESION, C (PSF)	380
	FRICTION ANGLE (DEGREES)	35
ULTIMATE	COHESION, C (PSF)	380
	FRICTION ANGLE (DEGREES)	35





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DIRECT SHEAR - ASTM D 3080

SMILAX-MIMOZA

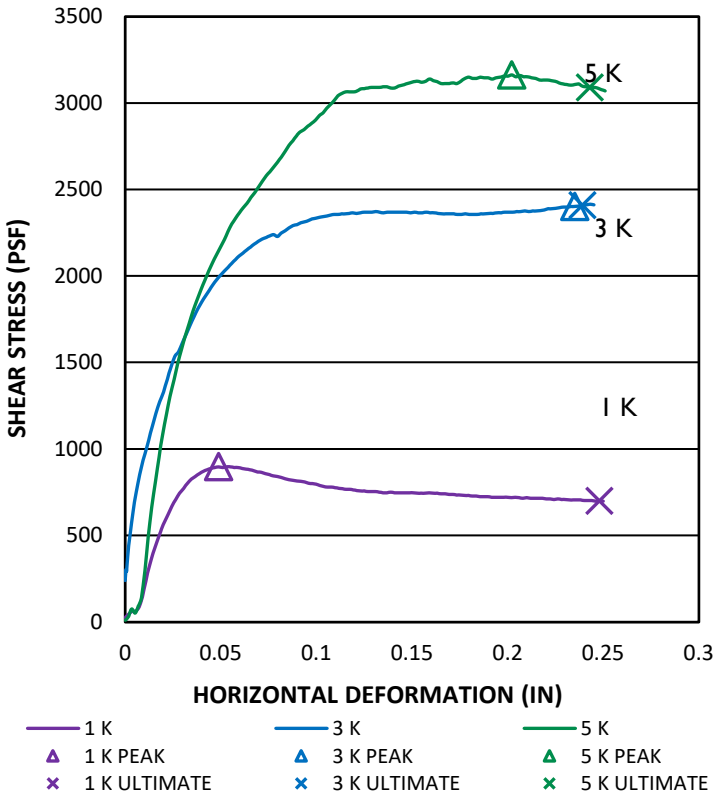
PROJECT NO.: G2689-22-01

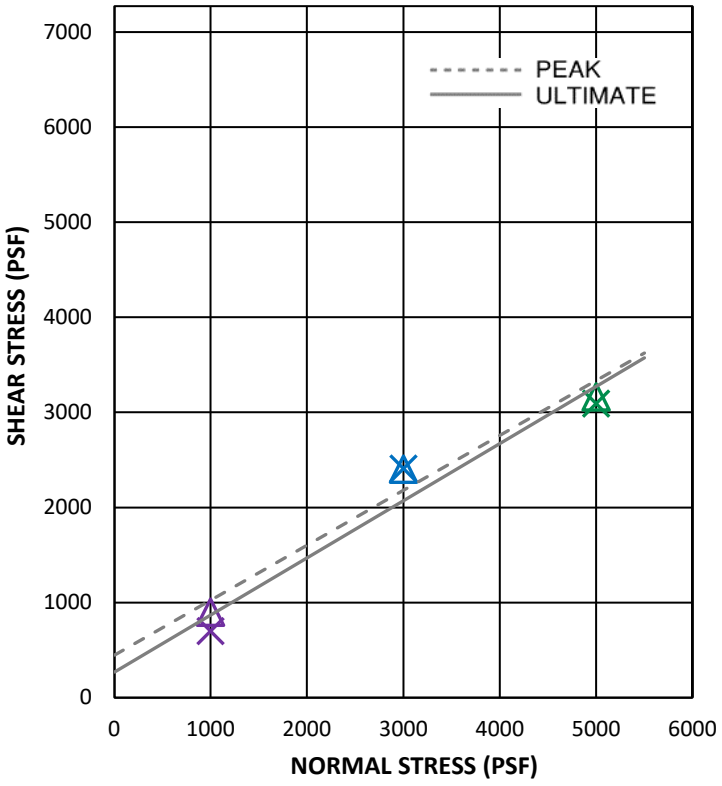
SAMPLE NO.:	**B4-2**	GEOLOGIC UNIT:	**Qaf**
SAMPLE DEPTH (FT):	**10**	NATURAL/REMOLDED:	**N**

INITIAL CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
ACTUAL NORMAL STRESS (PSF):	1000	3000	5000	--
WATER CONTENT (%):	19.2	21.1	18.6	19.6
DRY DENSITY (PCF):	110.1	107.3	110.2	109.2

AFTER TEST CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
WATER CONTENT (%):	21.5	23.7	20.5	21.9
PEAK SHEAR STRESS (PSF):	897	2402	3163	--
ULT.-E.O.T. SHEAR STRESS (PSF):	699	2409	3091	--

RESULTS		
PEAK	COHESION, C (PSF)	450
	FRICTION ANGLE (DEGREES)	30
ULTIMATE	COHESION, C (PSF)	270
	FRICTION ANGLE (DEGREES)	31





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DIRECT SHEAR - ASTM D 3080

SMILAX-MIMOSA

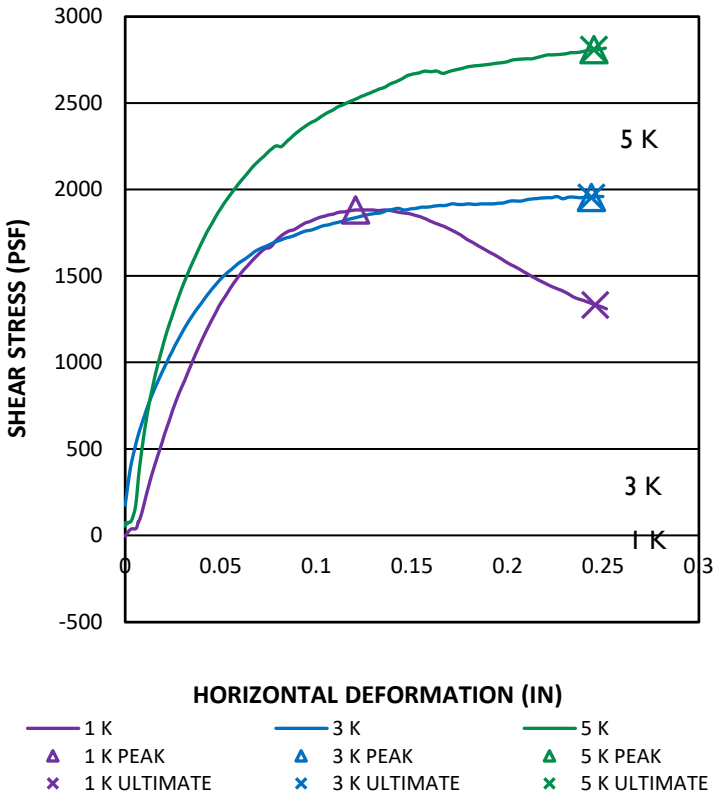
PROJECT NO.: G2689-22-01

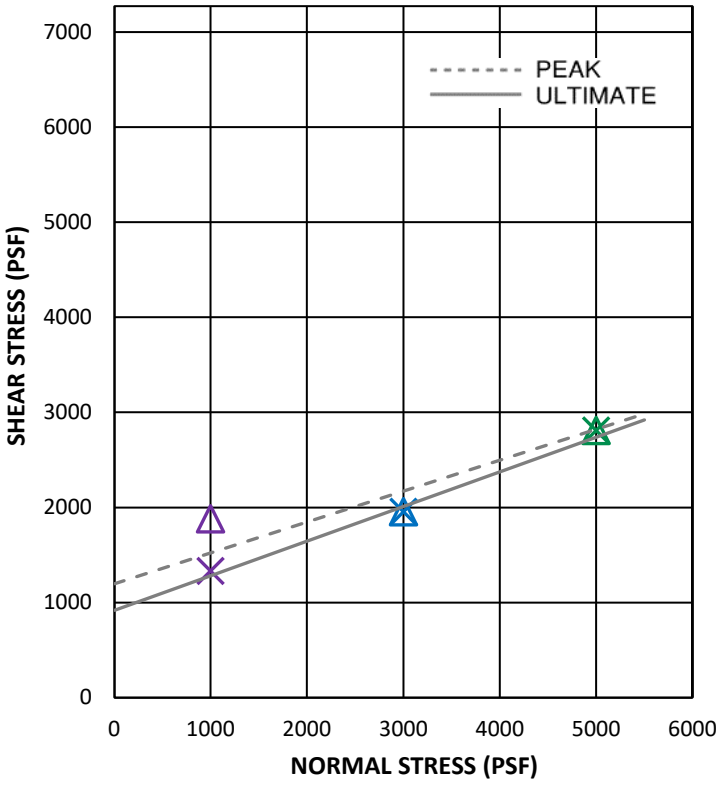
SAMPLE NO.:	**B5-2**	GEOLOGIC UNIT:	**Qaf**
SAMPLE DEPTH (FT):	**5'**	NATURAL/REMOLDED:	**N**

INITIAL CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
ACTUAL NORMAL STRESS (PSF):	1000	3000	5000	--
WATER CONTENT (%):	14.1	14.9	14.0	14.3
DRY DENSITY (PCF):	122.3	118.3	118.1	119.6

AFTER TEST CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**3 K**	**5 K**	**AVERAGE**
WATER CONTENT (%):	16.7	19.3	17.3	17.8
PEAK SHEAR STRESS (PSF):	1882	1954	2808	--
ULT.-E.O.T. SHEAR STRESS (PSF):	1333	1954	2808	--

RESULTS		
PEAK	COHESION, C (PSF)	1200
	FRICTION ANGLE (DEGREES)	18
ULTIMATE	COHESION, C (PSF)	920
	FRICTION ANGLE (DEGREES)	20





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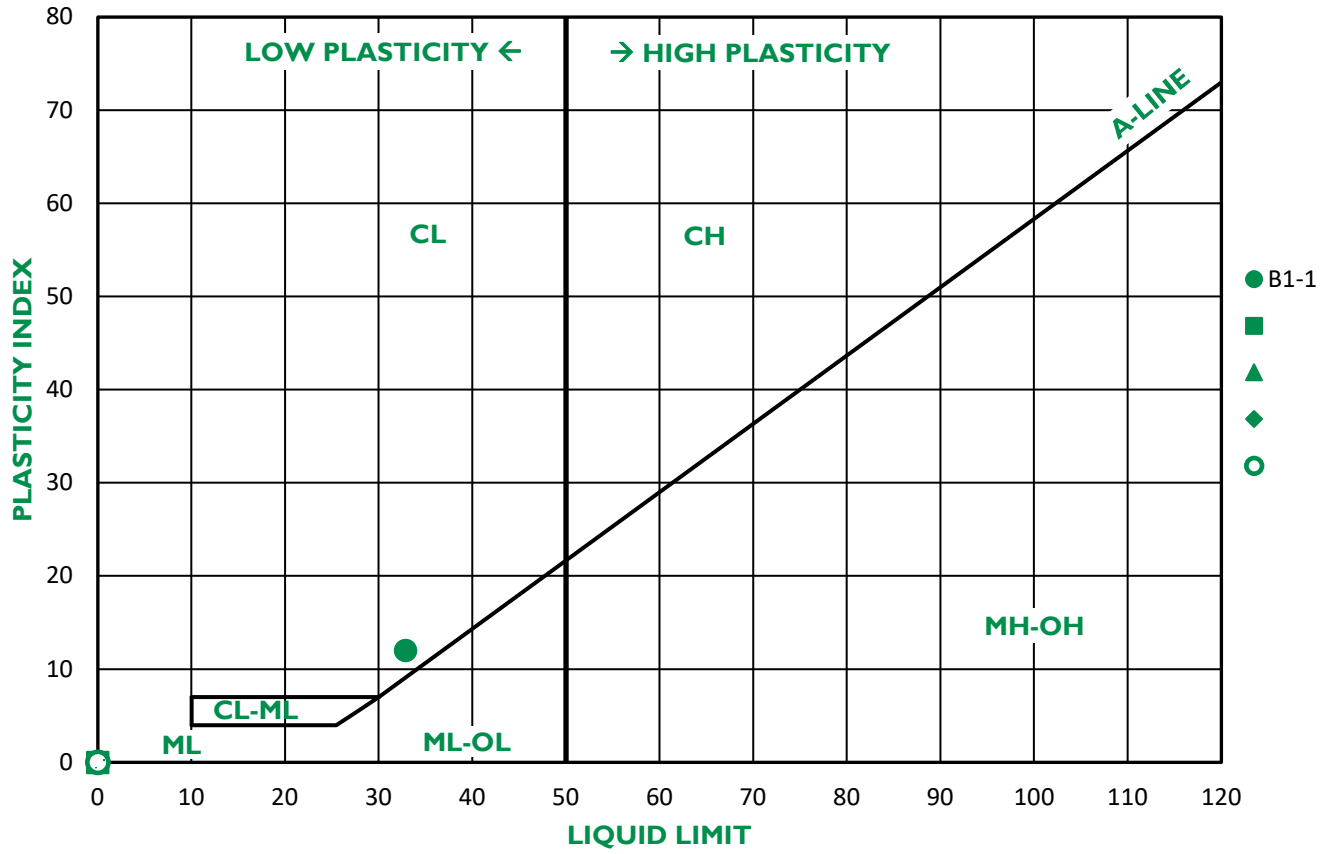
DIRECT SHEAR - ASTM D 3080

SMILAX- MIMOSA SEWER

PROJECT NO.: G2689-22-01

TEST RESULTS					
SAMPLE NO.	GEOLOGIC UNIT	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL TYPE
B1-1	Qaf	33	21	12	CL



SOIL TYPE DESCRIPTION	
CH	High-Plasticity Clay
CL	Low-Plasticity Clay
ML	Low-Plasticity Silt
CL-ML	Low-Plasticity Clay to Low-Plasticity Silt
MH-OH	High-Plasticity Silt to High-Plasticity, Organic Silt
ML-OL	Low-Plasticity Silt to Low-Plasticity, Organic Silt

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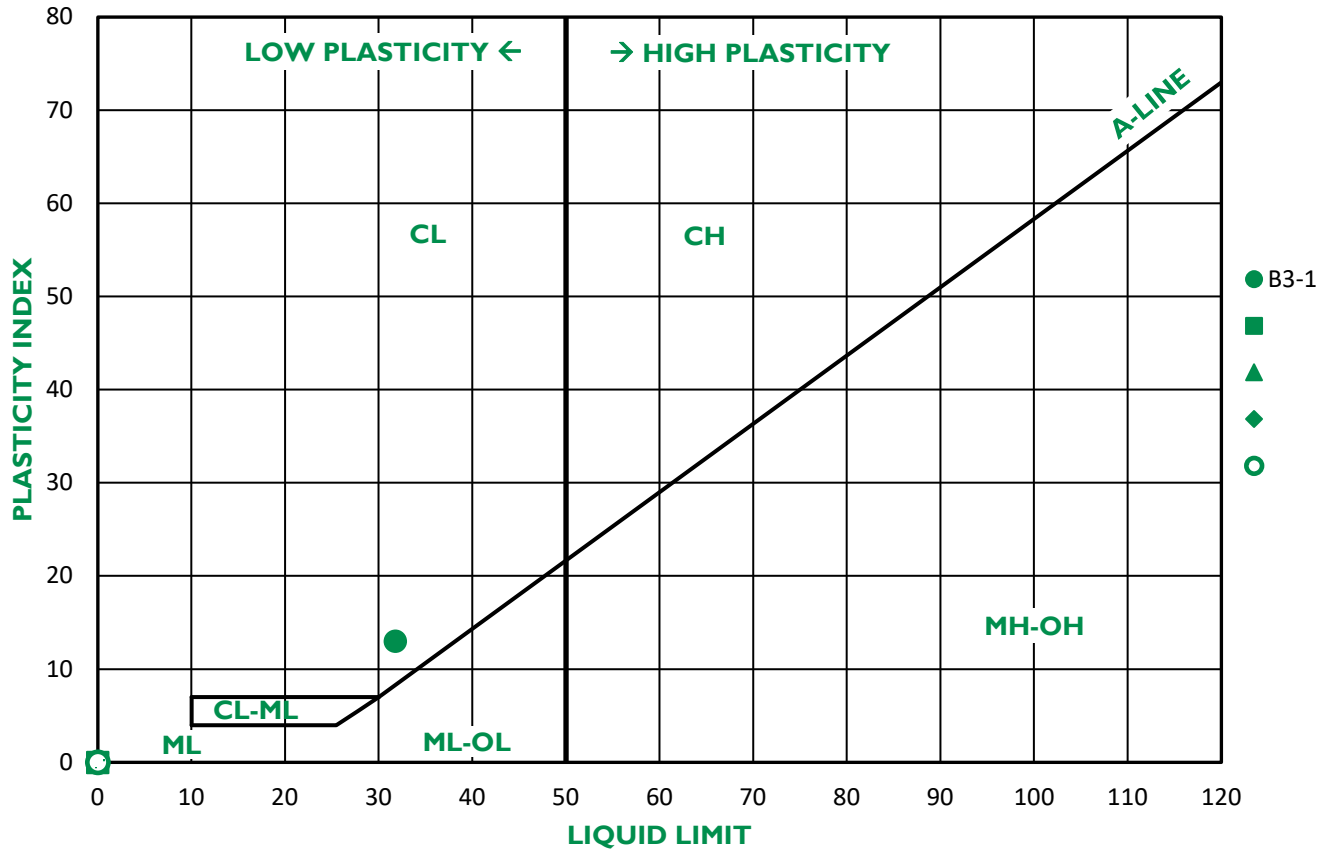
PLASTICITY INDEX - ASTM D 4318

SMILAX

PROJECT NO.: G2689-22-01

TEST RESULTS					
SAMPLE NO.	GEOLOGIC UNIT	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL TYPE
B3-1	Qaf	32	19	13	CL



SOIL TYPE DESCRIPTION	
CH	High-Plasticity Clay
CL	Low-Plasticity Clay
ML	Low-Plasticity Silt
CL-ML	Low-Plasticity Clay to Low-Plasticity Silt
MH-OH	High-Plasticity Silt to High-Plasticity, Organic Silt
ML-OL	Low-Plasticity Silt to Low-Plasticity, Organic Silt

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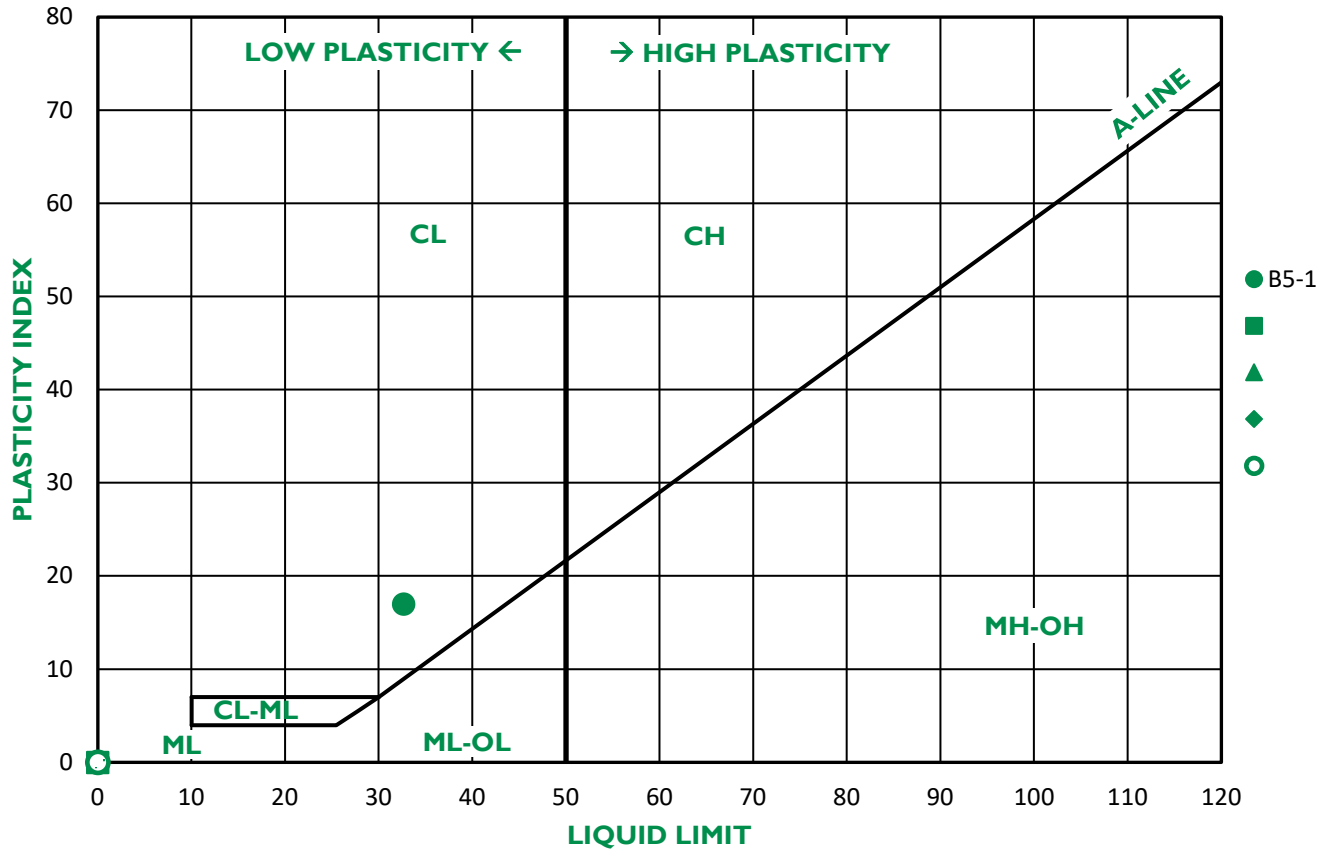
PLASTICITY INDEX - ASTM D 4318

SMILAX

PROJECT NO.: G2689-22-01

TEST RESULTS					
SAMPLE NO.	GEOLOGIC UNIT	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL TYPE
B5-1	Qaf	33	16	17	CL



SOIL TYPE DESCRIPTION	
CH	High-Plasticity Clay
CL	Low-Plasticity Clay
ML	Low-Plasticity Silt
CL-ML	Low-Plasticity Clay to Low-Plasticity Silt
MH-OH	High-Plasticity Silt to High-Plasticity, Organic Silt
ML-OL	Low-Plasticity Silt to Low-Plasticity, Organic Silt

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PLASTICITY INDEX - ASTM D 4318

SMILAX

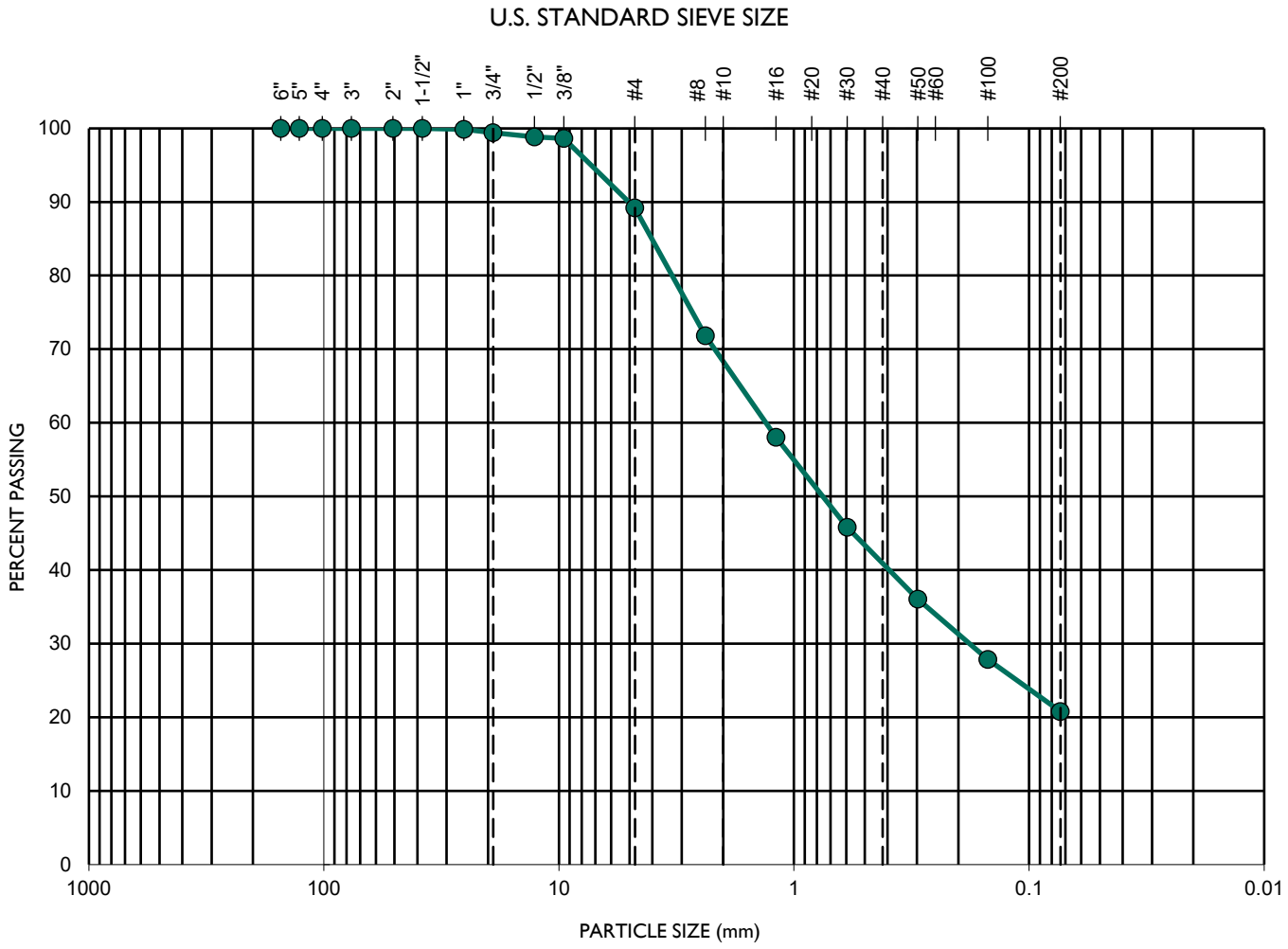
PROJECT NO.: G2689-22-01

SAMPLE NO.: **B1-1**

SAMPLE DEPTH (FT.): **1 to 5**

GEOLOGIC UNIT: **Qaf**

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



TEST DATA					
D_{10} (mm)	D_{30} (mm)	D_{60} (mm)	C_c	C_u	SOIL DESCRIPTION
0.035	0.188	1.360	0.7	38.4	SC - Clayey SAND

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SIEVE ANALYSES - ASTM D 135

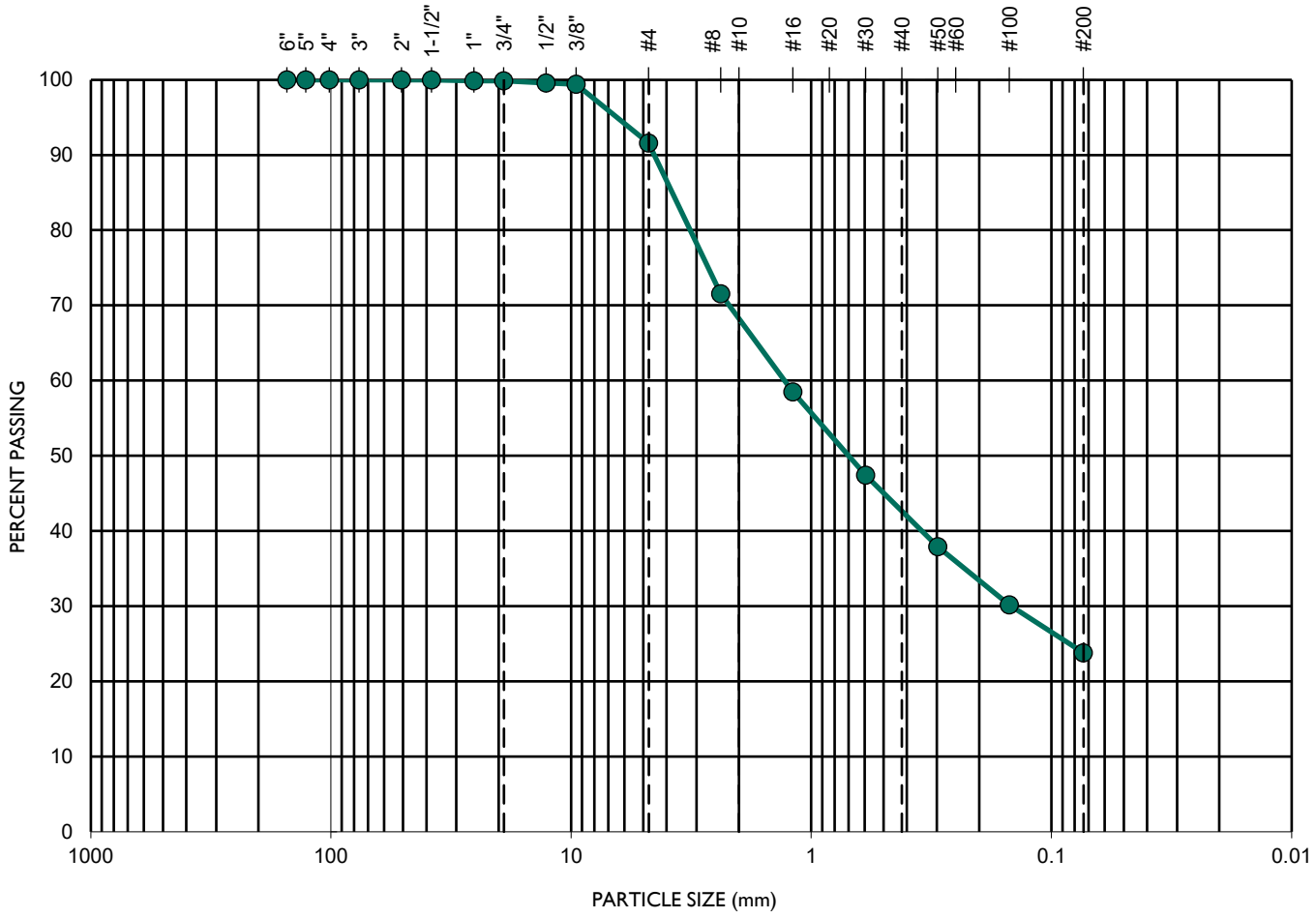
SMILAX-MIMOSA

PROJECT NO.: G2689-22-01

SAMPLE NO.: **B3-1** GEOLOGIC UNIT: **Qaf**

SAMPLE DEPTH (FT.): **1 to 5**

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



TEST DATA					
D_{10} (mm)	D_{30} (mm)	D_{60} (mm)	C_c	C_u	SOIL DESCRIPTION
0.031	0.148	1.330	0.5	42.9	SC - Clayey SAND

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SIEVE ANALYSES - ASTM D 135

SMILAX-MIMOSA

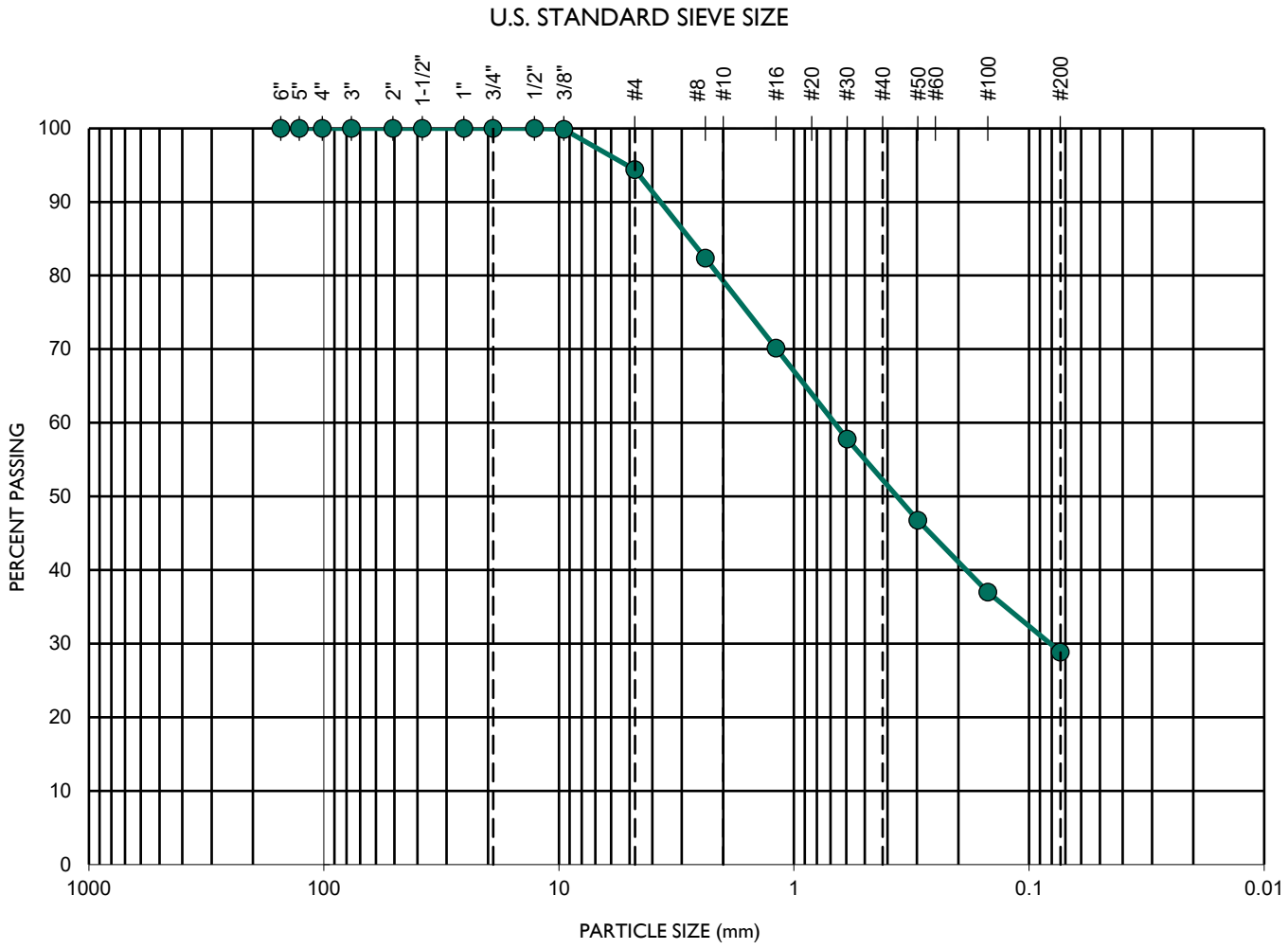
PROJECT NO.: G2689-22-01

SAMPLE NO.: **B5-1**

SAMPLE DEPTH (FT.): **1 to 5**

GEOLOGIC UNIT: **Qaf**

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



TEST DATA					
D_{10} (mm)	D_{30} (mm)	D_{60} (mm)	C_c	C_u	SOIL DESCRIPTION
0.026	0.084	0.701	0.4	27.4	SC - Clayey SAND

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SIEVE ANALYSES - ASTM D 135

SMILAX-MIMOSA

PROJECT NO.: G2689-22-01

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6. Jennings, C. W., 1994, California Division of Mines and Geology, *Fault Activity Map of California and Adjacent Areas*, California Geologic Data Map Series Map No. 6.

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