Initial Study/Mitigated Negative Declaration

for the

Soledad Recycled Water Conveyance Project

Prepared for:

City of Soledad

Prepared by:

Denise Duffy & Associates, Inc.

January 2025

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Appendices

Project Summary

1. **Project Title**: Soledad Recycled Water Conveyance Project ("Proposed Project")

2. **Lead Agency:** City of Soledad

3. **Contact:** Don Wilcox, Public Works Director/City Engineer
   248 Main Street, Soledad, CA 93960
   (831) 223-5124
   dwilcox@cityofsoledad.gov

4. **Prepared By:** Denise Duffy and Associates, Inc ("DD&A")

5. **Date Prepared:** January 2025

6. **Project Location:** City of Soledad, Monterey County, California

7. **Name of Property Owner/Project Proponent:** City of Soledad

8. **Project Location:** City of Soledad, in Monterey County, California

9. **Assessor's Parcel Number(s):** 257-082-018, 257-082-020, 257-082-010, 257-082-011, 257-082-012, 257-082-013, and City Rights-of-Way

10. **Project Area of Disturbance:** Three and a half (3.5) acres

11. **Project Description:** Installation and operation of Title 22 recycled water conveyance infrastructure from the City's existing WRF to up to 20 parks and schools throughout the City.

12. **General Plan Designation:** Public/Institutional, Agricultural, Recreational

13. **Zoning District:** PF – Public Facility

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Chapter 1. Introduction and Project Description

1.1 INTRODUCTION

This Initial Study has been prepared to evaluate the potential environmental effects associated with the City of Soledad ("City") Recycled Water Conveyance Project ("Project" or "Proposed Project"), located in the City of Soledad in Monterey County, California. This document has been prepared in accordance with the California Environmental Quality Act ("CEQA"), Public Resources Code §21000 et. seq., and the State CEQA Guidelines, California Code of Regulations ("CCR") §15000 et. seq.

An Initial Study is an informational document prepared by a Lead Agency to determine if a project may have a significant effect on the environment (CEQA Guidelines §15063, subd. (a)). If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report ("EIR") must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the Lead Agency determines that revisions in the project plans or proposals made by or agreed to by the applicant to mitigate the potentially significant effects to a less than significant level, a Mitigated Negative Declaration ("IS/MND") may be prepared instead of an EIR (CEQA Guidelines §15070, subd. (b)). Per CEQA Guidelines for an IS/MND, a Lead Agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements under CEQA Guidelines §15071.

The City is acting as the Lead Agency pursuant to CEQA Guidelines §15050(a). As the Lead Agency, the City has prepared this IS/MND pursuant to CEQA Guidelines §15063, §15070, and §15152 as the project does have some significant impacts on the environment that can be mitigated to less than significant with identified measures. This IS/MND will be circulated for agency and public review during a 30-day public review period pursuant to CEQA Guidelines §15073. Comments received by the City on this IS/MND will be reviewed and considered as part of the deliberative process in accordance with CEQA Guidelines §15074.

Publication of this IS/MND marks the beginning of a 30-day public review and comment period. During this period, the IS/MND will be available to local, state, and federal agencies and to interested organizations and individuals for review. Written comments concerning the environmental review contained in this IS/MND during the 30-day public review period should be sent to:

Don Wilcox, Director of Public Works
248 Main Street, Soledad, CA 93960
(831) 223-5124
dwilcox@cityofsoledad.gov

This IS/MND and all documents referenced in it are available for public review at the City's Public Works Department at the above address. Following the conclusion of the public review period, the City will consider the adoption of the IS/MND for the Proposed Project at a regularly scheduled public hearing. The City shall consider the IS/MND together with any comments received during the public review process. Upon adoption of the IS/MND, the City may proceed with approval actions for the Proposed Project. If the City approves the Project, the City will file a Notice of Determination ("NOD"), which will be available for public inspection and posted in 24 hours of receipt at the County Clerk's Office for 30

days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA (CEQA Guidelines Section 15075(g)).

The City prepared the following section consistent with the requirements of CEQA Guidelines Section 15124 to the extent that it applies to the Proposed Project. Additionally, the information contained in this section has also been prepared to satisfy the applicable CEQA Plus requirements. The following section provides a discussion of key background details related to the Proposed Project, including project components, site and area characteristics, and applicable regulatory requirements.

1.2 BACKGROUND

The City retained Carollo Engineers, Inc. ("Carollo") to develop preliminary and final design documents for the Recycled Water Conveyance Project. The Project is being funded by the Department of Water Resources ("DWR") under the Urban Community Drought Relief ("UCDR") Grant and is subjected to the terms and conditions set forth in the Grant Agreement between the State of California DWR and the City (Agreement No. 4600015016, UCDR Grant). A Basis of Design Report ("BODR") prepared by Carollo (May 2024) described existing site conditions, existing and proposed system components, design criteria, and included technical and engineering decisions to be used for the preparation of the final design documents for the Project (**Appendix A**). The Proposed Project is intended to provide Title 22 recycled water from the City's Water Reclamation Facility ("WRF") to 20 schools and parks throughout the City and is part of a larger multi-phase City water conveyance project, consisting of the following phases:

- Phase 1 (completed in 2010): Design and construction of a new 5.5 million gallons per day ("MGD") water reclamation facility and approximately 10,200 linear feet ("LF") of 8-inch diameter recycled water transmission pipeline.

- Phase 2 (completed in 2018): Design and construction of approximately 3,800 LF of 12-inch diameter recycled water transmission pipeline to connect all the existing Phase 1 8-inch pipeline.

- Phase 3 (Project): Design and construction of a city-wide distribution system to irrigated landscaped areas within twenty City's parks and schools. Details of the required facilities are provided below in **Section 1.5, Proposed Project**.

- Phase 4 (Future): New transmission pipeline to provide recycled water to the California Department of Corrections and Rehabilitation ("CDCR") facilities within an Incorporated City "Island" three (3) miles north of the City.

Figure 1 shows the regional location of the Project and **Figure 2** shows an aerial view of the project area. The existing facilities are shown in **Figure 3**. The pipeline constructed during Phases 1 and 2 is referred to as the transmission pipeline. Phases 1 and 2 were previously completed. The pipelines and associated improvements to be constructed within the City during Phase 3 are referred to as the distribution system. Phase 3 comprises the Proposed Project as analyzed in this CEQA document. Phase 4 is not included as part of the Proposed Project analyzed within this document and would require future CEQA analysis if implemented.

Title: **Regional Map**

Date 8/13/2024
Scale N/A
Project 2024.26

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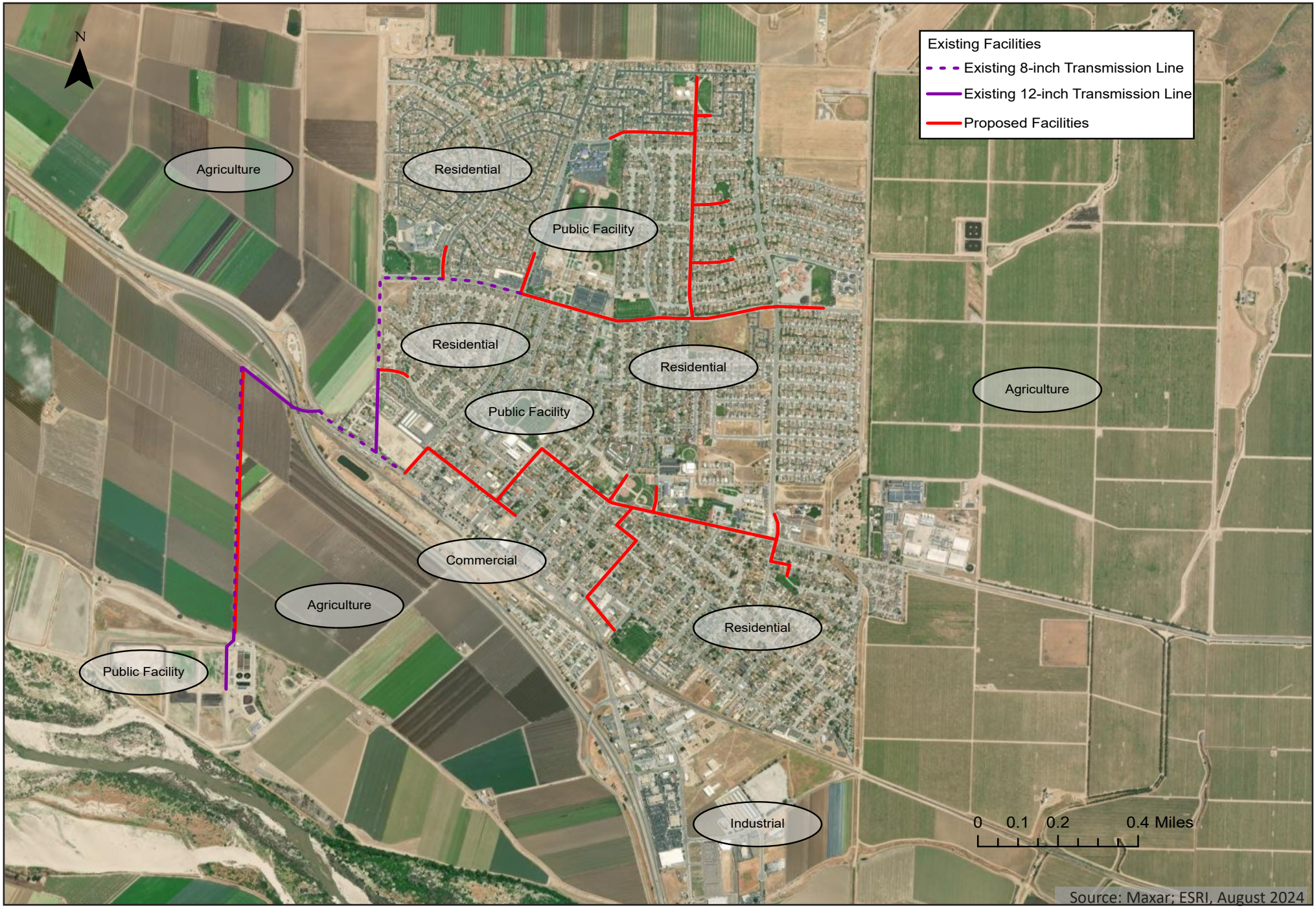
Figure 1



Title:

Vicinity Map

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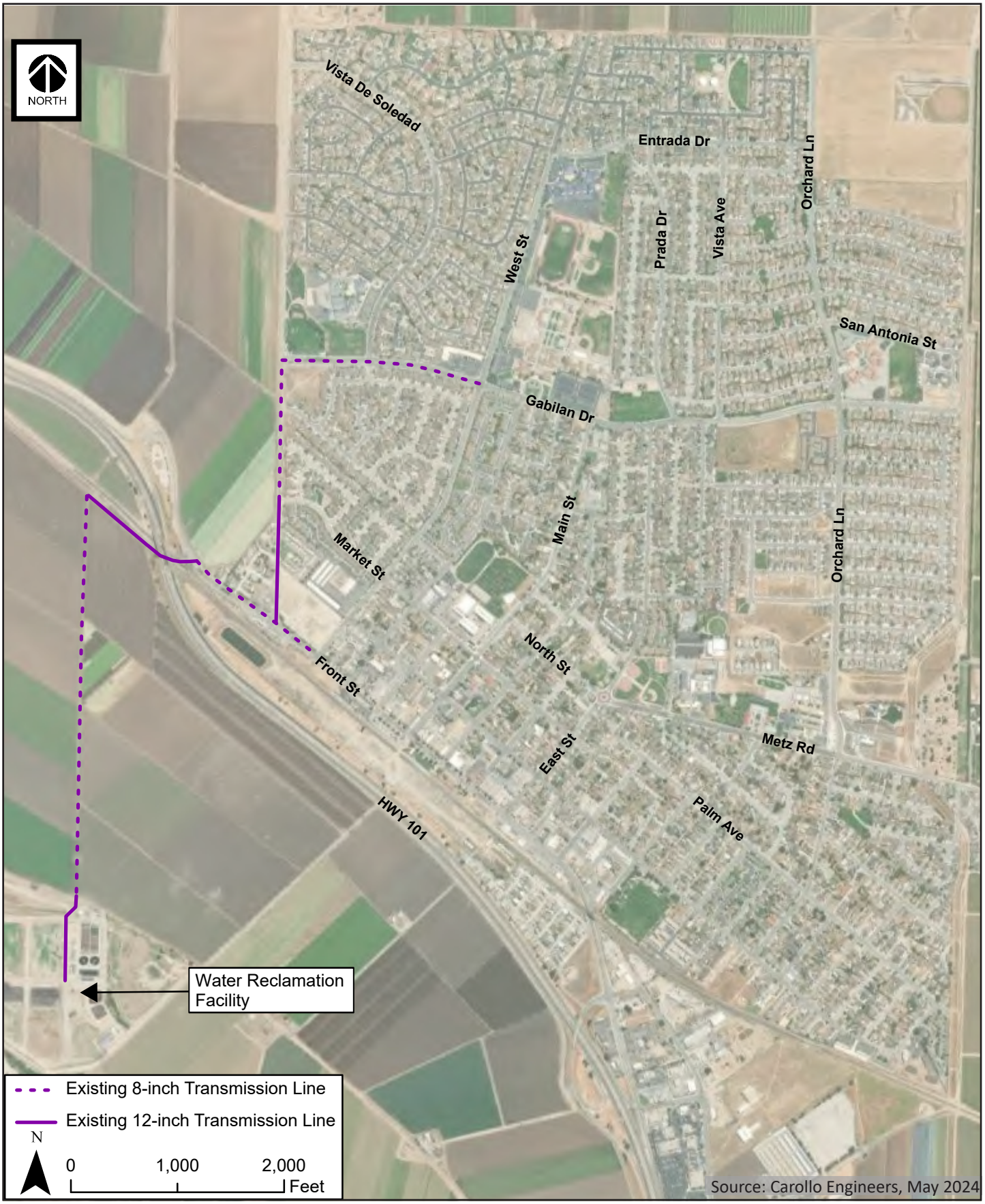
Figure 2



Title: # Existing Facilities

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Figure 3

The WRF is owned and operated by the City and treats wastewater from the City and CDCR facilities. It produces disinfected, tertiary treated effluent that meets Title 22, Division 4, Chapter 3, California Code of Regulations ("CCR") for recycled water. It is operating around 2.45 MGD average daily flow and the effluent is currently being discharged to rapid infiltration basins adjacent to the WRF for aquifer recharge. The current discharge permit limits recharge to 4.3 MGD with the remaining 1.2 MGD of peak flow capacity designated for non-potable reuse.

1.3 PROJECT LOCATION

The Proposed Project is located primarily within the City of Soledad in Monterey County, as shown in **Figure 1**, and is subject to the requirements in the City's 2005 General Plan. The City is in the process of updating the General Plan, anticipated for adoption in 2025, but the current Project would comply with the adopted 2005 General Plan that is currently in effect. The Project would provide recycled water from the City's WRF, located at 34520 Morisoli Road (Assessor's Parcel Numbers ["APNs"] 257-082-018, 257-082-020, and 257-082-021) to schools and parks throughout the City. Most proposed facilities are located within the City's WRF property and in City rights of way ("ROW") and would not require additional property. The City has a 20-foot-wide easement for the existing transmission main running from the WRF to Front Street, which is located within farmland. This portion of the Proposed Project is located within unincorporated Monterey County and is subject to the requirements contained in the County's 2010 General Plan. The existing easement would be reviewed during final design to determine if additional permanent and temporary easements are required. Regional access to the Project area is provided from U.S. 101 ("Highway 101") and State Route 146 ("SR 146"). Local access to the Project area is provided by roadways throughout the City. Access to the WRF is provided via Morisoli Road to a one-half mile driveway connecting Morisoli Road to the WRF main gate. **Figures 4a** through **4e** shows site photos of the Project area.

1.4 SURROUNDING LAND USES AND SETTING

The Project site is surrounded by residential, commercial, public facilities (i.e., parks and schools), and agricultural land uses. Residential uses surrounding the Project primarily consist of single-family residences and multi-family residences. Commercial use surrounding the Proposed Project primarily comprises retail businesses and a segment of general commercial area along Front Street and Highway 101. **Figure 5** shows the land uses within the Project area.

1.5 PROPOSED PROJECT

The Proposed Project consists of installing and operating infrastructure necessary to convey Title 22 recycled water from the City's WRF to up to 20 parks and schools throughout the City. The Project includes the construction of a booster pump facility, distribution piping system, and appurtenances, new or converted irrigation systems, and cross-connection prevention assemblies, as well as construction management, environmental work, planning, and design. The expansion would replace a minimum of 165 acre-feet (54 million gallons) per year of groundwater pumping with recycled water to offset the use of potable water to irrigate sports fields and reduce groundwater use.

Photo #1: West facing view of Aurelio N. Ramirez Park from Munras Street (Source: Google, 2024).

Photo #2: Northeast facing view of Bill Ramus Park from Monterey Street (Source: Google, 2024).

Photo #3: North facing view of Blas Santana Park from Gabilan Drive (Source: Google, 2024).

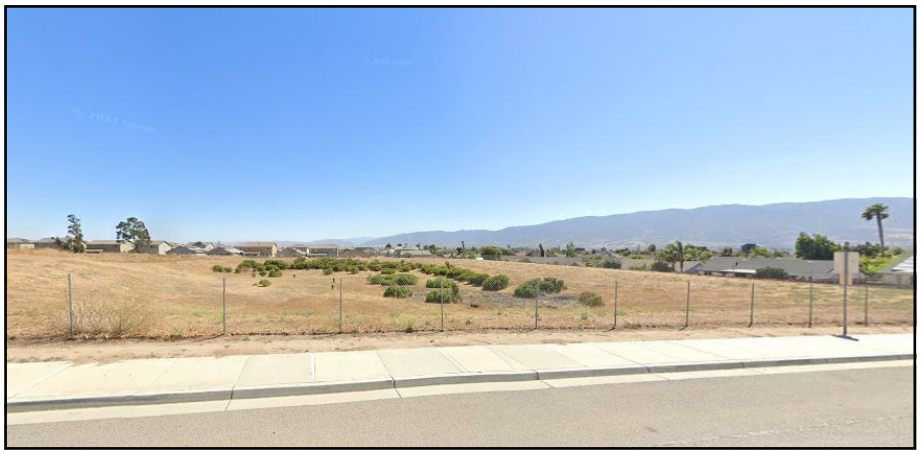

Photo #4: North facing view of Toledo Park from Gabilan Drive (Source: Google, 2024).

Title:

Site Photos

Date 8/19/2024

Scale N/A

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Figure
4a

Photo #1: North facing view of Jesse Gallardo Park from Metz Road/ State Route 146 (Source: Google, 2024).

Photo #2: Northwest facing view of Joe Ledesma Park from Market Street (Source: Google, 2024).

Photo #3: Northwest facing view of Little League Park from Andalucia Drive (Source: Google, 2024).

Photo #4: Southeast facing view of Lum Park from Terraza Street (Source: Google, 2024).

Title:

Site Photos

Date 8/19/2024

Scale N/A

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Figure
4b

Photo #1: East facing view of Orchard Lane Park from Orchard Lane (Source: Google, 2024).

Photo #2: North facing view of Peverini Park from Vida Street (Source: Google, 2024).

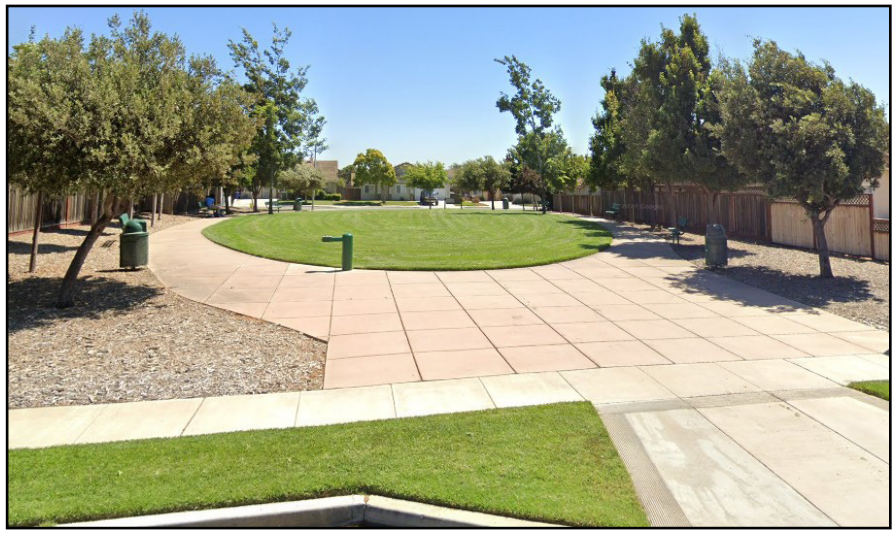

Photo #3: South facing view of San Antonio Park from La Colina Street (Source: Google, 2024).

Photo #4: Northwest facing view of Santa Barbara Park from Santa Barbara Road (Source: Google, 2024).

Title:

Site Photos

Date	8/19/2024
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Figure
4c

Photo #1: North facing view of Veterans Park from Gabilan Drive (Source: Google, 2024).

Photo #2: West facing view of Vosti Park from Monterey Street (Source: Google, 2024).

Photo #3: West facing view of Frank Ledesma Elementary School from Vista De Soledad (Source: Google, 2024)

Photo #4: North facing view of Gabilan Elementary School from Metz Road/State Route 146 (Source: Google, 2024).

Title:

Site Photos

Date	8/19/2024
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Project	2024.26

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Figure
4d

Photo #1: Southwest facing view of Jack Franscioni Elementary School from San Antonio Street (Source: Google, 2024).

Photo #2: Southeast facing view of Rose Ferrero Elementary School from Entrada Drive (Source: Google, 2024).

Photo #3: East facing view of Soledad High School from West Street (Source: Google, 2024).

Photo #4: West facing view of Soledad Middle School from Main Street (Source: Google, 2024).

Title:

Site Photos

Date	8/19/2024
Scale	N/A
Project	2024.26

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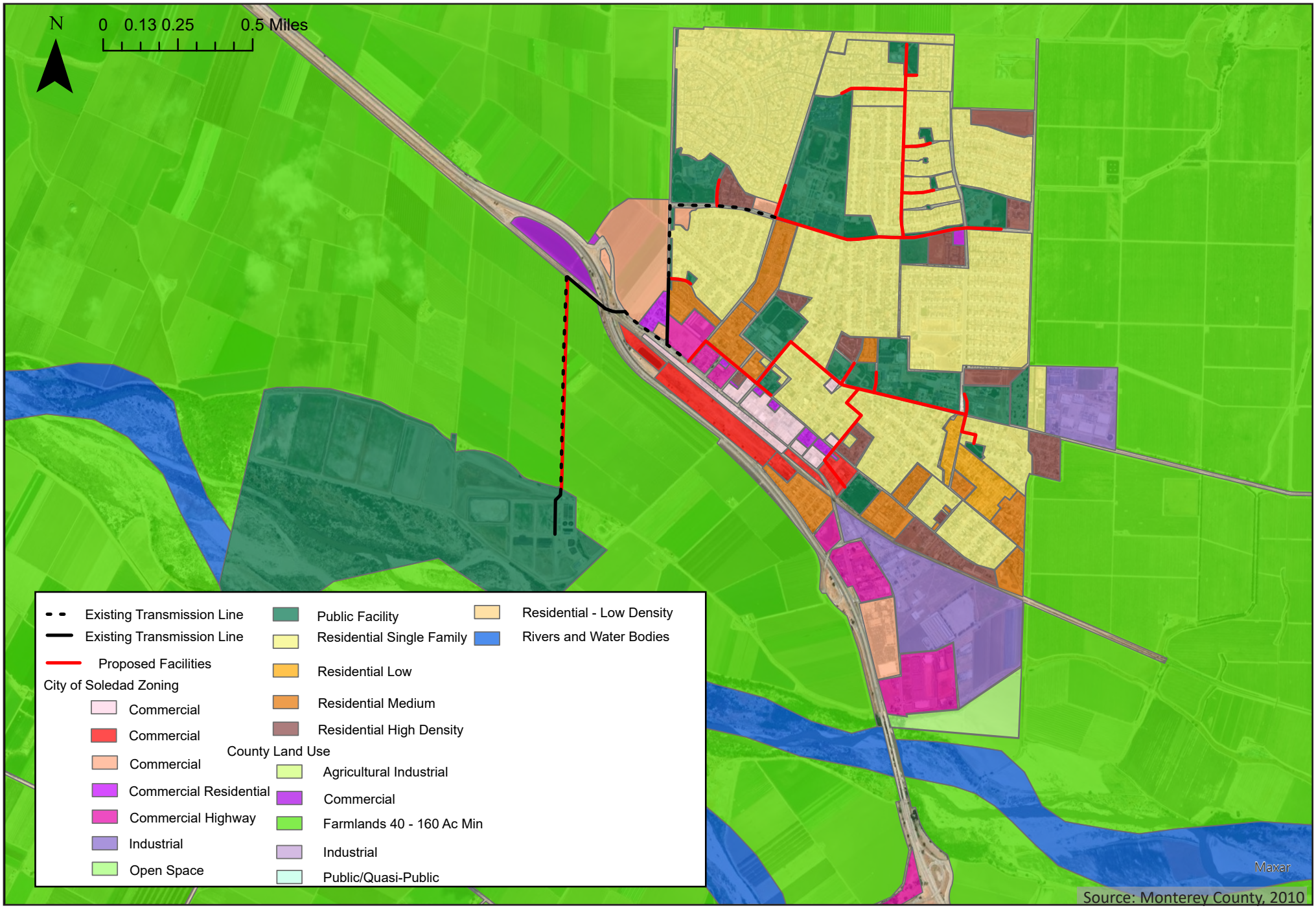
Figure
4e



Title:

Land Use Map

Date	8/13/2024
Scale	N/A
Project	2024.26

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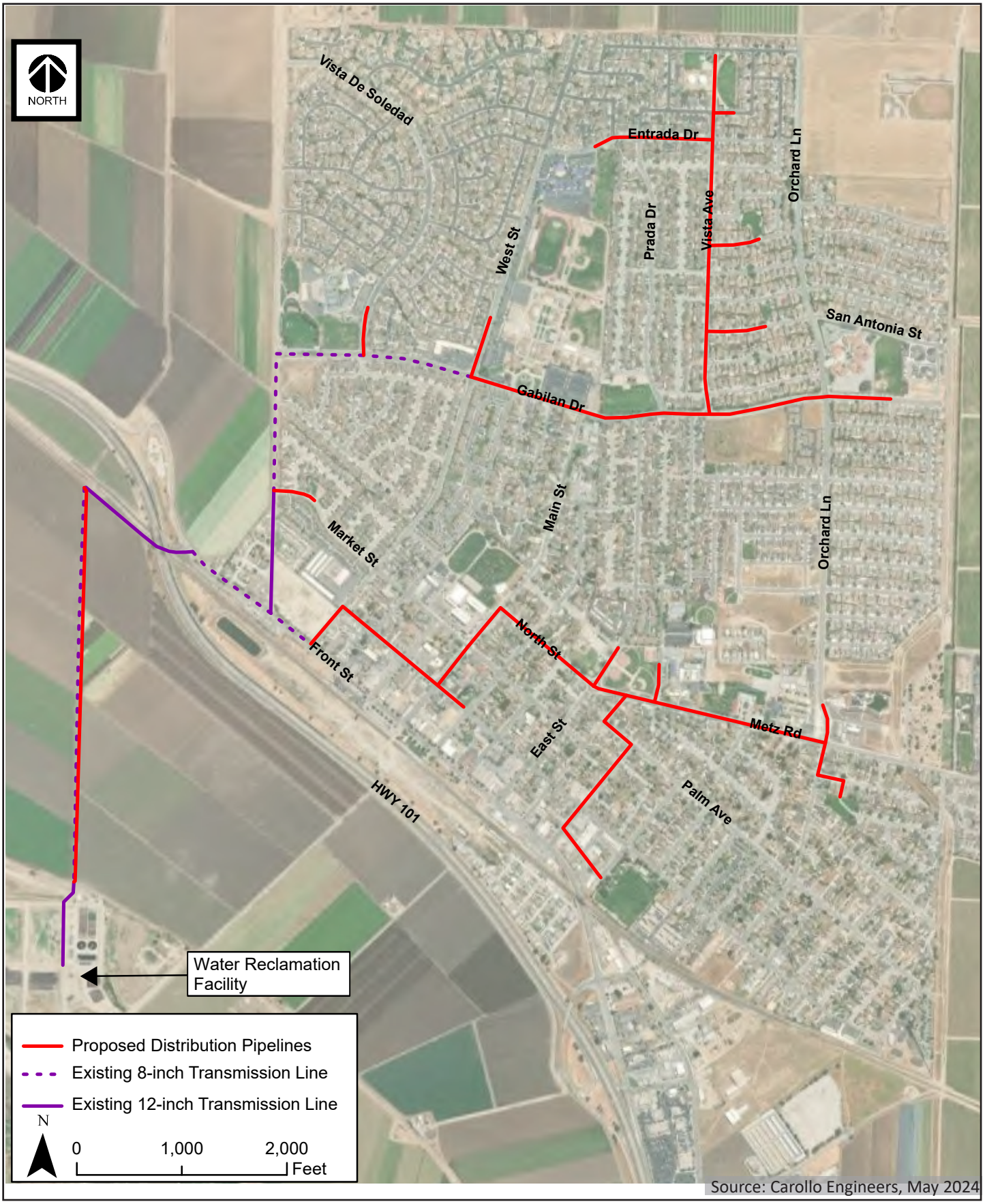
Figure
5

The Project would provide recycled water to the following parks and schools in the City, which are currently irrigated with potable water and/or non-potable well water:

- Lum Memorial Park
- Peverini Park
- Santa Barbara Park
- San Antonio Park
- Jack Franscioni Elementary
- Toledo Park (under development)
- Blas Santana Park
- Soledad High School
- Rose Ferrero Elementary
- Frank Ledesma Elementary
- Veterans Park
- Joe O. Ledesma Park
- Main Street Middle School
- Albert Bill Ramus Park
- Little League Park
- Jesse Gallardo Park
- San Vicente/Gabilan Elementary (one service connection)
- Orchard Lane Park
- Aurelio N. Ramirez Park
- Vosti Park

Additional work on some of these park and school sites, consisting of Installing irrigation meters, disconnecting the potable water system from the irrigation system, installing irrigation piping, and replacing sprinkler heads with Title 22 compliant purple colored recycled water sprinkler heads would be required to connect the existing sites' water systems to the recycled water distribution system. Key components of the Proposed Project are described in further detail below and are shown in **Figure 6**. **Figures 7a** and **7b** show the overall site plan for the Proposed Project and **Figure 8** shows the Project Service Location.

- Recycled water pump station at the City's WRF.
- Approximately 3,800 feet of a 12-inch diameter recycled water transmission pipeline from the WRF to Front Street. The pipeline diameter may be upsized to approximately 16 inches in diameter during final design.
- Approximately 22,700 feet of recycled water distribution pipelines ranging from 4 to 8 inches in diameter.
- Conversion or replacement of existing on-site irrigation systems to meet recycled water standards.



Source: Carollo Engineers, May 2024

Title: Proposed Project Components

Date 8/13/2024
Scale N/A
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Figure 6

ALIGNMENT A

PLAN

FILE: FILE

0 150' 300' 600'

SCALE: 1" = 300'

Source: Carollo Engineers, June 2024

Title:

Site Plan - South

Date 8/13/2024

Scale N/A

Project 2024.26

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Figure

7a

ALIGNMENT B

PLAN

FILE: FILE

Source: Carollo Engineers, June 2024

Title:

Site Plan - North

Date 8/13/2024

Scale N/A

Project 2024.26

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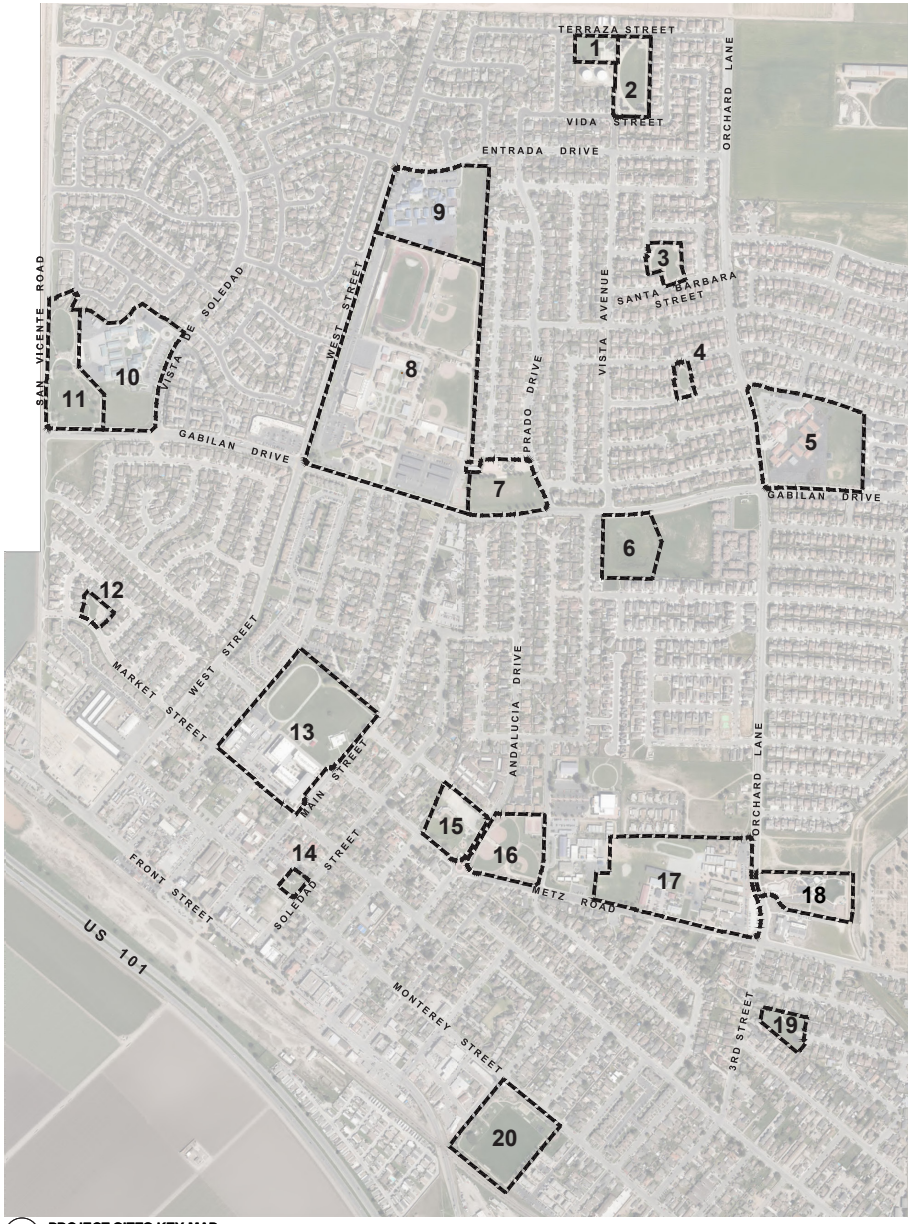
Figure 7b



1 **PROJECT SITES KEY MAP**
1:500

KEY MAP SITE LIST

SITE	SITE NAME	TYPE	SHEET NUMBER
1	LUM MEMORIAL PARK	PARK	L1.0 / L1.1
2	PEVERINI PARK	PARK	L2.0 / L2.1
3	SANTA BARBARA PARK	PARK	L3.0 / L3.1
4	SAN ANTONIO PARK	PARK	L4.0 / L4.1
5	JACK FRANSCIONI ELEMENTARY	SCHOOL	L5.0 / L5.1 - L5.4
6	TOLEDO PARK	PARK	L6.0 / L6.1
7	BLAS SANTANA PARK	PARK	L7.0 / L7.1 - L7.2
8	SOLEDAD HIGH SCHOOL	SCHOOL	L8.0 / L8.1 - L8.8
9	ROSE FERRERO ELEMENTARY	SCHOOL	L9.0 / L9.1 - L9.4
10	FRANK LEDESMA ELEMENTARY	SCHOOL	L10.1 / L10.1 - L10.3
11	VETERANS PARK	PARK	L11.0 / L11.1
12	JOE O. LEDESMA PARK	PARK	L12.0 / L12.1
13	MAIN STREET MIDDLE SCHOOL	SCHOOL	L13.0 / L13.1 - L13.4
14	ALBERT BILL RAMUS PARK	PARK	L14.0 / L14.1
15	CHESTER AAROE PARK (LITTLE LEAGUE)	PARK	L15.0 / L15.1
16	JESSE GALLARDO PARK	PARK	L16.0 / L16.1 - L16.2
17	SAN VICENTE ELEMENTARY	SCHOOL	L17.0 / L17.1 - 17.4
18	ORCHARD LANE PARK	PARK	L18.0 / L18.1
19	AURELIO N. RAMIREZ PARK	PARK	L19.0 / L19.1
20	VOSTI PARK	PARK	L20.0 / L20.1

Source: Carollo Engineers, June 2024

Title:

Project Service Locations

Date 8/13/2024
Scale N/A
Project 2024.26

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Figure
8

Recycled Water Pump Station

The pump station would be located at the City's WRF, as shown in **Figure 6**. The pump station would draw recycled water from existing WRF facilities to supply the recycled water to the City's parks and schools. The new pump station is proposed at the southeast corner of the sludge drying pond area west of the flocculation tanks. The pump station includes a below-ground wet well structure with vertical turbine pumps. The wet well feed pipe crosses several existing utilities and penetrates through two earthen berms. The discharge header penetrates one earthen berm, extends north at the access road, and continues toward a connection to the existing 12-inch recycled water transmission main. Pipe penetrations through earthen berms would be watertight and designed to maintain structural integrity of the berm.

Recycled Water Transmission Pipeline - WRF to Front Street

The existing transmission pipeline is composed of 8-inch and 12-inch diameter pipes, as shown on **Figure 6**. The existing 8-inch transmission pipeline from the WRF to Front Street, which runs through farmland, is undersized. A new 12-inch pipeline would be constructed parallel to the existing 8-inch pipeline as part of the Project. This would tie into the existing 12-inch transmission pipeline at the WRF on the south end and the existing 12-inch transmission pipeline on the north end before the railroad crossing. Additional easements may be required for the transmission pipeline through farmland, which will be confirmed during final design. In addition, construction work restrictions may include a work window that reduces any impacts to farming operations. The transmission pipeline would pass through land outside of the City limits within unincorporated Monterey County.

Recycled Water Distribution Pipelines

The distribution system would be divided into two pipeline systems – to the northern and southern parts of the City. At the intersection of San Vicente Road and Front Street, the existing transmission main bifurcates with a pipeline continuing east along Front Street until it intersects West Street and terminates. At this location the distribution pipeline would connect to the existing transmission main to serve the City parks and schools located in the southern half of the City. The second segment of the existing transmission pipeline continues north along San Vicente Road then east and along Gabilan Drive until it intersects West Street and terminates. At this point, the distribution pipeline would tie into the existing transmission main to serve the City parks and schools located in the northern half of the City. **Appendix B** contains plan sheets for pipeline segments included under this component of the Project.

As described above, proposed work at the schools and parks includes installing irrigation meters, disconnecting the potable water system from the irrigation system, installing irrigation piping, and replacing sprinkler heads with Title 22 compliant purple colored recycled water sprinkler heads.

1.6 PROJECT CONSTRUCTION

Project construction is proposed primarily on existing roadway ROWs and the WRF property. The proposed transmission pipeline segment running from the WRF to Front Street would be constructed within an easement on existing farmland. Additional construction is proposed within temporary construction easements ("TCEs") and on Soledad Unified School District ("SUSD") properties.

Site Preparation

Site preparation would primarily involve initial grading and trenching for pipeline installation. Construction would involve open-trenching, which typically includes clearing and grading the ground surface along the pipeline alignments; excavating the trench; preparing and installing pipeline sections; installing vaults, air valves, blowoffs, and other pipeline components; backfilling the trench with non-expansive fills; restoring preconstruction contours; and revegetating or paving the pipeline alignments, as appropriate. Site preparation activities are anticipated to be completed within approximately 18 months.

Grading

The Project would disturb a total of approximately 189,320 square feet (4.35 acres) of previously disturbed land. A total of approximately 3,800 linear feet of 12-inch pipeline, 6,200 linear feet of 8-inch pipe, 5,620 of 6-inch pipe, and 10,850 linear feet of 4-inch pipe would be constructed. Project construction would require approximately 31,400 cubic yards ("CY") of cut and 31,100 CY of fill.

Schedule

Project construction is expected to last approximately 18-24 months. Construction would occur between the hours of 8:00 AM and 5:00 PM, Monday through Friday. No nighttime construction is proposed.

Equipment and Personnel

To complete Project construction on schedule, approximately 10 construction personnel would be present onsite at any given time. Additionally, the types of equipment that would be used during construction may include, but not be limited to:

- Excavator
- Backhoe
- Dump Truck
- Delivery Truck
- Water Truck
- Crane

Access and Circulation

The Project site is within the City of Soledad. Highway 101 and SR 146 provide regional access to the Project site and local access is provided via local roadways throughout the City. Access to the WRF is provided via Morisoli Road. Daily lay-down areas would be located along pipeline alignments within existing roadway ROWs. Longer-term equipment staging would be located at the WRF, off of Morisoli Road. It is currently unknown how many vehicle trips would be generated by the construction of the Proposed Project.

Tree Removal

Construction of the Project is not expected to require the removal of any trees.

1.7 OPERATIONS AND MAINTENANCE

The City manages the current water system and would be responsible for operating and maintaining the new infrastructure for the recycled water system as part of ongoing operations and maintenance activities. The Proposed Project would serve the identified existing parks and schools, and operation would not result in increased water use or changes in existing land use.

1.8 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The primary regulation governing recycled water use is the California Water Code Regulations, Title 22. The treatment requirement for this project would be tertiary treated recycled water, unrestricted use. In June 2014, the California legislature passed State Bill 861, which authorized transfer of California Department of Public Health's ("CDPH's") drinking and recycled water responsibilities, including the issuance of waste discharge requirements ("WDRs"), to the State Water Resources Control Board ("SWRCB"). Regulatory authority for projects using recycled water falls to the DDW within the SWRCB, as well as the Regional Water Quality Control Board ("RWQCB").

The DDW is charged with protection of public health and drinking water supplies and with the development of uniform water recycling criteria appropriate to particular uses of water. DDW recommendations are implemented through permits issued by the RWQCB.

The City's WRF produces effluent that meets Title 22 recycled water requirements. A Title 22 Report for the distribution of recycled water must be approved by DDW and the RWQCB before recycled water projects are implemented.

The SWRCB establishes general policies governing the permitting of recycled water projects consistent with its role of protecting water quality and sustaining water supplies. The SWRCB also exercises general oversight over recycled water projects, including review of RWQCB permitting practices. The SWRCB is the state agency that has jurisdiction over water quality throughout California. Under the SWRCB, nine RWQCBs have authority to exercise rulemaking and regulatory activities by water basin. The RWQCB is charged with protection of surface and groundwater resources. The City of Soledad is located within the jurisdiction of the Central Coastal RWQCB.

Chapter 2. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the Proposed Project, as discussed in the Initial Study analysis on the following pages.

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

Environmental Factors Not Affected

The following environmental resources were considered as part of the scoping and environmental analysis conducted for the Proposed Project. The potential for adverse impact to these resources were not identified. Consequently, there is no further discussion regarding these resources in this document.

Mineral Resources: The Surface Mining and Reclamation Act ("SMARA") of 1975 and the California Geological Survey ("CGS") define and map regional significant mineral resources. The CGS delineates Mineral Resource Zones ("MRZs") based on their mineral resource potential. The Proposed Project is located outside areas classified as MRZs and no mineral resources are known to exist on the Proposed Project site (CGS, 2022). For this reason, the Proposed Project would have no impact on mineral resources. Therefore, no further discussion is necessary.

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Chapter 3. Determination

On the basis of this initial evaluation:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Signature

January 17, 2025

Date

Don Wilcox, Director of Public Works

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Chapter 4. Environmental Setting and Impacts

The following chapter assesses the environmental impacts associated with the Proposed Project and identifies mitigation measures to reduce potentially significant impacts to less than significant, as appropriate.

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 project-specific screening analysis).
2. All answers must consider the whole action involved, including offsite as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were in the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
6. Lead agencies are encouraged to incorporate information sources for potential impacts (e.g., general plans, zoning ordinances) into the checklist references. Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. 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.

4.1. Aesthetics

Environmental Setting

The Proposed Project is located in the City of Gonzales, within the Salinas Valley in Monterey County. The Salinas Valley is a northwest-southeast trending valley between the Gabilan and Santa Lucia Ranges. The visual character of the Project site comprises distant mountain ranges, the Salinas River, agricultural lands, and urban development within the City. The Proposed Project would be located primarily within the paved portions of City roadways, surrounded by residential and commercial uses. A 4,000-foot segment of the proposed recycled water transmission pipeline, running from the WRF to Front Street, would be surrounded by farmland. Additional construction would occur on SUSD properties to connect pipelines and convert or replace existing irrigation systems. All Project components would occur within previously disturbed areas and would be primarily located underground. Vegetation within the Project area consists of cropland and maintained lawns.

Visually sensitive areas are those containing scenic resources visible from existing, potential, and proposed scenic routes. Prominent visual resources in the Project vicinity are limited to distant views of the Gabilan Mountains. Additionally, the City's General Plan identifies Metz Road (also known as Highway 146) as a State designated scenic highway (City of Soledad, 2005). However, while Caltrans identifies this roadway as an eligible scenic highway, it does not designate it as a State scenic highway (Caltrans, 2024). Approximately 2,250 feet of pipeline would be installed within Metz Road. Other segments of pipeline would be installed within City roads connecting to Metz Road and would be visible from this roadway.

Regulatory Framework

State

***California Scenic Highways Program*:** The Legislature created the California State Scenic Highway program in 1963. This program's purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are either designated or eligible for designation as a scenic highway. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. In Monterey County, the only officially designated state scenic highway are portions of State Route ("SR") 1 (Caltrans, 2023). Highway 146 is a two-lane roadway which runs east to Pinnacles National Monument and south to King City. This is a state designated scenic highway, and provides regional access to the Project site (City, 2005a).

Local

***City of Soledad General Plan*:** The City's Conservation and Open Space Element section of the General Plan identifies the following aesthetic policies applicable to the Proposed Project:

C/OS7: The City shall require new public and private development to protect scenic resources by:

a. Prohibiting structures along ridgelines, steep slopes (above the 400-foot elevation contour), or in other highly visible locations unless no practical alternative is available, or such a location is necessary to protect public health and safety;
b. Utilizing natural landforms and vegetation for screening structures, access roads, building foundations, and cut and fill slopes;
c. Requiring landscaping which provides a landscape transition between developed areas and adjacent open space or undeveloped areas; and is compatible with the scenic resource being protected;
d. Incorporating sound Soil Conservation Service practices and minimizing land alterations. Land alterations shall be minimized by: keeping cuts and fills to a minimum; limiting grading to the smallest practical area of land; limiting land exposure to the shortest practical amount of time; replanting graded areas to insure establishment of plant cover before the next rainy season; and creating grading contours that blend with the natural contours on site or look like contours that would naturally occur;
e. Designing roads, parking, and utilities to minimize visual impacts. If possible, utilities shall be underground. Roadways and parking shall fit the natural terrain; and
f. Designing projects to fit the site's scale and character. Structures shall be designed and located so: they do not silhouette against ridgelines, or hilltops; roof lines and vertical architectural features blend with and do not detract from the natural background or ridge outline; residential density and massing is decreased with increased elevation where it would mar the scenic quality of the scenic resource; they fit the natural terrain, and they utilize building materials, colors, and textures that blend with the natural landscape and avoid the creation of high contrast situations.

***2010 Monterey County General Plan*:** The 2010 Monterey County General Plan includes goals and policies related to the preservation of visual integrity. The following goal from the 2010 Monterey County General Plan would apply to portions of the Proposed Project:

Goal OS-1: Retain the character and natural beauty of Monterey County by preserving, conserving, and maintaining unique physical features, natural resources, and agricultural operations.

Monterey County Code: The County of Monterey Zoning Ordinance (Title 21) requires an evaluation of potential aesthetic-related effects and a determination of significance from common public view areas in areas outside of the Coastal Zone. “Common public viewing area means a public area such as a public street, road, designated vista point, or public park from which the general public ordinarily views the surrounding viewshed” (Section 21.06.195). Monterey County defines a substantial adverse visual impact as a “visual impact which, considering the condition of the existing viewshed, the proximity and duration of view when observed with normal unaided vision, causes an existing visual experience to be materially degraded” (Section 21.06.1275).

Would the project:		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 in a state scenic highway?	☐	☐	☐	■
c)	In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	■	☐

Impact Discussion

a. Would the project have a substantial adverse effect on a scenic vista?

For this analysis, views of the foothills to the northeast of the City, the Santa Lucia Mountains to the west, and the Gabilan Mountains east would represent scenic vistas. Obstruction of views of these resources would constitute a potentially significant impact. No other scenic vistas are visible within the project area.

Construction

The Proposed Project could result in temporary construction related effects. Construction of the pipeline components of the Proposed Project, including required improvements at school and park sites, would involve construction equipment that could result in visual effects on scenic vistas, including daily lay-down of construction equipment within roadway ROWs. However, due to the linear nature of these components, construction equipment would not be located in a single position for extended periods of time, and the visual effects would be short-term and temporary.

Construction of the new recycled water pump station and creation of a long-term staging area would occur at the existing WRF, both of which could result in effects on scenic vistas. However, this site is already developed with the existing WRF, and the construction activities and equipment staging would not result in substantial effects on scenic vistas compared to existing conditions. In addition, equipment would be removed following construction and would not permanently impact scenic vistas. Therefore, this impact is less than significant.

Operation

Once operational, the pipeline components of the Proposed Project would be located largely underground and would not have a substantial adverse effect on a scenic vista. Aboveground components of the Proposed Project would be limited primarily to the new recycled water pump

station. The recycled water pump station would be located on the site of the existing WRF. This site is already developed and the addition of the recycled water pump station would not impact scenic vistas, as none are provided from the site. Views of the Santa Lucia Mountains across the WRF site are already disrupted by the existing WRF buildings. Views of the foothills or Gabilan Mountains would not be impacted by the Proposed Project. The Proposed Project would not result in a substantial adverse effect on a scenic vista due to operation. This represents a less than significant impact.

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings in a state scenic highway?

The Proposed Project is not located near a state scenic highway (Caltrans, 2024). The Proposed Project is approximately 24 miles southeast from the nearest state scenic highway (SR 68). The City's General Plan identifies Highway 146 as a designated scenic highway (City of Soledad, 2005), although Caltrans identifies it as "eligible but not officially designated" (Caltrans, 2024). The Proposed Project would not substantially damage scenic resources in a state scenic highway. In addition, the Central Salinas Valley Area Plan does not show any scenic roadways within the vicinity of the Proposed Project. No impact would occur.

c. Would the project, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Temporary visual impacts would occur during construction related to staging of construction equipment and ongoing construction work. However, these impacts would be temporary and the Project area would be restored to the same condition following completion of construction. Once operational, the Proposed Project would be largely underground, with the exception of the recycled water pump station component located at the City's WRF. This addition to the existing WRF would blend in with the existing WRF structures and would not degrade the existing visual character of the Proposed Project area or its surroundings. As a result, the Proposed Project would not adversely impact the existing visual character of the site or its surroundings, or degrade the quality of public views of the site. This represents a less than significant impact.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction activities would require staging of construction equipment and ongoing construction work. No nighttime construction is proposed; however, staging of construction equipment at daily lay-down areas located along the pipeline alignments and long-term equipment staging at the WRF site could result in new sources of glare. However, these impacts would be temporary and the construction equipment would be removed from Project area following completion of construction. Once operational, the Proposed Project would be largely underground and would not result in new sources of light and glare. The aboveground components (recycled water pump station) of the Proposed Project would be located within the WRF. No new security lighting or reflective surfaces are proposed. This represents a less than significant impact.

4.2. Agricultural and Forestry Resources

Terminology

The California Department of Conservation ("DOC") identifies and designates important farmland throughout the State as part of the Farmland Mapping and Monitoring Program ("FMMP"). Farmland is classified as follows:

- **Prime Farmland.** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. These are Class I and Class II soils.
- **Farmland of Statewide Importance.** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland.** Farmland of lesser quality soils used to produce the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climactic zones in California.
- **Grazing Land.** Government Code §65570(b)(3) defines Grazing Land as: "...land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock." The minimum mapping unit for Grazing Land is 40 acres. Grazing Land does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, and heavily brushed, timbered, excessively steep, or rocky lands which restrict the access and movement of livestock.
- **Urban and Built-Up Land.** Land occupied by structures with a building density of at least one (1) unit to 1.5 acres, or approximately six (6) structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land.** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas, not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded by urban development and greater than 40 acres is mapped as Other Land.

California Public Resources Code §4526 and the California Board of Forestry and Fire Protection defines "Timberland" as land not owned by the federal government nor designated as experimental forest land, which is capable and available for growing any commercial tree species.

Environmental Setting

Agricultural activities consisting of farming and livestock grazing represent the largest industry in the County of Monterey and contribute significantly to the region's economy. The most productive farmlands in the County are located in the North County, Greater Salinas, and Central Salinas Valley Planning Areas. According to the 2017 Census of Agriculture for Monterey County, there are 1,340,142 acres designated as farmland (USDA, 2017). Monterey County's gross agricultural production in 2021 totaled 4.6 billion dollars (Monterey County Crop Report, 2021). The top crops in the County include

vegetable crops, fruit, and nuts (Ibid.). The top revenue crops produced in 2021 included strawberries, leaf lettuce, head lettuce, broccoli, wine grapes, spinach, cauliflower, celery, and brussels sprouts (Ibid).

The Proposed Project is partially located within areas where agricultural activities occur. Important farmlands within the Project are shown in **Figure 9.** The FMMP designates the agricultural lands in the Proposed Project area as *Prime Farmland* (DOC, 2024). Two (2) parcels located along the western side of a proposed pipeline alignment are enrolled in a Williamson Act contract.

CEQA requires the evaluation of forest and timber resources where they are present. The Proposed Project area does not contain 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).

Regulatory Framework

Federal

***Farmland Protection Policy Act*:** The Farmland Protection Policy Act ("FPPA") seeks to reduce federal program impacts on unnecessary and irreversible conversion of farmland to nonagricultural uses. This act requires federal agencies to develop and review policies to implement the FPPA every two years and comply with state and local programs and policies protecting farmland. The FPPA includes land such as forests, pastures, crop, or other land that may be used for farmland in the future. However, The FPPA does not include water or urban land. FPPA uses farmland classifications of "prime farmland," "unique farmland," and "land of statewide importance" (USDA, 2024).

State

California Land Conservation Act of 1965 ("Williamson Act"): The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is the State's primary program aimed at conserving private land for agricultural use. The California Department of Conversation prepares countywide maps of lands enrolled in the Williamson Act contracts. The Williamson Act provides a voluntary, locally administered program offering reduced property taxes on lands whose owners place enforceable restrictions on land use through contracts between the individual landowners and local governments.

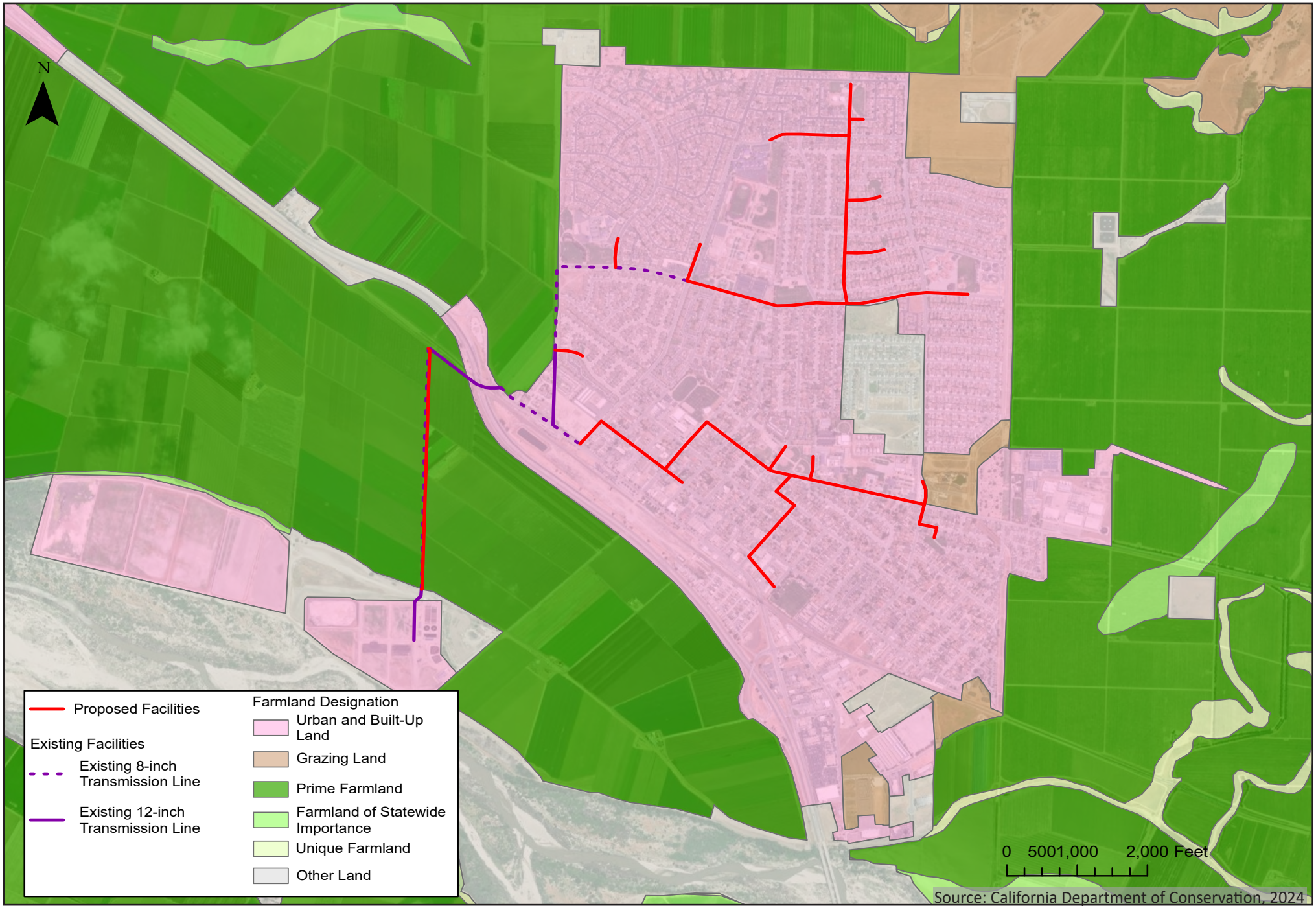
Local

***City of Soledad General Plan*:** The City's Land Use Element and Conservation and Open Space Element of the General Plan contains the following policies for agriculture applicable to the Proposed Project:

L-1: The land use designations and policies of this General Plan apply to the general plan area. Within the City's planning areas, the City will support the following:

b. Preserve agriculture on large lots outside the City's sphere of influence as it may be amended by the updated general plan.

C/OS3: The City shall ensure that new development and public infrastructure projects do not encourage expansion of urban uses outside the general plan area into areas designated Agriculture by the Monterey County General Plan.



Title:

Important Farmland Map

Date	8/13/2024
Scale	N/A
Project	2024.26

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 9

C/OS6: The City shall require development within or adjacent to designated agricultural areas to minimize conflicts with adjacent agricultural uses.

***2010 Monterey County General Plan*:** None of the policies provided by the 2010 Monterey County General Plan related to agricultural or forest resources are applicable to the Proposed Project.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 uses?	☐	☐	☐	■
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?	☐	☐	■	☐

Impact Discussion

a. Would the project 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?

The Proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, to non-agricultural use. While there are agricultural uses on Prime Farmland adjacent to portions of the Proposed Project (primarily along Morisoli Road and portions of Front Street), the Proposed Project would be located on existing roadway ROW and the WRF property, which are disturbed and developed areas. The proposed pipeline segment running from the WRF to Front Street would be constructed within an easement on existing farmland. However, no agricultural work occurs within the easement and the Proposed Project would not result in the conversion of agricultural land to non-agricultural use. This represents a less than significant impact.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. While the Proposed Project is located adjacent to areas currently zoned for agricultural use and under a Williamson Act Contract (primarily along Morisoli Road and portions of Front Street), project activities occurring within agricultural parcels would be limited to existing easements and would not conflict with agricultural use under a Williamson Act contract. This represents a less than significant impact.

c. Would the project 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)?

The Proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land. No forest or timberland is located on or in the vicinity of the Proposed Project site. No impact would occur.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest uses?

Please refer to the discussion above. The Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use since none existing on the site. No impact would occur.

e. Would the project 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?

The Proposed Project would not involve changes to the existing environment that could result in the conversion of farmland to non-agricultural use or forest land to non-forest use. Construction and operation of the Proposed Project within agricultural parcels would be limited to existing easements and would not result in the conversion of Farmland to non-agricultural use. There is no forest land within or adjacent to the Proposed Project area. No impact would occur.

4.3. Air Quality

Environmental Setting

The Proposed Project is in the North Central Coast Air Basin ("NCCAB"), which encompasses Santa Cruz, San Benito, and Monterey counties. The NCCAB is under the jurisdiction of the Monterey Bay Air Resources District ("MBARD"). MBARD is responsible for producing an Air Quality Management Plan ("AQMP") that reports air quality and regulates stationary air pollution sources throughout the NCCAB. MBARD is also responsible for measuring the concentration of pollutants and comparing those concentrations against the Ambient Air Quality Standards ("AAQS"). AAQS establish levels of air quality maintenance required to protect the public from the adverse effects of air pollution and are established for "criteria air pollutants" which include ozone, carbon monoxide, particulate matter less than 10 microns in diameter, 2.5 microns in diameter, nitrogen dioxide, sulfur dioxide, and lead. MBARD is responsible for monitoring criteria pollutants to determine whether they are in attainment or not in attainment with the AQMP. **Table 1** illustrates the attainment status for criteria pollutants.

Table 1
Attainment Status for the NCCAB

Pollutants	State Designation	Federal Designation
Ozone (O_3)	Nonattainment – Transitional	Attainment
Inhalable Particulates (PM_{10})	Nonattainment	Attainment
Fine Particulates ($PM_{2.5}$)	Attainment	Attainment
Carbon Monoxide (CO)	Monterey Co. – Attainment	Attainment
Carbon Monoxide (CO)	San Benito Co. – Unclassified	Attainment
Carbon Monoxide (CO)	Santa Cruz Co. – Unclassified	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment	Attainment

Source: Monterey Bay Air Resources District, 2017. 2012 – 2015 Air Quality Management Plan

MBARD has set air quality thresholds of significance for the evaluation of projects. **Table 2** illustrates the thresholds of significance used to determine if a project would have a significant air quality effect during construction. In addition to these thresholds, MBARD has also determined a significant short-term construction generated impact would occur if more than 2.2 acres of major grading or excavation, or 8.1 acres of minimal earthmoving per day was to occur (MBARD, 2008).

Table 2
Thresholds of Significance for Construction Emissions

Pollutant	Threshold of Significance (lb./day)
Nitrogen Oxides (NO_x)	173
Reactive Organic Gases (ROG)	137
Respirable Particular Matter (PM_{10})	82
Fine Particulate Matter ($PM_{2.5}$)	55
Carbon Monoxide (CO)	550

Source: Monterey Bay Unified Air Pollution Control District, 2016. Guidelines for Implementing the California Environmental Quality Act.

Table 3 illustrates the thresholds of significance used to determine if a project would have a significant air quality effect on the environment during operation.

Table 3
Thresholds of Significance for Operational Emissions

Pollutant	Threshold of Significance (lb./day)
Nitrogen Oxides (NO_x)	137
Reactive Organic Gases (ROG)	137
Respirable Particular Matter (PM_{10})	82
Fine Particulate Matter ($PM_{2.5}$)	55
Carbon Monoxide (CO)	550

Source: Monterey Bay Unified Air Pollution Control District, 2016. Guidelines for Implementing the California Environmental Quality Act.

The California Air Resources Board ("CARB") defines a sensitive receptor as children, elderly, asthmatic, and others who are at elevated risk of negative health outcomes due to exposure to air pollution (CARB, 2023). Pursuant to California Health and Safety Code Sec. 42705.5, a sensitive receptor includes hospitals, schools and day cares centers and such locations as the district or state board may determine. MBARD similarly defines sensitive receptors and requires any explanation of sensitive receptors to draw

a relationship to the Proposed Project site and potential air quality impacts (MBARD, 2008). Sensitive receptors are more susceptible to the effects of air pollution than the general population. Land uses that are considered sensitive receptors include residences, schools, and health care facilities. Sensitive receptors in the vicinity of the Proposed Project area consist primarily of residences.

Common sources of odors and odor complaints include wastewater treatment plants, transfer stations, coffee roasters, painting/coating operations, and landfills.

Climate and Topography

Climatological conditions, an area's topography, and the quantity and type of pollutants released commonly determine ambient air quality. The NCCAB covers an area of 5,159 square miles along the central coast. The northwest sector of the NCCAB is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary. The Santa Clara Valley extends into the northeastern tip of the basin. Further south, the Santa Clara Valley becomes the San Benito Valley, which runs northwest-southeast, with the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to south of King City. The coastal Santa Lucia Range defines the western side of the valley.

Climate, or the average weather condition, affects air quality in several ways. Wind patterns can remove or add air pollutants emitted by either stationary or mobile sources. Inversion, a condition where warm air traps cooler air underneath it, can hold pollutants near the ground by limiting upward mixing (dilution). Communities with cold climates may burn wood or other fuels for residential heating, whereas areas with hot climates may have higher emissions or some pollutants from automobiles. Topography also plays a part, and valleys often trap emissions by limiting lateral dispersal.

A semi-permanent high-pressure cell in the eastern Pacific, the Pacific High, is the basic controlling factor in the climate of the NCCAB. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement. During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin in winter and early spring.

Regulatory Framework

Federal

***U.S. Environmental Protection Agency ("EPA")*:** At the federal level, the U.S. EPA implements national air quality programs. The Federal Clean Air Act ("FCAA"), signed in 1970, provides air quality mandates used by the U.S. EPA. Congress amended the FCAA in 1977 and again in 1990.

***Federal Clean Air Act*:** The FCAA required the U.S. EPA to establish National Ambient Air Quality Standards ("NAAQS") and set deadlines for their attainment. Two (2) types of NAAQS exist: primary standards, which protect public health, and secondary standards, which protect public welfare from

non-health-related adverse effects, such as visibility restrictions. The FCAA allows states to adopt additional or more health-protective standards. **Table 4** compares the California Ambient Air Quality Standards and the NAAQS.

Table 4
Summary of Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard*	National Standards (Primary)
Ozone	1-Hour	0.09 ppm	- -
Ozone	8-Hour	0.07 ppm	0.070 ppm
PM_{10}	AAM	20 µg/m^3	- -
PM_{10}	24-Hour	50 µg/m^3	150 µg/m^3
$PM_{2.5}$	AAM	12 µg/m^3	12 µg/m^3
$PM_{2.5}$	24-Hour	No standard	35 µg/m^3
Carbon Monoxide	1-Hour	20 ppm	35 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9 ppm
Nitrogen Dioxide	AAM	0.030 ppm	0.053 ppm
Nitrogen Dioxide	1-Hour	0.18 ppm	100 ppm
Sulfur Dioxide	AAM	- -	0.03 ppm
Sulfur Dioxide	24-Hour	0.04 ppm	0.14 ppm
Sulfur Dioxide	3-Hour	- -	0.5 ppm (1300 µg/m^3) **
Sulfur Dioxide	1-Hour	0.25 ppm	75 ppm
Lead	30- day	1.5 µg/m^3	- -
Lead	Calendar quarter	- -	1.5 µg/m^3
Lead	Rolling 3-month	- -	0.15 µg/m^3
Sulfate	24-Hour	25 µg/m3	No Federal Standards
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	No Federal Standards
Vinyl Chloride	24-Hour	0.01 ppm (26 µg/m^3)	No Federal Standards
Visibility Reducing Particles	8-hours	Extinction coefficient of 0.23 per kilometer —visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is < 70%.	No Federal Standards

Source: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf
ppm = Parts per Million; µg/m3 = Micrograms per Cubic Meter; AAM = Annual Arithmetic Mean
* For more information on standards visit :http//www.arb.ca.gov.research/aaqs/aaqs2.pdf
**Secondary Standard
Source: CARB, 2016

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan ("SIP"). The 1990 FCAA Amendments required states with non-attainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The U.S. EPA has the responsibility to review all state SIPs to determine conformance with the mandates of the FCAA and FCAA amendments. The U.S. EPA also determines if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to be inadequate, a Federal Implementation Plan ("FIP") may be prepared for the non-attainment area that imposes additional control measures.

Pursuant to California Clean Air Act ("CCAA") and CCAA amendments, a region must participate in the SIP if the state designates it as a maintenance region. The most recent Federal Plan prepared by MBARD to maintain the 1-hour ozone NAAQS is the 2007 Federal Maintenance Plan for Maintaining the National Ozone Standard in the Monterey Bay Region and adopted rules and regulations.

State

***California Air Resources Board*:** CARB is the agency responsible for coordinating and overseeing state and local air pollution control programs in California and implementing the CCAA of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing California Ambient Air Quality Standards ("CAAQS"), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles.[1] **Table 4** summarizes the CAAQS above.

***California Clean Air Act*:** The CCAA requires all air districts in the state to endeavor to achieve and maintain CAAQS for Ozone, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources of emissions. Each district plan is required to either (1) achieve a five (5) percent annual reduction, averaged over consecutive three (3)-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) provide for the implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

***Assembly Bills 1807 & 2588 - Toxic Air Contaminants*:** California Assembly Bill ("AB") 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987) primarily regulate Toxic Air Contaminants ("TACs"). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This procedure includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: 1) prepare a toxic emissions inventory; 2) prepare a risk assessment if emissions are significant; 3) notify the public of significant risk levels; and 4) prepare and implement risk reduction measures.

Local

***Monterey Bay Air Resources District*:** MBARD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the NCCAB. Responsibilities of the MBARD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting, and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA. To achieve NAAQS and CAAQS and maintain air quality, the MBARD has most recently completed the 2012-2015 AQMP for achieving the state ozone standards and the 2007 Federal Maintenance Plan for maintaining federal ozone standards (MBARD 2017).

[1] The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel, and engine used.

To achieve and maintain ambient air quality standards, the MBARD has adopted various rules and regulations for the control of airborne pollutants. The applicable MBARD rules and regulations to the Proposed Project include, but are not limited to, the following:

- **Rule 402 (Nuisances).** The purpose of this rule is to prohibit emissions that may create a public nuisance. Applies to any source operation that emits or may emit air contaminants or other materials.
- **Rule 426 (Architectural Coatings).** The purpose of this rule is to limit emissions of volatile organic compounds from architectural coatings.
- **Rule 425 (Use of Cutback Asphalt).** The purpose of this rule is to limit emissions of vapors of organic compounds from the use of cutback and emulsified asphalt. This rule applies to the manufacture and use of cutback, slow cure, and emulsified asphalt during paving and maintenance operations.
- **Rule 424 (NESHAP-Asbestos).** Rule 424 adopts the National Emissions Standards for Hazardous Air Pollutants contained in the Code of Federal Regulations (40 CFR Part 61) pertaining to asbestos removal and building demolitions.

***City of Soledad General Plan*:** The City's Conservation and Open Space Element of the General Plan contains the following policy for air quality applicable to the Proposed Project:

C/OS-15: The City shall submit development proposals to the Air Pollution Control District for review and comment in compliance with CEQA prior to consideration by the decision-making body.

***2010 Monterey County General Plan*:** None of the policies provided by the 2010 Monterey County General Plan related to air quality are applicable to portions of the Proposed Project.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b) 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?	☐	☐	■	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

Impact Discussion

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

An Air Quality Assessment was prepared for the Project by AMBIENT Air Quality & Noise Consulting (August 2024). CEQA Guidelines Section 15125(b) requires that a project be evaluated for consistency with applicable regional plans, including the AQMP. The most recent AQMP update was approved in March 2017. This plan addresses attainment of the State ozone standards and federal air quality standard. The AQMP accommodates growth by projecting growth in emissions based on population forecasts prepared by the Association of Monterey Bay Area Governments ("AMBAG"). Consistency determinations are issued for commercial, industrial, residential, and infrastructure-related projects that have the potential to induce population growth. A project is inconsistent with the AQMP if it has not been accommodated in the forecast projections considered in the AQMP.

The Proposed Project involves the expansion of recycled water distribution to existing City parks and schools. The recycled water would be used to irrigate landscaped areas, playfields, and other areas that are currently irrigated using potable groundwater. The Proposed Project would not result in growth that was unaccounted for in population forecast contained in MBARD's AQMP. The Proposed Project would not conflict with and/or otherwise obstruct implementation of the AQMP. This represents a less than significant impact related to clean air planning.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The MBARD 2016 CEQA Air Quality Guidelines contain standards of significance for evaluating potential air quality effects of projects subject to the requirements of CEQA. According to MBARD, a project would violate an air quality standard and/or contribute to an existing or projected violation if it would emit (from all sources, including exhaust and fugitive dust) less than:

- 137 pounds per day of oxides of nitrogen (NO_x),
- 137 pounds per day of reactive organic gases (ROG),
- 82 pounds per day of respirable particulate matter (PM_{10}),
- 55 pounds per day of fine particulate matter ($PM_{2.5}$), and
- 550 pounds per day carbon monoxide (CO).

Potential air quality effects were quantified using CalEEMod. Air quality calculations were performed by AMBIENT and are provided in **Appendix C**.

Construction

Construction of the Proposed Project would require substantial grading and excavation (including export of 21,800 cubic yards ["cy"] of soil material and import of 24,600 cy of soil material). Ground disturbing activities would occur on approximately three and a half acres. The Proposed Project also includes approximately three acres of asphalt paving within the ground disturbing area. Construction would require equipment such as bulldozers, vibratory compactors, dump trucks, front loaders, cranes, concrete trucks, pavers, and delivery trucks. Construction related emissions would come from sources

such as exhaust or fugitive dust. Air quality effects were quantified using CalEEMod, **Table 5**, illustrates the emissions generated by construction of the Project.

Table 5
Construction Air Quality Emissions[1]

Emissions in Pounds/Day by Facility	ROG	NOx_5	CO	PM10	PM2.5
Foundation/Concrete - Unmitigated	0.57	0.43	4.99	0.37	0.1
Grading - Unmitigated	1.46	1.16	12.33	7.05	3.5
Pump Station Install - Unmitigated	0.47	0.4	3.75	0.08	0.01
Asphalt Paving - Unmitigated	0.38	0.24	3.84	0.51	0.13
Trenching - Unmitigated	0.46	0.31	4.4	0.5	0.13
Total All Facilities	3.34	2.54	29.3	8.51	3.87
MBARD Significance Threshold?[2]	--	--	--	82	--
Exceed Threshold/Significant Impact?	--	--	--	No	--

[1] Based on the highest daily emissions during summer or winter conditions without the implementation of fugitive dust control measures. Assumes foundation/concrete, pump station installation, trenching (2025), and asphalt paving could potentially occur simultaneously.

[2] The MBARD has not identified significance thresholds for ROG, NO_X, CO or $PM_{2.5}$. Emissions of ROG and NO_X are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS. Emissions of $PM_{2.5}$ are a component of PM10.

Operation

Based on the results of air quality assessment, the daily activities associated with long-term operations of the Project would not generate emissions of criteria air pollutants and precursors from mobile, energy use, and area sources. Daily operational emissions of criteria pollutants would not exceed any MBARD emissions thresholds and would not have a significant impact on regional air quality or attainment and maintenance of O3 ambient air quality standards. For these reasons, operational emissions would have a less than significant impact on public health. The long-term operational activities would, therefore, have a less than significant air quality impact.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Short-Term Construction Emissions

Naturally-Occurring Asbestos (NOA): The ARB identifies NOA as a TAC. In accordance with ARB Air Toxics Control Measure, prior to any grading activities, a geologic evaluation should be conducted to determine if NOA is present within the area that would be disturbed. If NOA is not present, an exemption request form, along with a copy of the geologic report, must be filed with the local air district. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos Air Toxics Control Measure. The Project site is not located within an area identified as having a potential for naturally occurring ultramafic rock and serpentine soils. As a result, this impact would be considered less than significant.

Asbestos-Containing Materials: Demolition activities can have potential negative air quality impacts, including issues surrounding the proper handling, demolition, and disposal of asbestos-containing material (ACM). ACM could be encountered during the demolition of existing buildings, particularly older structures constructed prior to 1970. Asbestos can also be found in various building products, including (but not limited to) utility pipes/pipelines (transit pipes or insulation on pipes). If a project involves the disturbance or potential disturbance of ACM, various regulatory requirements may apply.

The Project would not include the demolition of existing on-site structures. As a result, this impact would be considered less than significant.

TACs (DPM Emissions): The primary TAC of concern associated with short-term construction activities is DPM. Implementation of the Project would result in the generation of DPM emissions during construction associated with the use of offroad diesel equipment for site grading, paving, and other construction activities. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and the associated risk of contracting cancer. For off-site work and residential land uses, the calculation of cancer risk associated with exposure to TACs is typically calculated based on a 25-year and 30-year period of exposure, respectively. The use of diesel-powered construction equipment would be temporary and episodic, typically only occurring over a short period (i.e., weeks or months). For this reason and given the highly dispersive nature of DPM, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million or a HI greater than 1). As a result, this impact is considered less than significant.

Fugitive Dust Emissions: Construction of the Project would result in short-term emissions of fugitive particulate matter associated with ground disturbance. However, compliance with applicable MBARD rules and regulations, including but not limited to Rule 402 for the control of nuisance–related emissions would minimize potential impacts to occupants of nearby land uses. Furthermore, construction-generated PM_{10} would be significantly less than MBARD's daily significance threshold of 82 lbs/day. As previously noted, MBARD has determined that emissions below 82 lbs/day would not be expected to exceed AAQS. As a result, this impact would be considered less than significant.

Additionally, the Proposed Project would implement standard Best Management Practices ("BMPs") to further reduce air pollution emissions. These BMPs include, but are not limited to, the following measures:

- Reduce the amount of the disturbed area where possible;
- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;
- All dirt stockpile areas shall be sprayed daily as needed;
- Permanent dust control measures identified in the approved project re-vegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities;
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
- All disturbed soil areas not subject to re-vegetation shall be stabilized using chemical soil binders, jute netting, or other methods approved in advance by the MBARD;
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
- Install track-out control devices where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;

- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;
- All dirt stock pile areas shall be sprayed daily as needed;
- Permanent dust control measures identified in the approved project re-vegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities;
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
- All disturbed soil areas not subject to re-vegetation shall be stabilized using chemical soil binders, jute netting, or other methods approved in advance by the MBARD;
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
- Install track-out control devices where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
- Sweep paved/unpaved roadways boundaries (e.g.) project entrance roadways) at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible;
- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel-powered equipment with CARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment over 25 horsepower meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines and comply with the State Off-Road Regulation. If Tier 2 equipment is not available, then documentation shall be maintained demonstrating equipment non-availability for verification;
- Use on-road heavy-duty trucks on-site that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_X exempt area fleets) may be eligible by proving alternative compliance;
- All on- and off-road diesel equipment shall not idle for more than five minutes. Signs shall be posted in the designated staging areas and at the project entrance to remind drivers and operators of the five-minute idling limit;
- Diesel idling in 1,000 feet of sensitive receptors is not permitted (applicable only along the northernmost edge of the project site);
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas ("CNG"), liquefied natural gas ("LNG"), propane or biodiesel.
- Implement Idling Restrictions Near Sensitive Receptors for Both On and off-Road Equipment

Long-term Operational Emissions

The Project would not result in the installation or operation of any major stationary sources of air pollution emissions. As a result, this impact would be less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Odors could be generated during Project construction. The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Construction of the Project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. In addition, no major sources of odors have been identified in the Project area. This represents a less than significant impact.

4.4. Biological Resources

Terminology

Special-Status Species

Special-status species are those plants and animals that have been formally listed or proposed for listing as endangered or threatened or are candidates for such listing under the Federal Endangered Species Act ("ESA") or the California Endangered Species Act ("CESA"). Listed species are afforded legal protection under the ESA and CESA. Species that meet the definition of rare or endangered under the CEQA Section 15380 are also considered special-status species. Animals on the CDFW's list of "species of special concern" (most of which are species whose breeding populations in California may face extirpation if current population trends continue) meet this definition and are typically provided management consideration through the CEQA process, although they are not legally protected under the ESA or CESA. Additionally, the CDFW also includes some animal species that are not assigned any of the other status designations on their "Special Animals" list; however, these species have no legal or protection status.

Plants listed as rare under the California Native Plant Protection Act ("CNPPA") or included in the California Native Plant Society ("CNPS") California Rare Plant Ranks ("CRPR") 1A, 1B, 2A, and 2B are also treated as special-status species as they meet the definitions of Sections 2062 and 2067 of the CESA and in accordance with CEQA Guidelines Section 15380. In general, the CDFW requires that plant species on CRPR 1A (Plants presumed extirpated in California and Either Rare or Extinct Elsewhere), CRPR 1B (Plants rare, threatened, or endangered in California and elsewhere), CRPR 2A (Plants presumed extirpated in California, but more common elsewhere); and CRPR 2B (Plants rare, threatened, or endangered in California, but more common elsewhere) of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2023) be fully considered during the preparation of environmental documents relating to CEQA. CNPS' CRPR 4 species (plants of limited distribution) may, but generally do not, meet the definitions of Sections 2062 and 2067 of the CESA, and are not typically considered in environmental documents relating to CEQA. While other species (i.e., CRPR 3 or 4 species) are sometimes found in database searches or in the literature, these were not included in the analysis as they did not meet the definitions of Section 2062 and 2067 of the CESA.

Fish and Game Code Section 3503.5 protects raptors (e.g., eagles, hawks, and owls) and their nests in California. Section 3503.5 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto." Additionally, fully protected species under the Fish and Game Code Section 3511 (birds), Section 4700 (mammals), Section 5515 (fish), and Section 5050 (reptiles and amphibians) are also considered special-status animal species. Species with no formal special-status designation but thought by experts to be rare or in serious decline may also be considered special-status animal species in some cases, depending on project-specific analysis and relevant, localized conservation needs or precedence.

Sensitive Habitats

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted vegetation types. Vegetation types considered sensitive include those listed on CDFW's *California Natural Communities List* (i.e., those habitats that are rare or endangered in the borders of California) (CDFW, 2023), those that are occupied by species listed under the ESA or are critical habitat in accordance with the ESA, and those that are defined as Environmentally Sensitive Habitat Areas under the California Coastal Act. Specific habitats may also be identified as sensitive in city or county general plans or ordinances. Sensitive habitats are regulated under federal regulations (such as the Clean Water Act and Executive Order 11990 – Protection of Wetlands), state regulations (such as CEQA and the CDFW Streambed Alteration Program), or local ordinances or policies (such as city or county tree ordinances and general plan policies).

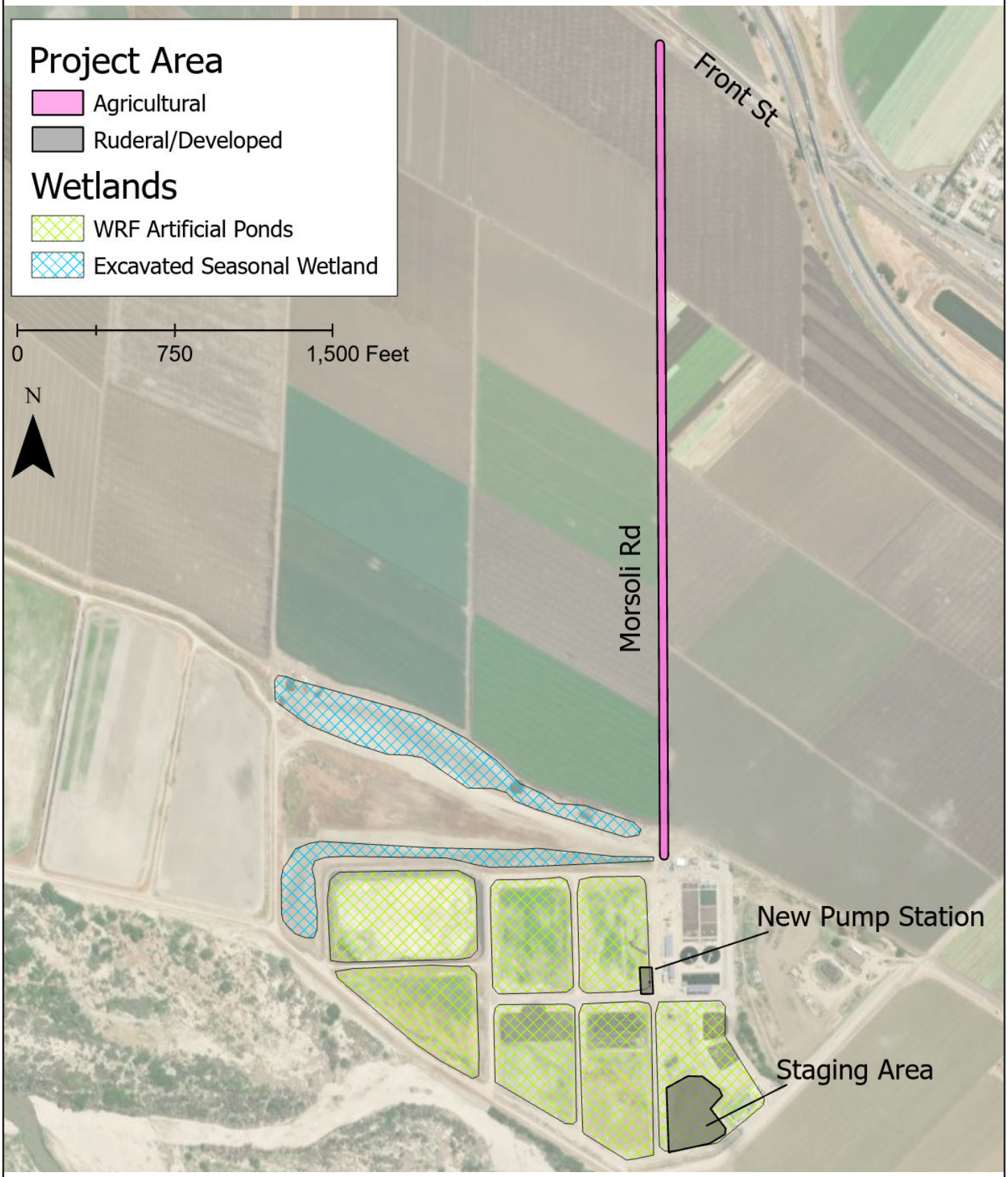
Environmental Setting

Survey Methodology

DD&A conducted a site reconnaissance and biological survey of the Proposed Project site. DD&A Senior Environmental Scientists conducted surveys of the evaluation area in August 2024. The surveys consisted of walking the site to identify general and sensitive habitat types and conducting a reconnaissance-level habitat survey to identify suitable habitat for or presence of any special-status plant or wildlife species. Data collected during the surveys was used to assess the environmental conditions of the area and its surroundings, evaluate environmental constraints at the site and within the local vicinity, and provide a basis for recommendations to minimize and avoid impacts. The biological resources report is provided in **Appendix D** and summarized below.

Habitats

Approximately 23.4 acres of the evaluation area are developed consisting of paved roads, graded dirt lots, or landscaped properties (locations for new transmission and service lines throughout the City, and the WRF new pump station and staging ground) and approximately 3.6 acres of the evaluation area is ruderal or agricultural habitat (the segments of the evaluation area along Morisoli Road), which consist of actively cultivated agricultural fields (see **Figures 10** and **11**).



Title: Habitat Map - Agricultural	Date 11/15/2024 Scale N/A Project 2024.26		Monterey | San Jose **Denise Duffy and Associates, Inc.** Environmental Consultants Resource Planners 947 Cass Street, Suite 5 Monterey, CA 93940 (831) 373-4341	Figure 10

Title: Habitat Map - Developed	Date 09/12/2024 Scale N/A Project 2024.26		Monterey | San Jose **Denise Duffy and Associates, Inc.** Environmental Consultants Resource Planners 947 Cass Street, Suite 5 Monterey, CA 93940 (831) 373-4341	Figure 11

Access to the agricultural easement and WRF was limited during the August 22, 2024 biological survey. Most of the land surrounding the evaluation area is developed with single-family residences with the schools and city parks to be serviced by the new pipelines spread throughout. Due to the disturbed (mowed, sprayed, landscaped) nature of the evaluation area, no vegetation associations identified in *A Manual of California Vegetation* are present, and these areas are not considered sensitive by any regulatory agency. A description of each community is provided below.

Ruderal: Ruderal areas are those areas which have been developed or have been subject to historic and ongoing disturbance by human activities and are devoid of vegetation or dominated by non-native and/or invasive weed species. Within the evaluation area, ruderal land consisted primarily of mowed or graded dirt roads and access areas within the WRF. Ruderal habitat within the excavated drainage ponds (**Figure 10**) was dominated by invasive annuals and contained no emergent or riparian vegetation.

Ruderal areas are considered to have low biological value as they are generally denuded of vegetation or are dominated by non-native plant species and consist of relatively low-quality habitat from a wildlife perspective. However, some common wildlife species that do well in urbanized areas, including European starling (*Sturnus vulgaris*), western fence lizard (*Sceloporus occidentalis*), ground squirrel (*Otospermophilus beecheyi*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), American crow (*Corvus brachyrhynchos*), California scrub jay (*Aphelocoma californica*), and rock pigeon (*Columba livia*), may be found foraging within these areas.

Agricultural: Approximately 1.8 acres of the survey area are in active agricultural use at the current location of the service pipeline connecting the WRF to the City (**Figure 10**). This area is continuously managed and cultivated for food crops, and is likely subject to frequent soil tilling, weeding, and treatment with insecticides and herbicides. As such, it provides poor habitat for most plant and wildlife species of concern; however, some special-status plants, including Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), have been known to occur in ditches and unmaintained edges of agricultural fields and roadways.

Developed: As identified above, developed areas within the evaluation area consist of paved roads, dirt roads, landscaped parks, and the WRF (see **Figures 10** and **11**). Developed areas are considered to have low biological value as they are generally denuded of vegetation and consist of relatively low-quality habitat from a wildlife perspective. However, the common wildlife species identified above for ruderal communities may be found foraging within these areas. Landscaped plants within the park of the evaluation area lack the continuous flowers necessary to support insect species of concern, however they may provide nesting habitat for raptor and other avian species.

Sensitive Habitats

A historic seasonal wetland feature is present approximately 20 ft south of the survey area located at the intersection of Gabilan Drive and Toledo St (**Figure 11**). The location is identified as a seasonal wetland feature on the Service's National Wetlands Mapper, but it is noted as "excavated by humans." The site also contains multiple drainage culverts and is unlikely to contain water outside of active rain storm events. Additionally, several excavated drainage ponds are located adjacent to the survey area as well as within the proposed location of the new storage reservoir and pump station at the WRF (**Figure 10**). These locations are identified by the Service as temporary wetlands that are artificially filled by pumps. This habitat is not suitable breeding habitat for any wildlife species of concern.

No emergent hydrophytic vegetation or other wetland indicators were observed within any of these locations during the August 22, 2024 biological survey. None of the ponds show up in the USGS Hydrographic Dataset (USGS, 2024) nor do they meet the definition of waters of the U.S. as identified in CFR 328.3(a)(8), and, therefore, are not subject to the jurisdiction of the Army Corps of Engineers under the Clean Water Act.

Special-Status Species

Published occurrence data within the Project area and surrounding USGS quadrangles were evaluated to compile a table of special-status species known to occur in the vicinity of the evaluation area. Each of these species was evaluated for their likelihood to occur within and immediately adjacent to the site. No special-status plant species were observed within the evaluation area during biological surveys; however, based on the species-specific reasons presented in **Appendix D**, Congdon's tarplant may occur within the survey area. Three special-status wildlife species have the potential to occur within the evaluation area: Salinas pocket mouse (*Perognathus inornatus psammophilus*), San Joaquin whipsnake (*Masticophis flagellum ruddocki*), and white-tailed kite (*Elanus leucurus*). In addition to the white-tailed kite, raptors and other nesting birds have the potential to occur in the area. These species are discussed below. All other species are assumed unlikely to occur or have a low potential to occur based on the species-specific reasons presented in **Appendix D**, and are not discussed further.

***Congdon's Tarplant**:* Congdon's tarplant is an annual herb in the Asteraceae family that has a variable blooming period from May through November. It is found in valley and foothill grassland on heavy clay, saline or alkaline soils in low-lying disturbed areas that collect water. It is often found in disturbed areas with non-native annuals and grassland species, as well as ditches and vegetated spaces alongside roads and farmland. No individuals of this species were observed during the August 22, 2024 survey; however, the majority of the survey area that would be the most likely to have suitable habitat for Congdon's tarplant was inaccessible for the survey, therefore its presence within the evaluation area cannot be entirely ruled out.

***Salinas Pocket Mouse**:* Salinas pocket mouse is a CDFW Species of Concern. This sub-species of the San Joaquin pocket mouse (*Perognathus inornatus*) is found within chaparral, shrubland, blue oak woodland, and annual grassland habitats of the Salinas Valley. They are most abundant in uncultivated areas and often live in areas with sandy washes and finely textured soils. They are nocturnal, foraging in the night and spending most of the day in their burrows, which are typically dug at the base of shrubs. Burrows are additionally utilized for hibernating, which occurs 2-3 times a year, and rearing young during the breeding season (March – July). Salinas pocket mouse are the most likely to occur within the agricultural easement along Morisoli Road and near the new service line hookups at Toledo Park. The nearest CNDDB occurrence of the species is from 2006 located 1.6 km north of the site. Therefore, Salinas pocket mouse has a moderate potential to be found within the Project evaluation area.

***San Joaquin Whipsnake**:* The San Joaquin whipsnake is a CDFW species of special concern. Whipsnakes seek cover in rodent burrows, bushes, trees, and rock piles. This species hibernates in soil or sand approximately 0.3 m below the surface, sometimes at the bases of plants. Little is known about nest sites. In desert regions, whipsnakes may be attracted to water to drink or ambush prey. Open terrestrial habitats are preferred, but whipsnakes will occasionally climb trees and bushes to bask, seek prey, or take cover. Diet consists of rodents, lizards and their eggs, snakes (including rattlesnakes), birds and their eggs, young turtles, insects, and carrion. Whipsnakes, a diurnal species, search actively for prey, with

their heads elevated. This species inserts its head in burrows or climbs trees, using both vision and olfaction to detect prey. Mating occurs in April and May, eggs are laid in June and July, and the first young appear in late August to early September.

The CNDDB reports 3 occurrences of San Joaquin whipsnake within the quadrangles evaluated. The nearest occurrence is 9.8 km miles from the survey area from 1987. Habitat quality for San Joaquin whipsnake within the survey area is relatively low. The entire site is ruderal, agriculture, or developed habitat that does not provide appropriate cover or habitat conditions for San Joaquin whipsnake; however, the staging area is approximately 100 m from the Salinas River floodplain and may provide dispersal habitat for San Joaquin whipsnake.

White-Tailed Kite: White-tailed kite is a California fully-protected species and is protected by the MBTA and Fish and Game code. This raptor species is a common to uncommon, year-long resident in coastal and valley lowlands. WTK generally utilizes herbaceous lowlands with variable tree growth and an associated high population density of voles (*Microtus californicus*). Nests are made of loosely piled sticks and twigs and lined with grass, straw, or rootlets. Nests are generally placed near the top of dense oak (*Quercus* sp.), willow, or other tree stands (usually 6-20 meters above ground) and are often located near an open foraging area. Breeding occurs from February to October with peak activity occurring from May to August. This species preys predominantly on voles and other small mammals, but also takes birds, insects, reptiles, and amphibians. Foraging occurs in undisturbed open grasslands, meadows, farmlands, and emergent wetlands. Suitable nesting habitat is present within the trees directly adjacent to the evaluation area. Suitable hunting and foraging habitat are not present within the site; however, the nearby agricultural lands, vacant lots, and parks may provide suitable foraging habitat for this species.

The Project evaluation area is within the known breeding range of the white-tailed kite and the CNDDB reports 6 occurrences of the species within the quadrangles reviewed. The nearest CNDDB occurrence is from 2006 located approximately 9.3 km northeast from the evaluation area. Therefore, WTK has moderate potential to nest directly adjacent to the site.

Protected Avian Species

Raptors and other nesting birds are protected under the California Fish and Game Code and the MBTA. While the life histories of these species vary, overlapping nesting and foraging similarities allow for their concurrent discussion. Most raptors are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Smaller avian species may also nest in scrub habitats and urban areas. Breeding occurs February through September, with peak activity May through July. Various raptors and avian species, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), California scrub jay (*Aphelocoma californica),* dark-eyed junco (*Junco hyemalis*), mourning dove (*Zenaida macroura*), and sparrows (*Zonotrichia* sp.), have the potential to nest within the trees present within and directly adjacent to the evaluation area.

Regulatory Environment

Federal

***Federal Endangered Species Act*:** Provisions of the ESA of 1973 (16 USC 1532 et seq., as amended) protect federally listed threatened or endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules are published in the Federal Register. The ESA is administered by the Service or National Oceanic and Atmospheric Administration ("NOAA") National Marine Fisheries Service ("NMFS"). In general, NMFS is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under Service jurisdiction.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered or threatened. Take, as defined by ESA, is “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” The ESA defines harm as “any act that kills or injures the fish or wildlife…including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” Additionally, Section 9 prohibits removing, digging up, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit the take of federally listed plants on sites not under federal jurisdiction. If there is the potential for incidental take of a federally listed fish or wildlife species, take of listed species can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions. Federal agency actions include activities on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

***Clean Water Act*.** The U.S. Army Corps of Engineers (“USACE”) and U.S. EPA regulate discharge of dredged and fill material into waters of the U.S. under Section 404 of the Clean Water Act (“CWA”). Waters of the U.S. are defined broadly as waters susceptible to use in commerce (including waters subject to tides, interstate waters, and interstate wetlands) and other waters (such as interstate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds) (33 CFR 328.3). Potential wetland areas are identified as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils conditions.”

Under Section 401 of the CWA, any applicant receiving a Section 404 permit from the USACE must also obtain a Section 401 Water Quality Certification from the RWQCB. A Section 401 Water Quality Certification is issued when a project is demonstrated to comply with state water quality standards and other aquatic resource protection requirements.

State

***California Endangered Species Act*:** The CESA was enacted in 1984. The California Code of Regulations (Title 14, §670.5) lists animal species considered endangered or threatened by the state. Sec. 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. Sec. 2080 of the Fish and Game Code prohibits "take" of any species the commission determines to be an endangered species or a threatened species. Sec. 86 of the Fish and Game Code defines “take” as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue,

catch, capture, or kill." Section 2081 Incidental Take Permit from the CDFW may be obtained to authorize “take” of any state listed species.

***California Native Plant Protection Act*:** The CNPPA of 1977 directed CDFW to conduct the legislature’s intent to “preserve, protect and enhance rare and Endangered plants in the State." The CNPPA prohibits importing rare and Endangered plants into California, taking rare and Endangered plants, and selling rare and Endangered plants. The CESA and CNPPA authorized the Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (Sec. 2050-2098, Fish and Game Code). Plants listed as rare under the CNPPA are not protected under CESA; however, these plants may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research.

***California Fish and Game Code*:** Sec. 3503 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Sec. 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Sec. 3511 prohibits the take or possession of fully protected birds. Sec. 3513 prohibits the take or possession of any migratory nongame birds designated under the federal Migratory Bird Treaty Act. Sec. 3800 prohibits the take of nongame birds.

The classification of Fully Protected was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced extinction. Lists were created for fish (Sec. 5515), mammals (Sec.4700), amphibians and reptiles (Sec.5050), and birds (Sec.3511). Most Fully Protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

The CDFW also maintains a list of wildlife “species of special concern.” Although these species have no legal status, the CDFW recommends considering these species during analysis of project impacts to protect declining populations and avoid the need to list them as endangered in the future.

Local

City of Soledad General Plan: The following polices from the Conservation and Open Space Element of the City’s General Plan are applicable to the Proposed Project:

C/OS9: The City shall support the preservation and enhancement of natural landforms, natural vegetation, and natural resources to the maximum extent feasible.

C/OS10: The City shall support State and federal laws and policies to preserve populations of rare, threatened, and endangered species by ensuring development does not adversely affect such species in a significant way or by fully mitigating adverse effects.

C/OS11: The City shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design to the extent feasible.

C/OS12: The City shall require developers to use native and compatible non-native species, especially drought tolerant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of project approvals or project mitigations.

***2010 Monterey County General Plan*:** The following goals and policies of the 2010 Monterey County General Plan would apply to portions of the Proposed Project:

Goal OS-4: Protect and Conserve the Quality of Coastal, Marine, and River Environments, as Applied in Areas Not in the Coastal Zone.

Policy OS-4.1: Federal and State listed native marine and freshwater species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant shall be protected. Species designated in Area Plans shall also be protected.

Policy OS-4.2*:* Direct and indirect discharges of harmful substances into marine waters, rivers or streams shall not exceed state or federal standards.

Policy OS-4.3*:* Estuaries, salt and freshwater marshes, tide pools, wetlands, sloughs, river and stream mouth areas, plus all waterways that drain and have impact on State designated Areas of Special Biological Significance ("ASBS") shall be protected, maintained, and preserved in accordance with state and federal water quality regulations.

Goal OS-5: Conserve Listed Species, Critical Habitat, Habitat and Species Protected in Area Plans; Avoid, Minimize and Mitigate Significant Impacts to Biological Resources.

Policy OS-5.3*:* Development shall be carefully planned to provide for the conservation and maintenance of critical habitat.

Policy OS-5.4*:* Development shall avoid, minimize, and mitigate impacts to listed species and critical habitat to the extent feasible. Measures may include but are not limited to:

a. clustering lots for development to avoid critical habitat areas,
b. dedications of permanent conservation easements; or
c. other appropriate means.

If development may affect listed species, consultation with United States Fish and Wildlife Service ("USFWS") and California Department of Fish and Game ("CDFG") may be required and impacts may be mitigated by expanding the resource elsewhere on-site or in close proximity off-site. Final mitigation requirements would be determined as required by law.

Policy OS-5.6: Native and native compatible species, especially drought resistant species, shall be utilized in fulfilling landscaping requirements.

Policy OS-5.12: The California Department of Fish and Game shall be consulted and appropriate measures shall be taken to protect Areas of Special Biological Significance (ASBS).

Policy OS-5.16: A biological study shall be required for any development project requiring a discretionary permit and having the potential to 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, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

An ordinance establishing minimum standards for a biological study and biological surveys shall be enacted. A biological study shall include a field reconnaissance performed at the appropriate time of year. Based on the results of the biological study, biological surveys may be necessary to identify, describe, and delineate the habitats or species that are potentially impacted. Feasible measures to reduce significant impacts to a less than significant level shall be adopted as conditions of approval.

Policy OS-5.18: Prior to disturbing any federal or state jurisdictional areas, all applicable federal and state permitting requirements shall be met, including all mitigation measures for development of jurisdictional areas and associated riparian habitats.

Policy OS-5.24: The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall require that expansion of its roadways and public infrastructure projects provide movement opportunities for terrestrial wildlife and ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.

Policy OS-5.25: Occupied nests of statutorily protected migratory birds and raptors shall not be disturbed during the breeding season (generally February 1 to September 15). The county shall

A. Consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to:

(1) determine whether work is proposed during nesting season for migratory birds or raptors,

(2) determine whether site vegetation is suitable to nesting migratory birds or raptors,

(3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds and raptors which could nest on the site, and

(4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of disruption of nesting birds.

B. Require the development to follow the recommendations of the biologist. This measure may be implemented in one of two ways:

(1) preconstruction surveys may be conducted to identify active nests and, if found, adequate buffers shall be provided to avoid active nest disruption until after the young have fledged; or

(2) vegetation removal may be conducted during the non-breeding season (generally September 16 to January 31); however, removal of vegetation along waterways shall require approval of all appropriate local, state, and federal agencies.

This policy shall not apply in the case of an emergency fire event requiring tree removal. This policy shall apply for tree removal that addresses fire safety planning, since removal can be scheduled to reduce impacts to migratory birds and raptors.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	■	☐	☐
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?	☐	☐	☐	■
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?	☐	☐	☐	■

Impact Discussion

Criteria “b” and “c” were not evaluated for impacts to sensitive habitats or impacts to protected wetlands because these resources are not present within the evaluation area. Criterion “e” was not evaluated for conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance because the project will not require tree removal. Criterion “f” was not evaluated for conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, because the evaluation area is not located within any such plan area.

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans,

policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Congdon's tarplant has the potential to occur within suitable habitat within the evaluation area. (**Appendix D**). Excavation and trenching activities associated with the Project along Morisoli Road and within the WRF and Toledo Park may result in damage or loss of any individuals growing within the site at the time of construction. This is a potentially significant impact that can be minimized to less than significant with implementation of **Mitigation Measures BIO-1** and **BIO-2**.

Salinas pocket mouse, a CDFW species of special concern, has the potential to occur within or adjacent to the evaluation area. Shrubs within the parks that will receive new service lines and updated irrigation may be utilized by burrowing Salinas pocket mouse. Direct impacts such as excavation and shrub removal, as well as indirect impacts from construction activities (e.g., noise, vibrations) could result in injury, den abandonment, and/or mortality of Salinas pocket mouse if burrowing within or directly adjacent to the evaluation area during construction activities. This is a potentially significant impact that can be minimized to less than significant with implementation of **Mitigation Measure BIO-1**.

San Joaquin whipsnake have the potential to occur adjacent to the evaluation area. Construction activities associated with the staging area could result in direct mortality of this species if they were to disperse from the adjacent habitat. This would be a potentially significant impact that can be reduced to less than significant with implementation of **Mitigation Measures BIO-1** and **BIO-3**.

The Project is not expected to result in tree removal or direct impacts to raptors or other nesting birds, including WTK. However, it is possible that the final Project design may require tree removal. In addition, indirect impacts from construction activities (e.g., noise, vibrations) could result in injury, nest abandonment, and/or mortality of raptors and other nesting birds, if nesting within or directly adjacent to the evaluation area during construction activities. This is a potentially significant impact that can be minimized to less than significant with implementation of **Mitigation Measures BIO-1** and **BIO-4**.

> **Mitigation Measure BIO-1:** A qualified biologist will conduct an Employee Education Program for the construction crew prior to any construction activities. The qualified biologist will meet with the construction crew at the onset of construction at the evaluation area to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review Project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the identification of special status species that may be present; 4) the specific mitigation measures that will be incorporated into the construction effort; 5) the general provisions and protections afforded; and 6) the proper procedures if a special status species is encountered within the Project site to avoid impacts.
>
> **Mitigation Measure BIO-2:** A qualified biologist will conduct protocol-level surveys for Congdon's tarplant and Salinas pocket mouse within the Project boundaries within the WRF and within the agricultural/ruderal habitat prior to construction. Protocol-level surveys shall be conducted by a qualified biologist at the appropriate time of year for species with the potential to occur within the site. A report describing the results of the surveys shall be provided to the project proponents prior to any ground disturbing activities. The report shall include but is not limited to 1) a description of the species observed, if any; 2) map of the location, if observed; and 3) recommended avoidance and minimization measures, if applicable.

Mitigation Measure BIO-3: Prior to construction activities in the staging area, a qualified biologist will conduct a clearance survey in suitable habitat within the Survey Area for San Joaquin whipsnake. If San Joaquin whipsnake is observed during construction, measures will be taken to avoid the individual(s) and the species will be allowed to leave on its own volition or will be relocated outside of the survey area by the qualified biologist.

Mitigation Measure BIO-4: Project activities that may affect protected nesting avian species (e.g., tree removal, noise, vibrations) shall be scheduled after September 15 and before February 1 to avoid the avian breeding and nesting season. Alternatively, a qualified biologist shall be retained by the Project applicant to conduct pre-construction surveys for nesting raptors and other protected avian species within 300 feet of proposed Project activities if work occurs between February 1 and September 15. Pre-construction surveys shall be conducted no more than 14 days prior to the start of Project activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through September). Because some bird species nest early in spring and others nest later in summer, and because some species breed multiple times in a season, surveys for nesting birds may be required to continue during Project activities to address new arrivals. If Project activities are halted for more than 14 days during the avian nesting season, additional surveys shall be conducted. The necessity and timing of these continued surveys shall be determined by the qualified biologist.

If raptors or other protected avian species nests are identified during the pre-construction surveys, the qualified biologist shall notify the Project applicant and an appropriate no-disturbance buffer shall be imposed within which no disturbance should take place (generally 300 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

b. Would the project 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?

The Project would have no impact to riparian or other sensitive habitats because these resources are not present within the site.

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

The Project would have no impact to protected wetlands because this resource is not present within the site.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The evaluation area lies within an existing residential community and active agricultural land and is not located within a migratory wildlife corridor. The Project consists of the replacement of existing infrastructure and alterations to already developed land and would not result in the construction of any new development or impervious surfaces. Therefore, the Proposed Project would not interfere with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites. This impact is less than significant, and no mitigation is required.

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

The Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, because the project will not require tree removal.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Proposed Project is not located within an area included in an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.5 Cultural Resources

Basin Research Associates, Inc. ("BASIN") prepared a Cultural Resources Assessment Report for the Proposed Project in August 2024.[2] The Cultural Resources Assessment Report includes the results of background research and field reconnaissance of the Proposed Project's Area of Potential Effect ("APE"). Background research consisted of a records search from the Northwest Information Center at Sonoma State University ("NWIC"), a Sacred Lands File ("SLF") search with the Native American Heritage Commission ("NAHC"), and Native American consultation in support of consultation under AB 52. The field reconnaissance consisted of a pedestrian survey of the APE on July 12, 2024, which investigated the APE for cultural and Tribal cultural resources.

Environmental Setting

The Project area is located in the Salinas Valley with the Gabilan Range on the east and the Sierra de Salinas on the west. The most prominent natural feature is the Salinas River which divides the South County down the middle. This shallow water course is 155 miles long prone to wide displacement during intermittent seasonal flow. It is the principal river in Monterey County and flows for 170 miles from the midpoint of San Luis Obispo County northwest through Monterey County to the Monterey Bay. Numerous creeks and streams from the neighboring mountains feed into the Salinas River. The Project is

[2] Due to the potentially confidential nature of items in this report, this study is not included in the IS/MND. Qualified personnel may request a copy of this report from the City.

located within the portion of Monterey County that is hot and dry, in contrast to cool and moist along the coast.

There are numerous historic resources spread throughout the County. A search of the NWIC identified 19 reports in or adjacent to the WRF and pipeline alignments with 15 additional reports within 0.5 mile. No prehistoric or combined prehistoric or historic era sites or built environment resources have been recorded or reported in or adjacent to the Proposed Project. Five resources, all historic built environment structures, have been recorded within 0.5 mile of the Proposed Project.

The most recent Monterey County archaeological sensitivity map (Monterey County, 2024) shows a "low" sensitivity in the vicinity of Soledad. The City's Environmental Impact Report for the 2005 General Plan indicates that the potential for historic era archaeological resources is low, as only one historical site/resource is shown to be within the vicinity of the City. The potential for exposing significant subsurface archaeological materials during pipeline construction appears minimal based on the review of the available sensitivity mapping, the lack of NRHP and CRHR as well as local register resources and the absence of any unexpected construction discoveries over the past 50 years.

BASIN's pedestrian survey of the Proposed Project APE did not encounter evidence of archaeological deposits or other potential cultural resources. The results of the SLF records search were negative for potential cultural sensitivity within the Proposed Project APE (BASIN, 2024).

Regulatory Environment

State

California Environmental Quality Act: CEQA requires regulatory compliance for projects involving historic resources throughout the State. Under CEQA, public agencies must consider the effects of their actions on historic resources (Public Resources Code, Section 21084.1). The CEQA Guidelines define a significant resource as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources ("California Register") [see Public Resources Code, Section 21084.1 and CEQA Guidelines Section 15064.5 (a) and (b)].

California Public Resources Code: Several sections of the California PRC protect cultural resources located on public land. Under PRC Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site (including fossilized footprints), inscriptions made by human agency, rock art, or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Violation of this section is a misdemeanor.

PRC Section 5097.98 states that if Native American human remains are identified within a project area, the landowner must work with the Native American Most Likely Descendant as identified by the NAHC to develop a plan for the treatment or disposition of the human remains and any items associated with Native American burials with appropriate dignity. These procedures are also addressed in Section 15064.5 of the State CEQA Guidelines. California Health and Safety Code Section 7050.5 prohibits disinterring, disturbing, or removing human remains from a location other than a dedicated cemetery. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur because of development on public lands.

California Health and Safety Code: California Health and Safety Code Section 7050.5 regulates the treatment of human remains. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to his or her authority. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact the NAHC by telephone within 24 hours.

California Assembly Bill 52: AB 52, in effect since July 2015, provides CEQA protections for Tribal cultural resources. All lead agencies approving projects under CEQA are required, if formally requested by a culturally affiliated California Native American Tribe, to consult with such Tribe regarding the potential impact of a project on Tribal cultural resources before releasing an environmental document. Under California Public Resources Code Sec. 21074, Tribal cultural resources include site features, places, cultural landscapes, sacred places, or objects that are of cultural value to a Tribe and that are eligible for or listed on the California Register of Historic Resources or a local historic register, or that the lead agency has determined to be of significant Tribal cultural value.

Local

City of Soledad General Plan: The following polices from the Conservation and Open Space Element of the City's General Plan are applicable to the Proposed Project:

C/OS23: If development of a site uncovers cultural resources, the recommendations of Appendix K of the Guidelines for Implementation of the California Environmental Quality Act (Public Resources Code Section 15000 et seq.) shall be followed for identification, documentation, and preservation of the resource.

C/OS24: The City shall document and record data or information relevant to prehistoric and historic cultural resources which may be impacted by proposed development. The accumulation of such data shall act as a tool to assist decisionmakers in determinations of the potential development effects to prehistoric and historical resources located within the City.

***2010 Monterey County General Plan*:** The following policies of the 2010 Monterey County General Plan are applicable to portions of the Proposed Project.

Policy OS-7.1*:* Important representative and unique paleontological sites and features shall be identified and protected. Developers shall be required to complete Phase I (reconnaissance level) paleontological reviews in any formation known to yield important elements of the fossil record. If significant fossil deposits are found during grading activities, data recovery shall be required to obtain a sample of materials from such deposits prior to their systematic destruction.

Policy OS-7.4*:* Development proposed in low sensitivity zones are not required to have a paleontological survey unless there is specific additional information that suggests paleontological resources are present.

Policy OS-8.1*:* Unique burial sites shall be identified and protected. All Native Californian cemeteries, burials, shrine sites, and sacred place locations shall be preserved in place to the greatest extent possible and as permitted by law. In cases where such sites and locations cannot be retained in place without modification, governing requirements in the Government Code, Health and Safety Code, California Environmental Quality Act and Native American Religious Freedom Act shall be taken into account in consulting with local Native Californian Tribal Groups with documented aboriginal ties to the study area and shall be carried out, as necessary, with the assistance and input of the California Native American Heritage Commission. Documentation of descent shall be based on Genealogical Proof Standards.

Policy OS-8.3*:* Development proposed at sites where known burials or human cemeteries are located shall in no case modify, disturb, excavate, or develop in such locations until all steps in compliance with CEQA, Native American Heritage Commission, Health and Safety Code and Government Code, and in accordance with any completed MOU with a local Tribe, have been completed. Routine and Ongoing Agricultural Activities are exempted from this policy in so far as allowed by state or federal law. In the case of any conflict of interpretation, state requirements for the protection of burial sites are applicable and shall be implemented in good faith.

Policy OS-8.4*:* Policies and procedures shall be established that encourage development to avoid impacts to burial sites including:

a. Designing or clustering development to avoid archaeological deposits that typically contain human remains and to avoid any known cemeteries or other concentrations of human remains;
b. Requiring dedication of permanent conservation easements if subdivisions and other developments can be planned to provide for such protective easements;
c. In all cases where human remains are identified through CEQA review, archaeological research, ethnohistoric research, inadvertent grading disturbance, or historic record research, the County shall consult with the designated “most likely descendants” as identified by any Memorandum of Understanding (“MOU”) adopted pursuant to Policy OS-8.7. In the event no MOU is executed, the Native American Heritage Commission shall be consulted to help determine the appropriate Tribal Group in that portion of the County where the burial remains are identified.

Policy OS-8.6*:* Tribal representatives will be consulted, consistent with state preservation law, about the location of sacred places, ancestral sites, archaeological remains of village sites, burial and cemetery sites, and other significant cultural resources during the preparation of any General Plan amendment, Master Plan, Community Plan, or Specific Plan.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	■	☐	☐

Impact Discussion

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

CEQA Guidelines Sec. 15064.5 defines a historical resource as one being listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources. Public Resources Code Section 21084.1 states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. No prehistoric or combined prehistoric or historic era sites or built environment resources have been recorded or reported in or adjacent to the Proposed Project. Five resources, all historic built environment structures, have been recorded within 0.5 mile of the Proposed Project. However, the Project would not affect these five resources. Therefore, the Proposed Project would not impact a historical resource.

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

Section 21083.2 of the Public Resources Code requires lead agencies to assess potential impacts to archaeological resources and determine whether a project may cause a substantial adverse change in the significance of an archaeological resource. BASIN conducted a records search at the NWIC, an SLF search with the NAHC, and completed a visual inspection of the Proposed Project APE. Additionally, BASIN reviewed the Proposed Project site geology and soil characterizations. BASIN did not observe archaeological resources, and none have been previously recorded within the Proposed Project APE. While unlikely, unrecorded archaeological resources could be present below ground surface and such resources could be exposed or damaged during Project construction. Therefore, to ensure impacts remain less than significant, the Proposed Project would implement **Mitigation Measure CUL-1**.

> **Mitigation Measure CUL-1**: The City of Soledad shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American burials. Archaeological site information supplied to the Contractor shall be considered confidential.
>
> The City of Soledad shall retain a Professional Archaeologist on an "on-call" basis during ground disturbing construction to review, identify, and evaluate cultural resources that may be inadvertently exposed during construction. The archaeologist shall review and evaluate any

discoveries to determine if they are historical resource(s) and/or unique archaeological resources or Tribal cultural resources under CEQA.

If the Professional Archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource or Tribal cultural resource under CEQA, he/she shall notify the City of Soledad and other appropriate parties of the evaluation. The Professional Archaeologist shall recommend mitigation measures to mitigate to less than significant in accordance with California Public Resources Code Section 15064.5. Tribal cultural resources shall be evaluated with the assistance of Native American tribes and/or individual Tribal members who have previously been contacted and responded to outreach efforts by the City of Soledad. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery among other options. The completion of a formal *Archaeological Monitoring Plan* (AMP) and/or *Archaeological Treatment Plan* (ATP) that may include data recovery may be recommended by the Professional Archaeologist if significant archaeological deposits (or Tribal cultural resources) are exposed during ground disturbing construction. Development and implementation of the AMP and ATP, and treatment of significant cultural resources and/or Tribal cultural resources will be determined by the City of Soledad in consultation with any regulatory agencies and Native American Tribes and Tribal individuals.

A *Monitoring Closure Report* shall be filed with the City of Soledad at the conclusion of ground disturbing construction if archaeological and Native American monitoring was undertaken.

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

No known human remains, including those interred outside of dedicated or formal cemeteries, are known to occur on the Proposed Project site. Additionally, Native Americans were consulted during the preparation of the Cultural Resources Report (see **Section 4.17, Tribal Cultural Resources**). The results of an SLF for the Proposed Project APE were negative. As a result, the APE is considered unlikely to contain Native American remains. However, while the likelihood of human remains, including Native American remains and/or those interred outside of a formal cemetery, within the Proposed Project site is low, it is possible that previously unknown human remains may be present. Construction may impact previously unknown remains. To minimize potential impacts to less than significant, mitigation is necessary. The implementation of the following mitigation measure would ensure potential adverse impacts would be avoided.

Mitigation Measure CUL-2*:* The treatment of human remains and any associated or unassociated funerary objects discovered during any soil-disturbing activity within the project site shall comply with applicable State laws. This shall include immediate notification of the Monterey County Sheriff's Office and the City of Soledad.

In the event of the coroner's determination that the human remains are Native American, notification of the Native American Heritage Commission, is required who shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98).

The City of Soledad, Professional Archaeologist and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or

unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The California PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the project will follow PRC Section 5097.98(b) which states that ". . . the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

4.6 Energy

Environmental Setting

Pacific Gas and Electric ("PG&E") provides electricity and natural gas throughout Monterey County, and thus would be the energy utility provider of the Proposed Project site. Beginning in 2018, all PG&E customers in Monterey, San Benito, and Santa Cruz Counties were automatically enrolled in Central Coast Community Energy ("3CE") (previously known as Monterey Bay Community Power ["MBCP"]). 3CE is a community choice energy agency that has committed to providing its customers with 100% carbon-free energy by the year 2030 (3CE, 2023). Community choice energy agencies allow local governments to procure power on behalf of their residents, businesses, and municipal accounts from an alternative supplier while still receiving transmission and distribution service from their existing utility provider (in this case, PG&E). This is typically an attractive option for communities that want more local control over their electricity sources, more clean energy than their default utility offers, and/or lower electricity prices. Per Public Utilities Code Section 366.2, customers have the right to opt out of the community choice energy program and continue to receive service from the incumbent utility (PG&E) if they so choose.

Regulatory Environment

State

***California Renewable Energy Standards*:** In 2002, California established their Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent of retail sales by 2017 through enactment of Senate Bill ("SB") 1078 (CPUC, 2023). In 2006, SB 107 revised previous elements of the Public Utilities Code so the amount of renewable energy generated per year and sold to retail customers would amount to 20 percent by 2010 (SB 107, 2006). In 2008, the governor issued Executive Order S-14-08 and requires that retail sellers of electricity serve 33 percent of their load with renewable energy by 2020 (Governor Schwarzenegger, 2008). In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of the State's electricity from renewable sources by 2030 (CPUC, 2023).

***California Building Codes*:** At the State level, the California Legislature established the Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years. Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments. The California Green Building Standards Code ("CalGreen") establishes mandatory green building standards for all

buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. Title 24 was last updated in 2022.

Local

City of Soledad General Plan: There are no applicable policies or goals from the City's General Plan.

2010 Monterey County General Plan: There are no policies or goals from the 2010 Monterey County General Plan related to energy use that would be applicable to the Proposed Project.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

Impact Discussion

a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Energy use associated with the Proposed Project would not constitute an adverse effect under CEQA, as described below.

Construction

The Proposed Project would require energy for the procurement and transportation of materials, as well as site preparation during construction. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these activities. The Proposed Project would not result in inefficient, wasteful, or unnecessary consumption of energy because: 1) the construction schedule and phased approach is designed to be efficient to avoid excess monetary costs, and 2) energy demand associated with construction would be temporary in nature. As a result, construction of the Proposed Project would have a less than significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources.

Operation

The Proposed Project would generate energy demand associated with the operation of the recycled water distribution system, as well as regular maintenance trips. City Public Works already maintains a distribution system in the vicinity of the Project area. The Proposed Project is not anticipated to result in substantial additional vehicle trips for maintenance. As a result, the operational increases from vehicle trips for maintenance trips and would be negligible compared to existing conditions.

The Proposed Project components, including the recycled water pump station at the WRF, could generate additional energy demand during operation. These facilities would be designed to comply with applicable portions of the California Green Building Code, Title 24 energy efficiency requirements, and current California Building Energy Standards requirements. In conclusion, the Proposed Project would result in a less than significant operational impact related to the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

See Response a. above. Construction and operation of the Proposed Project would be subject to existing state energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Proposed Project would be designed to comply with applicable portions of the California Green Building Code, Title 24 energy efficiency requirements, and current California Building Energy Standards requirements. The Proposed Project would have a less than significant impact related to energy usage and efficiency.

4.7 Geology and Soils

Environmental Setting

The Proposed Project area is not in an Alquist-Priolo Act zone but is in a seismically active region. The nearest quaternary fault to the Project area is the Reliz fault zone located approximately four miles southeast of the southernmost Project components. Additionally, the Pinnacles fault and a small unnamed fault lie approximately six and 3.5 miles northwest of the Project site, respectively (Monterey County, 2024).

The Proposed Project site is composed primarily of *Arroyo Seco gravelly sandy loam*, *Chualar Loam*, *Gloria sandy loam*, and *Cropley silty clay.* All three soil types are typical of alluvial deposits and share similar characteristics. These soils are generally well- or moderately well-drained with relatively slow permeability. Runoff potential varies between the three soil types. The *Arroyo Seco* series consists of sandy and gravelly alluvium with very slow runoff potential; the *Chualar* series consists of alluvium from mixed parent sources and has slow to medium runoff potential; and the *Gloria* series consists of fine gravel formed from granitic parent material runoff potential ranging from slow to rapid. All three soil types are considered suitable for various agricultural uses (UC Davis, 2024).

The Proposed Project is located on flat land within the City of Soledad's roadway ROWs and WRF and an agricultural easement located in a portion of unincorporated Monterey County that is developed with dirt access roads. The Project area has low landslide susceptibility and is an area with a low erosion hazard rating. However, some areas of the Proposed Project – primarily components located at the WRF – are in areas of moderate or high liquefaction susceptibility (Monterey County, 2024).

Crawford and Associates, Inc. prepared a geotechnical study for the Proposed Project in July 2024, contained in **Appendix E, Geotechnical Engineering and Engineering Geology Report**.

Regulatory Environment

Federal

***National Earthquake Hazards Reduction Program*:** Implemented by FEMA, the National Earthquake Hazards Reduction Program ("NEHRP") pursues research, development, and implementation of earthquake mitigation measures. Passed in 1977, NEHRP is a collaborative effort between federal, state, local governments, universities, research centers, professional societies, trade associations, and businesses. FEMA is the primary agency implementing the research and development of earthquake measures and safety materials. Implementation of these measures and materials is accomplished through the following:

- Providing federal grant programs for states and local governments to implement earthquake mitigating measures;
- engaging businesses, through the QuakeSmart program;
- providing Multi-State National Earthquake Assistance grants for public education of mitigation activities;
- collaborating with universities and non-profit organizations to encourage enforcement of building codes and use of seismic rehabilitation at a regional level;
- training for earthquake readiness and mitigation through National Earthquake Technical Assistance Program;
- providing educational materials and research reports through the FEMA Library.

NEHRP has no regulatory authority and therefore cannot enforce national earthquake standards. All the program's provisions are incumbent upon the state, local government, and business to adopt as appropriate (FEMA, 2023; Locascio, 2023).

State

***Alquist-Priolo Earthquake Fault Zoning Act*:** The Alquist-Priolo Earthquake Fault Zoning Act, passed in 1972, seeks to mitigate surface faulting's hazard to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. In these zones, buildings for human occupancy cannot be constructed across the surface traces of active faults. Because many active faults are complex and consist of more than one branch, each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace.

Title 14 of the CCR, Section 3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year. The Proposed Project does not cross an Alquist-Priolo Earthquake Fault Zone. Therefore, these provisions of the Act do not apply to the Proposed Project.

Seismic Hazards Mapping Act: The purpose of the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is to reduce damage resulting from earthquakes. The Seismic Hazards Mapping Act addresses earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. Cities and counties are required to regulate development in mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit

review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites in Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been conducted and measures to reduce potential damage have been incorporated into the development plans.

Local

City of Soledad General Plan: The Safety Element of the City's General Plan contains the following policies applicable to portions of the Proposed Project:

HZ-5: All new development shall satisfy the applicable requirements of the Uniform Building Code.

HZ-6: The City shall require the preparation of a soils engineering and geologic seismic analysis prior to permitting development in areas prone to geologic or seismic hazards (i.e., ground shaking, landslides, liquefaction, expansive soils).

***2010 Monterey County General Plan*:** The following policies from the 2010 Monterey County General Plan would be applicable to portions of the Proposed Project.

Policy OS-3.1*:* Best Management Practices (BMPs) to prevent and repair erosion damage shall be established and enforced.

Policy S-1.1: Land uses shall be sited and measures applied to reduce the potential for loss of life, injury, property damage, and economic and social dislocations resulting from ground shaking, liquefaction, landslides, and other geologic hazards in the high and moderate hazard susceptibility areas.

Policy S-1.3: Site-specific geologic studies may be used to verify the presence or absence and extent of the hazard on the property proposed for new development and to identify mitigation measures for any development proposed. An ordinance including permit requirements relative to the siting and design of structures and grading relative to seismic hazards shall be established.

Policy S-1.4: The Alquist-Priolo Earthquake Fault Zoning Act shall be enforced.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	■

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	■	☐
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?	☐	☐	☐	■
f) Directly or indirectly destroy a paleontological resource or site or unique geologic feature?	☐	☐	☐	■

Impact Discussion

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a.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?

The Proposed Project is not located in an Alquist-Priolo Earthquake Fault Zone. Additionally, there are no faults or fault zone hazard areas identified by the County of Monterey in the vicinity of the Project. The Proposed Project would be designed and constructed in accordance with standard engineering and seismic safety design techniques. No impact from the Project would occur.

a.ii) Strong seismic ground shaking?

The Proposed Project is located in a seismically active region. The nearest active fault is the San Andreas fault, located approximately 10 miles northeast of the Proposed Project area (Department of Conservation, 2024a). As a result, the Proposed Project could be subject to seismically induced hazards during its design lifetime. To minimize potential seismically induced hazards, the Proposed Project would be designed to comply with all standard engineering and seismic safety design requirements and guidelines contained in the Uniform Building Code and California Building Code ("CBC"). However, the Proposed Project would involve expansion of recycled water distribution across the City and does not include the addition of any new habitable structures. Additionally, the final design of the Proposed Project would be required to comply with the recommendations of the design-level geotechnical analysis (**Appendix E**). This would include, but is not limited to, implementation of Occupational Safety

and Health Administration ("OSHA") slopping requirements during trenching, shoring, and dewatering. In addition, the Proposed Project would be designed and constructed in accordance with standard engineering and seismic safety design techniques of the 2022 California Building Code adopted by the County of Monterey. Compliance with existing building code requirements, standard engineering and seismic safety design techniques, as well as the recommendations of the design-level geotechnical report would ensure that potential impacts would be minimized. The Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death from strong seismic ground shaking. This represents a less than significant impact.

a.iii) Seismic-related ground failure, including liquefaction?

Surface ground rupture occurs at sites that are traversed by or lie very near an active fault. The Proposed Project is not located in any mapped earthquake fault zones (Department of Conservation, 2024a). Therefore, there is a low potential for surface ground rupture within the Proposed Project area.

The geotechnical study in **Appendix E** analyzed site soils and determined that the soils within the new recycled water pump station component of the Proposed Project at the existing WRF site have the potential to result in liquefaction. To ensure impacts associated with of seismic related ground failure (including liquefaction) are minimized, the new recycled water pump station component of the Proposed Project would be designed and constructed in accordance with the recommendations of the design-level geotechnical report. Additionally, all components of the Proposed Project would be constructed in accordance with applicable standard engineering and seismic safety design techniques contained in the Uniform Building Code and CBC. The Proposed Project is the expansion of recycled water distribution across the City and does not include the addition of any new habitable structures.

For the reasons provided above, the Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death from seismic-related ground failure, including liquefaction. Therefore, this represents a less than significant impact.

a.iv) Landslides?

Landslides are common in Monterey County due to the combination of uplifting mountains, fractured and weak rocks, and periodic intense rainfall along the coast. The level of susceptibility of an area is dependent on the local geologic conditions. The Proposed Project area is generally flat and is considered to have a low susceptibility to landslide hazards (Monterey County, 2024). As a result, the Proposed Project is unlikely to be exposed to potential landslide hazards. In addition, the Proposed Project would be designed and constructed in accordance with standard engineering and seismic safety design techniques of the 2022 California Building Code adopted by the County of Monterey. The Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death from landslides, which represents a less than significant impact.

b. Would the project result in substantial soil erosion or the loss of topsoil?

The County's GIS database identifies the soils within the Proposed Project area as having a low to moderate erosion potential (Monterey County, 2024). The majority of the Project area, including the new recycled water pump station at the existing WRF plant, is classified as having low erosion susceptibility, while portions of the pipeline alignment along Gabilan Road and Toledo Street will pass through an area classified with moderate erosion susceptibility (Monterey County, 2024). To ensure

impacts remain less than significant, the Proposed Project would be designed and constructed in accordance with standard engineering and seismic safety design techniques of the 2022 California Building Code. The Proposed Project would have a less than significant impact related to substantial soil erosion or the loss of topsoil.

c. *Would the project 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?*

Soils within the new recycled water pump station component at the existing WRF site have the potential to result in liquefaction, and Project site conditions (i.e., moderate soil plasticity) have the potential for expansive soils. To ensure that the Project would minimize ground instability on- or off-site potentially resulting in liquefaction, lateral spreading, and subsidence, the new recycled water pump station component of the Proposed Project would be designed and constructed according to the recommendations of the design-level geotechnical report. All components of the Proposed Project would be constructed in accordance with all applicable standard engineering and seismic safety design techniques contained in the Uniform Building Code and CBC (see **Appendix E**). Furthermore, any imported fill used for the Proposed Project must adhere to the recommendations for expansive potential outlined in **Appendix E**. As discussed above, the Proposed Project area is generally flat and is considered to have a low susceptibility to landslide hazards, therefore; the Project site would be unlikely to experience landslide hazards (Monterey County, 2024). For these reasons, the Proposed Project would have a less than significant impact.

d. *Would the project 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?*

Soils within the Proposed Project area have moderate plasticity (**Appendix E**). As a result, components of the Proposed Project could potentially be located on expansive soil. However, the Proposed Project would involve expansion of recycled water distribution across the City and would not create substantial risks to life or property as no habitable structures are proposed. In addition, any imported fill used for the Proposed Project would be required to meet the recommendations for expansive potential outlined in **Appendix E**. This represents a less than significant impact.

e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The Proposed Project site does not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater. The Proposed Project would involve expansion of recycled water distribution across the City and does not include the use of septic tanks or alternative wastewater disposal system; therefore no impact would occur.

f. *Would the project directly or indirectly destroy a paleontological resource or site or unique geologic feature?*

Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, uncommon, and diagnostically or stratigraphically important, as well as those that add to an existing

body of knowledge in specific areas, stratigraphically, taxonomically, or regionally. They include fossil remains of large to very small aquatic and terrestrial vertebrates, remains of plants and animals previously not represented in certain portions of the stratigraphy and assemblages of fossils that might aid stratigraphic correlations – particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, and the relationships of aquatic and terrestrial species. Most of the fossils found in Monterey County are of marine life forms and create a record of the region's geologic history of advancing and retreating sea levels. A review of nearly 700 known fossils localities in the County was conducted in 2001; 12 fossil sites were identified as having outstanding scientific value. The Proposed Project site is not located on or near any of those sites based on GIS data provided by the County (Rosenberg, 2001). The Proposed Project would not directly or indirectly destroy a paleontological resource or site or unique geologic feature, as none exist within the Proposed Project area. No impact would occur.

4.8 Greenhouse Gas Emissions

Environmental Setting

Global temperatures are affected by naturally occurring and anthropogenic-generated atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Greenhouse gases ("GHGs") are gases that absorb and re-emit infrared radiation in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide ("CO_2"), methane ("CH_4"), nitrous oxide ("N_2O"), fluorinated gases such as hydrofluorocarbons ("HFCs") and perfluorocarbons ("PFCs"), and sulfur hexafluoride ("SF_6"). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere. GHG emissions from anthropogenic sources are causing a trend of unnatural warming of the earth's climate, known as global warming or global climate change.

MBARD has not yet adopted a threshold for construction-related GHG emissions but recommends utilizing thresholds set by neighboring districts (e.g., Sacramento Metropolitan Air Quality Management District ["SMAQMD"]). The SMAQMD GHG threshold is defined in terms of carbon dioxide equivalent ("CO_2e"), a metric that accounts for emissions from various GHGs based on their global warming potential. According to SMAQMD, a Project would result in a significant GHG-related impact if the Project would emit more than 1,100 metric tons of CO_2e per year ("$MTCO_2e$/year"). Operation of a stationary source project would not have a significant GHG impact if the project emits less than 10,000 $MTCO_2e$/year. Climate change has a cumulative impact; a project contributes to this impact through its incremental contribution of GHG emissions combined with the cumulative increase of all other sources of GHGs. If annual emissions of GHGs exceed these threshold levels, the Proposed Project would result in a cumulatively considerable contribution of GHG emissions and must implement mitigation measures (MBARD, 2016).

Regulatory Environment

Federal

***Federal Regulation and the Clean Air Act - Executive Order 13514*:** Executive Order 13514 is focused on reducing GHGs internally in federal agency missions, programs, and operations. Additionally, the executive order directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

On April 2, 2007, in Massachusetts v. U.S. EPA, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the FCAA and that the U.S. EPA has the authority to regulate GHGs. The Court held that the U.S. EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution that may be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two (2) distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator found that the current and projected concentrations of the six (6) key well-mixed GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator found the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Although these findings did not impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles* published on September 15, 2009. On May 7, 2010, the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration ("NHTSA") are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles and additional light-duty vehicle GHG regulations. President Obama outlined these steps in a Presidential Memorandum on May 21, 2010.

The final combined U.S. EPA and NHTSA standards making up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of Carbon dioxide ("CO_2") per mile (the equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements). Together, these standards will cut GHG emissions by an estimated 960 million metric tons ("MMT") and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). On August 28, 2012, U.S. EPA and NHTSA issued their joint rule to extend this national program of coordinated GHG and fuel economy standards to model years 2017 through 2025 passenger vehicles.

State

***Assembly Bill 32 – California Global Warming Solutions Act*:** AB 32, the Global Warming Solutions Act of 2006, codifies the State of California's GHG emissions target by directing CARB to reduce the state's global warming emissions to 1990 levels by 2020. Governor Schwarzenegger signed and passed into law AB 32 on September 27, 2006. Since that time, the CARB, the California Energy Commission ("CEC"), the California Public Utilities Commission ("CPUC"), and the Building Standards Commission ("BSC") have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.[3]

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State of California's main strategies to reduce GHGs from business as usual ("BAU") emissions projected in 2020 back down to 1990 levels. BAU is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. This plan required CARB and other state agencies to develop and adopt regulations and other initiatives reducing GHGs by 2012.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 MMT of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector-or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast because of economic downturn, to 545 MMT of CO_2e. Two (2) GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

CARB prepared an updated Scoping Plan which was released in 2017. The 2017 Scoping Plan identifies ways for California to reach the statewide 2030 climate target and next steps for reaching the 2050 target goal.

***Senate Bill 1368*:** SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the CPUC to establish a greenhouse gas emission performance standard. Therefore, on January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard to help mitigate climate change. The Emissions Performance Standard is a facility-based emissions standard requiring all new long-term commitments for baseload generation to serve California consumers be with power plants that have emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour. "New long-term commitment" refers to new plant investments (new construction), new or renewal contracts with a term of five (5) years or more, or major investments by the utility in its existing baseload power plants. Additionally, the CEC established a similar standard for local publicly owned utilities that cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. On July 29, 2007, the Office of Administrative Law disapproved the CEC's proposed Greenhouse Gases Emission Performance Standard rulemaking action and subsequently, the CEC revised the proposed regulations. SB 1368 further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

[3] Note that AB 197 was adopted in September 2016 to provide more legislative oversight of CARB.

***Senate Bill 350 – Clean Energy and Pollution Reduction Act*:** In September 2015, the California Legislature passed SB 350 (de Leon 2015), which increases the State's Renewables Portfolio Standard Program for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

***Executive Order S-03-05*:** On June 1, 2005, Governor Schwarzenegger signed Executive Order S-03-05, the purpose of which was to implement requirements for the California Environmental Protection Agency ("CalEPA") to provide ongoing reporting on a biennial basis to the State Legislature and Governor's Office on how global warming is affecting the state. Required areas of impact reporting include public health, water supply, agriculture, coastline, and forestry. The CalEPA secretary is required to prepare and report on ongoing and upcoming mitigation designed to counteract these impacts.

***Executive Order B-30-15*:** On April 15, 2015, Governor Brown signed Executive Order B-30-15, the purpose of which is to establish a GHG reduction of 40 percent below 1990 levels by 2030. The Executive Order intended to help the state work towards a further emissions reduction target of 80 percent below 1990 levels by the year 2050. The order directed state agencies to prepare for climate change impacts through prioritization of adaptation actions to reduce GHG emissions, preparation for uncertain climate impacts through implementation of flexible approaches, protection of vulnerable populations, and prioritization of natural infrastructure approaches.

***Executive Order B-55-18 and SB 100 – 100 Percent Clean Energy Act of 2018*:** On September 10, 2018, Governor Brown signed both SB 100 – 100 Percent Clean Energy Act of 2018 and Executive Order B-55-18 to Achieve Carbon Neutrality. SB 100 sets California on course to achieving carbon-free emissions from the electric power production sector by 2045. SB 100 also increases the required emissions reduction generated by retail sales to 60 percent by 2030, an increase of 10 percent compared to previous goals. B-55-18 establishes a new goal of achieving statewide "carbon neutrality as early as possible and no later than 2045, and to achieve and maintain net negative emissions thereafter" (Governor Brown, 2018).

***California Building Code*:** The CBC contains standards regulating the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The CBC is adopted every three (3) years by the BSC. In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBC standards apply statewide. However, a local jurisdiction may amend a CBC standard if it makes a finding the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

Local

Monterey Bay Air Resources District: To date, MBARD has not adopted regulations or CEQA guidance for analysis of GHG effects of land use projects; nor has it prepared a qualified GHG reduction plan for use or reference by local agencies. MBARD recommends utilizing thresholds set by neighboring districts, such as the SMAQMD.

City of Soledad General Plan: There are no applicable policies or goals from the City's General Plan.

2010 Monterey County General Plan: There are no policies or goals from the 2010 Monterey County General Plan that would be applicable to the Proposed Project.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	■	☐

Impact Discussion

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

A GHG evaluation was completed for the Project as part of the air quality assessment by AMBIENT (August 2024). This report is contained in **Appendix C**. Implementation of the Project would contribute to increases in GHG emissions that are associated with global climate change. Short-term and long-term GHG emissions associated with the development of the Project are discussed in greater detail below.

Short-term Construction

Short-term construction emissions associated with the Project were quantified using the CalEEMod, version 2022.1.1.26. Emissions modeling included the analysis of proposed foundation/concrete, grading, pump station installation, asphalt paving, and trenching. Emissions were quantified based on project-specific data provided, and default modeling parameters contained in the model for Monterey County. Since equipment may not be used every day of the construction phase, phase durations in CalEEMod were based on the number of days of equipment use. CalEEMod offsite worker emissions were scaled based on the number of working days in the phase. Construction generated GHG emissions were amortized over an approximate 30-year project life and included with operational emissions estimates. Construction generated GHG emissions attributable to the Project are presented for informational purposes.

Short-term annual GHG emissions are summarized in **Table 6**. Based on the modeling conducted, emissions of GHGs associated with the construction of the Project would total approximately 396 MTCO2*e*. There would also be a small amount of GHG emissions from waste generated during construction; however, this amount is speculative. Actual emissions would vary, depending on various factors including construction schedules, equipment required, and activities conducted. Assuming an average project life of 30 years, amortized construction-generated GHG emissions would total approximately 13 MTCO2*e*/yr.

Table 6
Amortized Construction GHG Emissions

Construction	GHG Emissions (MTCO2*e*)
Foundation/Concrete	5.73
Grading	62.15
Pump Station Installation	2.01
Asphalt Paving	70.03
Trenching	256.48
Total	396.39
Amortized Construction Emissions	13.21

Based on CalEEMod computer modeling. Amortized construction-generated GHG emissions assume a 30-year project life.

Long-term Greenhouse Gas Emissions

Long-term operational emissions of the Project were quantified using energy intensity factors for Monterey County from CalEEMod, version 2022.1.1.26. CalEEMod does not provide adjusted energy intensity factors to account for anticipated reductions in energy use in future years. Therefore, year 2027 energy intensity factors were conservatively used for turbine pump emission calculations. Two turbine water pumps would be in use during standard operation and the third used as a back-up. Based on information provided by the Project proponent, the water pumps would operate at 150 horsepower (hp) each. This is the equivalent of approximately 112 kW (kilowatts) per pump. Each of the two primary pumps were estimated to operate approximately 1,664 hours annually. Refer to Appendix A of **Appendix C** for turbine pump operation schedule, emissions modeling assumptions and results.

Estimated long-term increases in GHG emissions for future target years 2027 and year 2045 were calculated to ensure consistency with SB 32 and are depicted in **Table 7**. As depicted in this table, the annual operational GHG emissions associated with the Project would total approximately 35 MTCO2e/year. With the inclusion of amortized construction emissions, operational GHG emissions would total approximately 48 MTCO2e/year.

Table 7
Annual Operational GHG Emissions – Unmitigated

Emissions Source	GHG Emissions (MTCO2*e*/year)[1]
Turbine Water Pumps[2]	34.8
Total Project Operational Emissions	34.8
Amortized Construction Emissions	13.2
Total with Amortized Construction Emissions	48.0

[1] Project-generated emissions were quantified using intensity factors from the CalEEMod computer program.
[2] Includes operation of two electrified 150 hp (112 kW) turbine water pumps for an annual total of 3,328 hours.

As mentioned above quantified emissions are provided for informational purposes only. Project impacts relating to GHG emissions are discussed below and assessed by determining consistency with the State's 2022 Climate Scoping Plan and contributing its fair share of what would be required to meet the State's long-term climate goals, including achieving carbon neutrality by 2045.

Consistency with Applicable Plans

Applicable GHG-reduction plans include the AMBAG 2022-245 MTP/SCS and ARB's Climate Change Scoping Plan. Project consistency with these plans is discussed in greater detail below.

AMBAG 2022-2045 MTP/SCS Consistency: To support the State's GHG-reduction goals, including the goals mandated by SB 32, California established the Sustainable Communities and Climate Protection Act (SB 375). SB 375 requires regional metropolitan planning organizations, such as AMBAG, to develop SCSs that align transportation, housing, and land use decisions toward achieving the State's GHG emissions-reduction targets. Under SB 375, the development and implementation of SCSs, which link transportation, land use, housing, and climate policy at the regional level, are designed to reduce per capita mobile-source GHG emissions, which is accomplished through the implementation of measures that would result in reductions in per capita VMT.

As previously noted, the AMBAG 2022-2045 MTP/SCS was developed in accordance with state and federal requirements including SB 375 which aims to reduce GHG emissions related to mobile sources. Based on AMBAG guidelines, the Project would not have an impact on regional VMT. As a result, the Project would not conflict with any goals or objectives identified in the AMBAG 2022-2045 MTP/SCS.

***Climate Change Scoping Plan*:** The previously adopted 2017 Climate Change Scoping Plan incorporated the State's GHG emissions reduction target of 40 percent below 1990 emissions levels by 2030, as mandated by SB 32. On November 16, 2022, the ARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality. The recently adopted 2022 Scoping Plan continues the path to achieve the SB 32 2030 target and expands upon earlier Scoping Plans by targeting an 85 percent reduction in GHG below 1990 levels by 2045. A significant part of achieving the SB 32 goals are strategies to promote sustainable communities, such as the promotion of zero net energy buildings, and improved transportation choices that result in reducing VMT. Other measures include the increased use of low-carbon fuels and cleaner vehicles, as well as measures that promote the conservation of energy and water use.

California has begun to implement major policies to build resilience to combat the effects of climate change, including droughts. Such policies include the Sustainable Groundwater Management Act of 2014, the governor's Water Resilience Portfolio (2020), the governor's Water and Supply Strategy (August 2022), and new standards for indoor, outdoor, and industrial water use. In addition, Executive Order B-55-18 establishes a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. As part of this effort, policies and programs undertaken to achieve this goal include the protection of the state's water supply through, in part, the promotion of efforts to build a climate-resilient water infrastructure to insulate our communities from increasing and more intense drought conditions. The increased use of recycled water promotes a long-term reliable water supply sources and is an important water resource strategy for increasing drought resiliency in regions throughout California. Water recycling is also a critically important environmental and water use efficient strategy for the state. By effectively reusing water for potable and/or non-potable purposes, many areas of the state are able to reduce existing and future reliance on environmentally stressed imported water sources. The State Water Resources Control Board (Water Board) recently updated California's Recycled Water Policy and added new ambitious recycled water goals for the state (ARB 2022, WateReuse 2019).

Implementation of the Project would help to support the state's energy and water-conservation efforts. As a result, this impact would be less than significant.

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

As described above, the Proposed Project is not expected to generate GHG emissions that would exceed applicable thresholds. In addition, the Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This represents a less than significant impact.

4.9 Hazards and Hazardous Materials

Environmental Setting

Hazardous materials, as defined by the California Code of Regulations, are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. Hazardous materials and waste can result in public health hazards if improperly handled, released into the soil or groundwater, or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer.

Government Code Section 65962.5 requires CalEPA to develop a Cortese List that is updated at least annually. While CalEPA no longer maintains a single Cortese List, CalEPA uses the following database and list to meet the requirements of Government Code Section 65962.5.

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control ("DTSC") EnviroStor database.
- List of Leaking Underground Storage Tank ("LUST") Sites from the State Water Board's GeoTracker database.
- List of solid waste disposal sites identified by State or Regional Water Board with waste constituents above hazardous waste levels outside the waste management unit.
- List of "active" Cease and Desist Orders ("CDO") and Clean-up and Abatement Orders ("CAO") from State Water Board.
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

In addition to these databases, the State Water Board and the DTSC maintain databases of other hazardous material release sites with documented environmental contamination (GeoTracker, 2024 and EnviroStor, 2024). No hazardous materials release records are known to occur within the Proposed Project area based on a search of DTSC regulatory databases. There are seven closed LUST sites within the City of Soledad with four located near the intersection of Front Street and Soledad Street, one located near the intersection of Front Street and San Vicente Road, one located near the intersection of Front Street and 4th Street, and one located at Soledad Middle School (GeoTracker, 2024).

Regulatory Environment

Federal

Environmental Protection Agency: The EPA is responsible for enforcing regulations at the federal level pertaining to hazardous materials and wastes. The primary federal hazardous materials and wastes laws are contained in the Resources Conservation and Recovery Act ("RCRA") of 1976 and in the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") of 1980.

Comprehensive Environmental Response, Compensation and Liability Act: CERCLA, more commonly known as Superfund, established the National Priorities List for identifying and obtaining funding for remediation of severely contaminated sites. Federal regulations pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (40 CFR). The regulations contain specific guidelines for determining whether a waste is hazardous, based on either the source of generation or the characteristics of the waste.

U.S. Department of Transportation: The U.S. Department of Transportation ("DOT") regulates transportation of hazardous materials by truck and rail. DOT regulations establish criteria for safe handling procedures. The California Administrative Code also includes federal safety standards.

Solid Waste Disposal Act/Federal Resource Conservation and Recovery Act**:** RCRA manages solid waste, landfills, and medical wastes. Under this act, solid wastes include hazardous materials. The act provides provisions for the generation, storage, treatment, and disposal of hazardous waste.

Toxic Substances Control Act: The Toxic Substances Control Act ("TSCA"), passed in 1976, requires the EPA to report, test, place restriction on, and keep record of chemical substances and mixtures. The EPA has authority over the use, production, importation, and disposal of specific chemicals. Some chemicals include polychlorinated biphenyls ("PCBs"), asbestos, radon, and lead paint.

State

***California Environmental Protection* Agency:** The EPA has delegated much of its regulatory authority to individual states whenever adequate state regulatory programs exist. The Department of Toxic Substance Control Division of CAL EPA is the agency empowered to enforce federal hazardous materials and waste regulations in California, in conjunction with the EPA.

California hazardous materials and waste laws incorporate federal standards, but in many respects, are stricter. For example, the California Hazardous Waste Control Law, the state equivalent of RCRA, contains a much broader definition of hazardous materials and waste. The California Code of Regulations, Titles 22 and 26, contain state hazardous materials waste laws. Regulations implementing the California Hazardous Waste Control Law list hazardous chemicals; establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Local

***Regional Water Quality Control Board*:** The Central Coastal RWQCB is the lead agency responsible for identifying, monitoring, and remediating leaking underground storage tanks on the Central Coast. Local jurisdictions may take the lead agency role as a Local Oversight Program ("LOP") entity, implementing State as well as local policies.

City of Soledad General Plan: The Public Service and Facilities Element of the City's General Plan contains the following policies applicable to portions of the Proposed Project:

S-28: The City, to the extent feasible, will enforce the applicable provisions of the Monterey County Hazardous Waste Management Plan and all other applicable State, federal and local regulations dealing with the use, storage, disposal and transportation of hazardous materials.

***2010 Monterey County General Plan*:** Relevant policies are listed below:

Policy PS-8.3: Programs for the routine inspection of food, water systems, sewage disposal, public housing, institutions, labor camps, swimming pools, recreation facilities, locations of hazardous substances, and noise hazards shall be established or maintained.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 in 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?	☐	☐	■	☐
e) For a project located in an airport land use plan or, where such a plan has not been adopted, in two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	■	☐

Impact Discussion

a and b. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The Proposed Project would entail the use of hazardous materials (e.g., fuel, cleaning materials, etc.) during construction. The types and amounts of hazardous materials used would vary according to the type of activity. In addition, use of hazardous materials may periodically be required during operation of the Proposed Project for on-going maintenance.

Construction

The Proposed Project would result in the handling and use of hazardous materials during construction activities. Hazardous materials may include gasoline, diesel fuel, oil lubricants, welding gases, solvents, and paints. It is unlikely that construction of the Proposed Project would create a significant impact due to the routine transport, use, or disposal of hazardous materials, as the Proposed Project would include implementation of runoff and erosion control measures, as well as standard construction BMPs to minimize potential impacts due to contaminated runoff. In addition, all hazardous materials would be stored, moved, and used in accordance with all local, state, and federal regulations pertaining to hazardous materials, as well as all applicable manufacturer's specifications. To further ensure impacts related to hazardous materials are minimized, a Spill Prevention and Control Plan ("SPCP") (see **Mitigation Measure HAZ-1**) would be developed prior to construction to address any accidental spills. The SPCP would identify applicable safety and clean-up procedures in the event of a spill, designate construction staging areas where hazardous materials may be stored, identify applicable emergency notification procedures, identify locations where spill kits will be maintained during construction, and identify dedicated storage areas where material may be stored. This impact is less than significant with mitigation.

Operation

Operation of the Proposed Project would entail the use of hazardous materials for routine maintenance. Hazardous materials would be handled and stored in compliance with all local, state, and federal regulations pertaining to hazardous materials. Furthermore, any hazardous materials would be limited in quantity and concentrations set forth by the manufacture and/or applicable regulations. While **Mitigation Measure HAZ-1** focuses on construction related impacts, the SPCP would be implemented throughout operation. Risk of release or hazard due to the routine transport, use, or disposal would be minimized through implementation of the mitigation measures identified below. The City will be

responsible for implementing the SPCP on-site for the duration of construction and during operation. With mitigation this represents a less than significant impact.

Mitigation Measure HAZ-1*:* Prior to issuance of a grading permit, the contractor shall prepare a Hazardous Materials Spill Prevention and Control Plan that addresses potential impacts associated with hazardous material usage during construction and operation. The plan shall, at a minimum, consist of the following:

- Identify applicable safety and clean-up procedures in the event of a spill.
- Designate construction staging areas where hazardous materials may be stored. All staging areas shall be located outside of sensitive biological areas. Staging areas shall be designed to contain runoff to prevent contaminants (e.g., oil, grease, fuel products, etc.) from draining towards receiving waters and sensitive areas.
- Identify appropriate emergency notification procedures and emergency contacts (e.g., County of Monterey Environmental Health, City of Soledad Fire, etc.).
- Designated location where a spill kit shall be maintained on-site throughout the Project.
- Identify dedicated storage areas where hazardous material may be stored and/or used during operation.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in one-quarter mile of an existing or proposed school?

There are multiple schools located in a ¼ mile of the Proposed Project, including Rose Ferraro Elementary School (400 Entrada Dr., Soledad, CA 93960), Soledad High School (425 Gabilan Dr., Soledad, CA 93960), Jack Franscioni School (779 Orchard Ln., Soledad, CA 93960), Soledad Middle School (441 Main St., Soledad, CA 93960), and Frank Ledesma Elementary School (973 Vista De Soledad, Soledad, CA 93960). None of these schools are within a ¼ mile of the new recycled water pump station located at the existing WRF; however, construction of the distribution pipelines, requiring the use and transportation of hazardous materials (e.g., fuel, cleaning materials, etc.) would occur within a ¼ mile of the above listed schools. The Proposed Project's pipeline components would not emit hazardous materials during operation; however, small quantities of hazardous materials could be used for system maintenance within a ¼ mile of one of the above listed schools. Implementation of **Mitigation Measure HAZ-1** would help prevent inadvertent spills of hazardous materials and ensure that any release of hazardous materials during construction and operation of the Proposed Project would be promptly remedied and reported. This represents a less than significant impact with mitigation incorporated.

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

As discussed above, CalEPA uses the DTSC EnviroStor and the State Water Board's GeoTracker databases in conjunction with lists of solid waste disposal sites and active CDO and CAO from the State Water Board to identify hazardous materials sites across the state. No active hazardous materials sites are known to occur within the vicinity of the Proposed Project. There is one school investigation site at Jack Franscioni Elementary School and one military site on Serra Lane within the City; however, both sites require "no further action" (EnviroStor, 2024). Additionally, there are seven closed LUST sites within the City of Soledad with four located near the intersection of Front Street and Soledad Street, one located near the intersection of Front Street and San Vicente Road, one located near the intersection of Front Street and 4th Street, and one located at Soledad Middle School (GeoTracker, 2024). Since no active

hazardous materials sites exist within the vicinity of the Proposed Project (all are closed or require no further action), the Project would have a less than significant impact.

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

The airport closest to the Proposed Project area is Mesa Del Rey Airport, located approximately 17.5 miles southeast of the existing WRF. The Proposed Project would not result in a safety hazard or exposure to excessive noise for people residing or working in the Proposed Project area as there are no airports within two (2) miles of the site. No impact would occur.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Monterey County 2021 Evacuation and Transportation Plan does not identify specific designated evacuation routes, since evacuation routes are considered dynamic and would change based on the nature and location of an emergency. As a result, all local roadways within the Proposed Project area could potentially be utilized as evacuation routes during an emergency. While the Proposed Project would result in short-term lane or road closures, all such closures would be conducted in accordance with a traffic control plan reviewed and approved by the City as part of the encroachment permit process. This would ensure that the proposed road or lane closures would not interfere with emergency response vehicles or area evacuation in an emergency. In addition, lane or road closures from the Proposed Project would be short-term and construction activities and equipment would not be located in a single location for long periods of time primarily due to the linear nature of installing the distribution pipelines. The Proposed Project would not generate additional traffic once operational. Therefore, the Proposed Project would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. This represents a less than significant impact.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The Proposed Project is not located in a state responsibility area or a local responsibility area classified as a very high fire hazard severity zone (County of Monterey, 2024). Construction activities would utilize mechanized equipment that has the potential to produce sparks. However, construction vehicles would be fitted with spark arrestors in compliance with all applicable state and local regulations, which would substantially reduce the risk of wildland fire as a result of construction. Once completed, the pipeline components of the Proposed Project would be largely underground and would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk. The new recycled water pump station would be located at the existing WRF site, a developed and disturbed site with low potential for wildfire. In addition, the Proposed Project does not include the construction of any new habitable structures. For these reasons, the Proposed Project would have a less than significant impact related to directly or indirectly exposing people or structures to wildland fire.

4.10 Hydrology and Water Quality

Environmental Setting

The Project site is located in an alluvial plain in the Salinas Valley watershed. Precipitation drains downward into the valley from the slopes of the Santa Lucia Mountains to the north and west, and the Gabilan Mountains to the southeast. The primary drainage feature in the valley is the Salinas River. The river is approximately 170 miles in length and is the largest river on California's Central Coast. The Salinas River flows northerly and drains into Monterey Bay (Bureau of Reclamation, 2017).

The City of Soledad draws its water supply from groundwater from the Salinas Valley Groundwater Basin – Forebay Aquifer Subbasin, which is managed jointly by the Salinas Valley Groundwater Sustainability Agency ("SVGSA") and the Arroyo Seco Groundwater Sustainability Agency ("ASGSA"). ASGSA manages the Arroyo Seco Cone Management Area of the Forebay Aquifer and the SVGSA manages the remainder.

The Project lies within the portion of the Forebay Aquifer managed by SVGSA. The Salinas Valley Groundwater Basin consists of one large hydrologic unit comprised of four subareas: Upper Valley Subarea, Forebay Subarea, 180-Foot/400-Foot Subarea, and East Side Subarea. The subareas have different hydrogeologic and recharge characteristics, but barriers to horizontal flow do not separate them, and water can move between them. Therefore, extraction of water in the Soledad area for agricultural and urban use can affect overdraft and seawater intrusion conditions within the overall basin, including in the subareas nearest the Monterey Bay where seawater intrusion and overdraft are of significant concern. However, groundwater elevations have generally been stable, with decreases in groundwater levels in dry years and rebounding levels in wet years. Additionally, the 2023 water-year resulted in a substantial increase in groundwater levels throughout the basin (Montgomery & Associates, 2023).

Regulatory Environment

Federal

***National Flood Insurance Program*:** FEMA established the National Flood Insurance Program ("NFIP") to reduce flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps ("FIRM") that identify Special Flood Hazard Areas ("SFHA"). An SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

***Porter-Cologne Water Quality Act*:** The Porter-Cologne Act delegates authority to the SWRCB to establish regional water quality control boards. The Central Coast Area RWQCB has authority to use planning, permitting, and enforcement to protect beneficial uses of water resources in the project region. Under the Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 - 14290), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the state's waters, including projects that do not require a federal permit through the USACE. To meet RWQCB 401 Certification standards, all hydrologic issues related to a project must be addressed, including the following:

- Wetlands

- Watershed hydrograph modification
- Proposed creek or riverine related modifications
- Long-term post-construction water quality

Any construction or demolition activity that results in land disturbance equal to or greater than one (1) acre must comply with the Construction General Permit ("CGP"), administered by the SWRCB. The CGP requires the installation and maintenance of BMPs to protect water quality until the site is stabilized. The Proposed Project would disturb more than one acre of soil and is required to obtain coverage under the RWQCB National Pollutant Discharge Elimination System ("NPDES") General Storm Water Permit.

State

***Statewide Construction General Permit*:** The SWRCB has implemented a NPDES CGP for the State of California. For projects disturbing one acre or more, a Notice of Intent ("NOI") and SWPPP must be prepared by a qualified professional prior to commencement of construction. The CGP includes requirements for training, inspection, record keeping, and for projects of certain risk levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

Local

Forebay Aquifer Subbasin Groundwater Sustainability Plan: The 2014 California Sustainable Groundwater Management Act ("SGMA") requires that medium and high-priority groundwater basins and subbasins develop Groundwater Sustainability Plans ("GSP") that outline how groundwater sustainability will be maintained for 50 years. The Forebay Aquifer Subbasin is designated as moderate priority by the SGMA. The Forebay Aquifer Subbasin GSP identifies potential management actions and projects that ensure the sustainable use of groundwater. Management actions and projects include but are not limited to establishing technical advisory committees, implementing best management practices for conservation and agriculture, and water quality coordination. The Forebay Aquifer Subbasin GSP establishes management criteria that specify minimum thresholds and measurable objectives to ensure sustainability goals are met and maintained.

The Project site is located almost entirely within Zone X (both Shaded and Unshaded), in accordance with FEMA. FEMA defines Zone X (shaded) as an area of moderate flood hazard (between the limits of the 100- year and 500-year floods) and defines Zone X (Unshaded) as an area of minimal flood hazard (an area as having a 0.2 percent chance of annual flooding). Approximately 1,035 feet of pipeline, located in the eastern extent of the Project site at the corner of Metz Road and Orchard Lane is located within Zone AE. FEMA defines Zone AE as a special flood hazard zone with a one percent annual chance of flooding. The Project site does not contain any waterways or other drainage features. The nearest waterway to the Project site is a channelized agricultural ditch (Bryant Canyon Channel), located immediately east of the City and approximately 715 feet from the easternmost extent of the Project. Additionally, the Salinas River is located approximately 1,050 feet south of the southernmost extent of the Project.

City of Soledad General Plan: The City's Public Services and Facilities Element of the General Plan contains the following policies applicable to the Proposed Project:

S10: The City will manage the increase in water demand from new development to help ensure groundwater resources are not over drafted. The City will work with Monterey County and public and private water entities to plan for the efficient, long-term management of groundwater resources.

S14: The City shall strive to improve the quality of urban stormwater runoff and quality of groundwater recharge through the use of appropriate mitigation measures including, but not limited to, infiltration/sedimentation basins, oil/grit separators, and other management practices, including storm water retention.

S16: The City shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions. Drainage onto adjacent properties shall be restricted to pre-project levels minus any runoff from the area to be developed.

S17: The City shall require projects to allocate land as necessary for the purpose of retaining flows and/or for the incorporation of mitigation measures for water quality and supply impacts related to urban runoff.

***Monterey County General Plan Policies*:** The 2010 Monterey County General Plan includes policies related to hydrology and water quality that would apply to the Proposed Project:

Policy PS-2.8: The County shall require that all projects be designed to maintain or increase the site's pre-development absorption of rainfall (minimize runoff), and to recharge groundwater where appropriate. Implementation shall include standards that could regulate impervious surfaces, vary by project type, land use, soils and area characteristics, and provide for water impoundments (retention/detention structures), protecting and planting vegetation, use of permeable paving materials, bioswales, water gardens, and cisterns, and other measures to increase runoff retention, protect water quality, and enhance groundwater recharge.

Policy S-3.1: Post-development, off-site peak flow drainage from the area being developed shall not be greater than pre-development peak flow drainage. On-site improvements or other methods for storm water detention shall be required to maintain post-development, off-site, peak flows at no greater than predevelopment levels, where appropriate, as determined by the Monterey County Water Resources Agency.

Policy S-3.2: Best Management Practices to protect groundwater and surface water quality shall be incorporated into all development.

Policy S-3.9: In order to minimize urban runoff affecting water quality, the County shall require all future development within urban and suburban areas to implement Best Management Practices (BMPs) as approved in the Monterey Regional Storm Water Management Program which are designed to incorporate Low Impact Development techniques. BMPs may include, but are not limited to, grassy swales, rain gardens, bioretention cells, and tree box filters. BMPs should preserve as much native vegetation as feasible possible on the project site.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	■	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site?	☐	☐	■	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	■	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐
iv) impede or redirect flood flows?	☐	☐	■	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	■	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

Impact Discussion

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The Proposed Project's potential to result in violation of water quality standards or waste discharge requirements during construction and operation is described below.

Construction

Construction of the Proposed Project would require grading and excavation that could result in temporary water quality impacts. Additional water quality impacts could come from the use of hazardous materials (e.g., diesel fuel, gasoline, lubricants, oils, hydraulic fluids, etc.). To minimize construction generated water quality impacts, the Proposed Project would implement standard construction BMPs (e.g., control/minimize grading, re-vegetate disturbed areas). Moreover, the Proposed Project would be required to comply with the requirements of the NPDES General Construction Permit to manage construction and post construction runoff. As part of this process, the Proposed Project would be required to submit an NOI with the SWRCB and prepare a SWPPP. Construction of the Proposed Project would result in a less than significant impact with respect to

violating water quality standards or waste discharge requirements or otherwise substantially degrading surface or groundwater quality.

Operation

The Proposed Project would utilize Title 22 treated recycled water to irrigate City parks and schools once operational. Title 22 recycled water consists primarily of municipal sewage treated in a wastewater facility for non-potable uses such as irrigation (SWRCB, 2024). The Proposed Project would transfer recycled water from the WRF to schools and parks throughout the City for irrigation. This recycled water would comply with all Title 22 requirements as defined in the Water Recycling Criteria, Title 22, Division 4, Chapter 3 of the California Code of Regulations. Use of recycled water for irrigation would not conflict with State or local water quality standards. The Proposed Project would not generate substantial waste during operation. This represents a less than significant impact.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The Proposed Project is located in the Forebay Aquifer Subbasin of the Salinas Valley Groundwater Basin, which is regulated by the SGMA. The Proposed Project consists of the expansion of a recycled water distribution system to allow irrigation of City parks and schools with recycled water. The Proposed Project would replace existing use of potable water sourced from groundwater for irrigation at 13 existing parks and six (6) schools throughout the City. In addition, irrigation at the future Toledo Park would also be supplied recycled water from the Proposed Project. The Proposed Project would reduce the City's reliance on groundwater supply and would not interfere with groundwater recharge. No impact would occur.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on-or-off site, ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or-off site, iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or iv) impede or redirect flood flows?

The Proposed Project is the expansion of a recycled water distribution system. The distribution system components of the Project would be located primarily within roadway ROWs which consist of paved areas. All paved areas disturbed by installation of the Proposed Project would be restored to their pre-project condition following completion of construction and would not alter existing drainage patterns of the site or area. The transmission main component of the Project would be located within an existing agricultural easement. The area of disturbance for installation of this component would also be restored to pre-project condition following completion of construction and would not alter existing drainage patterns of the site or area. The recycled water pump station would be located at the existing WRF site where drainage is already managed. Construction of the recycled water pump station would not alter existing drainage patterns of the site or area. The Project would not result in substantial erosion or siltation on-or-off site, increase the rate or amount of surface runoff in a manner which would result in flooding on-or-off site, or create runoff which would exceed the capacity of existing or planned

stormwater drainage systems or impede or redirect flood flows. This represents a less than significant impact.

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The Proposed Project is located in an inland area that is not subject to significant seiche or tsunami effects. As a result, the Proposed Project would not result in the risk or release of pollutants due to inundation from a tsunami or seiche.

According to FEMA, the Project site is located within Zone X (Shaded and Unshaded) and Zone AE (FEMA, 2024). The portions of the Project within Zone X (Unshaded) are considered to be of minimal flood hazard and, therefore, would not risk release of pollutants due to project inundation. The portions of the Project within Zone X (Shaded) and Zone AE have greater risk of flooding. Flooding in these areas during project construction could potentially result in the risk of pollutant release. However, compliance with the Project's SWPPP (see impact a. above) would ensure that construction-based pollutants are not released during flood events. The Proposed Project would involve expansion of recycled water distribution across the City and would not present a significant risk release of pollutants due to project inundation once operational. This represents a less than significant impact.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Proposed Project is located in the Forebay Aquifer of the Salinas Valley Groundwater Basin; the Forebay Aquifer is not an adjudicated sub-basin and the portion of the Forebay Aquifer underlying the proposed project site is under the jurisdiction of the SVGSA. The Proposed Project involves expansion of a recycled water distribution system and does not represent an intensification of existing water use that would be incompatible with the Groundwater Sustainability Plan for the Forebay Aquifer. The Proposed Project would reduce the City's reliance on groundwater for irrigation of parks and schools. The recycled water used for irrigation would meet Title 22 requirements for treatment and use of this water would not conflict with any applicable water quality control plans. Therefore, the Proposed Project would have a less than significant impact related to conflicting with or obstructing applicable water quality control plans or sustainable groundwater management plans.

4.11 Land Use and Planning

Environmental Setting

The Project is located in the City of Soledad and within an existing easement running through agricultural land in unincorporated Monterey County. The Soledad General Plan and the 2010 Monterey County General Plan regulate land use policies in the Proposed Project area.

Project components located within the City would be within City ROWs, on the WRF property, and within SUSD property. The Soledad General Plan designates the WRF and SUSD properties as "Public Facility." Project components located within unincorporated Monterey County are designated in the County General Plan as "Farmlands 40-Acre Minimum."

Regulatory Environment

City of Soledad General Plan: The Land Use Element of the City's General Plan defines the General Plan area and includes specific plans for the existing and planned development areas within the City. The City's planning area includes the incorporated limits in addition to land outside the City boundaries that the City deemed to be related to planning objectives. The General Plan defines the planning area as "the ridgeline of the Gabilan Range to the east and the foothills of the coast range to the west, extending north past the Soledad prison, and to the south about mid-way between Soledad and Greenfield" (City, 2005a). **Table 8** below summarizes the General Plan definitions of land use designations:

Table 8
Land Use Designations

Land Use Designations	Land Use Descriptions
Single Family Residential	This land use designation allows for single family residential development with up to six dwellings per acre and allows a range of other uses that includes schools, churches, and public facilities.
Duplex Residential	This designation allows for the construction of duplexes (two attached units on the same lot) and attached housing clusters.
Multiple Residential	The Multiple Residential designation allows for development of multi-family housing such as apartments, condominiums, and townhouses.
General Commercial	The General Commercial designation support uses of a community retail nature such as appliance stores, food stores, offices, banks, and other uses for the community as a whole.
Neighborhood Commercial	Neighborhood Commercial land uses proved goods and services for a specific neighborhood, such as convenience stores, food stores, drug stores, etc.
Downtown Commercial	A mix of retail, office, and other service uses appropriate for the Central Business District, also potentially including some residential uses on upper floors.
Service Commercial	Uses such as wholesale and retail stores and shops of a heavy commercial and business park character conducted inside or outside a building, such as auto repair shops, from equipment repair and sales, etc.
Industrial	Manufacturing, processing, repair, storage, and/or agricultural related industries in a conventional industrial or business park setting.
Public/Institutional	Schools, government buildings, libraries, churches, hospitals, etc.
Recreational	Open space lands that provide active recreation areas with maintained landscaping facilities.
Open Space/Grazing Land	Undisturbed open space uses that maintain scenic and natural habitat values as well as flood zone safety and safety from other hazards. Grazing land is generally located on hillsides above the 400-foot contour elevation.
Agriculture	Agriculture lands intended for soil-dependent uses.

Source: City, 2005a.

Front Street Improvement Plan and Downtown Specific Plan: The Front Street Improvement Plan and Downtown Specific Plan seeks to achieve goals related to improving business and attracting tourism. The plan provides a framework for the revitalization of downtown Soledad as the social and business center of the community. This plan encourages amenities such as street trees, benches, open plazas, and walkways that provide protection from the heat and wind (City, 2005a). The Proposed Project would install water distribution pipelines within this specific plan area. All infrastructure would be underground and would not conflict with the goals and policies defined by the Front Street Improvement Plan and Downtown Specific Plan.

***Monterey County General Plan*:** The Proposed Project would occur partially on farmland in unincorporated Monterey County. The following land use policies from the Monterey County General Plan relevant to the Proposed Project are identified below:

LU-3.1: The County shall establish regulations for and designate three categories of Agricultural Land:

a. Farmlands (F): Farmlands are typically 40-acre minimum sites and allow a range of uses to conserve and enhance the use of the important farmlands in the County of Monterey while also providing opportunity to establish necessary support and ancillary facilities for those agricultural uses. The extent of use of land for this designation shall be limited to building coverage of 5% of the subject property, except for commercial greenhouse operations, which are permitted coverage of 50%.
b. Permanent Grazing (PG): Permanent Grazing lands are typically 40-to-160-acre minimums and allow a range of land uses to conserve and enhance the productive grazing lands in the County. The extent of use of land for this designation shall be limited to building coverage of 5% of the subject property, except for commercial greenhouse operations, which are permitted coverage of 50%.
c. Rural Grazing (RG): Rural Grazing lands are typically a range of 10-to-40-acre minimums and allow uses to conserve and enhance the use of productive grazing lands in the County of Monterey while also providing the opportunity to establish support facilities for grazing uses and clustered residential uses. The extent of use of land for this designation shall be limited to building coverage of 5% of the subject property, except for commercial greenhouse operations, which are permitted coverage of 50%.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	■
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	■	☐

Impact Discussion

a. Would the project physically divide an established community?

The division or disruption of an established community would occur if a project created a physical barrier that separates, isolates, or divides portions of a built community. The physical division of a community is traditionally associated with large projects such as the construction of large-scale transportation improvements such as a highway, the creation of large university campuses, or new stadiums with parking areas. The Proposed Project consists of construction and operation of a recycled water pump station located at the WRF and installation of a transmission pipeline and distribution pipelines within part of unincorporated Monterey County and roadway ROWs within the City limits. The Project would install all pipeline components underground and would not physically divide an established community. Since the Proposed Project would not create a barrier that would divide an established community, no impact would occur.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulations adopted for the purpose of avoiding or mitigation an environmental effect. Construction would occur at the WRF, an easement within farmland in unincorporated Monterey County, and roadway ROWs within the City limits. Construction and operation of the recycled water pump station is consistent with activities at the WRF. Construction of the transmission pipeline through agricultural County land would not conflict with County agricultural land use policies as pipeline installation would not convert existing farmland to non-agricultural uses nor would the easement occur on land currently supporting agricultural work. Construction of the distribution pipelines within the City roadway ROWs would partially occur within the planning area of the Front Street Improvement Plan and Downtown Specific Plan. However, construction and operation of the Proposed Project would not conflict with policies, goals, and objectives from both the General Plan and the Front Street Improvement Plan and Downtown Specific Plan adopted for the purpose of avoiding or mitigating an environmental effect, since proposed facilities would be located underground. For these reasons, the Project would have a less than significant impact.

4.12 Noise

Environmental Setting

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound is mechanical energy transmitted in the form of a wave because of a disturbance or vibration. Sound levels are described in terms of both amplitude and frequency. Noise is commonly defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels ("dB") with 0 decibels corresponding to the threshold of hearing. **Table 9, Definitions of Acoustical Terms Used,** in this Report contains definitions of key technical terms. Most sounds consist of a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound.

Table 9
Definitions of Acoustical Terms Used in this Report

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro-Pascals (or 20 micro-Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro-Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA $L_{eq[h]}$.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, Ldn or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
Ln Values L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

The method commonly used to quantify environmental sounds consists of evaluating all the frequencies of a sound in accordance with a weighting that reflects the facts that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency mid-range. This is called "A" weighting, and the decibel level measured is called the A-weighted sound level (“dBA”). Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources, which creates a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{01}, L_{10}, L_{50}, and L_{90}, are commonly used. They are the A-weighted noise levels equaled or exceeded during 1%, 10%, 50%, and 90% of a stated time period. A single number descriptor called the

L_{eq} is also widely used and represents the average, or a weighted noise level during a stated period of time.

The Soledad General Plan and County General Plan provide land use compatibility guidelines for community noise levels. Normally acceptable noise levels range between 50 and 60 dBA for single-family residential land uses and between 50 and 70 dBA for neighborhood parks, schools, and commercial uses. Additionally, normally acceptable noise levels for agricultural land use range between 50 and 75 dBA (City of Soledad, 2005; Monterey County, 2010). Based on the City and County guidelines, sensitive noise receptors within the vicinity of the Proposed Project would include private residences, schools, and hospitals. The City's General Plan does not include specific policies pertaining to construction noise. In the absence of specific General Plan policies, the County General Plan policies are applicable. Additional guidance is provided by the California Department of Transportation ("Caltrans") 2018 *Standard Specifications* document (Section 14-8.02A), which suggests that construction equipment should not exceed 86 dBA L_{max} at a distance of 50 feet from job site activities between 9:00 PM to 6:00 AM.

Project components would be located within City ROWs, on school and park properties, agricultural land, and at the WRF. The distribution pipeline component of the Project is primarily surrounded by Single-Family Residential and Public Facility land uses (please refer to **Figure 2**). Sensitive receptors within the vicinity of the Project include residences adjacent to pipeline alignments and three (3) schools (i.e., Soledad High School, San Vicente Elementary School, and Jack Franscioni School) (see **Figure 8**). The Proposed Project is not located in the vicinity of a private airstrip or an airport land use plan, or within two miles of a public airport or public use airport.

Regulatory Environment

State

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria.

***California General Plan Guidelines*:** The State of California General Plan Guidelines, published by the Governor's Office of Planning and Research ("OPR"), also provides guidance for the acceptability of projects in specific CNEL/Ldn contours. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. For multi-family land uses, the State of California General Plan Guidelines identify a "normally acceptable" exterior noise level of up to 65 dBA CNEL/Ldn. Multi-family land uses are considered "conditionally acceptable" in noise environments of 60 to 70 dBA CNEL/Ldn, "normally unacceptable" in exterior noise environments of 70 to 75 dBA CNEL/Ldn, and "clearly unacceptable" in exterior noise environments exceeding 75 dBA CNEL/Ldn. Assuming a minimum exterior-to-interior noise reduction of 25 dB, an exterior noise environment of 70 dBA CNEL/Ldn would allow for a normally acceptable interior noise level of 45 dBA CNEL/Ldn.

***California Code of Regulations*:** The California Commission of Housing and Community Development officially adopted noise insulation standards in 1974. In November 1988, the Building Standards Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). Title 24 requires interior noise levels attributable to exterior sources must not exceed 45 dB in any habitable

room. Additionally, the code specifies that multi-family residential buildings or structures that will be located in exterior CNEL (or Ldn) contours of 60 dBA, or greater, of sources such as a freeway, expressway, parkway, major street, thoroughfare, airport, rail line, rapid transit line or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior CNEL (or Ldn) of 45 dBA. Predictions must also be made for future noise levels for a period of at least ten years from the time of building permit application.

Local

City of Soledad General Plan: The City's General Plan includes interior and exterior noise standards presented in **Table 10** below.

Table 10
Interior and Exterior Noise Standards

Categories	Uses	Interior[1] Energy Average CNEL	Exterior[2] Energy Average CNEL
Residential	Single Family, Duplex, Multi-Family	45[3]	65
Residential	Mobile Home	---	65[4]
Commercial, Industrial, and Institutional	Motel, Hotel, Transient Lodging	45	65[5]
Commercial, Industrial, and Institutional	Commercial Retail, Bank, Restaurant	55	---
Commercial, Industrial, and Institutional	Office Building, Research and Development, Professional Office, Government Office	50	---
Commercial, Industrial, and Institutional	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	---
Commercial, Industrial, and Institutional	Gymnasium	50	---
Commercial, Industrial, and Institutional	Sports Club	55	---
Commercial, Industrial, and Institutional	Manufacturing, Warehousing, Wholesale, Utilities	65	---
Commercial, Industrial, and Institutional	Movie Theaters	45	---
Institutional	Hospitals, Schools	45	65
Institutional	Church, Library	45	---
Open Space	Parks	---	65

Table 10 Notes:
1. Indoor environment excluding bathrooms, closets, and corridors.
2. Outdoor environment limited to private yards of single-family residences, multi-family private patio or balcony served by a means of exit from inside, mobile home parks, hospital patio, park picnic area, school playground, hotel/motel recreation area.
3. Noise level requirements with closed windows. Mechanical ventilation systems or other means of natural ventilation shall be provided per Chapter 12 Section 1205 of the Uniform Building Code.
4. Exterior noise level should be such that interior level will not exceed 45 CNEL.
5. Except areas affected by aircraft noise.
Source: City, 2005a

Additionally, the Noise Element of the City's General Plan has the following goals and policies relevant to the Proposed Project:[4]

[4] Refer to the Noise Element of the City's General Plan for copies of the figures referenced here.

Goal-1: To preserve the quiet rural setting of the City and protect citizens from exposure to excessive levels of noise.

N2: Where nonresidential land uses are likely to generate noise levels exceeding those shown on Figure X1 on adjacent or nearby existing or planned noise sensitive uses, the City shall require preparation of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design.

N5: Where noise mitigation measures are required to achieve the standards described in Figure X2, the emphasis of such measures shall be placed on site planning and project design. The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related mitigation measures have been integrated into the project.

Monterey County General Plan: The 2010 County General Plan provides the following policy for mitigating noise impacts applicable to the Proposed Project:

Policy PS-8.3: Programs for the routine inspection of food, water systems, sewage disposal, public housing, institutions, labor camps, swimming pools, recreation facilities, locations of hazardous substances, and noise hazards shall be established or maintained.

Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c) For a project located in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, in 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?	☐	☐	☐	■

Impact Discussion

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Proposed Project would result in temporary construction-related noise and ongoing operational noise, as discussed below.

Construction

Construction noise typically occurs intermittently and varies depending upon the location or phase of construction (e.g., land clearing, grading, building construction). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Initial site preparation phases, including grading and excavation activities, tend to involve the most equipment and result in the highest average-hourly noise levels. **Table 11** summarizes noise levels commonly associated with construction equipment. As noted in **Table 11**, instantaneous noise levels (in dBA L_{max}) generated by individual pieces of construction equipment typically range from approximately 80 dBA to 85 dBA L_{max} at 50 feet. Typical operating cycles may involve two (2) minutes of full power, followed by three (3) or four (4) minutes at lower settings. Average-hourly noise levels for individual equipment range from 73 to 82 dBA L_{eq}. Based on typical off-road equipment usage rates and assuming multiple pieces of equipment operating simultaneously in a localized area, average-hourly noise levels could reach levels of approximately 80 dBA L_{eq} at roughly 100 feet.

Table 11
Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 ft from Source	Typical Noise Level (dBA) 100 ft from Source[1]	Typical Noise Level (dBA) 200 ft from Source[1]	Typical Noise Level (dBA) 400 ft from Source[1]
Air Compressor	81	75	69	63
Backhoe	80	74	68	62
Ballast Equalizer	82	76	70	64
Ballast Tamper	83	77	71	65
Compactor	82	76	70	64
Concrete Mixer	85	79	73	67
Concrete Pump	82	76	70	64
Concrete Vibrator	76	70	64	58
Dozer	85	79	73	67
Generator	81	75	69	63
Grader	85	79	73	67
Impact Wrench	85	79	73	67
Jack Hammer	88	82	76	70
Loader	85	79	73	67
Paver	89	83	77	71
Pneumatic Tool	85	79	73	67
Pump	76	70	64	58
Roller	74	68	62	56

Source: U.S. Department of Transportation, Transit Noise and Vibration Impact Assessment, 2006
Construction generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor.

Construction of the recycled water pump station at the WRF would occur approximately 1,800 feet west of the nearest sensitive residential receptor and is not anticipated to result in construction noise impacts. Likewise, installation of the transmission pipeline through the agricultural easement in unincorporated Monterey County would occur approximately 1,400 feet northeast of the nearest sensitive residential receptor and is not anticipated to result in construction noise impacts at this location. However, agricultural workers, if present, could potentially be impacted by construction of this component of the Project. Many residential and educational sensitive receptors located in the areas where the distribution pipelines would be installed in roadway ROWs throughout the City. Construction

activities associated with the distribution system could occur within 25-feet of these residences and within 150 feet of schools (depending on final pipeline alignment). Limited improvements at some of the park and school sites to connect the distribution system to existing water system may also generate noise during construction that could impact park users or students.

The Proposed Project could result in temporary significant noise impacts from installation of the transmission main (impacts to agricultural workers) and the distribution pipeline (residential and educational receptors) based on the noise emissions identified in **Table 11**. However, construction activities would be temporary in nature and would not be concentrated in a single location due to the linear nature of pipeline installation. Project construction would be limited to the hours of 8:00 AM and 5:00 PM, Monday through Friday, with no nighttime, weekend, or holiday construction proposed. No permanent noise increase would occur as a result of construction of the Proposed Project. In addition, the Project includes construction BMPs, including use of mufflers on construction equipment and use of temporary noise barriers to reduce noise during construction. This represents a less than significant impact.

Operation

Once operational, the Proposed Project would not result in a substantial permanent noise increase. The pipeline and transmission main components would be located underground and would not generate substantial noise. The aboveground components of the Proposed Project would be limited to the recycled water pump station at the existing WRF. As stated previously, there are no sensitive receptors in close proximity to the WRF site. In addition, the existing WRF already generates operational noise and the recycled water pump station is not anticipated to substantially increase operational noise compared to existing conditions. In addition, the recycled water pump station at the existing WRF would not introduce new sources of noise in closer proximity to sensitive residential receptors compared to existing conditions. The Proposed Project would not result in new sources of substantial operational noise during operation and would not result in a permanent increase in ambient noise levels. This represents a less than significant impact.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction

The Proposed Project would generate temporary groundborne vibration during construction. A vibration impact could occur where noise-sensitive land uses are exposed to excessive vibration levels. The nearest sensitive receptors are located as close as 25 feet from distribution pipeline installation. People residing or attending school adjacent to the Proposed Project area could be exposed to temporary groundborne vibration or groundborne noise levels during construction. Vibratory compactors or rollers and pavement breakers can generate perceptible vibration. Heavy trucks can also generate groundborne vibration, which varies depending on vehicle type, weight, and pavement conditions. The Federal Transit Authority has published standard vibration levels and peak particle velocities for construction equipment. **Table 12** below summarizes these standards for construction equipment.

Table 12
Vibration Velocities for Construction Equipment

Equipment	Approximate Velocity Level at 25 Feet ("VdB")	Approximate Peak Particle Velocity at 25 Feet ("inches/second")	Approximate Peak Particle Velocity at 50 feet ("inches/second")	Approximate Peak Particle Velocity at 400 feet ("inches/second")
Pile Driving (sonic)	104	0.644	N/A[1]	0.006
Pile Driver (impact)	112	1.518	N/A[1]	0.015
Large Bulldozers	87	0.089	0.031	0.001
Small Bulldozer	58	0.003	0.001	0.000
Loaded Trucks	86	0.076	0.027	0.001
Jackhammer	79	0.035	N/A[1]	0.000

Note: Data reflects typical vibration level. Source: (U.S. Department of Transportation, May 2006)

For purposes of this analysis, excessive groundborne vibration would be 0.2 inches per second (as derived from the U.S. Department of Transportation, Earthborne Vibrations Technical Advisory equation for attenuation of vibration) which is the level at which vibration could cause damage to masonry and wood buildings. Vibration levels from construction equipment attenuate as they radiate from the source (U.S. Department of Transportation, May 2006).

Sensitive receptors in the area could be exposed to groundborne vibrations of varying magnitudes depending on the type of equipment and proximity to construction activities, as shown in **Table 12**. Ground disturbing activities associated with project grading and excavation could involve the operation of bulldozers, compactors, and loaded trucks. These activities could impact sensitive receptors in the area. The vibration level associated with these types of equipment would attenuate to a maximum of approximately 0.089 inches per second at 25 feet, which would be barely perceptible and would be well under the threshold of 0.2 inches per second (U.S. Department of Transportation, May 2006). Construction activities could occur in 25-feet of residences in the Project area to install pipelines in the roadway ROWs. Construction activities would be temporary in nature and would not be concentrated in a single location due to the linear nature of pipeline installation. Installation of the transmission pipeline would require similar construction equipment as the distribution system pipeline and would be located approximately 1,400 feet from the nearest residential receptor. More extensive construction activities for the recycled water pump station would occur at the existing WRF site. The nearest sensitive receptor is 1,800 feet east of the WRF site and would not be impacted by construction vibration. Vibration associated with the construction of the Proposed Project would be below levels that could cause damage to structures, would not result in prolonged interference for sensitive receptors, and would barely be perceptible. This represents a less than significant impact.

Operation

Once operational, the Proposed Project would not generate excessive or substantial vibration. The majority of Proposed Project components would be located underground and would not produce substantial vibrations. The aboveground components of the Proposed Project would be limited to the recycled water pump station, which would not result in substantial vibration during operation.

Operation of the Proposed Project would not introduce new sources of substantial vibration. This represents a less than significant impact.

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

The Proposed Project is not located in the vicinity of a private airstrip or an airport land use plan, or within two (2) miles of a public or public use airport. Therefore, no impact would occur.

4.13 Population and Housing

Environmental Setting

The Proposed Project is located primarily in the City of Soledad, with a segment of proposed pipeline located in unincorporated Monterey County. The City has an approximate population of 24,925 persons inhabiting 4,524 housing units (US Census Bureau, 2024). The Proposed Project is intended to serve existing parks and schools within the Proposed Project area with recycled water. The Proposed Project does not involve new residential or commercial development or additional residential or commercial water connections.

Regulatory Setting

Local

City of Soledad General Plan: The Housing Element of the City's General Plan contains the following policy related to the Proposed Project:

H-10. The City of Soledad shall ensure the availability of adequate public facilities for the expected housing need of the city.

***Monterey County General Plan*:** The 2010 Monterey County General Plan includes a Housing Element that identifies policies to address population and housing.

Policy H-2.13 Assist in infrastructure and public facility improvements that support existing and new affordable housing.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in the 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

Impact Discussion

a. Would the project induce substantial unplanned population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The Proposed Project involves augmentation of the City's recycled water infrastructure to offset the use of potable water for irrigation of sports fields and parks across the City. The recycled water associated with the Proposed Project would irrigate park facilities and school fields and would not augment the City's drinking water supply. Therefore, the Project would not supply water to new or existing homes and would not induce, directly or indirectly, substantial unplanned population growth. For these reasons, no impact would occur.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Proposed Project would reduce the demand for groundwater by providing recycled non-potable water for irrigation of school fields and parks across the City. Improvements to expanding recycled water infrastructure to provide this recycled water to school and recreational facilities within the City would occur within existing roadway ROWs, agricultural easements, and the existing WRF site. These improvements would not displace people or housing, and the Proposed Project would not require construction of replacement or additional housing elsewhere. Therefore, no impact would occur.

4.14 Public Services

Environmental Setting

Key public services to the Proposed Project area (police protection, fire protection, etc.) are provided by the following agencies.

Police

The Soledad Police Department provides police protection services for Project components in the City. The department consists of 21 law enforcement officers and three civilian personnel and is located at 236 Main Street, adjacent to proposed pipeline alignments along Main Street and Monterey Street and approximately 0.8 miles from the WRF (City of Soledad, 2024a). Additionally, the Monterey County Sheriff's Office provides police protection services for unincorporated areas of Monterey County, and would provide police protection for project components within County jurisdiction. The Department's headquarters are located at 1414 Natividad Road in Salinas, which is approximately 25 miles northwest of the Booster Pump Station 66 site (Monterey County Sheriff's Office, 2024).

Fire

The City of Soledad contracts with CALFIRE to provide fire services to the City and the unincorporated Mission-Soledad Fire Protection District. The Soledad Fire Department, in coordination with CALFIRE, serves approximately 34,000 citizens within approximately 97 square miles of City and County land (City of Soledad, 2024b). The Soledad Fire Department is located at the corner of Monterey Street and Main

Street, approximately 50 feet from pipeline alignments along these roads and approximately 0.8 miles from Project components located at the WRF.

Schools

The SUSD serves the schools within the Project area. These include four preschools, five elementary schools, one middle school, two high schools, and one special education, one adult, and one alternative school. The Project would provide recycled water to six of the 15 schools in the City, which would require connections to existing water systems within school properties. Please see **Section 1.5, Proposed Project** for a list of schools that would be served by the Proposed Project.

Parks

The Proposed Project would serve 14 total parks in the City, consisting of 13 existing City parks and the future Toledo Park to be located south of the intersection of Gabilan Drive and Vista Avenue, which would require connections to existing water systems within park properties. Please refer to **Section 1.5, Proposed Project** for a list of parks that the Proposed Project would serve.

Regulatory Setting

Local

City of Soledad General Plan: The City's fire department oversees the Mission Soledad Rural Fire Protection District, a special district comprising approximately 42,000 acres bounded by the foothills of the Gabilan Range and the Santa Lucia Mountains. The City also has a mutual aid agreement with CALFIRE for fire protection services. The Public Services and Facilities Element of the City's General Plan contains the following policies applicable to the Proposed Project:

S2: The City shall plan for the expansion of needed water and sewer infrastructure including, but not limited to, the expansion of water production, storage and distribution facilities, the expansion of wastewater collection and treatment capacity, and storm drainage facility expansion.

S38: The City shall ensure that all proposed developments are reviewed for compliance with fire safety standards per the Uniform Fire Code and other City standards and ordinances.

Additionally, the Parks and Recreation Element of the City's General Plan contains the following policies applicable to the Proposed Project:

PR15: Parks shall include adequate support facilities such as parking and restrooms.

PR25: New development shall not adversely impact adjacent parks, recreation, or open space lands.

Monterey County General Plan: None of the policies provided in the 2010 County General Plan related to public services are applicable to the Proposed Project.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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	☐	☐	☐	■

Impact Discussion

a. Would the project 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 fire protection?

The Proposed Project involves construction of a recycled water pump station at the WRF and a transmission pipeline and water distribution pipelines within farmland easements in unincorporated Monterey County and the City roadway ROWs. Construction within the City roadway ROWs would involve grading and trenching for installation of the distribution pipelines across the City. Construction of the pipelines would occur within approximately 50 feet of the City's fire station. However, while the Proposed Project would result in short-term lane or road closures, all such closures would occur in accordance with a traffic control plan reviewed and approved by the City as part of the encroachment permit process. This would ensure that the proposed road or lane closures would not interfere with emergency response vehicles or area evacuation in an emergency. Although unlikely, potential construction-related emergencies could require both CALFIRE and the Soledad Fire Department to respond. The Proposed Project would have no post-construction impacts. Therefore, this impact would be less than significant.

b. Would the project 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 police protection?

The Proposed Project involves construction and operation of a recycled water pump station and associated transmission and distribution pipelines across the City and unincorporated Monterey County. Although unlikely, potential construction-related emergencies could require both the Monterey County Sheriff's Office and the Soledad Police Department to respond. Construction would occur over 18-24

months and would not significantly impact police protection services or require construction of new or remodeled facilities. Once operational, the Proposed Project would not require additional demand for police services. Therefore, this impact is less than significant.

c. Would the project 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 schools?

Construction of the Proposed Project would occur at the WRF, easements in unincorporated Monterey County, and within City roadway ROWs. While the Proposed Project would supply recycled water for irrigation at local schools, the majority of construction would occur within the roadways to connect the new distribution pipelines to existing water infrastructure, with additional work within some City parks/schools to connect the recycled water distribution system to the existing sites' water infrastructure. Work at the schools and parks includes installing irrigation meters, disconnecting the potable water system from the irrigation system, installing irrigation piping, and replacing sprinkler heads with Title 22 compliant purple colored recycled water sprinkler heads. Construction would occur over 18-24 months and some construction would occur adjacent to or within the grounds of local schools. However, the Proposed Project would not significantly impact school operation or performance objectives. No post-construction impacts would occur in relation to local school operation and performance standards. This represents a less than significant impact.

d. Would the project 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 parks?

While the Proposed Project would supply recycled water for irrigation at local parks, the majority of construction would occur within the roadway ROWs to connect the new distribution pipelines to existing water infrastructure, with additional work within some City parks/schools to connect the recycled water distribution system to the water infrastructure at the existing sites. Construction would occur over 18-24 months and some construction would occur adjacent to or within the grounds of local parks. However, parks would remain open during construction and the Proposed Project would not significantly impact park services. No post-construction impacts would occur in relation to local park operation and performance standards. This represents a less than significant impact.

e. Would the project 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 other public facilities?

The Proposed Project would involve expansion of recycled water distribution across the City and would have no physical impacts on other public facilities. The Project would not require the construction of new or remodeled facilities. Therefore, no impact would occur.

4.15 Recreation

Environmental Setting

The Proposed Project would primarily be located in City ROWs and at the WRF; however, the Project would replace or convert existing irrigation connections on park properties throughout the City. Construction would occur at 14 City parks comprising primarily of baseball and soccer fields, open lawn areas, and pedestrian pathways. Schools can also provide limited recreational facilities to the community (e.g., turf areas). Please refer to **Section 1.5, Proposed Project** for a list of parks that would be served by the Proposed Project.

Regulatory Environment

Local

City of Soledad General Plan: the Parks and Recreation Element of the City's General Plan contains the following policies applicable to the Proposed Project:

PR15: Parks shall include adequate support facilities such as parking and restrooms.

PR25: New development shall not adversely impact adjacent parks, recreation, or open space lands.

Monterey County General Plan: None of the policies provided in the 2010 County General Plan related to recreational facilities are applicable to the Proposed Project.

	Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	■	☐

Impact Discussion

a. and b. Would the project increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated? Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Proposed Project would provide recycled non-potable recycled water for irrigation to local parks and recreational facilities on school campuses within the City. Construction of the required recycled

water pump station would occur at the WRF, and construction of the necessary transmission and distribution pipelines would occur on County farmland and within City roadway ROWs. To supply recycled water to irrigation infrastructure at local parks and school fields, the Proposed Project would connect new pipeline infrastructure to existing infrastructure within the roadways adjacent to local parks and schools. The Proposed Project would require some limited construction within some school/park sites to connect the recycled water distribution pipeline to the sites' existing water systems.

Work at the schools and parks includes installing irrigation meters, disconnecting the potable water system from the irrigation system, installing irrigation piping, and replacing sprinkler heads with Title 22 compliant purple colored recycled water sprinkler heads. Excavation and disturbance at the schools and parks are anticipated to be minimal. Closures of the schools and parks is not anticipated. Work areas are anticipated to be limited to locations at irrigation facilities and restored to pre-project conditions.

Operation of the Proposed Project would provide recycled water for irrigation as a part of general maintenance of recreational fields. Therefore, the Project would not increase the use of existing parks or other recreational facilities. For these reasons, this impact is less than significant.

4.16 Transportation

Environmental Setting

Regional access to the Proposed Project area is provided via Highway 101 and SR 146. Local access to the WRF site is provided via Morisoli Road. The distribution system installation would occur within various local roadways within the City. Installation would occur within the following roadway ROWs:

- Front Street
- Market Street
- West Street
- Monterey Street
- Main Street
- North Street
- Andalucia Drive
- Metz Road/SR 146
- Dixi Street
- Palm Avenue
- Oak Street
- State Street
- Park Street
- Walker Drive
- Orchard Lane
- 3rd Street
- Vineyard Drive
- Vista de Soledad
- Gabilan Drive
- Prado Drive
- Mirada Street
- Toledo Street
- San Antonio Street

- Santa Barbara Street
- Vista Avenue
- Vida Street
- Entrada Drive

These local roadways are two-directional, typically with two to four total lanes. The Proposed Project does not include any Caltrans designated scenic highways, although SR 146 is listed as an eligible scenic highway (see **4.1 Aesthetics**).

The City's 2005 General Plan qualitatively evaluated existing traffic conditions using the Level of Service ("LOS") metric. LOS is a qualitative assessment of motorist and passenger perceptions of traffic conditions. LOS generally reflects traveling conditions such as travel time and speed and freedom to maneuver, traffic interruptions, and volume to capacity ratios to approximate driver satisfaction. The LOS measures differ by roadway type and are designated as LOS A to LOS F. LOS A represents free-flow conditions, while LOS F indicates excessive delays and congestion. However, as of July 2020, the current CEQA metric for evaluating transportation impacts is Vehicle Miles Traveled ("VMT") as described further below. The City has not adopted a threshold of significance for CEQA impacts from VMT.

Regulatory Environment

State

Senate Bill 743: SB 743 required that starting July 2020 transportation impact for projects per CEQA be based on a project's VMT. CEQA Guidelines Section 15064.3, subdivision (b)(1) calls for the evaluation of transportation impacts of projects based on VMT. CEQA uses the VMT metric to evaluate a project's transportation impacts. The publication *Technical Advisory on Evaluating Transportation Impacts in CEQA, State of California Governor's Office of Planning and Research*, December 2018, suggests that a significant environmental impact would occur if a project would generate more than 110 trips per day.

Local

City of Soledad General Plan: The following policies from the Circulation Element of the City's General Plan are applicable to the approved project:

C6: The City shall not approve new commercial or industrial development that encourages customers, employees or deliveries to use residential streets. The circulation system shall be designed so that nonresidential traffic (especially truck traffic) is confined to nonresidential areas.

C19: On street truck parking shall be prohibited where such parking restricts adequate sight distances or otherwise poses a potentially hazardous situation.

***Monterey County General Plan*:** The 2010 Monterey County General Plan includes policies related to transportation and circulation. Relevant policies are listed below.

Policy C-2.7: New development shall be located and designed with convenient access and efficient transportation for all intended users and, where possible, consider alternative transportation modes.

Policy C-4.3: The needs of bicyclists and pedestrians, as well as provisions for utilities and drainage, shall be considered and, where appropriate, provided in all public rights-of-way in a manner that minimizes impacts to adjacent land uses.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	■	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	■	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	■	☐
d) Result in inadequate emergency access?	☐	☐	☐	■

Impact Discussion

a. and b. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

At each school and park, a new recycled water lateral pipeline is anticipated to be installed beneath the sidewalk requiring a temporary closure of the sidewalk for pedestrian safety during construction. Traffic control plans will be developed to temporarily re-route pedestrian traffic around the work area during construction.

Pipeline construction beneath crosswalks is anticipated requiring a temporary closure of the crosswalk for pedestrian safety during construction. Traffic control plans will be developed to temporarily re-route pedestrian traffic around the work area during construction.

Pipeline construction beneath bike lanes and bikes paths is anticipated to be minimal. If construction requires temporary closure of a bike lane and bike path for safety traffic control plans will be developed to temporarily re-route bicycle traffic around the work area during construction.

The Proposed Project would result in temporary construction related traffic due to construction worker vehicle trips and temporary lane closures. The Project would result in a nominal increase in operational traffic associated with regular maintenance of the system components. CEQA Guidelines Section 15064.2 subdivision (b)(1) calls for the evaluation of transportation impacts of projects based on VMT. CEQA uses the VMT metric to evaluate a project's transportation impacts. The City has not yet adopted VMT thresholds. In the absence of City and County VMT standard metrics, this IS/MND relies on the Office of Planning and Research's recommended small project screening threshold to determine whether the Proposed Projects VMT effects would be significant. For the IS/MND the Proposed Project would result in a significant traffic-related effect if the Proposed Project would exceed 110 daily trips.

Construction

The Proposed Project would result in temporary construction-related traffic. Construction would require 10 workers onsite at any given time during the duration of construction. Most of the equipment for the distribution pipeline and transmission pipeline would be brought to the construction site and would be stored at temporary staging areas along the pipeline and transmission alignment. These locations would change over the course of construction due to the linear nature of the pipeline component. Construction materials and equipment for the recycled water pump station would be located at the existing WRF site throughout construction.

Trucks would bring materials such as water pipes, gravel, and asphalt for the road, etc. to the site. These deliveries would take place over the course of construction of the Proposed Project. Construction of the Project would be phased over the course of 18-24 months, and construction hours would be limited to 8:00 AM and 5:00 PM, Monday through Friday. No construction would occur on weekends or holidays. Based on the construction schedule, and the temporary nature of construction, it is unlikely that construction traffic would exceed the threshold of 110 daily trips. Due to the temporary nature of construction, and phased approach, this impact would be less than significant.

The Proposed Project could require temporary closures to pedestrian sidewalks and bicycle lanes during installation of the distribution pipeline. All closures would be in accordance with a traffic control plan included as part of the encroachment permit. All closures would be temporary, would last only as long as required to install specific segments of pipeline, and would cease following completion of construction. This represents a less than significant impact.

Operation

Once operational, the pipeline components of the Proposed Project would be located underground and would not interfere with roadway, bicycle, or pedestrian systems. Upon Project completion, the project would not impact bike or pedestrian facilities. The Proposed Project may generate additional traffic trips during operation compared to existing conditions. These trips would occur in connection with periodic deliveries of material and maintenance related activities of the Project components, as well as routine daily traffic trips associated with on-site operational employees, similar to existing conditions. Anticipated operational traffic trips would be well below the threshold of 110 daily trips. This represents a less than significant impact.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Proposed Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses. The Proposed Project would implement a traffic control plan to manage lane and road closures due to construction, which would ensure no temporary hazards would occur due to a geometric design feature. Once completed, the distribution pipelines would be located underground and would not create any hazards from geometric design features. The transmission main and recycled water pump station would not be located within public roadways. The Proposed Project is the extension of recycled water service to City parks and schools and would not introduce incompatible uses. This represents a less than significant impact.

d. Would the project result in inadequate emergency access?

The Proposed Project would not result in inadequate emergency access. The Proposed Project consists of new pipelines and would not impact emergency access. While the Proposed Project would result in short-term lane or road closures, all such closures would be conducted in accordance with a traffic control plan reviewed and approved by the City as part of the encroachment permit process. This would ensure that the proposed road or lane closures would not result in adequate emergency access (see **Section 4.9 Hazards and Hazardous Materials**). No impact would occur.

4.17 Tribal Cultural Resources

Basin Research Associates, Inc. ("BASIN") prepared a Cultural Resources Assessment Report for the Proposed Project in August 2024. The Cultural Resources Assessment Report includes the results of background research and field reconnaissance of the Proposed Project's APE. Background research consisted of a records search from the Northwest Information Center at Sonoma State University, a Sacred Lands File search with the Native American Heritage Commission, and Native American consultation in support of consultation under AB 52. The field reconnaissance consisted of a pedestrian survey of the APE on July 12, 2024, which investigated the APE for cultural and Tribal cultural resources.

Environmental Setting

Regional History

Prior to Euro-American contact, the area now known as Monterey County was inhabited by native speakers of the Costanoan, Esselen, and Salinan languages. The traditional way of life for the native inhabitants was largely destroyed in the 1760s with the arrival of Euro-Americans.

The Ohlone inhabited a large range along the coast of California that extended from the San Francisco Peninsula south to the Monterey Peninsula and included inland areas from the Santa Clara Valley through San Juan Batista. While first contact between Indigenous communities and Europeans took place in 1542, followed half a century later in 1602, European settlement began in the 1760's when the Spanish decided to establish colonies. The establishment of Misión San Carlos de Borromeo de Carmelo marked the beginning of a period of intense Native American conversion to Catholicism. After Mexico gained its independence from Spain in 1820, the government granted most land around Monterey to wealthy Mexican families as large tracts of lands known as ranchos. Following the 1846 capture of California by the United States, industry in the Salinas valley shifted away from grazing lands and towards agriculture. As the competition for land increased with the arrival of Anglo settlers, Native American communities continued to disappear.

Regulatory Environment

Federal

National Historic Preservation Act. Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 300301 et seq.), as amended, requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally assisted undertaking, or issuing licenses or permits, consider the effect of the proposed undertaking on historic properties. A historic property may include a prehistoric or historic-era building, structure, object, site or district included in, or eligible for inclusion in, the

National Register maintained by the U.S. Secretary of the Interior. Federal agencies must also allow the ACHP to comment on the proposed undertaking and its potential effects on historic properties. The implementing regulations for Section 106 of the NHPA (36 CFR 800) require consultation with the SHPO, the ACHP, federally recognized Indian tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- Initiate the Section 106 process, including consultation with interested parties (36 CFR 800.3);
- Identify historic properties, i.e., resources included in or eligible for inclusion in the National Register (36 CFR 800.4);
- Assess the effects of the undertaking on historic properties within the area of potential effect (36 CFR 800.5); and
- Resolve adverse effects (36 CFR 800.6).

Adverse effects on historic properties are often resolved through preparation of a Memorandum of Agreement or Programmatic Agreement developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to participate. The agreement describes stipulations to mitigate adverse effects on historic properties listed in or eligible for the National Register (36 CFR 60).

State

California Public Resources Code: Several sections of the California PRC protect cultural resources located on public land. Under PRC Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site (including fossilized footprints), inscriptions made by human agency, rock art, or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Violation of this section is a misdemeanor.

PRC Section 5097.98 states that if Native American human remains are identified within a project area, the landowner must work with the Native American Most Likely Descendant as identified by the NAHC to develop a plan for the treatment or disposition of the human remains and any items associated with Native American burials with appropriate dignity. Section 15064.5 of the State CEQA Guidelines also addresses these procedures. California Health and Safety Code Section 7050.5 prohibits disinterring, disturbing, or removing human remains from a location other than a dedicated cemetery. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur because of development on public lands.

California Health and Safety Code: California Health and Safety Code Section 7050.5 regulates the treatment of human remains. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to his or her authority. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact the NAHC by telephone within 24 hours.

***Native American Heritage Commission*:** The NAHC was created by statute in 1976, is a nine-member body appointed by the Governor to identify and catalog cultural resources (i.e., places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands) in California. The Commission is responsible for preserving and ensuring accessibility of sacred sites and burials, the disposition of Native American human remains and burial items, maintaining an inventory of Native American sacred sites located on public lands, and reviewing current administrative and statutory protections related to these sacred sites.

State Assembly Bill 52: Prior to the enactment of Assembly Bill 52, the State of California found current laws provided limited protection for sites, features, places, objects, and landscapes with cultural value to California Native American Tribes. These items and locations included the protection of Native American sacred places such as places of worship, religious or ceremonial sites, and sacred shrines. California Native Americans have used, and continue to use, natural settings in the conduct of religious observances, ceremonies, and cultural practices and beliefs. These resources reflect the Tribes' continuing cultural ties to the land and their traditional heritage. Many of these archaeological, historical, cultural, and sacred sites are not located in the current boundaries of California Native American reservations and rancherias, and therefore are not covered by the protectionist policies of Tribal governments. To recognize California Native American Tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American Tribal governments, and respecting the interests and roles of project proponents, the Legislature enacted AB 52 Native Americans: California Environmental Quality Act.

AB 52 formally recognizes that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in Tribal cultural traditions, heritages, and identities. California Native American Tribes are experts regarding their Tribal history and practices for which they are traditionally and culturally affiliated. Due to this unique history, and to uphold existing rights of all California Native American Tribes to participate in, and contribute their knowledge to, environmental analysis, projects should include Tribal knowledge about the land and Tribal cultural resources at issue. Projects should also consider a potential significant impact on those resources. Therefore, a meaningful consultation between California Native American Tribal governments and lead agencies, respecting the interests and roles of all California Native American Tribes and project proponents, and the level of required confidentiality concerning Tribal cultural resources shall occur. Doing so will allow identification of potential Tribal cultural resources onsite and incorporation of culturally appropriate mitigation measures considered by the decision-making body of the lead agency. Doing so also enables California Native American Tribes to manage and accept conveyances of, and act as caretakers of, Tribal cultural resources and ultimately establishes that a substantial adverse change to a Tribal cultural resource has a significant effect on the environment.

Local

City of Soledad General Plan: The City's General Plan includes policies related to the preservation of cultural resources. Please see **Section 4.5, Cultural Resources** for further discussion.

***Monterey County General Plan*:** The 2010 Monterey County General Plan includes policies related to the preservation of cultural resources, please see **Section 4.5, Cultural Resources**.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	■	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

Impact Discussion

a.i. and a.ii, Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The City sent letters containing a brief project description and maps of the Project Area to the Native American tribes identified by the NAHC on September 18, 2024 per AB 52. The City received letters from the following tribes: the Amah Mutsun Tribal Band of San Juan Bautista and the Salinas Tribe. The Amah Mutsun Tribe expressed concerns about cultural or historic sensitivity within one (1) mile of the Project and, if so, the need to provide cultural sensitivity training before construction and Native American archaeological monitoring during earthmoving activities. The Salinas Tribe stated that unknown buried cultural resources and burials may be impacted by the Project and requested that areas near known sites be monitored by a Native American cultural resource specialist from their tribe.

BASIN conducted a records search at the NWIC, an SLF search with the NAHC, and completed a visual inspection of the Proposed Project APE. Additionally, BASIN reviewed the geology and soil

characterizations of the Proposed Project site. BASIN did not observe archaeological resources, and none have been previously recorded within the Proposed Project APE. However, previously unrecorded archaeological resources could be present below ground surface and such resources could be exposed or damaged during Project construction. The City will implement **Mitigation Measures CUL-1** and **CUL-2**, as discussed in **Section 4.5 Cultural Resources** to avoid potential impacts to underground cultural and Tribal resources. Additionally, the City would implement **Mitigation Measure TR-1**. Implementation of these mitigation measures would ensure the Project has a less than significant impact on Tribal cultural resources.

> **Mitigation Measure TR-1:** Prior to ground disturbance activities, a Tribal Cultural monitor shall provide cultural sensitivity training to all construction personnel. The training shall explain applicable statues, regulations, enforcement provisions; the prehistoric and historic environmental setting and context, local Tribal groups; show sample artifacts; and what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction. Construction personnel shall not be permitted to operate equipment within the construction area unless they have attended the training. A list of the names of all personnel who attended the training, and copies of the signed acknowledgement forms shall be submitted to the City of Soledad Director of Public Works or a designee.

4.18 Utilities and Service Systems

Environmental Setting

Water Supply and Wastewater

The City of Soledad draws its water supply from the groundwater of the Salinas Valley Groundwater Basin – Forebay Aquifer Subbasin. The City owns and operates a water distribution system comprised of a W3 pump station, which draws water from an existing reclaimed water pump station wet well; 12-inch and eight-inch diameter transmission pipelines leading from the City to the WRF, located on Morisoli Road. The WRF produces disinfected, tertiary treated effluent that meets Title 22, Division 4, Chapter 3, California Code of Regulations for recycled water. It is operating at approximately 2.45 million gallons per day (MGD) average daily flow and the effluent is currently discharged to rapid infiltration basins adjacent to the WRF for aquifer recharge. The current discharge permit limits recharge to 4.3 MGD with the remaining 1.2 MGD of peak flow capacity designated for non-potable reuse (Carollo, 2024).

Solid Waste

Tri-Cities Disposal and Recycling provides solid waste and recycling collection services for the City. Additionally, Waste Management, Inc. provides solid waste and recycling collection services for the unincorporated portions of Monterey County, including a portion of the Proposed Project area. Solid waste and recycling in the Project area are disposed of at the Johnson Canyon Landfill in Gonzales, California. The Johnson Canyon Landfill has a maximum permitted capacity of 18,500,000 cubic yards per day (1,694 tons per day) and is estimated to have disposal capacity through year 2066 (CalRecycle, 2024).[5]

[5] In December 2021, the Salinas Valley Solid Waste Authority submitted a Revised Solid Waste Facilities Permit that would increase the permitted maximum tonnage, with a phased increase beginning in 2026. The revised permit would similarly increase

Regulatory Environment

State

***Assembly Bill 939*:** California AB 939 established the California Integrated Waste Management Board ("CalRecycle"), which required all California counties to prepare Integrated Waste Management Plans. Additionally, AB 939 required all municipalities to divert 50 percent of their waste stream by the year 2000.

***California Green Building Standards Code*:** In 2022, California adopted the most recent version of the California Green Building Standards Code, which establishes mandatory green building standards for new and remodeled structures in California. These standards include a mandatory set of guidelines and more stringent voluntary measures for new construction projects, to achieve specific green building performance levels as follows:

- Reduce indoor water use by 20 percent;
- Reduce wastewater by 20 percent;
- Recycle and/or salvage 50 percent of nonhazardous construction and demolition debris; and
- Provide readily accessible areas for recycling by occupant.

Local

City of Soledad General Plan: The City's General Plan provides the following policies for utilities applicable to the Proposed Project:

L-44: The City shall require that all new development be designed to complement the scale and character of existing development. Views of the surrounding hills and mountains shall be preserved through such means as design review, sign control, undergrounding of utilities, grading and tree removal standards.

S10: The City will manage the increase in water demand from new development to help ensure groundwater resources are not over drafted. The City will work with Monterey County and public and private water entities to plan for the efficient, long-term management of groundwater resources.

S11: Gravity flow for sewer and water service shall be employed wherever feasible.

S26: The City shall promote maximum use of solid waste source reduction, recycling, composting and environmentally safe transformation of wastes.

S27: The City shall require that all new development complies with applicable provisions of the Monterey County Integrated Waste Management Plan.

the daily disposal capacity and extend the closure date from 2055 to 2066. https://www2.calrecycle.ca.gov/PublicNotices/Details/4558#:~:text=Increase%20in%20the%20disposal%20Design%20Capacity%20from%2013%2C834%2C328,Capacity%20from%2026%2C000%20tons%20to%2057%2C276%20cubic%20yards.

***Monterey County General Plan*:** The 2010 Monterey County General Plan contains policies concerning utilities and services applicable to the Proposed Project:

Policy PS-2.1: Coordination among, and consolidation with, those public water service providers drawing from a common water table to prevent overdrawing the water table is encouraged.

Policy PS-5.3: Programs to facilitate recycling/diversion of waste materials at new construction sites, demolition projects, and remodeling projects shall be implemented.

Policy PS-5.4: The maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally-safe transformation of wastes, consistent with the protection of the public's health and safety, shall be promoted.

Policy PS-13.2: All new utility lines shall be placed underground, unless determined not to be feasible by the Director of the Resource Management Agency.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?	☐	☐	☐	■
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	■	☐
c) 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?	☐	☐	☐	■
d) Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e) Comply with federal, state, and local management and reduction statuses and regulations related to solid waste?	☐	☐	■	☐

Impact Discussion

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?

The Proposed Project consists of construction and operation of a recycled water pump station at the WRF, installation of a transmission main within an easement of County farmland, and installation of distribution pipelines throughout the City roadway ROWs and at connection points within or adjacent to City parks and schools. The Project would provide recycled water to school and park facilities for the irrigation of fields and landscaped areas. In supplying recycled water for school and park facility irrigation, the City would reduce reliance on and use of groundwater resources. The Proposed Project is an expansion of the City's existing wastewater utility service and would not require additional utility construction beyond what is included in the Proposed Project. The Proposed Project would not require relocation of or construction of new wastewater treatment plant, storm water drainage infrastructure, electrical power, natural gas, or telecommunications facilities. This represents a less than significant impact.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The Proposed Project consists of new infrastructure (i.e., recycled water pump station, transmission pipeline, and distribution pipelines) to supply school and park facilities with Title 22 recycled water produced by the existing WRF facility to irrigate fields and landscaped areas. In using recycled water, the City would reduce their use of local groundwater resources that supply the City. Therefore, the Proposed Project would have sufficient water supplies for the foreseeable future, as the school and park facilities would use recycled water from the WRF for irrigation as opposed to further use of local groundwater resources. For these reasons, the Proposed Project would have a less than significant impact regarding sufficient water supplies.

c. Would the project 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?

The Proposed Project would not result in a determination by the wastewater treatment provider that the wastewater treatment facility has inadequate capacity to serve the Project. The Proposed Project consists of new infrastructure to supply school and park facilities with recycled water to irrigate fields and landscaped areas. The Project would expand the recycled water distribution system and supply recycled water for irrigation generated from existing wastewater treatment processes at the WRF. Additionally, irrigating local school and park facilities would not return wastewater to the local wastewater treatment provider. Therefore, the Proposed Project would have no impact regarding service capacity of the local wastewater treatment provider.

d. and e. Would the project generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Would the project comply with federal, state, and local management and reduction statuses and regulations related to solid waste?

The Proposed Project would not generate solid waste in excess of state or local standards or in excess of the capacity of the local Johnson Canyon Landfill as the Project would comply with all federal, state, and local statutes regulating and encouraging reduction in solid waste as outlined above. Solid waste generated from the Project would be disposed of offsite at the Johnson Canyon Landfill located in Gonzales, California. The Johnson Canyon Landfill has a maximum permitted capacity of 18,500,000 cubic yards per day (1,694 tons per day) and is estimated to have disposal capacity through year 2066 (CalRecycle, 2024). The Proposed Project does not include demolition of existing structures and would generate minimal amounts of waste from construction. Compliance with applicable solid waste regulations outlined above would ensure that the Project has a less than significant impact regarding generation of solid waste and compliance with local plans, policies, and programs regulating solid waste.

4.19 Wildfire

Environmental Setting

The State Fire Marshal is mandated to classify lands within State Responsibility Areas ("SRA") into Fire Hazard Severity Zones ("FHSZ"). FHSZ are defined by the California Department of Forestry and Fire Protection ("CALFIRE") based on the presence of fire-prone vegetation, climate, topography, assets at risk (e.g., high population centers), and a fire protection agency's ability to provide service to the area (CALFIRE, 2024). FHSZs are designated as "Very High," "High," or "Moderate." The Proposed Project area is not located within an SRA or in an area classified as a very high FHSZ. The nearest SRA is a High FHSZ located approximately 0.3 miles northeast of the City.

Regulatory Setting

Local

City of Soledad General Plan: The City's fire department oversees the Mission Soledad Rural Fire Protection District, a special district comprising approximately 42,000 acres bounded by the foothills of the Gabilan Range and the Santa Lucia Mountains. The City also has a mutual aid agreement with CALFIRE for fire protection services. The following goal and policies from the Safety element of the City's General Plan is applicable to the Proposed Project:

Goal 1: To protect the lives and property of the residents of Soledad from unnecessary risk due to fire, flooding, earthquakes, and other natural and humanmade hazards.

HZ9: New development shall provide fire flow, emergency access and hydrants consistent with Fire Department requirements.

HZ10: The City will continue to participate in the State Emergency Preparedness Program.

HZ11: The City shall maintain mutual aid agreements with Monterey County and other jurisdictions for assistance in emergencies.

Monterey County General Plan: The following goals and policies from the County General Plan are appl cable to the Proposed Project:

Goal S-4: Minimize the risks from fire.

Policy S-4.4: Detailed scientific analysis of fire hazards in the County shall be provided periodically.

Policy S-4.5: The wildland fire hazard severity map should be updated periodically as more precise information becomes available.

Policy S-4.6: Structural and other non-wildland fire risks within wildland urban interface areas should be identified and maintained as a layer in the County's GIS in cooperation with fire officials and updated periodically.

Policy S-4.7: The County and authorities having jurisdiction shall develop and maintain a procedure to inform potential developers of the requirements for development in high and very high fire hazard areas. This information shall be made available through the Planning Department.

Policy S-4.8: Fire hazards shall be reduced to an acceptable level of risk by prescribing the use, location, type, and design of roadways.

Policy S-4.9: Roadways shall be constructed and maintained in accordance with Monterey County Code Chapter 18.56 or the California Fire Code, as they may be updated from time to time, as determined by the fire authority having jurisdiction.

Policy S-4.11: The County shall require all new development to be provided with automatic fire protection systems (such as fire breaks, fire-retardant building materials, automatic fire sprinkler systems, and/or water storage tanks) approved by the fire jurisdiction.

Policy S-4.13: The County shall require all new development to have adequate water available for fire suppression. The water system shall comply with Monterey County Code Chapter 18.56, NFPA Standard 1142, or other nationally recognized standards. The fire authority having jurisdiction, the County Departments of Planning and Building Services, and all other regulatory agencies shall determine the adequacy and location of water supply and/or storage to be provided.

Policy S-4.14: Water systems constructed, extended, or modified to serve a new land use or a change in land use or an intensification of land use, shall be designed to meet peak daily demand and recommended fire flow.

Policy S-4.18: All access roads and driveways shall be maintained by the responsible parties to ensure the fire department safe and expedient passage at all times.

Policy S-4.21: All permits for residential, commercial, and industrial structural development (not including accessory uses) shall incorporate requirements of the fire authority having jurisdiction.

Policy S-4.22: Every building, structure, and/or development shall be constructed to meet the minimum requirements specified in the current adopted state building code, state fire code, Monterey County Code Chapter 18.56, and other nationally recognized standards.

Policy S-4.26: When public facilities and above-ground utilities are located in high or very high fire hazard areas, special precautions shall be taken to mitigate the risks from wildfire and to ensure uninterrupted operation.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	■	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The distribution system of the Proposed Project would be located entirely within roadway ROWs and at existing parks and schools throughout the City. The components of the Proposed Project located within roadway ROWs may require temporary road or lane closures, depending on the final alignment of these components. During construction, the Proposed Project would implement a traffic control plan to ensure the safe passage of traffic, including emergency vehicles, through construction areas located in the City in fulfillment of the requirements for an encroachment permit. This traffic control plan would allow for the safe passage of vehicular traffic during construction of the Proposed Project under regular conditions and in the event of an event requiring emergency response and/or evacuation. In addition, construction would not be concentrated in a single location for long periods of time, which would reduce temporary construction impacts as lane and/or road closure would be limited to the time required to install each pipeline segment. Furthermore, these components would be located underground and would not impair adopted emergency response plans or emergency evacuation plans once operational. The Project components located at the existing WRF site and within the agricultural easement north of the WRF would not interfere with adopted emergency response and/or emergency evacuation plans. This represents a less than significant impact.

b. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The Proposed Project would involve expansion of recycled water distribution to the City's existing parks and schools and does not include any new habitable structures. Components of the Proposed Project are located at the existing WRF site (the recycled water pump station), easements within agricultural properties in unincorporated Monterey County, and within existing roadway ROWs throughout the City (see Site Plans in **Figures 7a** and **7b**). The WRF site is relatively flat and lacks physical and biological features that would be conducive to wildland fire. The transmission main connecting the distribution system and the WRF would be located within an easement going through actively managed agricultural lands and is not considered to be within an area conducive to wildland fire. The distribution system located within the City would be located underground and within roadway ROWs and is not located in an area conducive to wildland fire. The Proposed Project area is located within a Local Responsibility Area ("LRA") FHSZ as designated by CALFIRE. The Proposed Project's northernmost component at Lum Memorial Park is located approximately 0.25 miles from an SRA FHSZ. The Proposed Project would involve expansion of recycled water distribution across the City and would not exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. This represents a less than significant impact.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Proposed Project would involve expansion of recycled water distribution to the City's existing parks and schools. Components of the Proposed Project are located at the existing WRF site (the recycled water pump station), easements within agricultural properties in unincorporated Monterey County, and within existing road ROWs throughout the City (see **Figures 7a** and **7b**). The majority of Project infrastructure, excluding the recycled water pump station at the existing WRF site, would be located underground following completion of construction. In addition, the components of the Project would not be located within areas conducive to wildland fire as discussed above under impact b). Therefore, extension of this infrastructure as part of the Proposed Project would not exacerbate fire risk during operation. The Proposed Project does not include other types of new or expanded infrastructure facilities (i.e. electricity, wastewater collection, telecommunications facilities) that could exacerbate fire risk. This represents a less than significant impact.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Proposed Project site is relatively flat and is not located in the vicinity of slopes that would be susceptible to landslides or downstream flooding under post-fire conditions. The Proposed Project does not include any new habitable structures and would not increase the post-fire risk to existing structures during construction or operation. The Proposed Project is not located within an SRA FHSZ. Therefore, no impact would occur.

4.20 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
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 other current projects, and the effects of probable future projects.)?	☐	☐	■	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

Impact Discussion

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

The Proposed Project is the expansion of recycled water distribution to the City's existing parks and schools; components are located at the existing WRF site (the recycled water pump station), easements within agricultural properties in unincorporated Monterey County, and within existing road ROWs throughout the City. As described below, the Proposed Project would not 1) degrade the quality of environment, 2) substantially reduce the habitat of a fish or wildlife species, 3) cause a fish or wildlife population to drop below self-sustaining levels, 4) threaten or eliminate a plant or animal community, 5) reduce the number or restrict the range of a rare or endangered plant or animal, or 6) eliminate important examples of major periods of California history or prehistory.

The Proposed Project would result in temporary construction-related impacts to biological resources, undiscovered cultural or Tribal resources, undiscovered human remains interred outside of a formal cemetery, and potential releases of hazardous materials. These impacts would be mitigated to less than significant through the incorporation of mitigation measures identified in this IS/MND. The operational impacts associated with the Proposed Project, which consist of potential releases of hazardous materials, would also be reduced to less than significant though the incorporation and implementation

of identified mitigation measures. This represents a less than significant impact. No additional mitigation is necessary beyond the mitigation identified in each of the respective topical CEQA sections contained in this IS/MND.

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 other current projects, and the effects of probable future projects.)

The Proposed Project would not result in a cumulatively considerable adverse environmental effect. To determine whether a cumulative effect requires an Environmental Impact Report ("EIR"), the lead agency shall consider whether the impact is significant and whether the effects of the project are cumulatively considerable (CEQA Guidelines Section 15064(h)(1)). This IS/MND contains mitigation to ensure that all potential impacts are minimized to a less than significant level. CEQA allows a lead agency to determine that a project's contribution to a potential cumulative impact is not considerable and thus not significant when mitigation measures identified in the Initial Study will render those potential impacts less than considerable (CEQA Guidelines 15064(h)(2)).

This IS/MND contains mitigation to ensure that all potential impacts of the Project are minimized to less than significant. CEQA allows a lead agency to determine that a project's contribution to a potential cumulative impact is not considerable and, thus, not significant when mitigation measures identified in the initial study will render those potential impacts less than considerable (CEQA Guidelines 15064(h)(2)).

The Proposed Project would involve expansion of recycled water distribution to the City's existing parks and schools. The recycled water distribution Project would serve only the existing school and park facilities and would not cause a cumulative effect by potentially serving future development in the City. Additionally, construction and operation of the Proposed Project would occur in previously disturbed and developed areas. Where construction and operational effects are identified, mitigation measures are presented in this IS/MND to reduce these impacts to less than significant.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The Proposed Project would not have a substantial adverse effect on human beings, either directly or indirectly. This IS/MND contains mitigation measures to ensure that all potential direct and indirect impacts to human beings would be reduced to less than significant. In addition, the Proposed Project would have a beneficial impact by providing recycled water to replace potable water currently used for irrigation of City parks and schools.

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Chapter 5. List of Preparers and References

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Appendix A. Basis of Design Report

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Recycled Water Conveyance Project

Basis of Design Report

DRAFT / May 2024

Recycled Water Conveyance Project

Basis of Design Report

DRAFT / May 2024

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Contents

Appendices

Tables

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SECTION 1 INTRODUCTION

The City of Soledad (City) retained Carollo Engineers, Inc. (Carollo) to develop preliminary and final design documents for the Recycled Water Conveyance Project (Project). This Basis of Design Report (BODR) presents information on existing site conditions, existing and proposed system components, design criteria, and includes technical and engineering decisions to be used for the preparation of the final design documents for the Project.

1.1 Background

The Recycled Water Conveyance Project is part of the City's multi-phase project to provide Title 22 recycled water from the City's Water Reclamation Facility (WRF) to various schools and parks throughout the city. The multi-phase project includes:

- Phase 1 (completed in 2010): Design and construction of a new 5.5 MGD water reclamation facility (WRF) and approximately 10,200 linear feet (LF) of 8-inch diameter recycled water transmission pipeline.
- Phase 2 (completed in 2018): Design and construction of approximately 3,800 LF of 12-inch diameter recycled water transmission pipeline to connect all the existing Phase 1 8-inch pipeline.
- Phase 3 (Project): Design and construction of a city-wide distribution system to irrigated landscaped areas within twenty City's parks and schools. Details of the required facilities are provided below in Section 1.2.
- Phase 4 (Future): New transmission pipeline to provide recycled water to the California Department of Corrections and Rehabilitation (CDCR) facilities within an Incorporated City "Island" 3 miles north of the City.

The existing facilities are shown on Figure 1.1. The pipeline constructed as part of Phase 1 and 2 will be referred to as the transmission pipeline for this report. The Project pipelines to be constructed within the City, as part of Phase 3, will be referred to as the distribution system.

The WRF is owned and operated by the City and treats wastewater from the City and CDCR facilities. It produces disinfected, tertiary treated effluent that meets Title 22, Division 4, Chapter 3, California Code of Regulations (CCR) for recycled water. It is operating around 2.45 MGD average daily flow and the effluent is currently being discharged to rapid infiltration basins adjacent to the WRF for aquifer recharge. The current discharge permit limits recharge to 4.3 MGD with the remaining 1.2 MGD of peak flow capacity designated for non-potable reuse.

Figure 1.1 Existing Facilities

1.2 Project Description

The Project will provide recycled water to the following parks and schools within the City:

- Lum Memorial Park
- Peverini Park
- Santa Barbara Park
- San Antonio Park
- Jack Franscioni Elementary

- Toledo Park (under development)
- Blas Santana Park
- Soledad High School
- Rose Ferrero Elementary
- Frank Ledesma Elementary
- Veterans Park
- Joe O. Ledesma Park
- Main Street Middle School
- Albert Bill Ramus Park
- Little League Park
- Jesse Gallardo Park
- San Vicente/Gabilan Elementary (one service connection)
- Orchard Lane Park
- Aurelio N. Ramirez Park
- Vosti Park

These City parks and schools are currently being served by potable water and the Project will convert or replace the existing on-site irrigation systems. Based on the results and recommendations of the hydraulic modeling discussed in Section 4, the major Project components are listed below and depicted on Figure 1.2.

- Recycled water pump station at the City's WRF
- Approximately 4,000 feet of recycled water transmission pipeline from WRF to Front Street
- Approximately 22,100 feet of recycled water distribution pipelines ranging from 4- to 8-inches in diameter
- Conversion or replacement of existing on-site irrigation systems to meet recycled water standards.

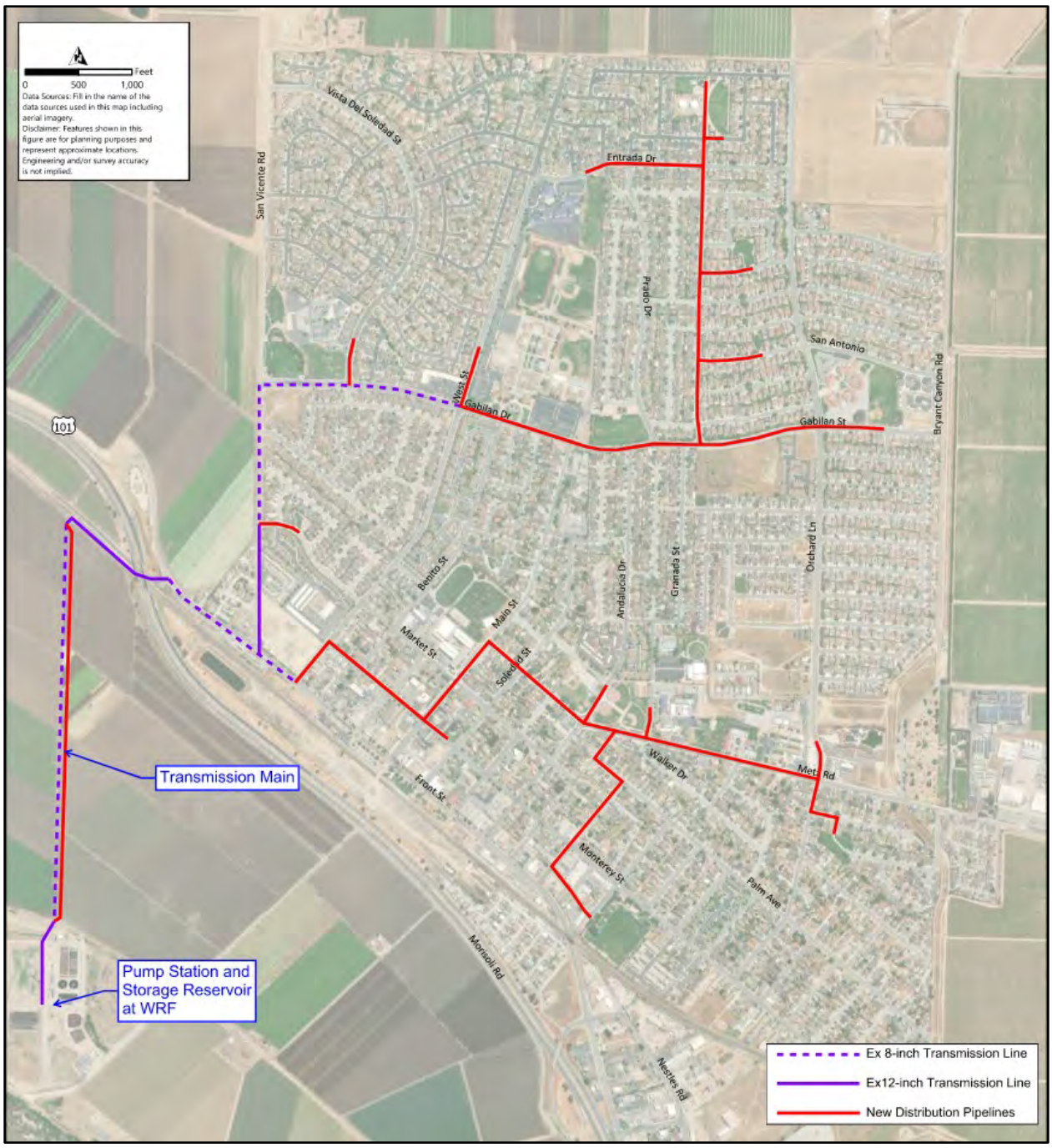

Figure 2.2 Project Map

1.3 Grant Funding Requirements

The Project is being funded by the Department of Water Resources (DWR) under the Urban Community Drought Relief (UCDR) Grant and is subjected to the terms and conditions set forth in the Grant Agreement between the State of California (DWR) and City of Soledad, Agreement No. 4600015016, UCDR Grant. The terms of the Grant Agreement began on July 1, 2022, and will end three (3) years

following the final payment, with all work to be completed by December 4, 2025, unless otherwise amended.

As stated in the Grant Agreement, Exhibit A, the Project will replace, at a minimum, 165 acre-feet per year of groundwater pumping with recycled water to offset the use of potable water to irrigate sports fields and reduce groundwater use. This quantity of potable water offset must be met to receive the full grant funding.

1.4 Title 22 Report

The State of California Water Recycling Criteria (Title 22 Section 60323) requires an engineering report (Title 22 Report), approved by the State Water Resources Control Board – Division of Drinking Water (DDW), for all recycled water projects. The Title 22 Report must be submitted to the applicable California Regional Water Quality Control Board (Regional Board) and DDW before recycled water projects are implemented.

Harris & Associates (Harris) recently prepared a Title 22 Report for the Recycled Water Irrigation Retrofit for Veterans Park Project for the City. The City had plans to retrofit the existing irrigation system at Veterans Park, separately from the Project, to convert it from potable water use to recycled water. However, this Veterans Park conversion will be incorporated into this Project.

The Title 22 Report by Harris, which is currently being reviewed by DDW, and after review will be amended by Carollo to include the other nineteen parks and schools to be served by the Project.

1.5 Project Stakeholders

The following are stakeholders that will require close coordination during final design:

- City of Soledad
- Soledad Unified School District
- California Regional Water Quality Control Board (Regional Board)
- State Water Resources Control Board – Division of Drinking Water (DDW)
- Division of State Architect

1.6 Previous Studies

Prior to preparation of the BODR, the following reports were prepared by others for the City:

- City of Soledad Recycled Water Pipeline Project Conceptual Design and Probable Cost Estimate, prepared by Norris Associates June 2012 (Norris Report)
- Conceptual Design and Opinion of Probably Construction Cost for the City of Soledad Wastewater Effluent Reuse Distribution System, prepared by Mark Miller & Associates Civil Engineering April 26, 2015 (2015 Miller Report)
- City of Soledad Reclaimed Wastewater Transmission Pipeline Preliminary Design Report, prepared by Harris & Associates October 2015 (2015 Harris Report)
- City of Soledad Reclaimed Water Distribution Facilities Planning Report, prepared by Harris & Associates September 2018 (2018 Harris Report)

- 2022 Update to the Conceptual Design and Opinion of Probably Construction Cost for the City of Soledad Wastewater Effluent Reuse Distribution System, prepared by Mark Miller & Associates Civil Engineering July 2023 (2023 Miller Report)

SECTION 2 COLLECTION AND REVIEW OF DATA

2.1 Data/Records Provided by the City

Data provided by the City for this Project includes:

- Record drawings and specifications of City of Soledad Wastewater Treatment Plant – 5.5 MGD Upgrade and Expansion Project (2007)
- Record drawings of Reclaimed Wastewater Transmission Pipeline Project (2018)
- Record drawings or sketches of City parks landscaping and irrigation systems
- Record drawings for schools provided by Soledad Unified School District
- Existing Reclaimed Water Line Exhibit prepared by Harris & Associates (2016)
- GIS files of the City's water, sewer, and stormwater facilities
- 2005 Water Master Plan
- 2023 Pavement Management Plan Report
- 100% design plans for WRF Pump Station Improvements and RW Distribution System Improvements prepared by Harris & Associates (2024)
- Bid set plans for Veterans Park RW Irrigation Retrofit Project prepared by Wallace Group (2024)
- Water pressure readings at each park and school connection points
- Water sample analysis results

2.2 Survey and Mapping

Ruggeri-Jensen-Azar (RJA) will obtain aerial photomapping to develop topographic mapping for project pipeline routes and sites for the pump station and storage reservoir. Mapping will be created according to National Map Accuracy Standards.

2.2.1 Basis of Control

The horizontal and vertical survey is based on the North American Datum of 1983 (NAD83), California Coordinate System Zone 4, and North American Vertical Datum of 1988 (NAVD88), respectively.

2.2.2 Supplemental Ground Survey

RJA will perform field supplemental ground survey within the project boundary to obtain horizontal and vertical locations of selected visible aboveground features, manholes, and valves for location and elevation. The information will be included in a base map developed for the project.

2.2.3 Record of Right-of-Way

Most of the distribution pipelines will be constructed within public right-of-way. Right-of-way information is compiled from record data, including tract maps, parcel maps, records of survey, and deeds along the

project streets. Horizontal and vertical control will be established for the data and right-of-way will be provided in the project base map. Title reports and boundary surveys were not conducted to establish right-of-way lines because the available right-of-way information is anticipated to be sufficient for establishing property lines.

2.2.4 Existing Utility Research

Existing utility research was conducted by contacting utility companies and the City obtain available information about existing, proposed, and abandoned facilities within the Project area. Available existing utility information is incorporated into the Project base map.

2.3 Geotechnical Investigation

Crawford and Associates, Inc., performed geotechnical investigations and analysis in support of the design and construction of the Project. The draft report is provided in Appendix A.

2.4 Corrosion Investigation

Carollo performed a corrosion investigation to evaluate existing soil conditions for cathodic protection design of the Project.. The draft report is provided in Appendix B.

2.5 ADA Curb Ramp Evaluation

Wallace Group conducted an ADA Curb ramp evaluation adjacent to the Project pipelines in conformance with California Department of Transportation evaluation standards. The draft report is provided in Appendix C.

SECTION 3 SYSTEM DEMANDS

The recycled water system facilities will be sized based on the peak demand over the 8-hour irrigation window. The following discusses the current and future recycled water demands.

3.1 Project Recycled Water Demands

Table 3.1 provides the projected irrigation demands from the 2023 Miller Report. These demands were used in hydraulic modelling to evaluate the alternatives considered for the Project and will be refined during the final design of park and school irrigation systems. The hydraulic model will also be updated during that time to refine the pump station and pipeline sizes.

Table 3.1 Estimated Daily Peak Flow Rate

No.	Location	Daily Peak Flow Rate (gpm)
1	Lum Memorial Park	45
2	Peverini Park	50
3	Santa Barbara Park	44
4	San Antonio Park	47
5	Jack Franscioni Elementry	50

6	Toledo Park (Future)	65
7	Blas Santana Park	72
8	Soledad High School	175
9	Rose Ferrero Elementry	55
10	Frank Ledesma Elementry	48
11	Veterans Park	69
12	Joe Ledesma Park	62
13	Main Street Middle School	120
14	Bill Ramus Park	46
15	Little League Park	50
16	Jesse Gallardo Park	69
17	San Vicente/Gabilan Elementry	79
18	Orchard Park	137
19	Ramirez Park	51
20	Vosti Park	110

3.2 Future Recycled Water Demands

The City has also indicated potential future recycled water demands, which may include Miramonte development (north of Soledad), agricultural, or the Salinas Valley State Prison. The City has a preference to upsize strategic pipelines to account for the future demands, which is further discussed in Section 7. However, these potential future demands are currently unknown and are not part of the recycled water system design.

SECTION 4 HYDRAULIC MODELLING

4.1 Model Development

A hydraulic model was created in InfoWater Pro to assess several alternate recycled water conveyance scenarios and determine preliminary facility sizing for comparing alternative costs. InfoWater Pro, by Innovyze, is a comprehensive hydraulic and dynamic water quality modelling software application that utilizes the EPANET computational engine, which is widely used throughout the industry. InfoWater Pro is run directly within the ArcGIS Pro environment, and therefore offers an enhanced graphical user interface (GUI) and a variety of additional features and functionality.

The following provides an overview of the elements of a hydraulic water model and the required input parameters associated with each:

- **Junction:** Locations where pipe sizes change, pipelines intersect, or where recycled water demands are applied are represented by junctions in the hydraulic model. Required inputs for junctions include service elevation and water demands.
- **Pipes:** Water mains are represented as pipes in the hydraulic model. Input parameters for pipes include length, roughness (Hazen Williams C factor), diameter, and whether or not the pipe is a check valve (i.e., does not allow reverse flow).

- **Storage:**
  - Cylindrical and Variable Area Tanks: Water tanks are included in the hydraulic model as either cylindrical tanks or variable area tanks, depending on the complexity of the tank geometry. Required input parameters for cylindrical tanks include bottom elevation, maximum level, initial level, and diameter. Required input parameters for variable area tanks include bottom elevation, maximum level, initial level, and a curve that varies the cross-sectional area of the tank depending on the tank level (developed as appropriate based on As-built drawings).
  - Fixed Head Reservoirs: For water distribution system modelling, fixed head reservoirs are used to represent a water source with a constant hydraulic grade line (HGL). Typically, fixed head reservoirs are used to represent water sources, such as groundwater or other sources of water.
- **Pumps:** Pumps are included in the hydraulic model as links. Input parameters for pumps include pump curves and operational controls.
- **Valves:** Certain types of valves, such as altitude valves and pressure reducing valves, are represented explicitly as valves in the hydraulic model. Required input parameters for valves include diameter, operational controls, and other settings or headloss curves depending on the type of valve.
- **Demands:** Recycled water demands are applied at specific junctions in the hydraulic model. Up to ten different demands can be assigned at a particular junction. Demands can also include a pattern.
- **Patterns:** Diurnal patterns, also known as diurnal curves, are used to represent the hourly variation in water demand and are used to temporally allocate the demands to the junctions in an extended period simulation (EPS) model scenario. The pattern for recycled water demand includes demands during nighttime hours of 10 PM to 6 AM.

The City's recycled water system hydraulic model combines information on the physical and operational characteristics of any existing facilities in the system as well as planned facilities and performs calculations to solve a series of mathematical equations to simulate flows in pipes.

The model building process consisted of seven steps, as described below:

- **Step 1:** A new project for the City's recycled water model was created in InfoWater Pro.
- **Step 2:** Existing facilities were inserted into the model, and planned facilities including all planned recycled water customers were included based on assumptions for size and location provided by the City.
- **Step 3:** Junctions, or areas where two pipelines meet in the model, are required at every pipe intersection and dead end, as well as other areas in the model where demands are applied. InfoWater Pro's "Append Nodes" feature reviews the model for missing junctions and automatically adds them.
- **Step 4:** Elevations were applied to each modeled junction using Google Earth Pro and an assumed depth of 4-feet below the surface.
- **Step 5:** The hydraulic model contains certain run parameters at the beginning of the project. These include run duration, time steps, reporting parameters, output units, and other technical parameters. Once the run parameters were established, the model was debugged to ensure that it ran without errors or warnings.
- **Step 6:** Unique scenarios were created for each alternative that was assessed including alternative pipeline placement and sizing, pump stations, valves, and tank locations.

- **Step 7:** Operational information such as pump controls and run parameters were input into the model manually based on each alternative configuration.

4.2 Alternate Scenarios

Five alternatives were evaluated for the Project, which are described below.

4.2.1 Scenario 1

Scenario 1 utilizes the layout provided in the 2023 Miller Report with a pump station located at the WRF and a booster pump station and storage tank at Toledo Park. The pump station would fill the storage tank during the non-irrigation hours and the booster station would be used to serve the parks and schools at night during the restricted 8-hour irrigation window between 10 PM and 6 AM (8 hours). Figure 4.1 shows a layout of the system for this scenario.

To provide reliability and redundancy within the system, the pump station and booster station would be sized to meet the system's peak hour demand independently in case either facility is taken offline for repair and maintenance. In addition, a potable backup water supply would be provided to prevent system shutdowns in the event of a long-term water quality issue or long-term pump station failure at the WRF.

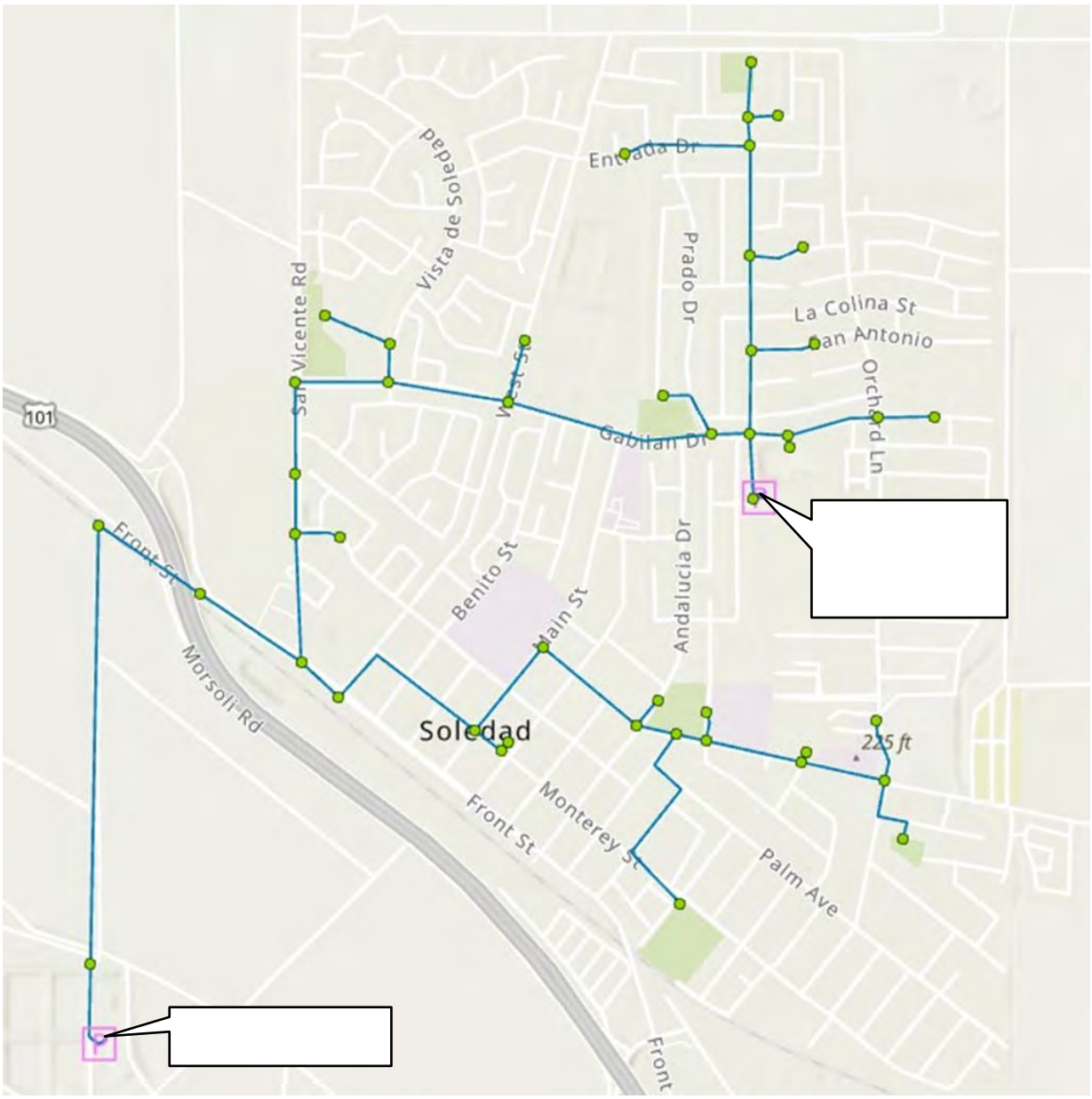

Figure 4.1 Scenario 1 System Layout

4.2.2 Scenario 2

The second scenario, as shown on Figure 4.2, is similar to Scenario 1; however, the booster station and storage tank are located at Peverini Park which is at a higher elevation in the system.

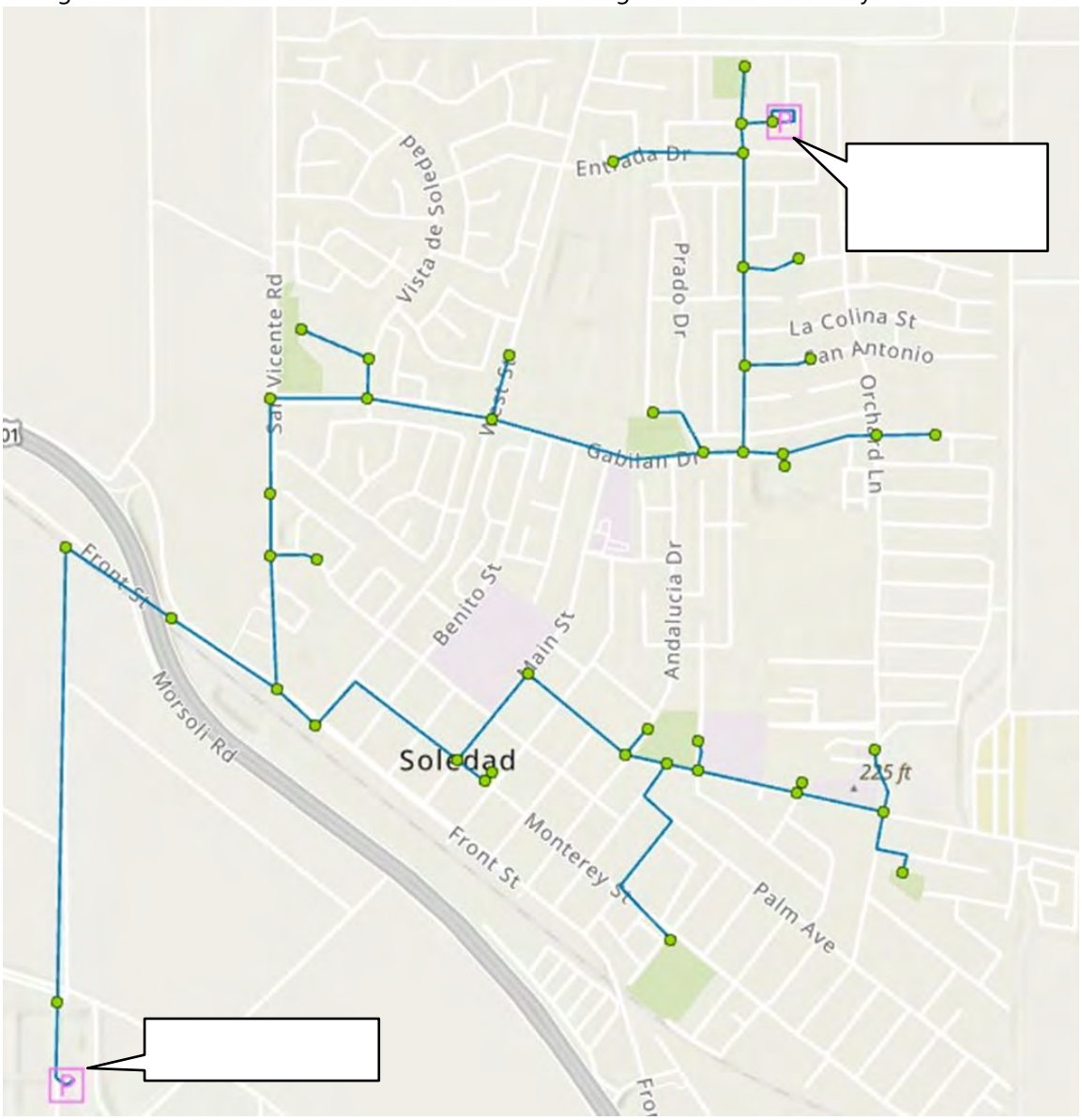

Figure 4.2 Scenario 2 System Layout

4.2.3 Scenario 3

Scenario 3 focused on locating the storage tank north of the system adjacent to City's potable water reservoirs, Reservoirs B1 and B2. The pipeline alignment to and from the storage tank would run along Orchard Lane instead of Toledo Street. A pump station is required at the WRF fill the storage tank during the non-irrigation hours for service from the storage tank during the 8-hour irrigation window. At this higher elevation, the storage reservoir would serve the system by gravity and eliminate the need for a

booster station. To provide reliability and redundancy within the system, the pump station would be sized to meet the system's peak hour demand in case the storage tank is taken offline for repair and maintenance. See Figure 4.3 for the layout of the system for Scenario 3.

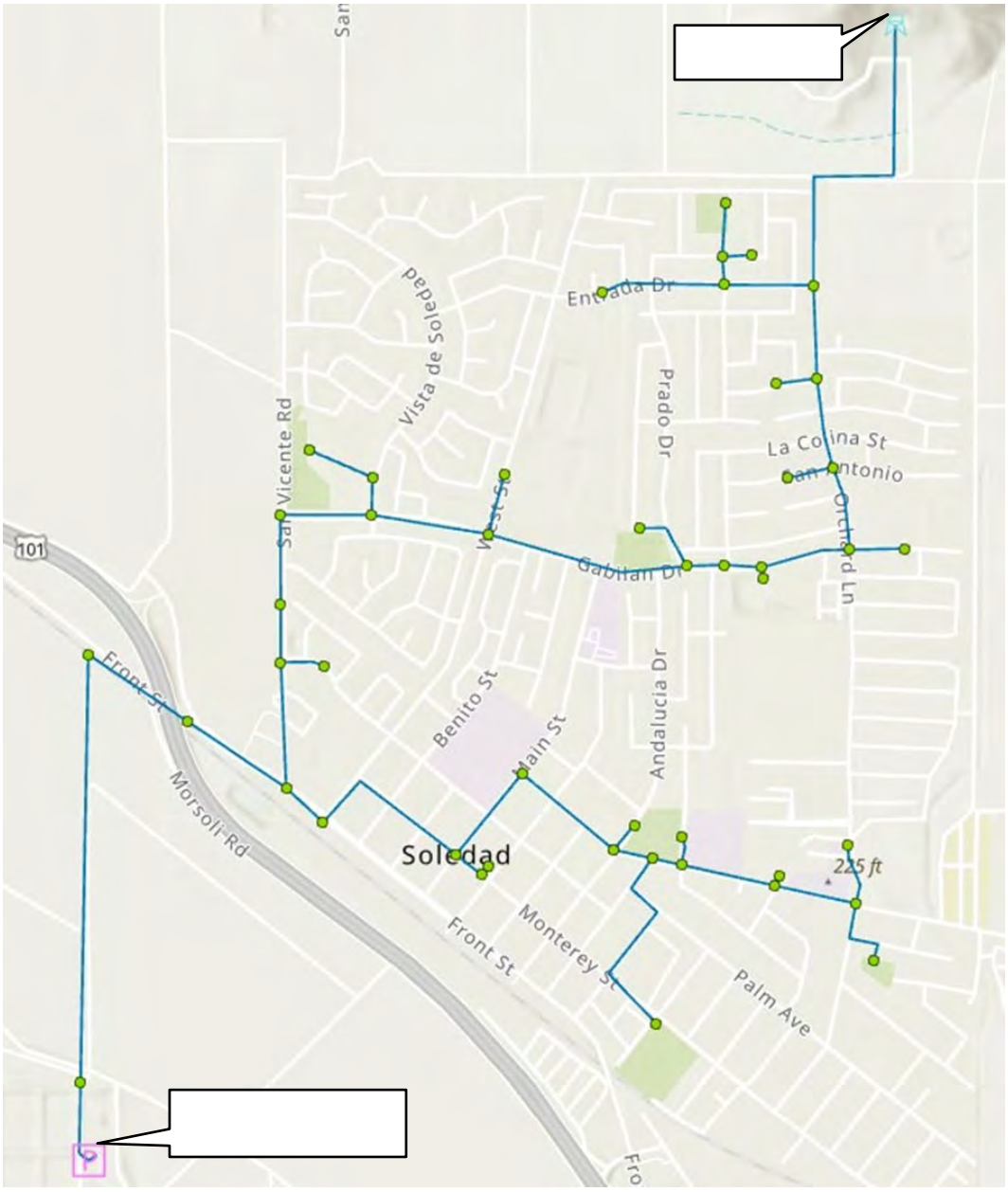

Figure 4.3 Scenario 3 System Layout

4.2.4 Scenario 4

Scenario 4 includes a pump station at the WRF, eliminates the booster station, and locates the storage tank at the WRF with the pump station. The storage tank would store the backup potable water supply in the event of a long-term water quality issue at the WRF. Since potable water is not available at the WRF, a

new potable water line would be constructed to provide the backup supply to the storage tank. Figure 4.4 shows a layout of the system for this scenario.

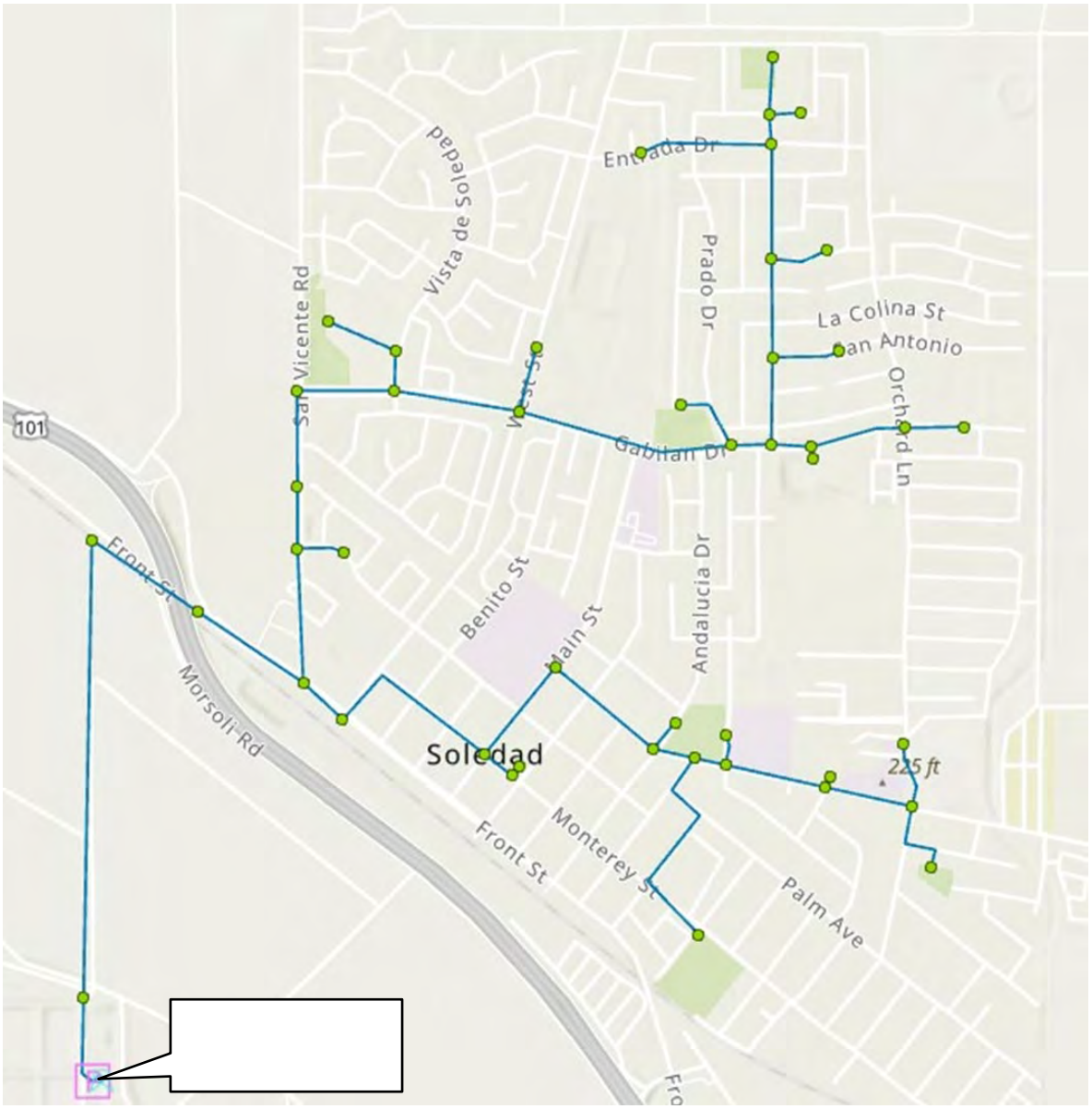

Figure 4.4 Scenario 4 System Layout

4.2.5 Scenario 5

Scenario 5 utilizes an existing elevated tank at Vosti Park with a pump station at the WRF to fill the storage tank and a booster pump station at Vosti Park to serve the parks and schools. Under this configuration, the pump station would only be connected to the Vosti Park storage tank and not be connected to the rest of the system except through the Vosti Park booster station. See Figure 4.5 for a layout of the system for Scenario 5.

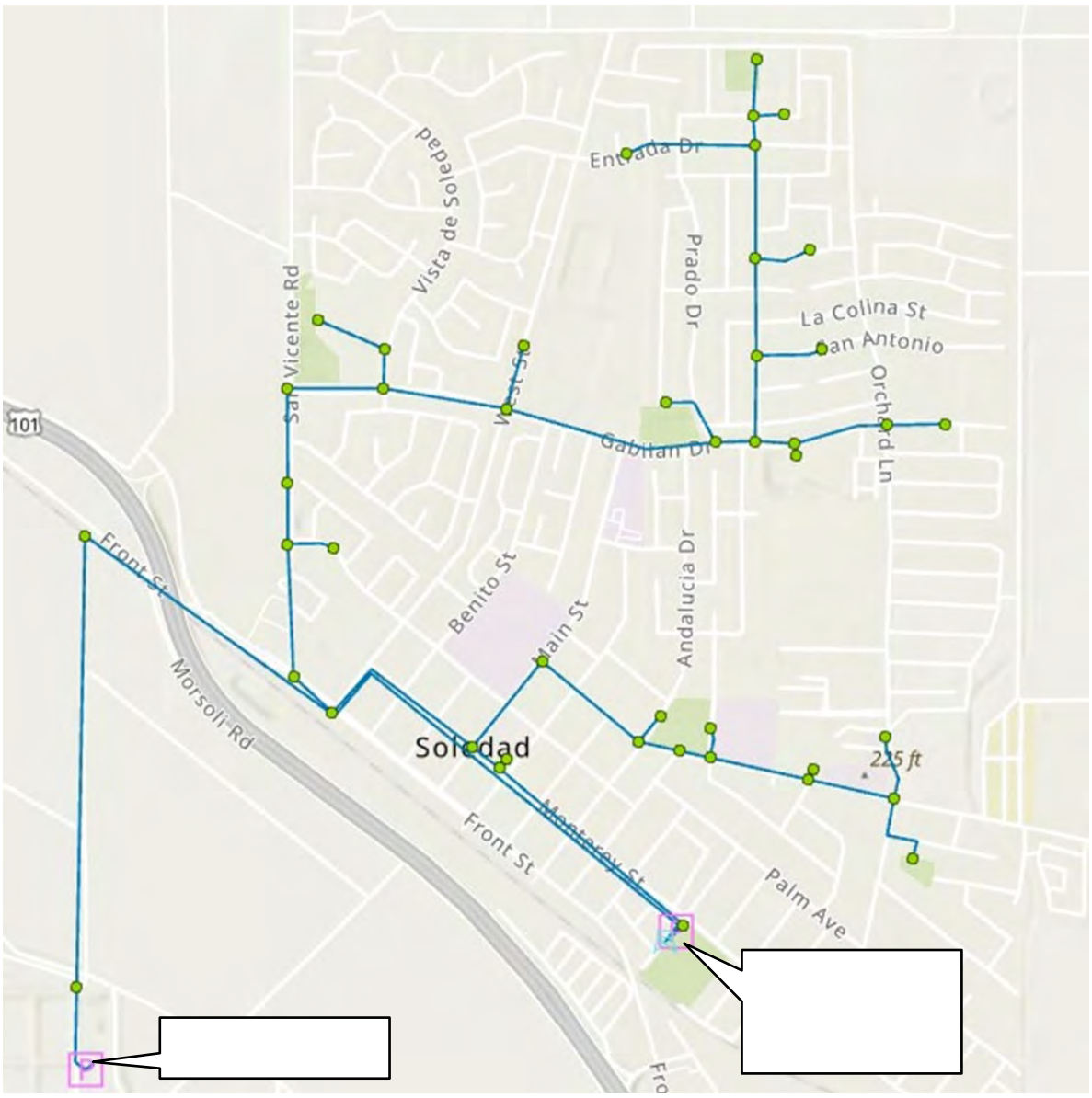

Figure 4.5 Scenario 5 System Layout

4.3 Hydraulic Design Criteria

The alternatives were modelled and compared under several operating conditions, including:

- Normal operations
  - » Pump station at WRF operated to fill the storage tank during non-irrigation hours
  - » Booster station operated to serve parks and schools during 8-hour irrigation window
- Booster station and storage tank offline
  - » Only pump station at the WRF operated to serve parks and schools during 8-hour irrigation window

- Pump station at WRF offline
  - » Only booster station operated to serve parks and schools during 8-hour irrigation window
  - » Backup potable water supply at storage tank

The hydraulic model was primarily used to determine pump station, booster station, storage tank, and pipeline sizes to compare the different scenarios. To ensure model results were comparable for each scenario, a series of design criteria were used to roughly calibrate the model under each configuration. The design criteria and parameters were as follows:

- Demand at each recycled water site would only be met between the hours of 10 PM and 6 AM.
- Pressure at the demand sites must be above 40 psi.
- Working pressure within the pipeline must be below 200 psi.
- Velocity in the pipelines must not exceed 7 fps.

4.4 Results

Modeling results for each scenario under any applicable operating conditions are shown below.

4.4.1 Scenario 1

Scenario 1 was modelled under three different operating conditions listed above. In addition to the different operating conditions, one additional pipeline configuration was assessed with a pipeline along Orchard Lane to create a loop system when the booster station is operating alone.

4.4.1.1 Normal Operations

The results for normal operations, shown on Figure 4.6, are as follows:

- Pump station sized to 475 gpm at 300 feet TDH
- Booster station is sized to 968 gpm at 200 feet TDH
- Minimum 500,000-gallon storage tank to meet peak demand
- Velocity in the existing 8-inch transmission main is approximately 3 feet per second (fps)

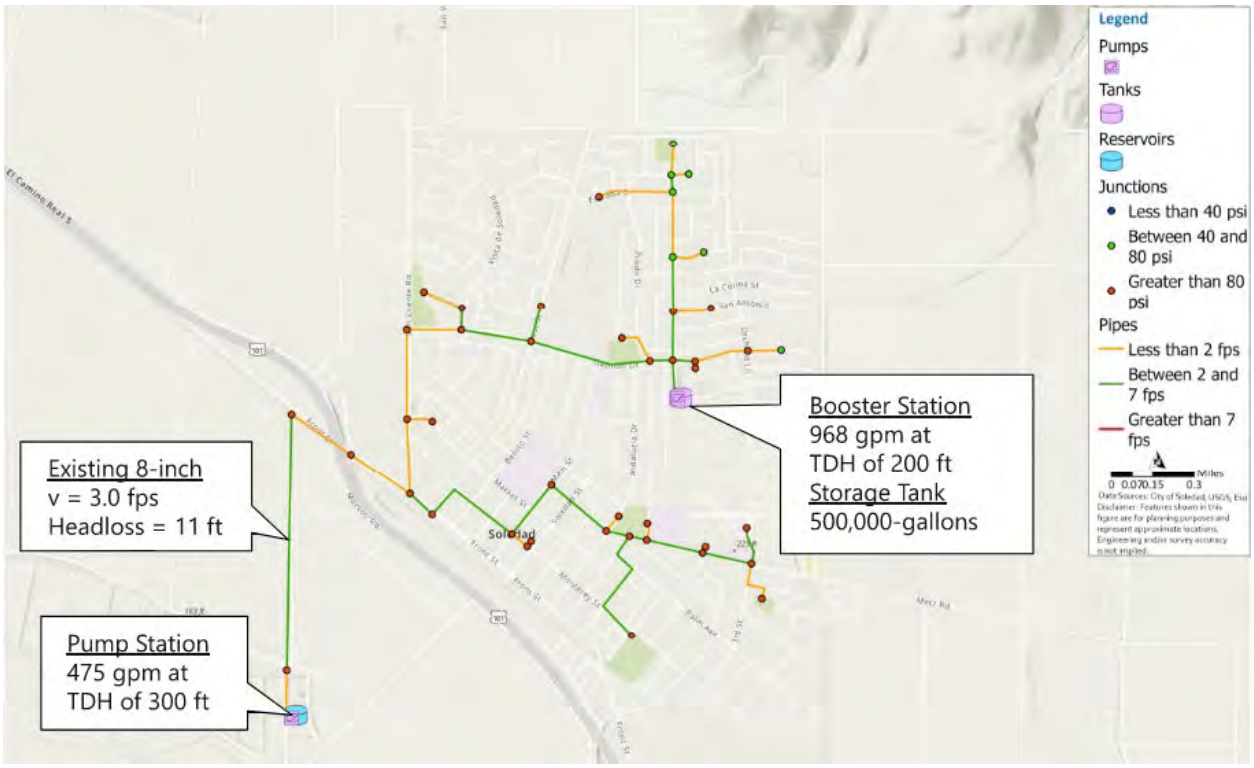

Figure 4.6 Scenario 1 Normal Operations Modeling Results

4.4.1.2 Booster Station and Storage Tank Offline

Figure 4.7 shows the results with the booster station offline and are as follows:

- Pump station sized at 1444 gpm at 350 ft TDH
- Velocity in the existing 8-inch transmission main is approximately 9.2 fps which exceeds the 7 fps maximum velocity criteria

The existing 8-inch transmission main was assumed to be acceptable since this scenario is unlikely to be common operating condition; however, the condition is not ideal because the high velocity creates significant headloss requiring the pump station to use a high level of pumping energy and a larger motor size than would be needed for normal operations.

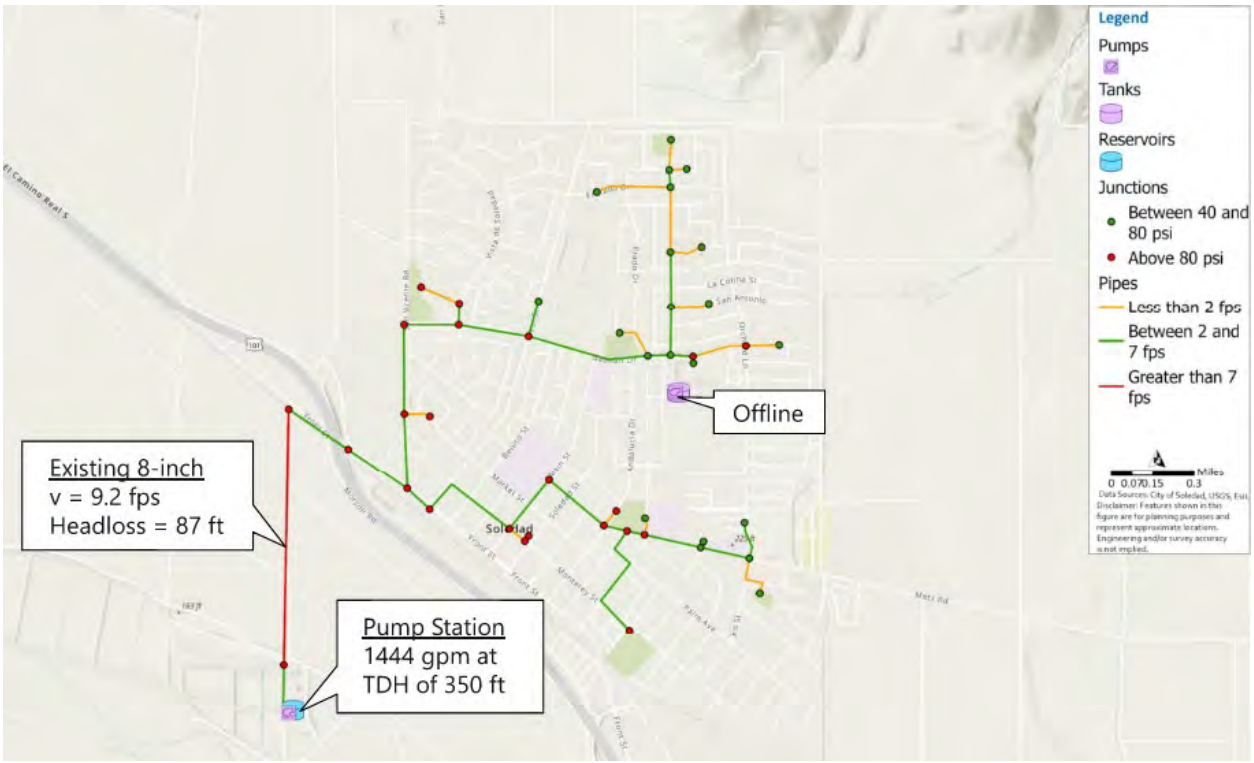

Figure 4.7 Scenario 1 Booster Station and Storage Tank Offline Modeling Results

4.4.1.3 Pump Station at WRF Offline

This operating condition requires a booster station sized at 1444 gpm at 200 feet TDH to meet peak demand. See Figure 4.8.

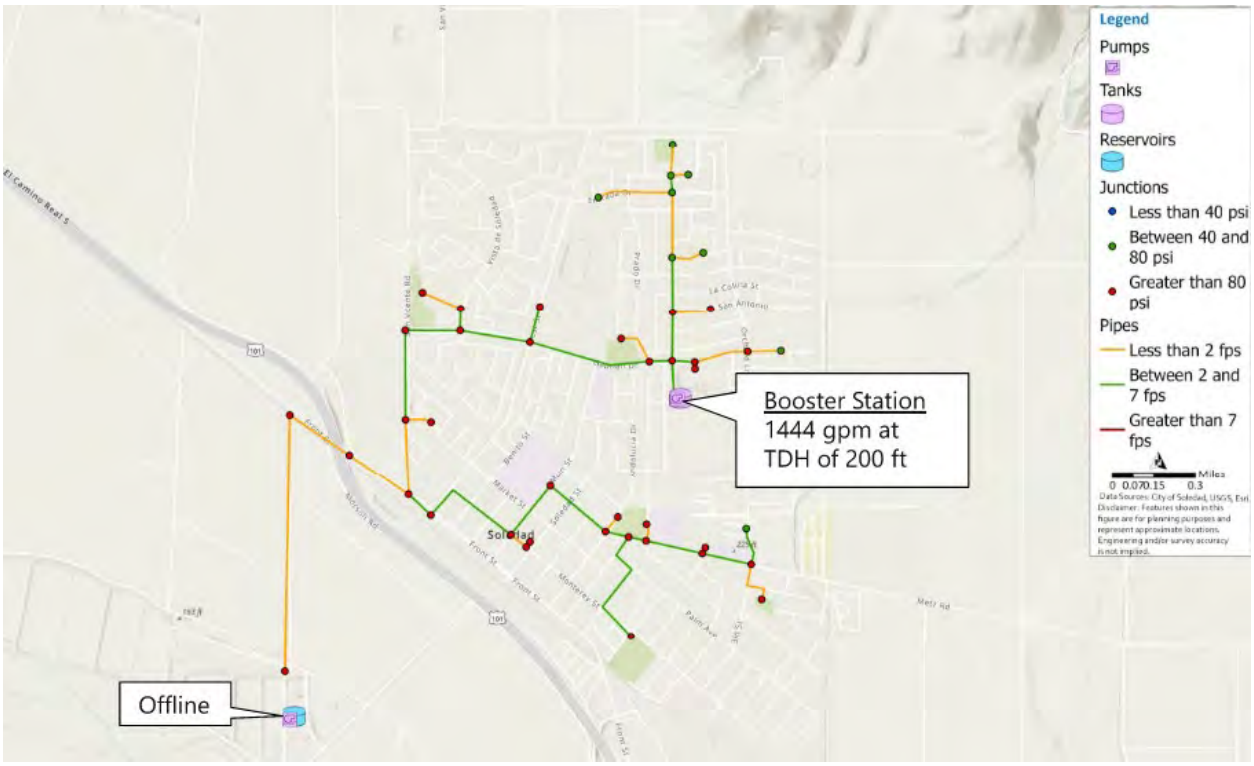

Figure 4.8 Scenario 1 Pump Station at WRF Offline Modeling Results

4.4.1.4 Looped System

A conceptual analysis of creating a loop within the system by adding an additional pipeline on the east side of the system was used to assess potential benefits of this option. It was found that even with a looped system, because so much of the demand is to the north and west of the booster station, the pumps were only able to be downsized by 10 hp. The cost to construct this new pipeline outweighed the potential benefits; therefore, the looped system was not assessed in any further scenarios.

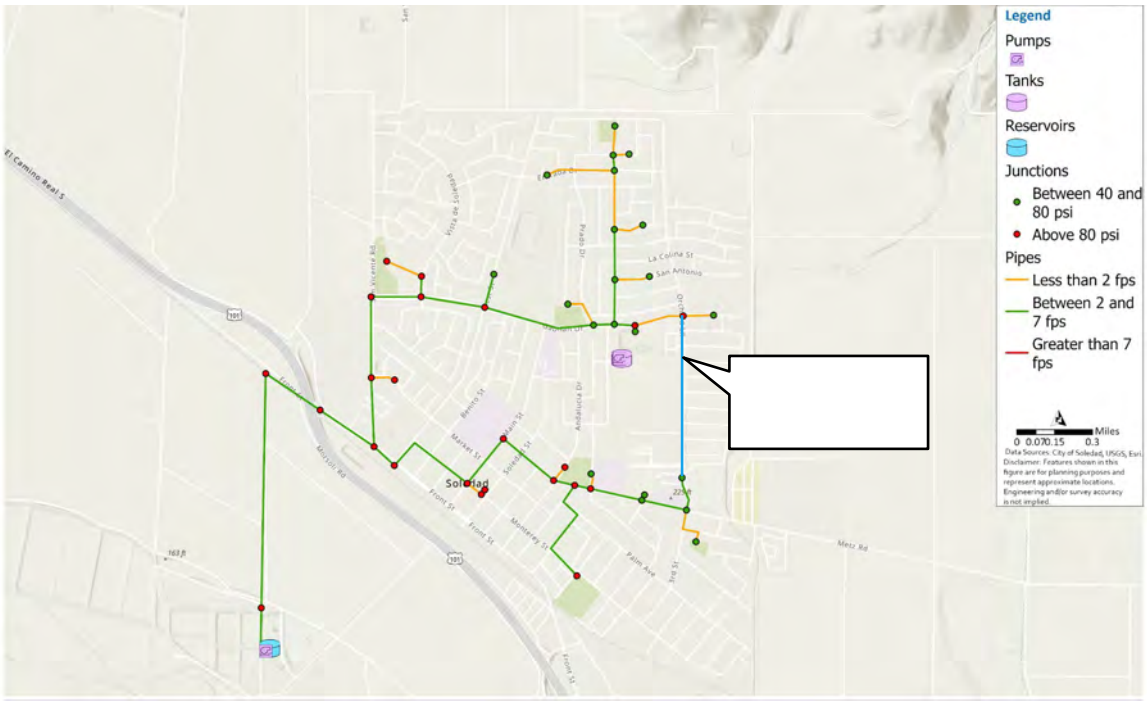

Figure 4.9 Scenario 1 Looped System Modeling Results

4.4.2 Scenario 2

Scenario 2 was modelled under three different operating conditions similar to Scenario 1.

4.4.2.1 Normal Operations

Results with both pump stations operating are shown on Figure 4.10 and are as follows:

- Pump station is sized to 482 gpm at 250 ft TDH
- Booster station at Peverini Park is sized to 960 gpm with 80 feet TDH
- Minimum 500,000-gallon storage tank to meet peak demand
- Velocity in the existing 8-inch transmission main is approximately 3 fps

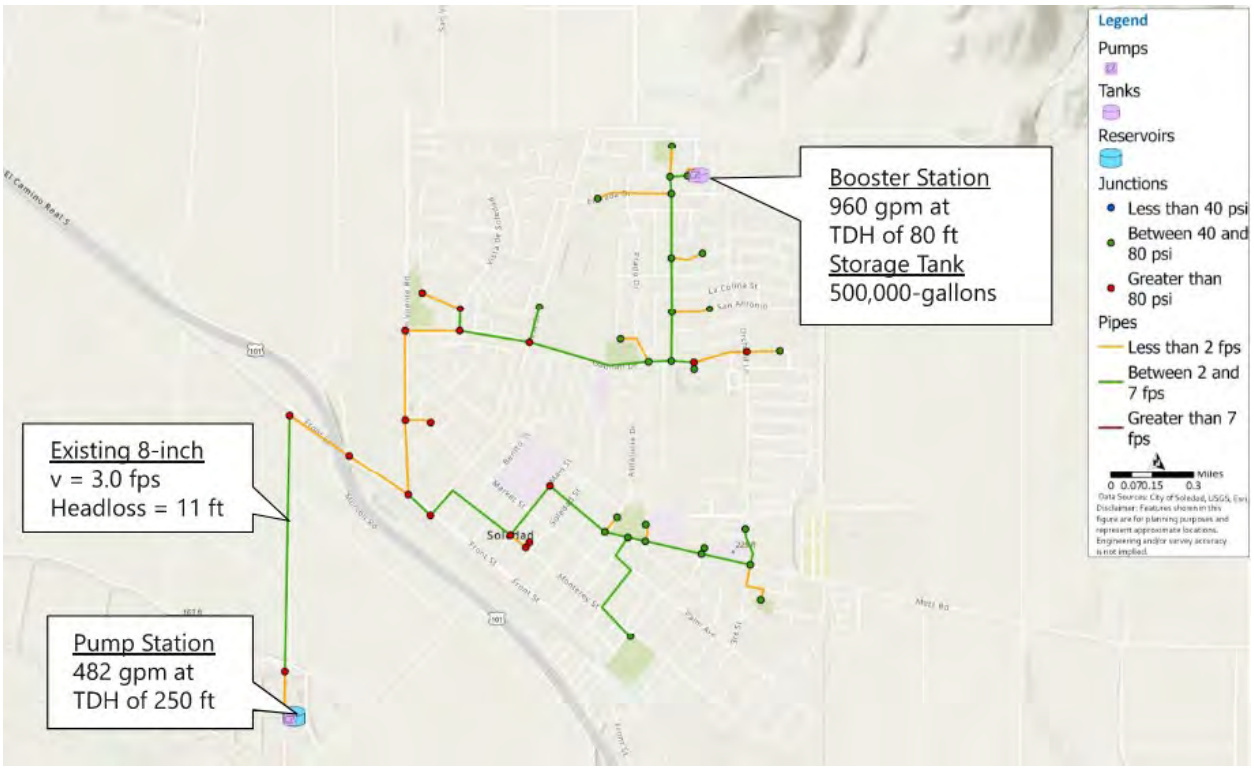

Figure 4.10 Scenario 2 Normal Operations Modeling Results

4.4.2.2 Booster Station and Storage Tank Offline

The results with the pump station operating alone were very similar to the results in Scenario 1 as shown on Figure 4.11. The pump station is sized at 1444 gpm at 350 ft TDH and the velocity in the 8-inch transmission main is approximately 9.2 fps. The existing 8-inch transmission main was assumed to be acceptable since this scenario is unlikely to be common operating condition; however, the condition is not ideal because the high velocity creates significant headloss requiring the pump station to use a high level of pumping energy and a larger motor size than would be needed for normal operations.

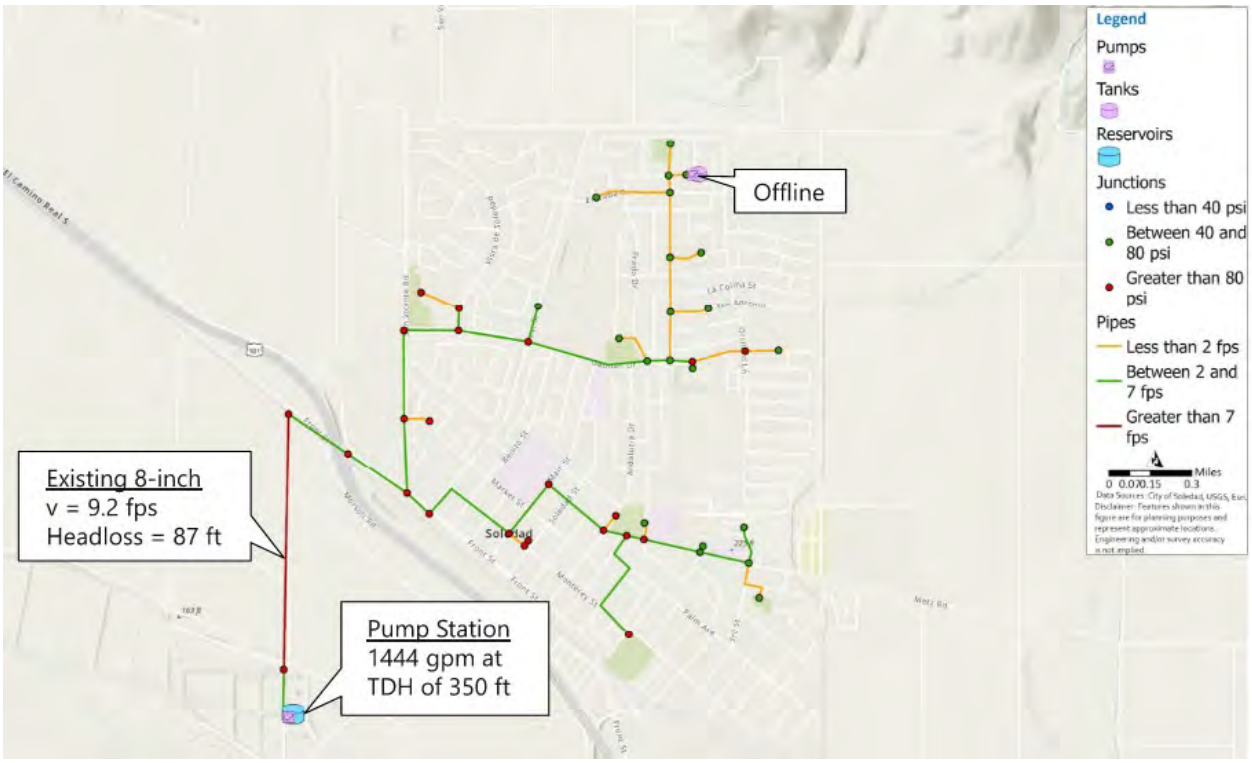

Figure 4.11 Scenario 2 Booster Station and Storage Tank Offline Modeling Results

4.4.2.3 Pump Station at WRF Offline

The booster station operating alone results are very similar to the results with both pump stations operating, except the booster station demands increase to 1444 gpm at 80 feet TDH. The pipelines along Toledo Street, immediately downstream of the booster station would need to be upsized to 12-inch to keep the velocities during peak demand from exceeding the maximum velocity requirements.

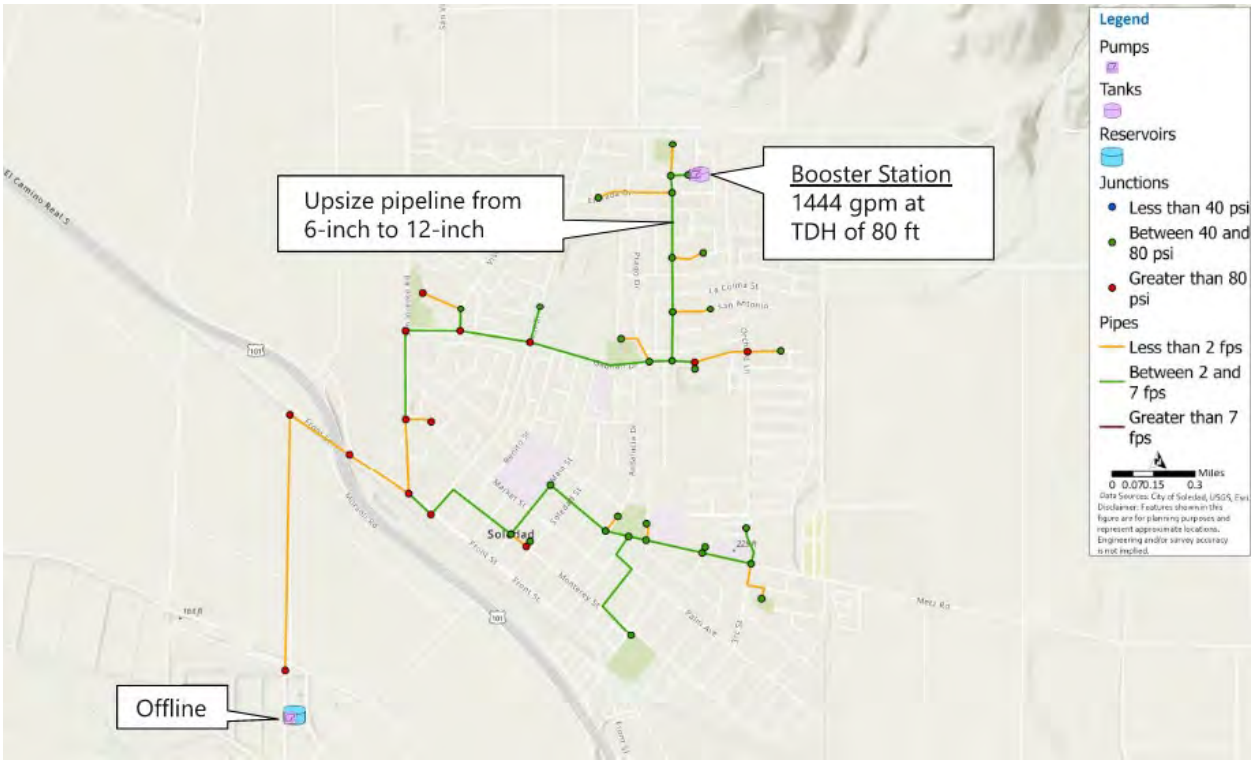

Figure 4.12 Scenario 2 Pump Station at WRF Offline Modeling Results

4.4.3 Scenario 3

Scenario 3 was modelled under three different operating conditions:

- Normal operations – Pump station and elevated tank online
- Elevated tank offline – Pump station operating to serve the system
- Pump station offline – Tank with potable backup water supply to serve the system

4.4.3.1 Normal Operations

Results with both the pump station and elevated tank operating, are shown in on Figure 4.13 and are as follows:

- Pipeline along Orchard Lane, to and from the storage tank, would need to be 12 inches in diameter
- The pipes along Gabilan Drive would need to be upsized to 12-inches to deliver all demand flow from the tank to the rest of the system
- The pump station is sized to deliver 675 gpm at 350 feet TDH to provide a minimum pressure of 40 psi at highest elevation sites
- Minimum 500,000-gallon storage tank to meet peak demand
- Velocity in the existing 8-inch transmission main is approximately 4.3 feet per second (fps)

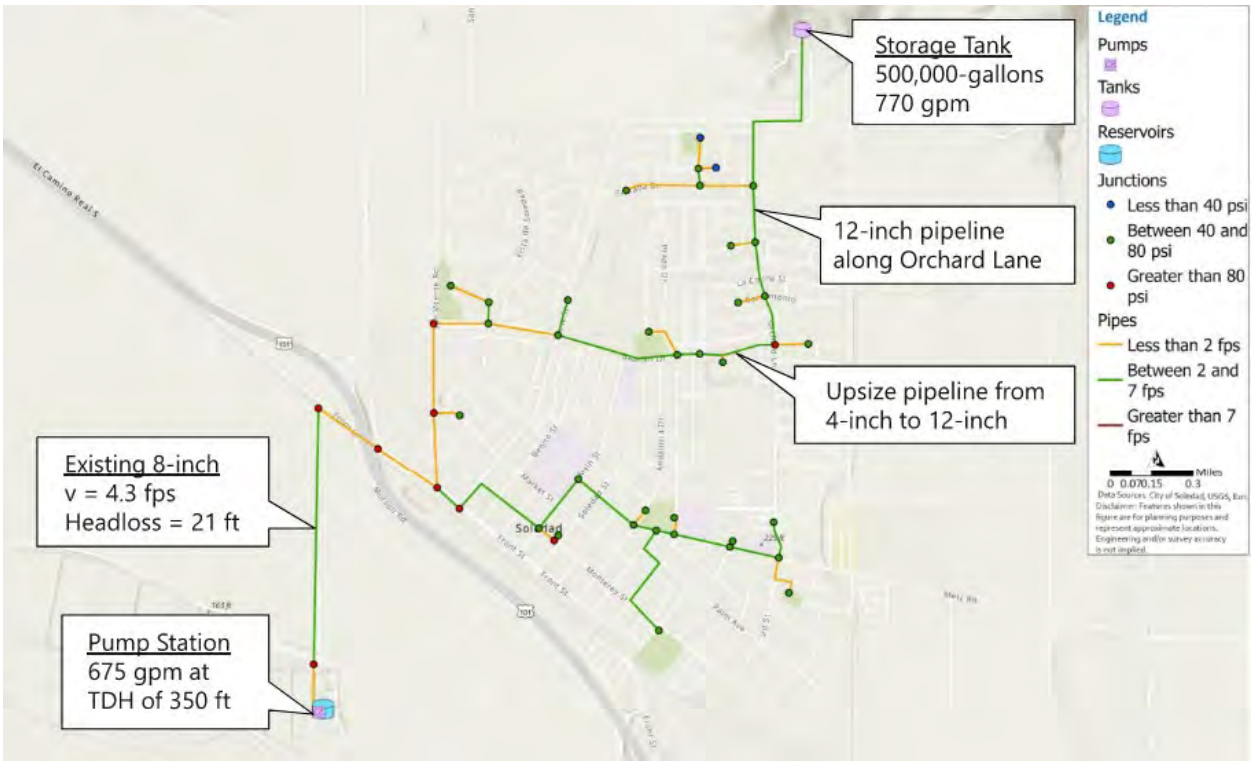

Figure 4.13 Scenario 3 Normal Operations Modeling Results

4.4.3.2 Elevated Tank Offline

The results with the pump station operating alone were very similar to the results under these operating conditions in Scenarios 1 and 2, despite the slight changes to the pipeline layout in the north portion of the system. See Figure 4.14. The pump station is sized at 1444 gpm at 350 ft TDH and the velocity in the existing 8-inch transmission main is 9.2 fps. The existing 8-inch transmission main was assumed to be acceptable since this scenario is unlikely to be common operating condition; however the condition is not ideal because the high velocity creates significant headloss requiring the pump station to use a high level of pumping energy and a larger motor size than would be needed for normal operations.

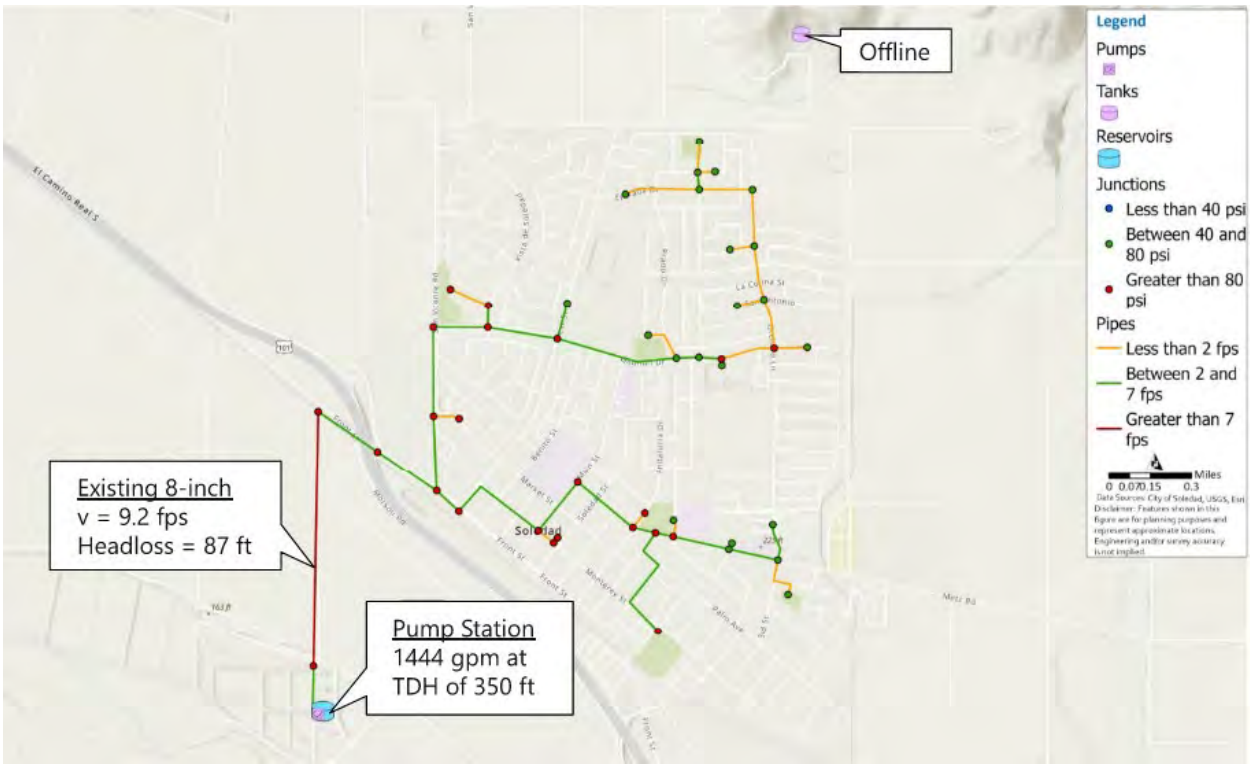

Figure 4.14 Scenario 3 Storage Tank Offline Modeling Results

4.4.3.3 Pump Station Offline

With a potable backup water supply, the elevated tank would be able to serve the entire system and provide the minimum required pressure of 40 psi at each delivery point. Due to the open water system, this scenario provides more moderate pressures in the system. See Figure 4.15.

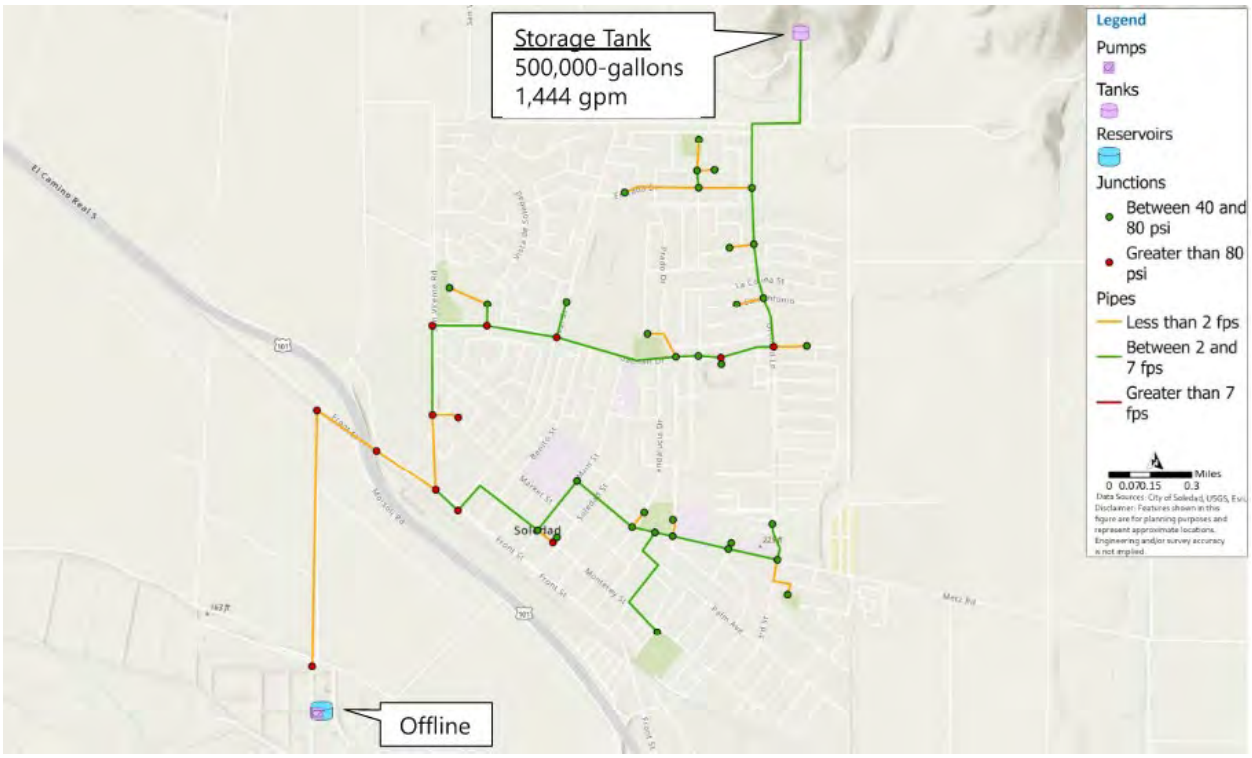

Figure 4.15 Scenario 3 Pump Station Offline Modeling Results

4.4.4 Scenario 4

Scenario 4 was only modelled under one operating condition, as the tank and pump station both being located at the WRF requires the pump station to be online for flow to be delivered to the system. The existing 8-inch transmission main would be used to deliver potable water to the WRF for emergency backup; therefore, a new transmission main is required to deliver recycled water to the distribution system from the WRF. Results are shown in on Figure 4.16 and are as follows:

- A 12-inch pipe is required for the new transmission main as all 1444 gpm of flow would need to be moved through that pipe.
- Velocity in the new 12-inch transmission main is approximately 4.5 feet per second (fps)
- The pump station is sized to deliver all the flow from the WRF or the storage tank, at 1444 gpm and 275 feet TDH
- The tank was assumed to be 360,000 gallons

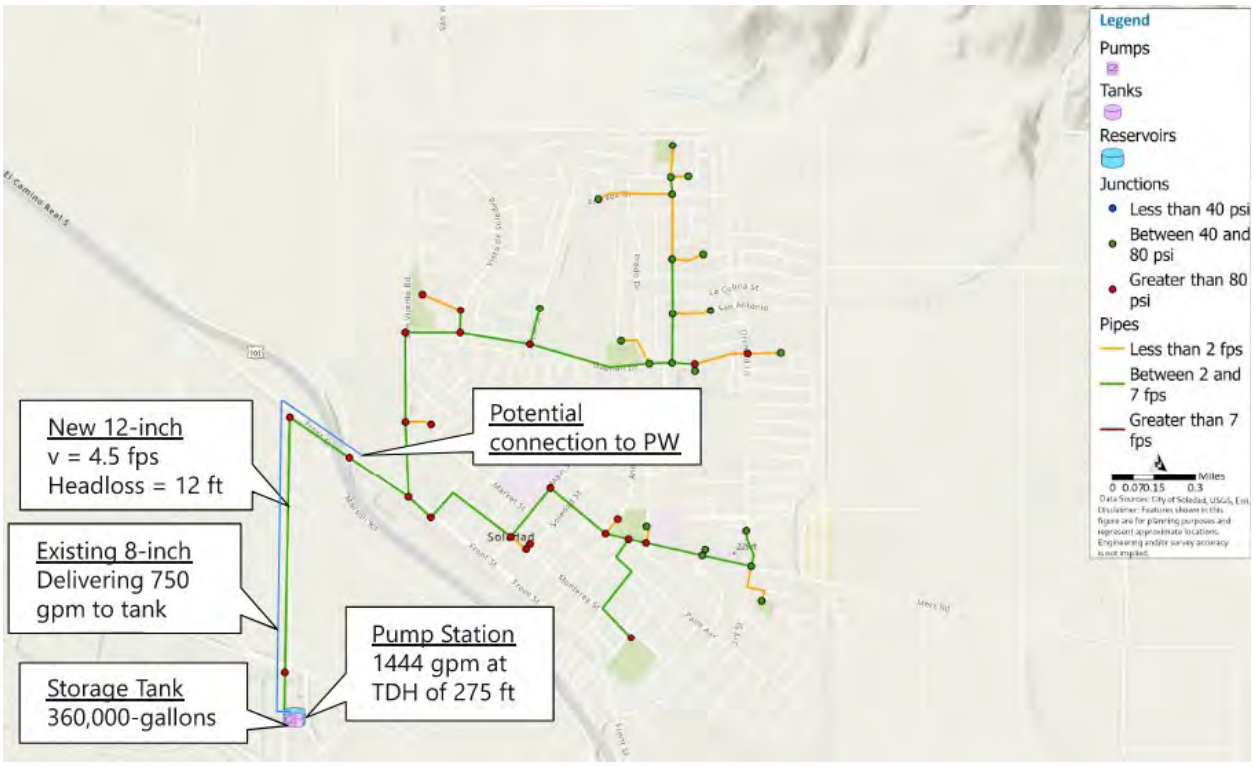

Figure 4.16 Scenario 4 Modeling Results

4.4.5 Scenario Five

The last scenario was also only modelled under one operating condition, as the existing elevated storage tank at Vosti Park is not large enough to store flow to be delivered to the system. The pump station at the WRF would deliver all flow to the existing storage tank, but the booster station would deliver all flow to the system. Results are shown in on Figure 4.17 and are as follows:

- The existing 8-inch transmission main would need to be upsized to a 12-inch
- The pump station would need to deliver 1444 gpm at 150 feet TDH
- The booster station would deliver 1444 gpm at 175 feet TDH
- All pipelines between the pump station to the storage tank and the pipelines immediately downstream of the booster station would need to be sized at 12-inches to allow all the flow for the system to pass through without exceeding the maximum velocity

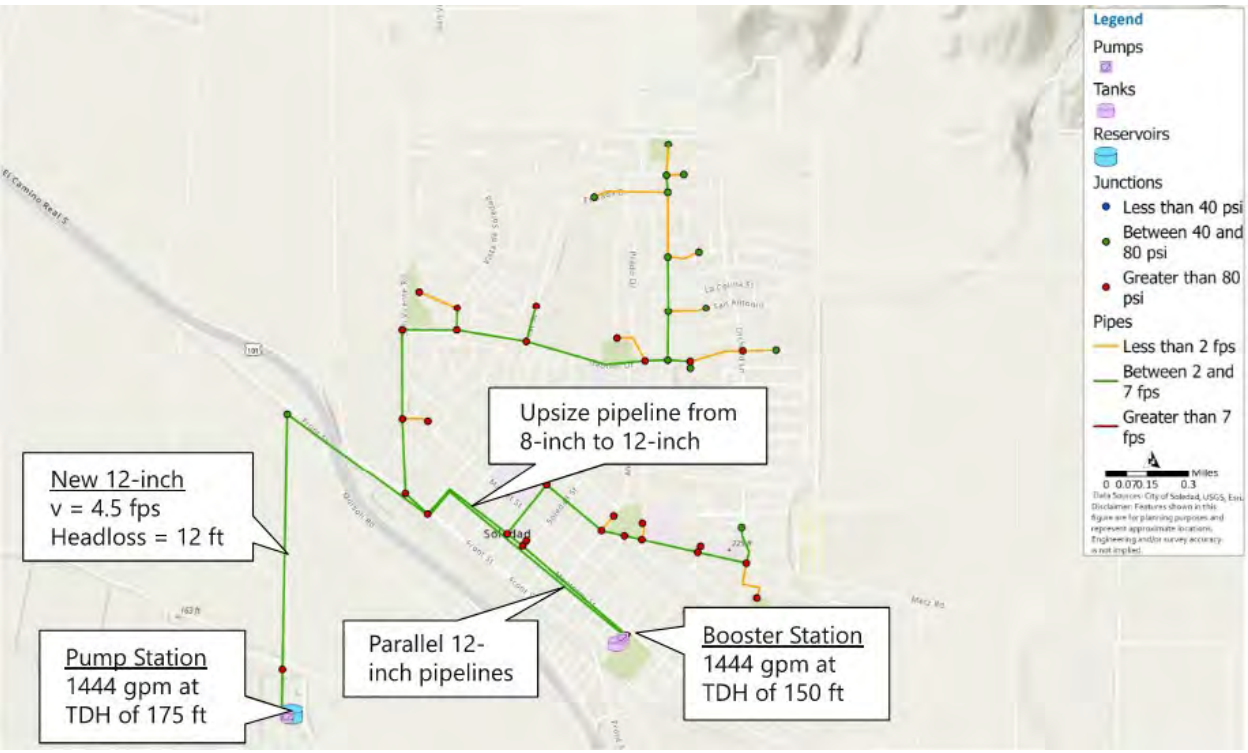

Figure 4.17 Scenario 5 Modeling Results

4.5 Recommendations

A workshop was held with the City staff on January 30, 2024, to review the different scenarios and the subject was subsequently discussed several times. Advantages and disadvantages for each scenario, provided on Table 4.1, were presented during the workshop along with estimated construction costs.

Details of the estimates are provided in Appendix D. The costs are consistent with the Association for the Advancement of Cost Engineering (AACE) Estimate Class 4. AACE Estimate Class 4 is used for project screening, alternative screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 15% complete and based on limited information. Cost estimates use parametric cost models and have wide accuracy ranges. Typical accuracy ranges for Class 4 estimates are -30% to +50%.

Construction cost estimates will be updated through final design and included with the 30% design, 60% design, 90% design, and 100% design deliverables.

The City narrowed the options down to Scenarios 1 and 4 and Table 4.2 further compares both of these scenarios. Based on its advantages, Scenario 4 will be the configuration for the Project. See Figure 1.2.

Table 4.1 Scenario Comparison

Scenario	Description	Pump Station at WRF	Booster Station	Storage Tank	Advantages	Disadvantages	Estimated Construction Costs (Jan 2024)[1]
1	Booster station and storage tank at Toledo Park	✓	✓	✓	-PS and BS can operate independently (provides redundancy) -Storage tank close to a potable water source -Allows bidding flexibility for cost control (tank and booster station can be a bid alternate) -Storage tank and BS located at undeveloped park and at a more central location of the system	-Hydropneumatic zone (not an open water surface)	$15,942,000
2	Booster station and storage tank at Peverini Park	✓	✓	✓	-PS and BS can operate independently (provides redundancy) -Storage tank close to a potable water source -Allows bidding flexibility for cost control (tank and booster station can be a bid alternate) -BS operates at lower required TDH	-Upsizing of piping along Vista Avenue -Storage tank and BS located at developed park; may require removal of existing park facilities	$16,088,000
3	No booster station. Storage tank uphill by existing Reservoirs RB1 & RB2	✓		✓	-Fewer facilities (no booster station) -System serve by gravity from storage tank -Open water system -Provides more moderate pressures in the system	-Pump station operating at a higher required TDH -Storage tank difficult and more costly to construct up the hill -Backup water supply requires a new pump from adjacent potable tank	$18,769,000
4	No booster station. Pump station and tank at WRF	✓		✓	-Fewer facilities (no booster station) -Both recycled water and potable water backup provided at WRF	-Requires a new water backup supply source (Groundwater well or PW pipeline extension) -Requires generator at the WRF	$15,240,000

5	Use existing storage tank at Vosti Park	✓	✓		-Fewer facilities (no new storage tank) -Existing storage tank has a potable water source -Pump and booster station will operate at lower required TDH -Open water system	- No storage capacity in existing storage tank -Lacks redundancy -Storage tank may not meet current design standards -BS located at developed park; may require removal of existing park facilities	$17,861,000

Notes:
(1) Includes 30% contingency

Table 4.2

Scenario	Description	Pump Station at WRF	Booster Station	Storage Tank	Advantages	Disadvantages	Estimated Construction Costs (Jan 2024)[1]
1	Booster station and storage tank at Toledo Park	✓	✓	✓	- Storage tank and BS located at undeveloped park (fewer existing obstructions)	- Day time pumping results in less efficient operations (high peak power costs during day) - Requires approval from planning department - Visual impacts of facilities	$15,942,000
4	No booster station. Pump station and tank at WRF	✓		✓	- Fewer facilities (easier to operate, less to maintain) - Smaller storage tank - Potable water source at plant - Lower construction and operation/maintenance costs	- Risk of flood damage - Tank will take up additional space at the WRF - Additional permitting from Caltrans and UPR (requires casing pipe) - Need to drain tank/line once a week when not used	$15,240,000

Notes:
(1) Includes 30% contingency

4.6 Surge Analysis

A surge analysis will be performed during final design to determine the required protection for the system.

4.7 System Optimization

The irrigation system design will occur during final design which will refine the preliminary irrigation demands used to develop the hydraulic model. During final design, the updated irrigation demands will be incorporated into the model and the pump station and pipeline sizes will be refined.

The City has also indicated a preference to upsize strategic pipelines in the event additional recycled water demand be identified in the future, which is currently unknown. Strategic pipeline upsizing will be identified in final design. This strategy would involve delivering recycled water outside the irrigation window, so the pump station size would not increase.

SECTION 5 PUMP STATION

The pump station will be located at the City's Water Reclamation Facility (WRF) as shown in Figure 1.2. It will draw recycled water from existing WRF facilities and supply the recycled water distribution system to serve the City's parks and schools. This section discusses design elements associated with the pump station including preliminary layout alternatives, type and size of pumps considered, site improvements, and electrical and instrumentation. A list of pump station design recommendations is provided at the end of this section.

5.1 Existing W3 Pump Station

The existing W3 Pump Station draws water from the existing reclaimed water pump station wet well to provide W3 service water to facilities within the WRF and the existing fire suppression system. The W3 Pump Station will not be modified as part of this Project and will continue to be used solely to serve facilities within the WRF. The City's existing W3 pump station is shown in Figure 5.1.

Figure 5.1 Photo of Existing W3 Pump Station at the WRF

5.2 Pump Station Layout

Five alternative recycled water pump station layouts were developed and reviewed with the City. The City has indicated a packaged pump station is preferred for the Project. Key design criteria considered for each alternative includes:

- Minimizing distance from the existing reclaimed water pump station wet well for better pump hydraulics
- Minimizing existing utility crossings and potential relocation
- Minimizing modification to existing WRF facilities and site access
- Minimizing impacts to WRF operations during construction
- Simple integration with existing WRF operations
- Ease of operation

For the conceptual layout, a pump station footprint of 15 feet by 25 feet was assumed. The final footprint will be confirmed during final design and is anticipated to be smaller. The layout also includes a 55-foot diameter backup potable water storage tank and associated piping to provide backup supply to the pump station in the event of a water quality issue at the WRF.

5.2.1 Alternative 1

This alternative locates the new booster pump station immediately south of the existing reclaimed water pump station as shown in Figure 5.2. A short segment of suction piping will convey water from the existing reclaimed water wet well to the pump station. The pump station would be similar to the existing W3 pump station.

Field observations indicate the proposed pump station may encroach upon the access road running east/west and several utilities along its southern edge. As such, realignment of the access road and relocation of existing utilities may be required. In addition, the proposed pump station may conflict with an existing stairway providing access to the reclaimed water pump station and wet well and will need to be relocated.

The backup potable water supply pipeline and discharge header will cross several existing utilities located in the access road to the west of the existing reclaimed water pump station as shown in Figure 5.1. Farther west, the backup potable water supply pipeline will penetrate through two earthen berms and connect to the storage tank. The discharge header penetrates one earthen berm, turns north at the access road, and continues to the existing 12-inch recycled water transmission main identified in Figure 1.1. Pipe penetrations through earthen berms will be watertight and designed to maintain structural integrity of the berm.

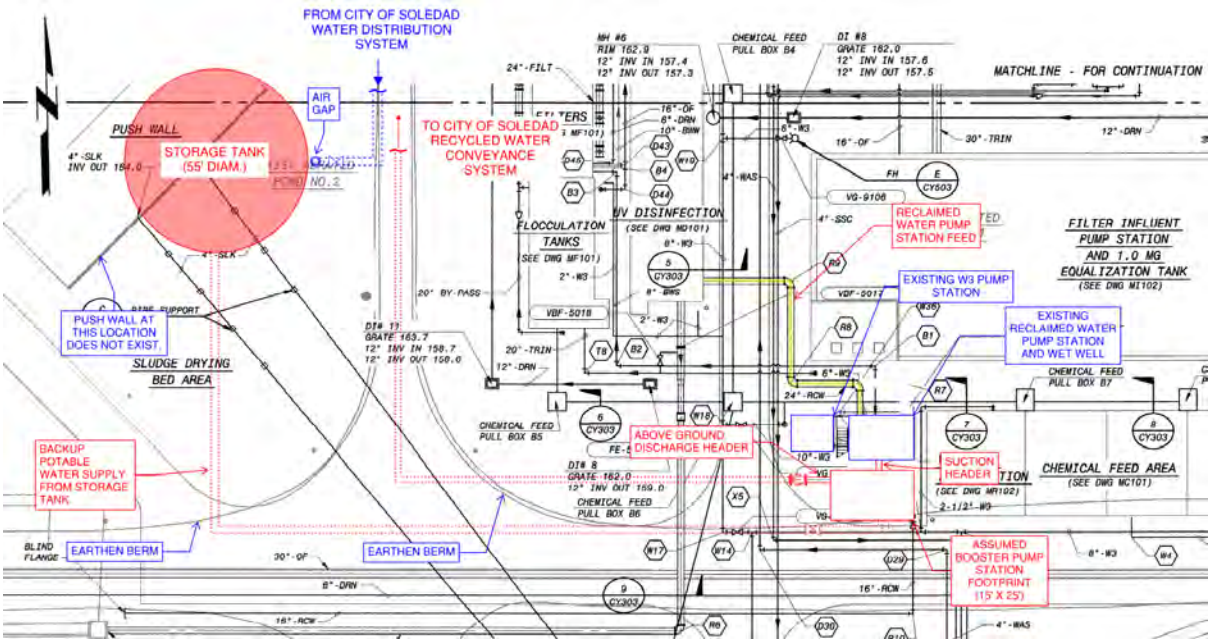

Figure 5.2 Alternative 1 – Layout Sketch

5.2.1.1 Advantages

Alternative 1 has the following advantages:

- Minimizing distance from the existing reclaimed water pump station wet well for better pump hydraulics

5.2.1.2 Disadvantages

Alternative 1 has the following disadvantages:

- Several utility crossings along discharge pipe and backup potable water supply pipe alignments
- Pump station may encroach upon access road and require roadway realignment
- Existing utilities along the southern edge of the pump station footprint may need to be relocated
- Pump station may encroach on stair access to the existing reclaimed water pump station and wet well and will need to be relocated

5.2.2 Alternative 2

This alternative locates the new pump station south of the flocculation tanks and UV disinfection system as shown in Figure 5.3. Suction piping will convey water from the existing reclaimed water wet well to the recycled water pump station crossing several existing utilities. The pump station would be similar to the existing W3 pump station.

Field observations indicate the southwest corner of the proposed pump station may encroach upon an earthen berm. A retaining wall may be required to hold back the berm and to create space for the pump station as shown in Figure 5.4.

The backup potable water supply pipeline and discharge header do not appear to cross existing utilities as shown in Figure 5.3. West of the proposed pump station, the backup potable water supply pipeline will penetrate through two earthen berms and connect to the storage tank upstream. The discharge header penetrates one earthen berm, turns north at the access road, and continues to the existing 12-inch recycled water transmission main. Pipe penetrations through earthen berms will be watertight and designed to maintain structural integrity of the berm.

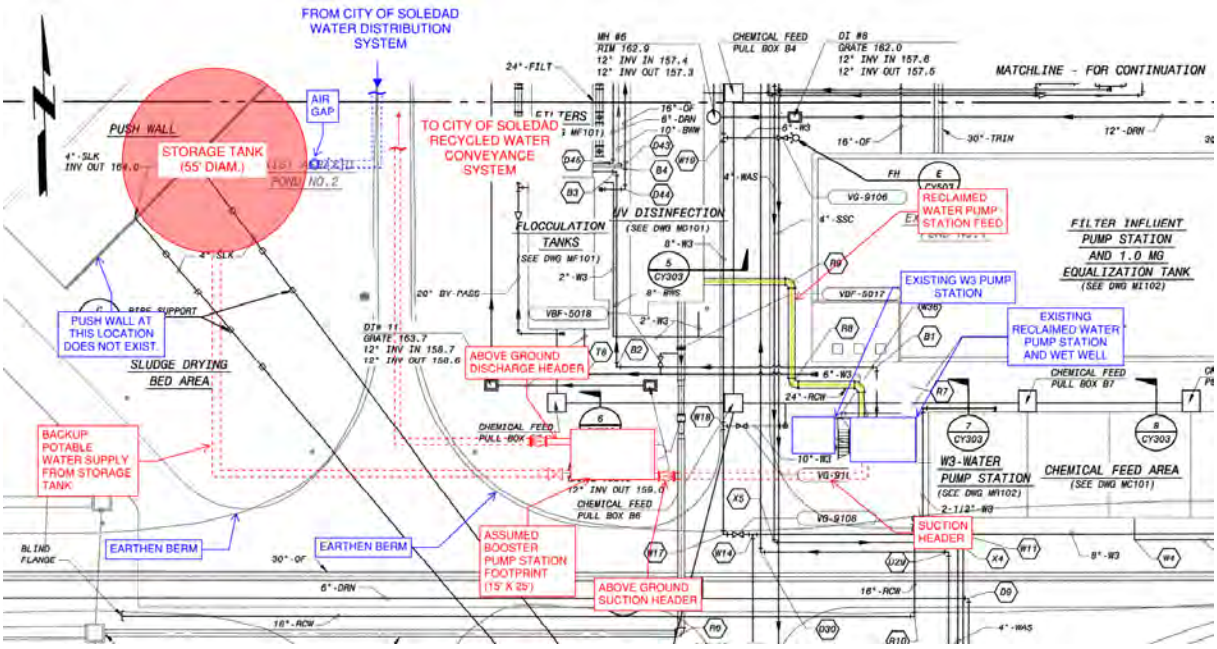

Figure 5.3 Alternative 2 – Layout Sketch

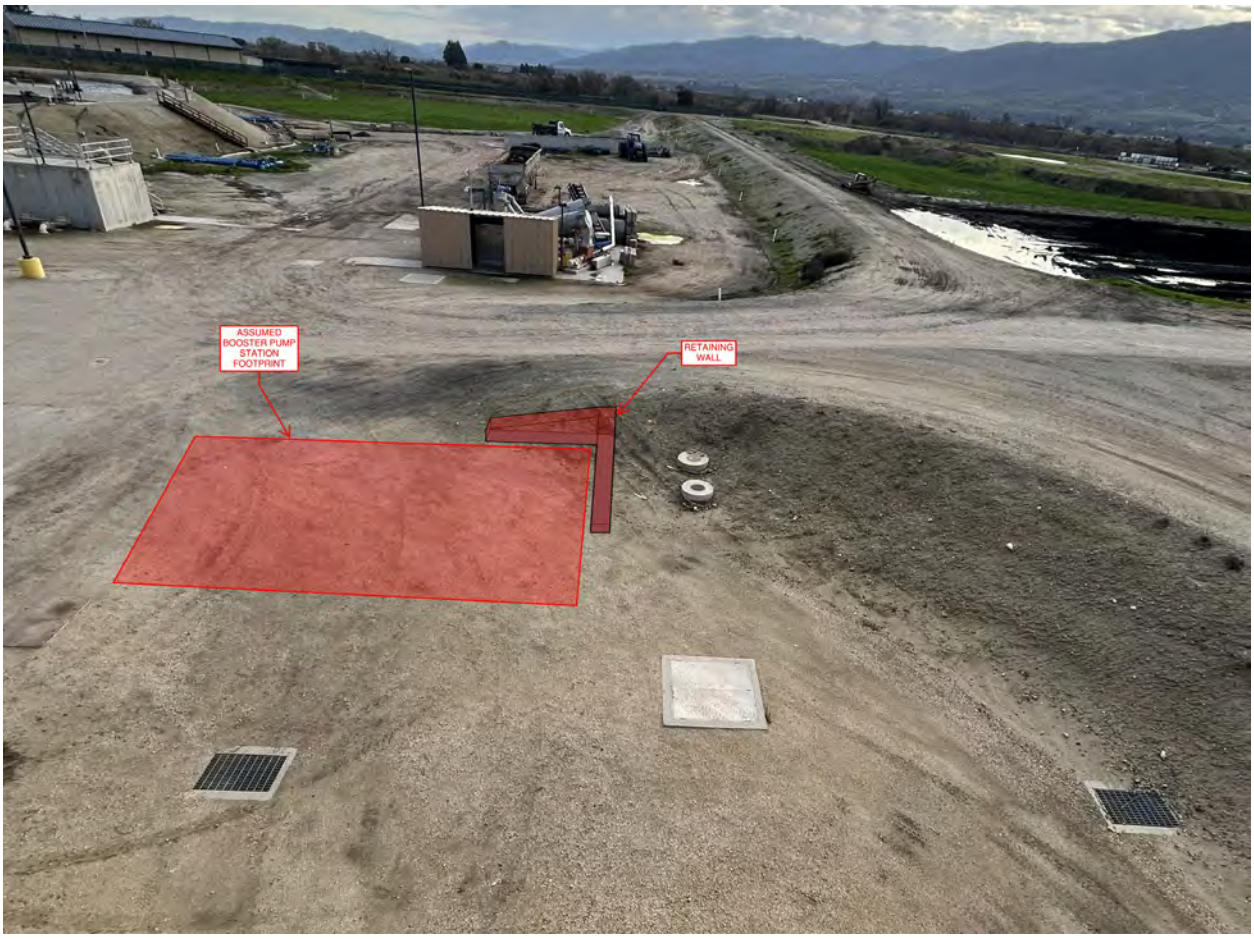

Figure 5.4 Proposed Recycled Water Pump Station Location for Alternatives 2 and 3

5.2.2.1 Advantages

Alternative 2 has the following advantages:

- Anticipated to be the lowest cost alternative
- Pump station is not anticipated to encroach upon access road running east/west
- Relocation of existing utilities is not anticipated

5.2.2.2 Disadvantages

Alternative 2 has the following disadvantages:

- Several utility crossings along the suction pipe alignment
- A retaining wall may be required along the southwest corner of the pump station to accommodate an existing earthen berm along the edge of the roadway

5.2.3 Alternative 3

This alternative matches the configuration of Alternative 2 (see Section 5.1.2) except for suction piping alignment. Suction piping will connect to the existing 24-inch reclaimed water pipe which currently conveys flow from the UV disinfection building to the reclaimed water pump station wet well as shown in Figure 5.5. The proposed location of the suction pipe conveying flow to the pump station is congested with existing utilities. Maintaining required clearance from existing utilities will be challenging and relocation of existing utilities is anticipated.

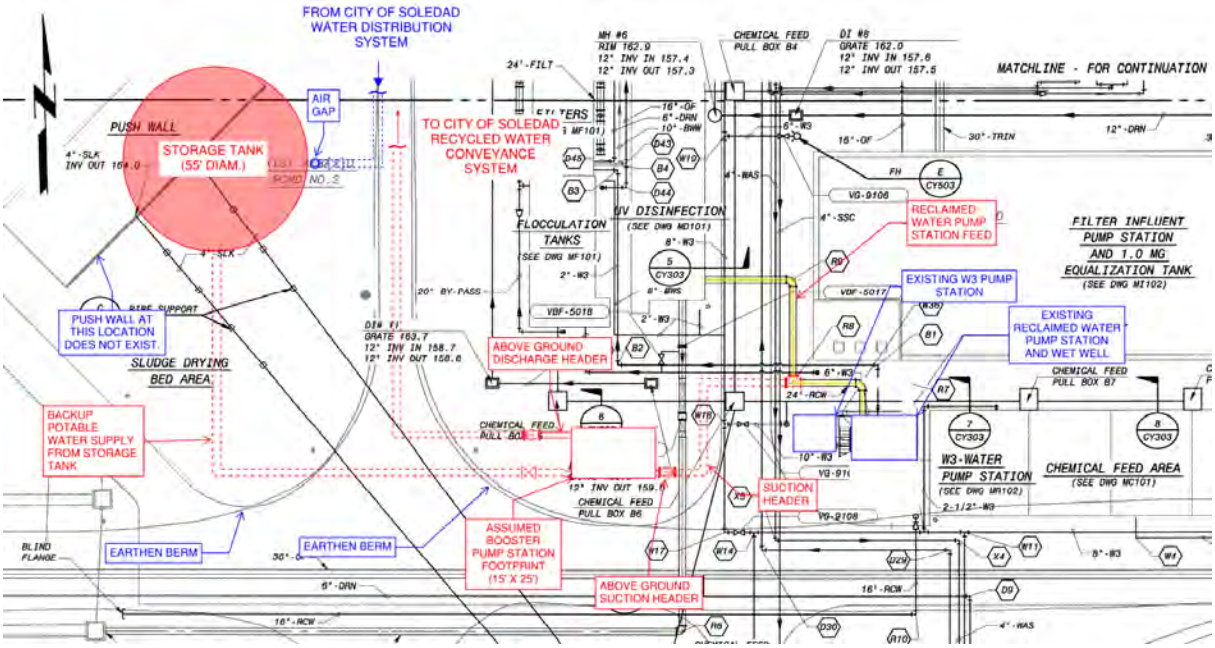

Figure 5.4 Alternative 3 – Layout Sketch

5.2.3.1 Advantages

Alternative 3 has the following advantages:

- Pump station is not anticipated to encroach upon the access road running east/west

5.2.3.2 Disadvantages

Alternative 3 has the following disadvantages:

- Maintaining adequate clearance form existing utilities will be challenging
- Relocation of existing utilities may be required
- Several utility crossings along the suction pipe alignment
- A retaining wall may be required along the southwest corner of the pump station to accommodate an existing earthen berm along the edge of the roadway

5.2.4 Alternative 4

This alternative locates the new pump station at the southeast corner of the sludge drying pond area west of the flocculation tanks as shown in Figure 5.5. The sludge drying pond is at an approximate elevation of 161 feet and the access road along the eastern edge of the sludge drying pond is at an approximate elevation of 169 feet equal to a difference in elevation of 8 feet. The southeast corner of the sludge drying pond would be filled in to match the elevation of the access road for the pump station.

This pump station alternative includes a below ground wet well structure with vertical turbine pumps. The vertical turbine pumps and associated equipment will be mounted on a steel skid similar to what is shown in Figure 5.6. The new wet well will be gravity fed by the existing reclaimed water wet well via the wet well feed pipe shown in Figure 5.5. City operations staff indicated an existing16-inch reclaimed water pipe south of the proposed pump station (shown in Figure 5.5) may be repurposed as the wet well feed pipe. The City is field verifying if the existing 16-inch reclaimed water pipe was constructed. If the 16-inch reclaimed water pipeline was not constructed, a new pipeline will be needed. Design of the pump station and wet well is more complicated than Alternatives 1, 2 and 3, and therefore has a higher construction cost. In addition, the wet well would create a confined space for maintenance staff.

The wet well feed pipe crosses several existing utilities and penetrates through two earthen berms. The discharge header penetrates one earthen berm, turns north at the access road, and continues toward a connection (not shown in Figure 5.5) to the existing 12-inch recycled water transmission main. Pipe penetrations through earthen berms will be watertight and designed to maintain structural integrity of the berm.

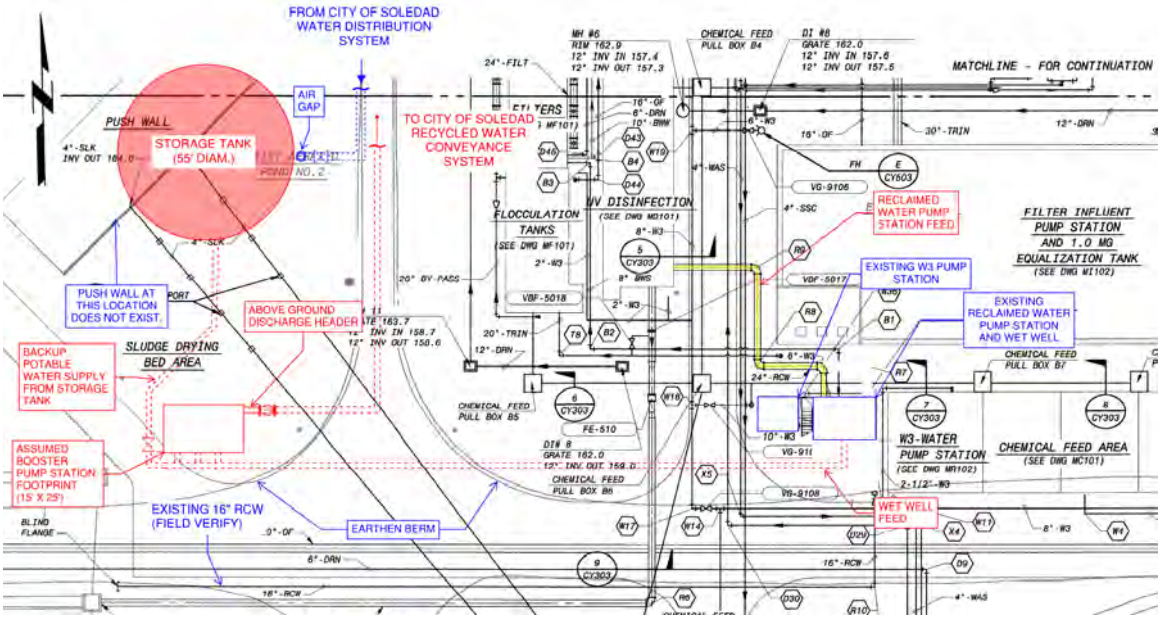

Figure 5.5 Alternative 4 – Layout Sketch

Figure 5.6 Example Pump Station Skid with Vertical Turbine Pumps

5.2.4.1 Advantages

Alternative 4 has the following advantages:

- Pump station footprint is not anticipated to encroach upon access road running east/west
- Relocation of existing utilities is not anticipated
- Potential reuse of existing 16-inch reclaimed water pipeline as wet well feed to simplify design and construction
- Minimizing impacts to WRF operations during construction.

5.2.4.2 Disadvantages

Alternative 4 has the following disadvantages:

- Most challenging hydraulics for pumps
- Site grading required to raise the elevation of the pump station and to accommodate a new buried wet well
- Vertical turbine pumps will be required for this configuration which will result in a more complex design and higher construction cost than Alternatives 1, 2, and 3.
- If a new the suction pipeline is needed, it will cross several existing utilities.
- The wet well would create a confined space for maintenance staff.

5.2.5 Alternative 5

This alternative expands the existing reclaimed water pump station wet well, as shown in Figure 5.7, to accommodate three vertical turbine pumps for the Project. Expanding the existing reclaimed water pump station and wet well is the most complicated and expensive alternative due to structural and hydraulic design needs.

The existing reclaimed water pump station wet well wall between the existing wet well and expanded wet well would need to be partially demolished and connected to the expansion. Structural design is further complicated to ensure the expansion can withstand seismic loads, since the current seismic design standards are more stringent than when the wet well was originally constructed. A shutdown of the reclaimed water pump station and wet well will be required during construction. See Figure 5.8 for a sketch of the reclaimed water pump station wet well expansion.

From the hydraulic design perspective, modelling will be required to ensure the new vertical turbine pumps can operate efficiently concurrently with the existing reclaimed water pump station. Other factors that complicate design and increase cost include potential utility relocation and roadway realignment along the southern edge of the structure expansion.

The backup potable water supply pipeline and discharge header will cross several existing utilities running north/south along the access road to the west of the existing reclaimed water pump station as shown in Figure 5.7. Further west, the backup potable water supply pipeline will penetrate through two earthen berms and connect to the storage tank upstream. The discharge header penetrates one earthen berm, turns north at the access road, and continues toward a connection (not shown in Figure 5.1) to the existing 12-inch recycled water transmission main. Pipe penetrations through earthen berms will be watertight and designed to maintain structural integrity of the berm.

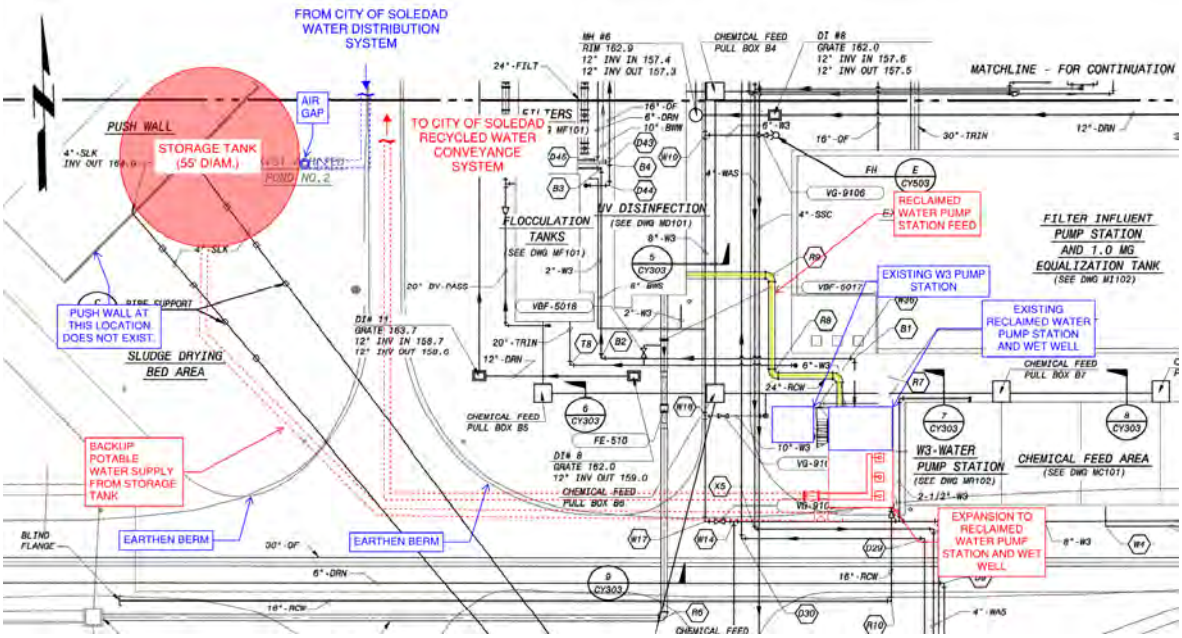

Figure 5.7 Alternative 5 – Layout Sketch

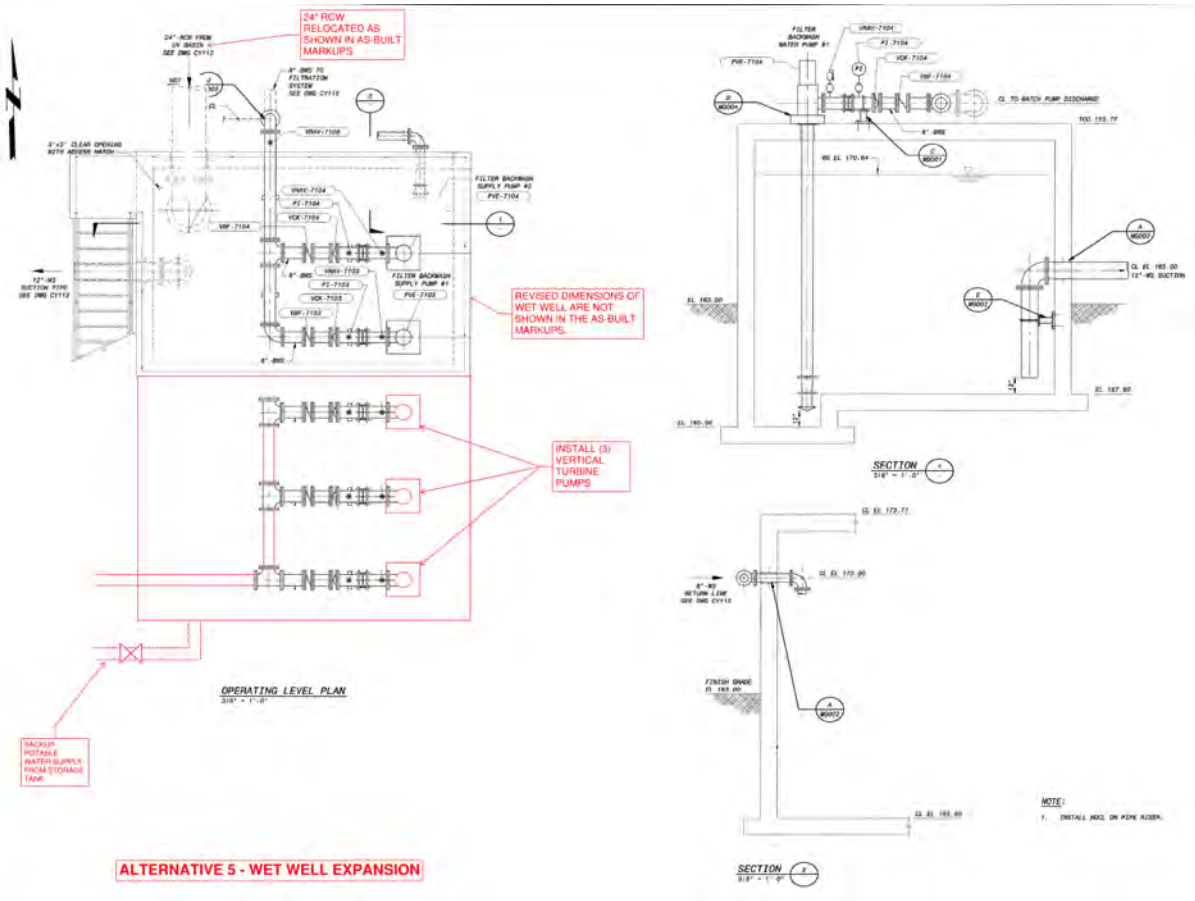

Figure 5.8 Reclaimed Water Pump Station and Wet Well Expansion Sketch

5.2.5.1 Advantages

Alternative 5 has the following advantages:

- Expands the reclaimed water pump station wet well capacity similar to what was intended in the 2007 WWTP Upgrade and Expansion Project
- Matches the existing reclaimed water pump station and wet well configuration for similar operation procedures

5.2.5.2 Disadvantages

Alternative 5 has the following disadvantages:

- Anticipated to be the highest cost alternative
- Wet well expansion complicates design
- Construction of wet well expansion will require extended shutdown of existing reclaimed water pump station
- Vertical turbine pumps will be required for this configuration which will result in a more complex and costly design than most other alternatives
- The discharge pipe and backup water supply pipe cross several existing utilities
- Existing utilities along the southern edge of the expanded structure may need to be relocated

5.2.6 Recommendations

A meeting was held with City operations staff on March 13, 2024, to review the pump station layout alternatives described in Section 5.1. Advantages and disadvantages for each alternative were presented during the meeting. Operations staff narrowed the options down to Alternative 1 and 4.

During a meeting held on March 21, 2024, the City selected Alternative 4 as the preferred alternative because it minimizes construction impacts to WRF operations, it is not located in a congested area, and it may be able to utilize an existing 16-inch reclaimed water pipe further minimizing construction impacts.

5.3 Site Improvements

The pump station will be located at the southeast corner of the sludge drying pond area west of the flocculation tanks as shown in Figure 5.5. The sludge drying pond is at an approximate elevation of 161 feet and the access road along the eastern edge of the sludge drying bed is at an approximate elevation of 169 feet equal to a difference in elevation of 8 feet. The southeast corner of the sludge drying pond will be raised to match the elevation of the access road for the pump station. An existing access ramp on the southeast corner of the sludge drying bed will be relocated to provide access to the pump station.

SECTION 6 POTABLE WATER BACKUP

A backup potable water supply will be provided for the Project in the event that the WRF effluent does not meet Title 22, Division 4, Chapter 3, CCR requirements for recycled water. This section discusses the two potable water backup alternatives that have been evaluated:

- New Potable Water Pipeline to the WRF and Potable Water Backup Tank

- Swivel-Ell Connection

6.1 New Potable Water Pipeline to the WRF and Potable Water Backup Tank

Currently, there is no potable water source at the WRF. This alternative would construct a new potable water pipeline to the WRF and a new potable water backup tank.

6.1.1 New Potable Water Pipeline to the WRF

A new potable water pipeline is needed from the City's potable water distribution system to the WRF.

The existing 8-inch transmission pipeline located from the WRF to Front Street is undersized for the Project and could be used to convey potable water to the WRF, since it has never been put into service. Additional 8-inch pipeline would need to be constructed on each end of the existing 8-inch pipeline to connect to the City's potable water system and to the potable water backup tank at the WRF, as show in Figure 6.1. Permits would be needed from UPRR and Caltrans to construct the additional 8-inch pipeline to the City potable water system.

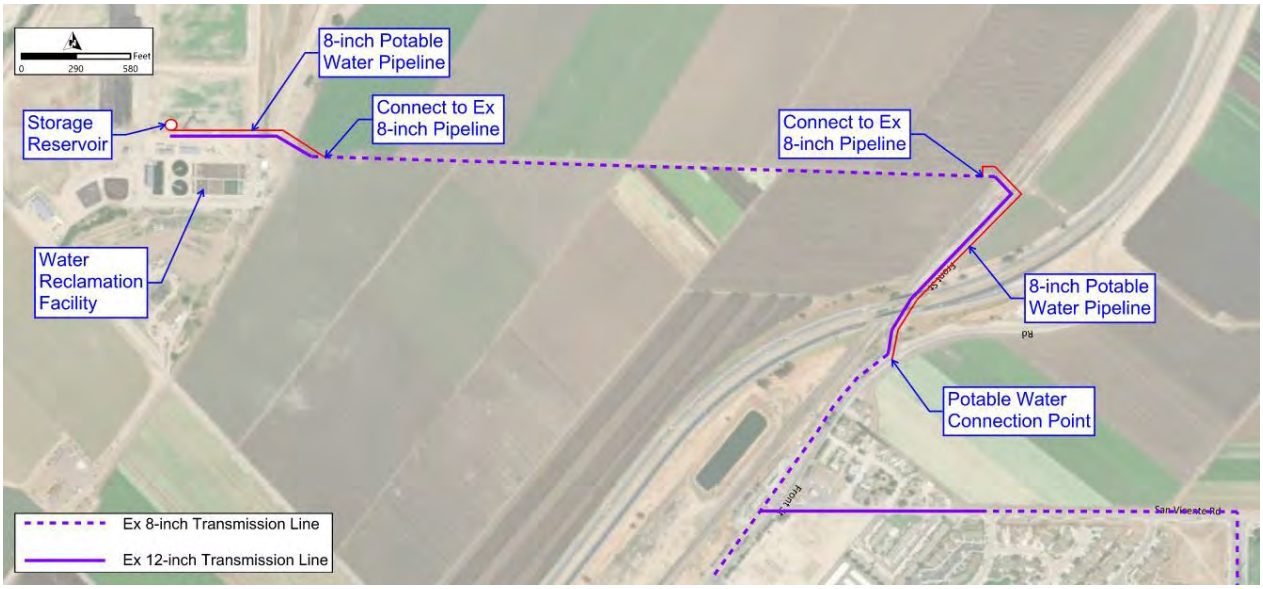

Figure 6.1 Potable Water Pipeline to the WRF

The City's on-call potable water hydraulic modelling consultant, Akel Engineering Group, Inc. (Akel), evaluated the supply availability for a connection to the potable water system at Front Street and Moranda Road. Akel evaluated the potential delivery point based on the following conditions:

- Pressures with High Operational Tank level (29')
- Pressures at Lower Operational Tank Level (15')

Suction pressures versus flow rate curves, shown on Figure 6.2, were provided by Akel for the connection point at Front Street and Moranda Road.

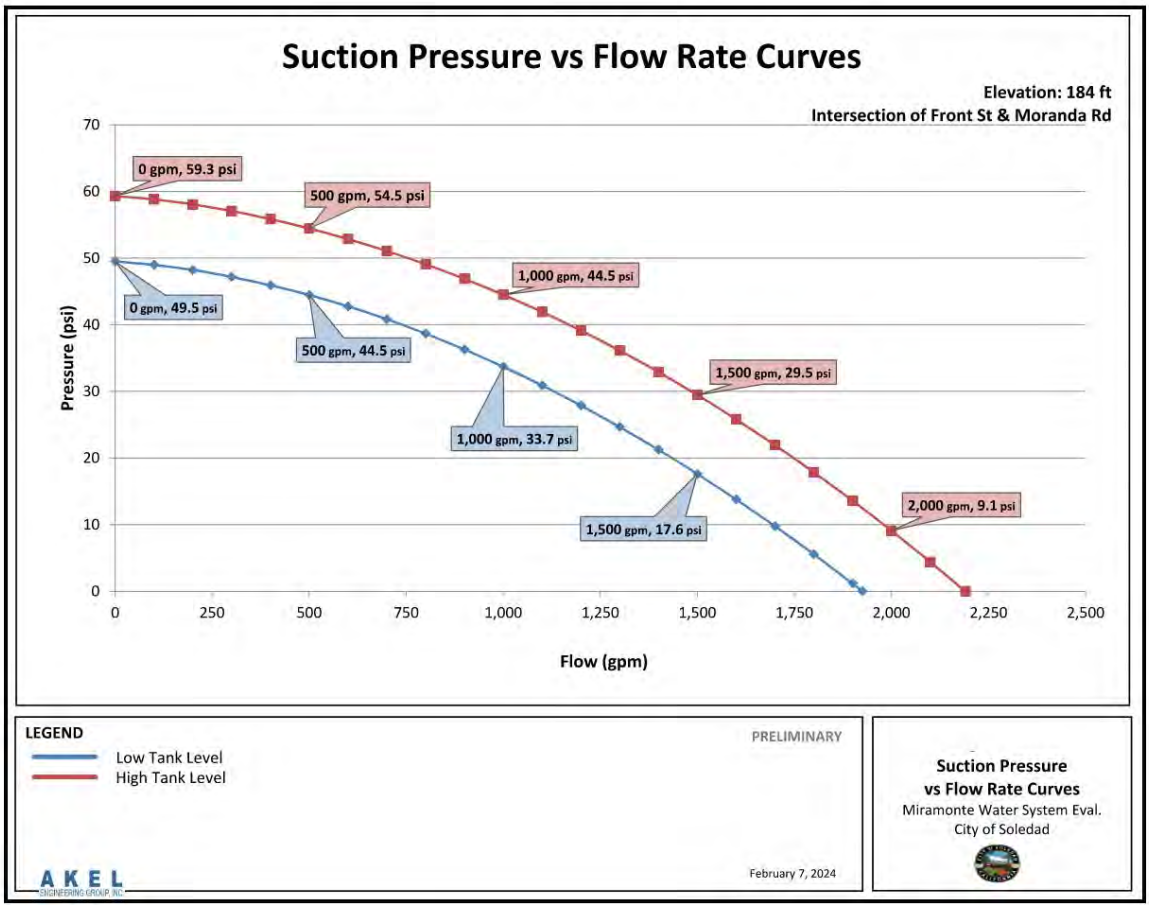

Figure 6.2 Suction Pressure versus Flow Rate Curves at Front Street and Moranda Road (courtesy of Akel Engineering Group, Inc.)

The available flow capacity from the connection point to the storage reservoir was determined by calculating the head loss through the 8-inch pipeline The low level tank curve was used for the available supply capacity, resulting in a maximum flow capacity that could be conveyed through the 8-inch pipeline of approximately 750 gpm, which is about half of the peak day demand.

6.1.2 Potable Water Backup Tank

The potable water backup tank would be initially full to supply the recycled water pump station and continue to fill at during recycled water demand to provide maximum day irrigation demands.

6.1.2.1 Tank Size

The operating tank capacity required is approximately 360,000 gallons using a maximum day system demand of approximately 1,444 gpm over an 8-hour window and a potable water supply of approximately 750 gpm.

The tank diameter would be approximately 55 feet. Final design of the tank would need to account for dead space at the bottom of the tank, free board, or sloshing wave height.

The proposed tank location is south of the wind turbine within the sludge drying pond as shown on Figure 6.3. An area of the pond, south of the wind turbine, will be backfilled to match the elevation of adjacent road to elevate the storage tank and keep it above the pond invert. In addition, the access ramp on the southeast corner of the pond will need to be relocated for construction of the storage reservoir.

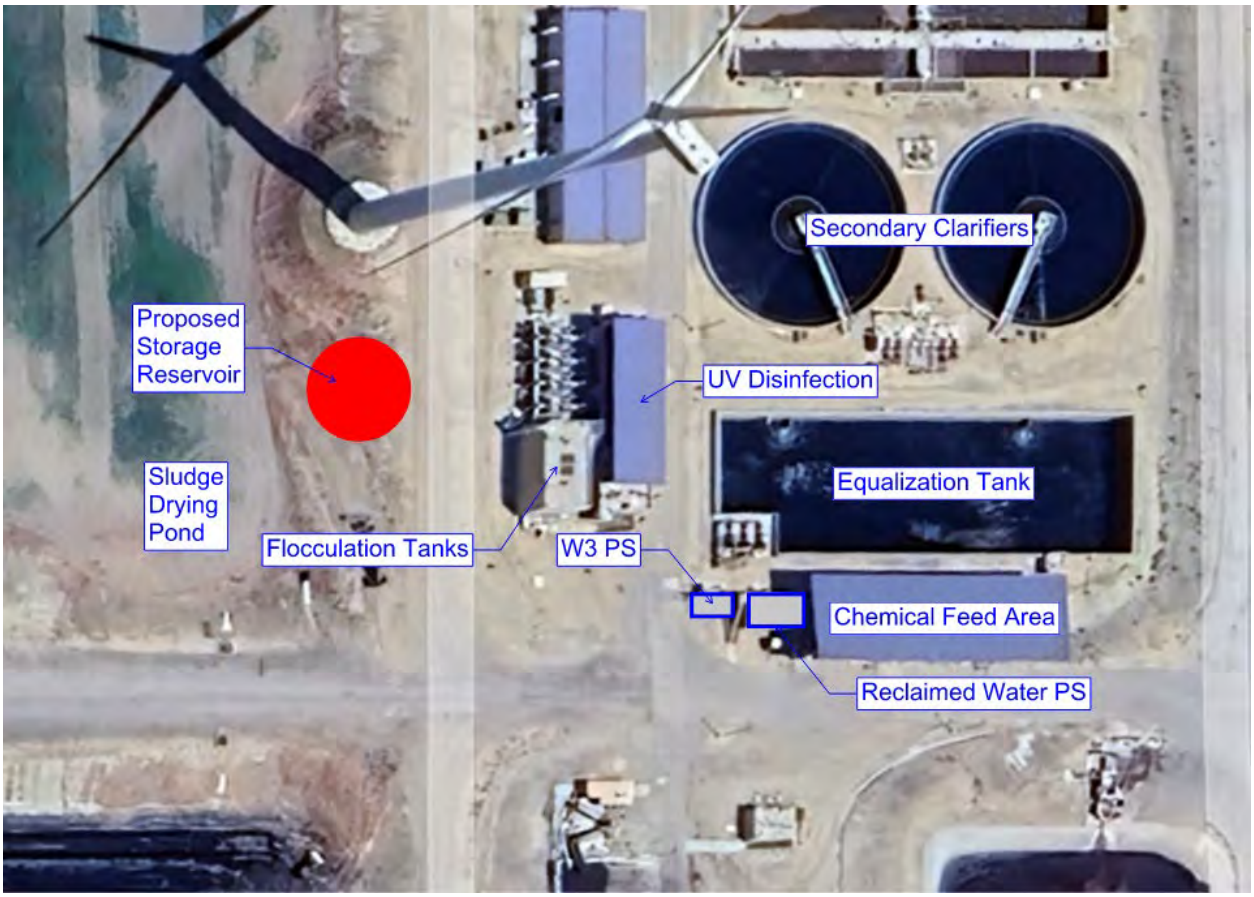

Figure 6.3 Storage Tank Location and Layout

6.1.2.2 Tank Material

A steel tank is the most economical material for this tank size and two types of steel tanks can be constructed:

- Welded steel tanks
- Bolted steel tanks

Welded steel tanks are fabricated onsite by welding steel plates together to form a cylinder and can be specifically sized to the project needs. Design and construction of welded tanks are performed under the guidelines of AWWA D100.

Bolted steel tanks are fabricated onsite by bolting individual steel panels to form a cylinder. Gaskets or sealants are used to achieve a watertight seal at the bolted joints. Bolted tanks are typically offered in incremental sizes depending on the tank manufacturer's panel size. Design and construction of welded tanks are performed under the guidelines of AWWA D103.

Installing a new tank would require provisions for mixing and potentially periodically draining the tank to keep the potable water from stratifying and losing chlorine residual.

Table 6.1 presents some of the benefits and tradeoffs between the two tank alternatives.

Table 6.1 Tank Alternative Pros and Cons

Welded Steel Tank	Bolted Steel Tank
Pros	
▪ Can be customized to fit specific needs ▪ Less susceptible to corrosion ▪ Requires less frequent inspection and maintenance	▪ Less expensive to construct ▪ Installation process is faster and easier
Cons	
▪ Requires specialized welding equipment and skilled labor	▪ Tanks are offered in incremental sizes (not customizable) ▪ Requires more frequent inspection and maintenance ▪ More susceptible to corrosion

6.2 Swivel-Ell Connection

This alternative would construct two new swivel-ell connections directly to the City's potable water system, one at each of the City's potable water pressure zones to provide an emergency potable water backup. A swivel-ell is an assembly consisting of a reduced pressure principle backflow prevention assembly combined with a changeover piping configuration (swivel-ell connection) to directly connect recycled water users to the potable water system while simultaneously disconnecting the supply side of the recycled water system.

On December 19, 2023, the State Water Resources Control Board adopted the Cross-Connection Control Policy Handbook (CCCPH) with an effective date of July 1, 2024, which allows the use of swivel-ell connections as an emergency potable water backup to recycled water systems.

The minimum acceptable design and construction criteria for a swivel-ell are prescribed in the CCCPH and include:

- Prior to operation of a swivel-ell, the City must receive approval for the design and construction plans of that swivel-ell from the State Water Board
- The drinking water supply must not be directly connected to the recycled water supply, nor be designed such that the recycled water use site could be supplied concurrently by a recycled water supply and a drinking water supply
- The drinking water supply line and the recycled water supply line must be offset in a manner that ensures a tee-connection, spool, or other prefabricated mechanical appurtenance(s) could not be readily utilized in lieu of the swivel-ell connection, nor result in the recycled water use site being supplied concurrently by recycled water and drinking water
- The recycled water supply line used in conjunction with the swivel-ell must be the only recycled water supply to the recycled water use area

- The swivel-ell must be located as close as practical to the public water system service connection, with the swivel-ell connection being located as close as practical to the RP upstream of the swivel-ell
- The swivel-ell must:
    - be located above ground
    - be color-coded pursuant to section 116815 of the California Health and Safety Code and its implementing regulations
    - include appropriate signage, as required by regulation and the State Water Board
    - be provided the security necessary to prevent interconnections, vandalism, unauthorized entry, etc.
    - be provided with meters on both the recycled water service and drinking water service connections.

Example schematics of a swivel-ell are presented in Figure 6.4 and an example photo of a swivel-ell is presented in Figure 6.5.

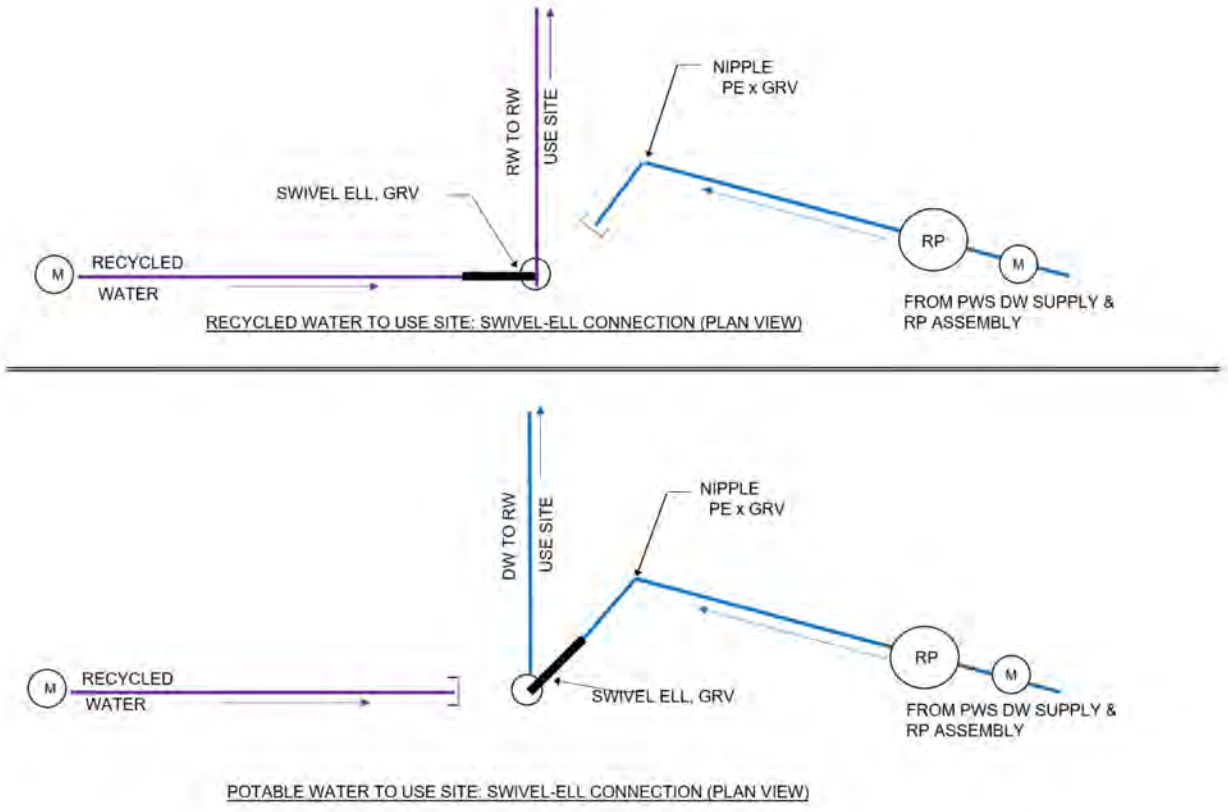

Figure 6.4 Schematics of a Swivel-Ell

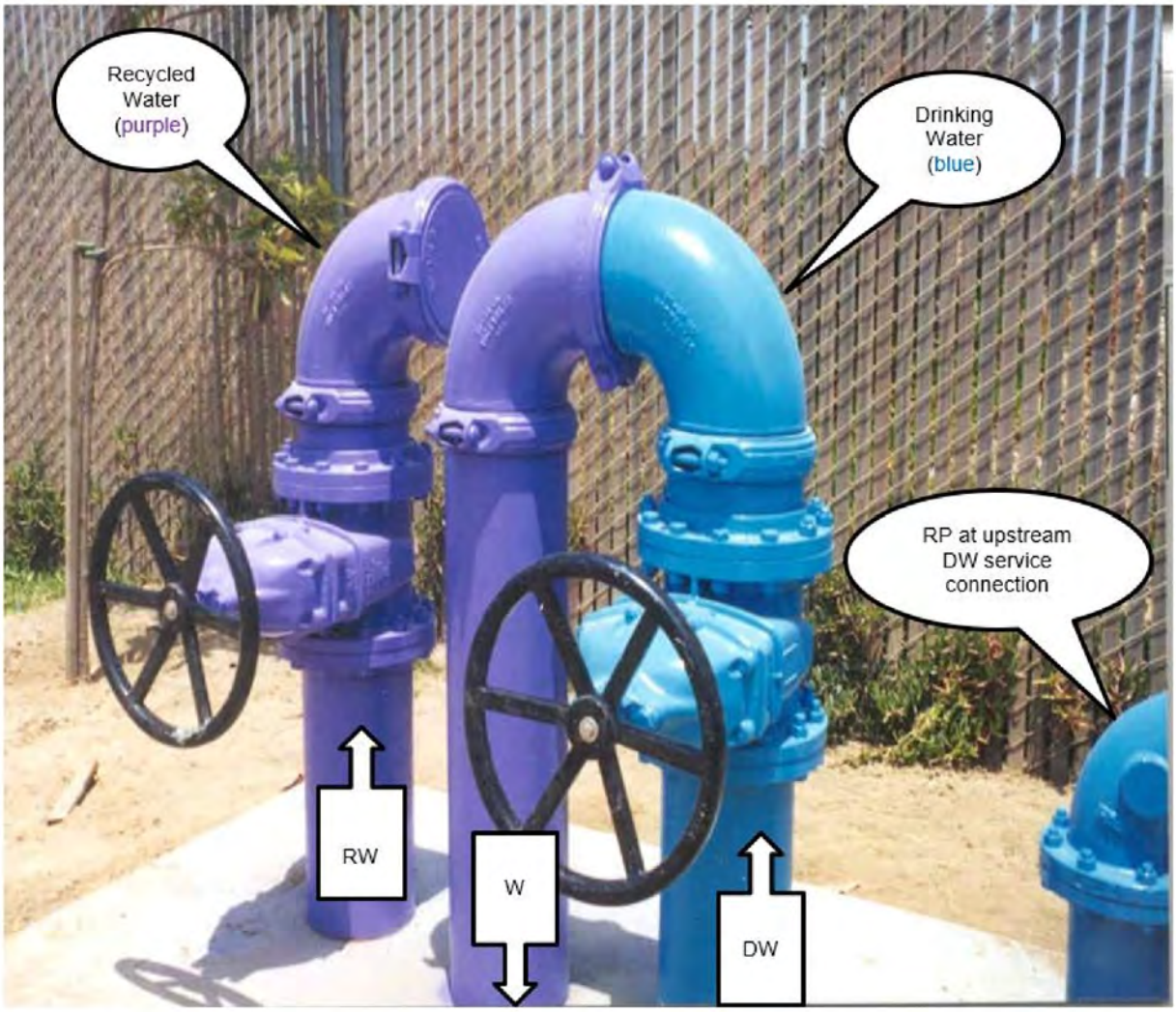

Figure 6.5 Photo of a Swivel-Ell

Akel provided flow and pressure information from the City's potable water hydraulic model at various locations along Gabilan Drive for a swivel-ell connection to the City's upper potable water pressure zone. The best location for swivel-ell connection to the City upper potable water zone is the transition between the upper pressure zone and lower pressure zone and is located at Gabilan Drive and West Street. The swivel-ell connection at the City's lower potable water pressure zone would occur at Front Street and Moranda Road, similar to the new potable water pipeline to the WRF and potable water tank alternative.

Akel evaluated the potential delivery point based on the following conditions:

- Pressures with High Operational Tank level (29')
- Pressures at Lower Operational Tank Level (15')

Suction pressures versus flow rate curves, shown on Figure 6.6, were provided by Akel for the connection point at Gabilan Drive and West Street.

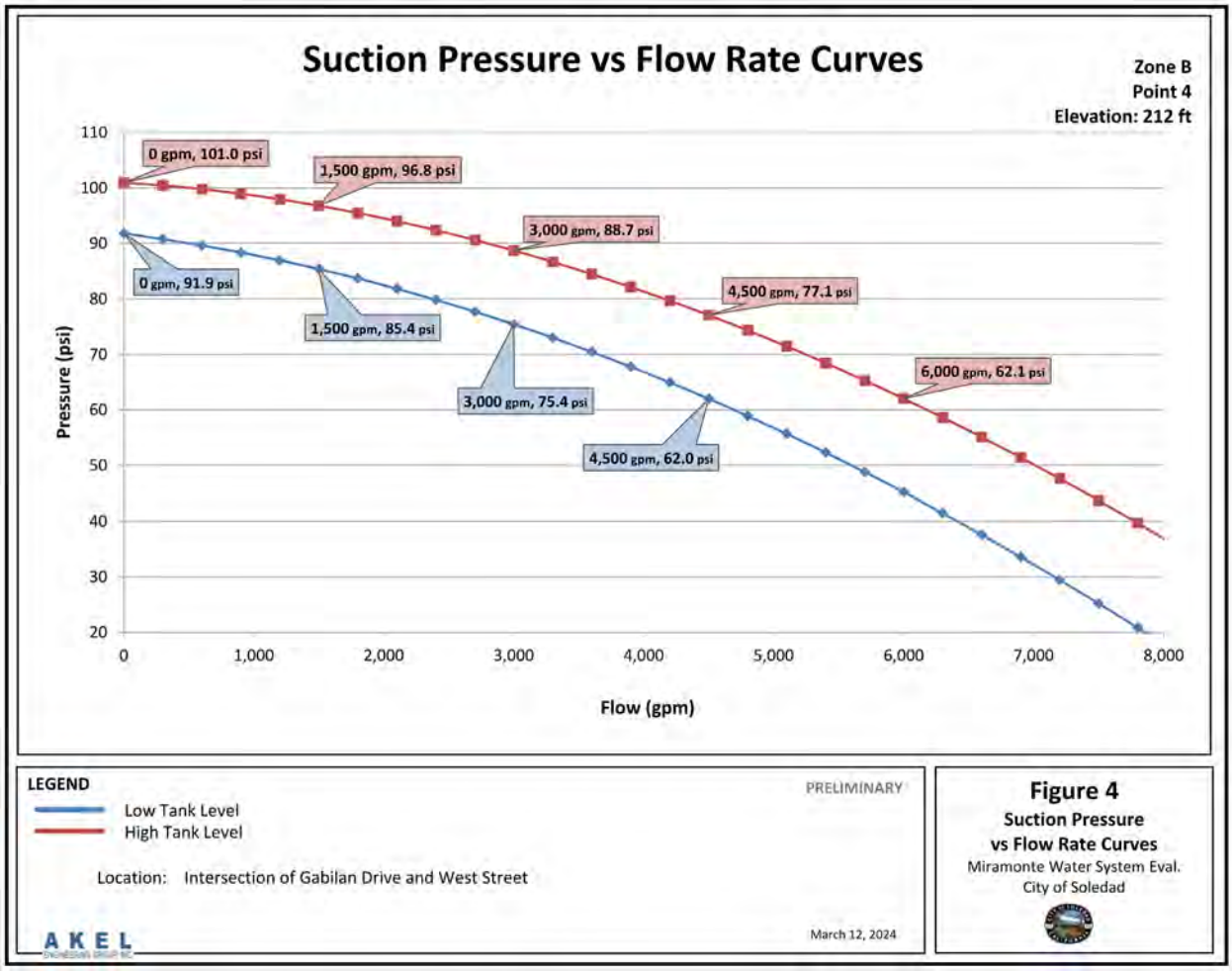

Figure 6.6 Suction Pressure versus Flow Rate Curves at Gabilan Drive and West Street (courtesy of Akel Engineering Group, Inc.)

The two swivel-ell locations would be located at:

- Gabilan Drive and West Street
- Front Street and Moranda Road

The swivel-ell locations would serve each recycled water user with approximately the same pressure as the existing irrigation system and disconnect the upstream recycled water source in conformance with CCCPH requirements. A figure of the recommended locations is presented in Figure 6.7.

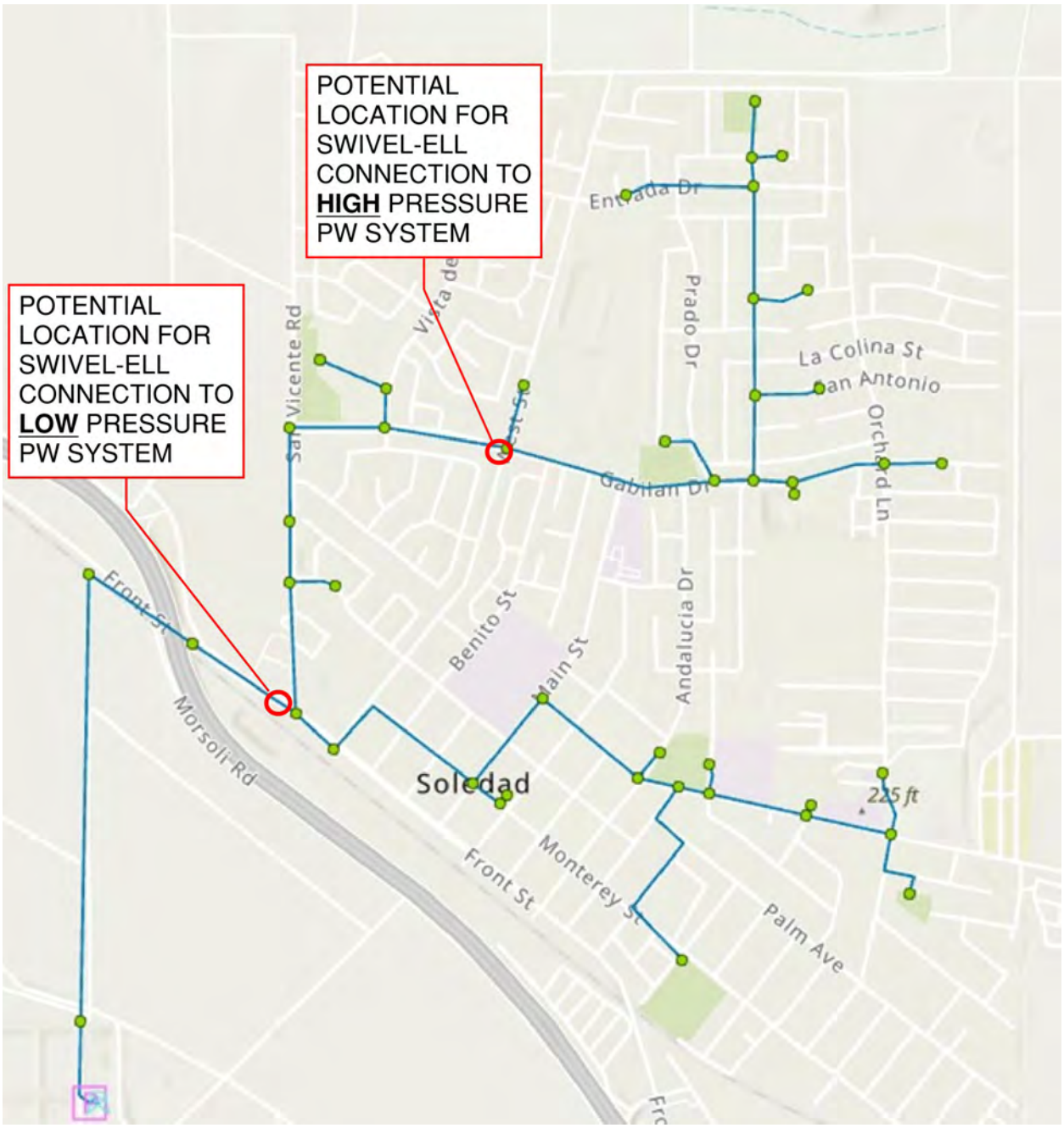

Figure 6.7 Recommended Swivel-Ell Locations

6.3 Recommendation

The alternatives were discussed with the City during project Progress Meetings on March 12, 2024 and March 25, 2024 and the City's preference is to move forward with the swivel-ell alternative primarily because it is significantly less expensive and reduces future O&M needs of a new potable water backup tank.

SECTION 7 PIPELINES

The pipelines for the Project, as depicted on Figure 1.2, include:

- 12-inch transmission pipeline from WRF to Front Street to convey water from the WRF
  - The pipeline diameter may be upsized by the City during final design to strategically provide recycled water to a demand that has yet to be identified
- City-wide distribution system pipelines ranging from 4- to 8-inches in diameter

7.1 Pipeline Alignment

7.1.1 Transmission Pipeline

The existing transmission pipeline is composed of 8-inch and 12-inch diameter pipes as shown on Figure 1.1. The existing 8-inch transmission pipeline from the WRF to Front Street, located within farmland, is undersized for the Project. A new 12-inch pipeline will be constructed parallel to the existing 8-inch pipeline for the Project. It will tie into the existing 12-inch transmission pipeline at WRF on the south end and the existing 12-inch transmission pipeline on the north end before the railroad crossing. Additional easements may be required for the transmission pipeline through the farmland, which will be confirmed during final design In addition, construction work restrictions may include a work window the reduces the impact to farming operations.

7.1.2 City-Wide Distribution System

The distribution system is be divided into two pipeline systems – to the northern and southern parts of the City. At the intersection of San Vicente Road and Front Street, the existing transmission main bifurcates with a pipeline continuing east along Front Street until it intersects West Street and terminates. At this location the distribution pipeline will connect to the existing distribution mains to serve the City parks and schools located in the southern half of the City.

The second segment of the existing transmission pipeline is located north along San Vicente Road then east and along Gabilan Drive until it intersects West Street and terminates. At this point, the distribution pipeline will tie into the existing transmission main to serve the City parks and schools located in the northern half of the City.

The pipeline alignments proposed in the 2023 Miller Report were reviewed and confirmed with the City. The alignments are located along city streets within the public right-of-way. Repair and replacement of pavement during construction will follow the City's 2023 Pavement Management Program Update Final Report prepared by Pavement Engineering Inc., October 2023.

7.2 Pipeline Materials

Several pipeline material were considered such as PVC, ductile iron, fused PVC, and HDPE. The costs for ductile iron, fused PVC, and HDPE are significantly higher the PVC. Therefore, PVC pipe, with ductile iron fittings, is the recommended pipeline material for the following reasons:

- Suitable for the Project size and pressures.
- City familiarity with the materials.

- Same pipe material as the existing transmission main.

C900 DR18 PVC pipe (purple pipe) is recommended for pressures below 200 psi and at locations where pressures are higher than 200 psi, C900 DR14 PVC pipe is recommended.

7.3 Pipeline Separation Criteria

7.3.1 Separation Criteria

The City's recycled water quality is considered disinfected tertiary recycled water as defined in California Code of Regulations (CCR) section 60301.230. As outlined in Chapter 16 - California Waterworks Standards of Title 17 of the CCR, the basic requirements for horizontal separation of recycled water mains from potable water mains are:

- at least 4 feet horizontally from, and one foot vertically below existing potable water mains.
- 1-foot horizontal clear separation from existing potable water mains with special permission and special design (i.e, no pipe joints, concrete encasement, etc.), approved by DDW on a case-by-case basis.

Although Water Works standards do not specify separation requirements between recycled water and non-potable pipelines, 3-feet of separation will be provided to avoid construction impacting adjacent facilities.

To limit the effects of pipeline loading from heavy equipment the pipeline should maintain a minimum cover of 4 feet. The pipeline should also maintain a minimum 1-foot clearance with existing utilities where possible. Pipeline barrels should be centered at utility crossings so rubber gasketed joints are located as far as possible from the utility crossing.

7.4 Appurtenances

Pipeline appurtenances are an essential component for the operation and efficiency of a pipeline. Appurtenances include air valves, blowoffs, and isolation valves. The methodology for the selection and location of pipeline appurtenances is contained in this section. Pipeline appurtenances will be sized and located during the final design phase after the pipeline alignment and profile have been developed.

7.4.1 Air Valves

Air valves are commonly installed on to manage air and vacuum conditions occurring in the pipeline. The installation of combination air valves is recommended along the alignment to perform the function of both air release valves and air/vacuum valves.

Locations of air/vacuum valve assemblies are determined by the topography of the pipeline system with spacing in conformance with recommendations in AWWA M51. Recycled water air valves can be located in below above-ground vaults or above ground enclosures and will be confirmed during final design.

7.4.2 Blow-Offs

Blowoffs will be provided at selected low points and on the up-gradient side of isolation valves to facilitate pipeline dewatering for inspection, maintenance, and emergency conditions. Where feasible,

blowoffs will be located near sanitary sewer manholes to facilitate convenient disposal of water. In small diameter distribution systems, blow-offs are often minimized and the need for blow-offs and the locations will be review during final design.

7.4.3 Isolation Valves

Isolation valves will be installed at recommended periodic locations and at strategic locations, such as a branch off a main line. Valves for pipelines smaller than 12-inch in diameter will be resilient wedge gate valves in accordance with AWWA C509 Standards. Isolation valves for pipelines larger than 12-inch in diameter will be evaluated for height restrictions to determine if there is enough clearance to grade to install a gate valve. Butterfly valves in accordance with AWWA C504 Standards may be needed if there is not enough clearance and will be confirmed with the City during final design. The valves will be rated for pressures up to 250 psi.

7.4.4 Service Connections

A typical service connection will include:

- Flanged or threaded outlet from the main line, either field installed as a branch tee or using a tapping saddle.
- Isolation valve or corporation stop at the service outlet.
- Service line to the right-of-way boundary or other defined meter location.
- Meter assembly in meter box or above ground in an enclosure, if needed.
- Pressure reducing valve to protect the customer irrigation system (where needed).
- Consideration of an irrigation pressure boosting system (some existing irrigation systems have pressure boosting systems. Service connections to each school and park will be individually evaluated during final design.

SECTION 8 IRRIGATION SYSTEMS

Siegfried Engineering conducted a site visit to evaluate the existing irrigation systems at the parks and schools. Table 8.1 identifies which irrigation system requires retrofitting or replacement.

Table 8.1 Existing Irrigation Systems

No.	Location	Acreage	Has Booster Pump?	Retrofit or Replace
1	Lum Memorial Park	2.64		
2	Peverini Park	2.9		
3	Santa Barbara Park	1.08		
4	San Antonio Park	0.46		
5	Jack Franscioni Elementary			
6	Toledo Park (Future)	3.78		
7	Blas Santana Park	4.23		
8	Soledad High School			
9	Rose Ferrero Elementary			
10	Frank Ledesma Elementary		✓	

11	Veterans Park	4		
12	Joe Ledesma Park	0.6		
13	Main Street Middle School			
14	Bill Ramus Park	0.45		
15	Little League Park	2.9		
16	Jesse Gallardo Park	4	✓	
17	San Vicente/Gabilan Elementary			
18	Orchard Park	7.98		
19	Ramirez Park	1.25		
20	Vosti Park	6.44	✓	

SECTION 9 PROPERTY ACQUISITION

Facilities located within the City's WRF and in City right of way will not need additional property. An encroachment permit is required for construction, but no additional easements will be acquired for the distribution system.

The City has a 20-foot-wide easement for the existing 8-inch transmission main, from the WRF to Front Street, located within farmland. The new 12-inch transmission pipeline will be constructed parallel to the existing 8-inch transmission main. The existing easement will be reviewed during final design to determine if additional permanent and temporary easements are required for the new 12-inch transmission pipeline.

SECTION 10 CEQA AND PERMITTING

10.1 Agency Reviews and Approvals

The primary regulation governing recycled water use is the California Water Code Regulations, Title 22. The treatment requirement for this project would be tertiary treated recycled water, unrestricted use.

In June 2014, the California legislature passed State Bill 861, which authorized transfer of California Department of Public Health (CDPH)'s drinking and recycled water responsibilities, including the issuance of waste discharge requirements (WDRs), to the State Water Resources Control Board (SWRCB). Now, regulatory authority for projects using recycled water falls to the DDW within the SWRCB, as well as the Regional Water Quality Control Board (RWQCB). The roles of the SWRCB, RWQCB, and DDW are further discussed in the following sections.

10.2 California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) is a statute that was passed to institute a statewide policy of environmental protection. CEQA requires state and local agencies within California to follow a protocol

of analysis, to publicly disclose any environmental impacts of proposed projects and to adopt all feasible measures to mitigate those impacts.

CEQA will be completed by Denise Duffy & Associates with the City as the lead agency, to evaluate any potential environmental impacts associated with the City's Recycled Water Conveyance Project. Based on the initial understanding of the project, an Initial Study / Mitigated Negative Declaration (IS/MND) is anticipated for the Project.

10.3 California Division of Drinking Water (DDW)

The DDW is charged with protection of public health and drinking water supplies and with the development of uniform water recycling criteria appropriate to particular uses of water. DDW recommendations are implemented through permits issued by the RWQCB.

The City's WRF produces effluent that meets Title 22 recycled water requirements. A Title 22 Report for the distribution of recycled water must be approved by DDW and the RWQCB before recycled water projects are implemented.

10.4 State Water Resources Control Board (SWRCB)

The SWRCB establishes general policies governing the permitting of recycled water projects consistent with its role of protecting water quality and sustaining water supplies. The SWRCB also exercises general oversight over recycled water projects, including review of RWQCB permitting practices.

The SWRCB is the state agency that has jurisdiction over water quality throughout California. Under the SWRCB, nine RWQCBs have authority to exercise rulemaking and regulatory activities by water basin. The RWQCB is charged with protection of surface and groundwater resources. The City of Soledad is located in the Central Coastal Region.

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Appendix B. Pipeline Segment Plans – 30 Percent Design Plans

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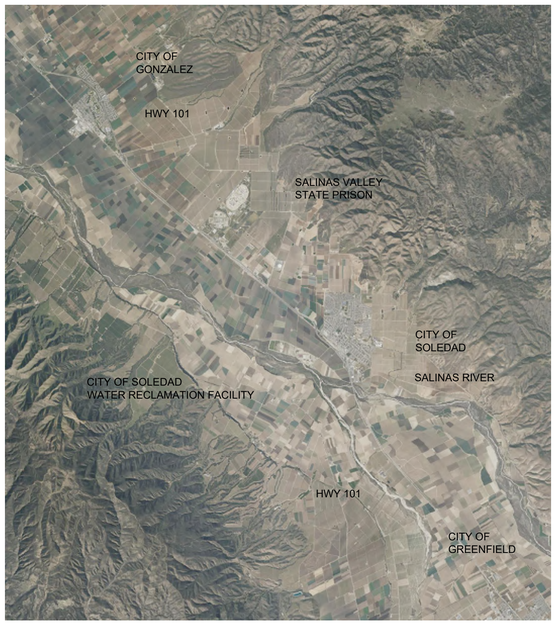
CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

30% DESIGN PHASE

JUNE 2024



VICINITY MAP

LOCATION MAP

CITY OF SOLEDAD WATER RECLAMATION FACILITY
34520 MORISOLI ROAD
SOLEDAD, CA 93960

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED KS
DRAWN DH
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

carollo ENGINEERS

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
COVER SHEET

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00G01
SHEET NO. 1 OF

LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500G01.dwg

EX	SHEET NO	DWG NO	DESCRIPTION	30%
			(G) - GENERAL	
	1	00G01	COVER SHEET	X
	2	00G02	DRAWING INDEX	X
	3	00G03	GENERAL AND CIVIL LEGENDS AND SYMBOLS	X
	4	00G04	ABBREVIATIONS	X
	5	00G05	SURVEY CONTROL	X
	6	00G06	KEY PLAN 1 - TRANSMISSION MAIN AND ALIGNMENT A	X
	7	00G07	KEY PLAN 2 - ALIGNMENT B	X
X	8	00G08	HYDRAULIC PROFILE AND DESIGN CRITERIA	
			(D) - DEMOLITION	
X	9	00GD01	DEMOLITION GENERAL NOTES AND SYMBOLS	
X	10	00D01	DEMOLITION PLAN 1	
X	11	00D02	DEMOLITION PLAN 2	
			(C) - CIVIL	
	12	00C01	PLAN AND PROFILE - TRANSMISSION MAIN STA 10+00 TO 20+00	X
	13	00C02	PLAN AND PROFILE - TRANSMISSION MAIN STA 20+00 TO 30+00	X
	14	00C03	PLAN AND PROFILE - TRANSMISSION MAIN STA 30+00 TO 40+00	X
	15	00C04	PLAN AND PROFILE - TRANSMISSION MAIN STA 40+00 TO 48+00.10	X
	16	00C05	PLAN AND PROFILE - ALIGNMENT A STA 10+00 TO 15+00	X
	17	00C06	PLAN AND PROFILE - ALIGNMENT A STA 15+00 TO 20+00	X
	18	00C07	PLAN AND PROFILE - ALIGNMENT A STA 20+00 TO 25+00	X
	19	00C08	PLAN AND PROFILE - ALIGNMENT A STA 25+00 TO 30+00	X
	20	00C09	PLAN AND PROFILE - ALIGNMENT A STA 30+00 TO 35+00	X
	21	00C10	PLAN AND PROFILE - ALIGNMENT A STA 35+00 TO 40+00	X
	22	00C11	PLAN AND PROFILE - ALIGNMENT A STA 40+00 TO 45+00	X
	23	00C12	PLAN AND PROFILE - ALIGNMENT A STA 45+00 TO 50+00	X
	24	00C13	PLAN AND PROFILE - ALIGNMENT A STA 50+00 TO 55+00	X
	25	00C14	PLAN AND PROFILE - ALIGNMENT A STA 55+00 TO 60+00	X
	26	00C15	PLAN AND PROFILE - ALIGNMENT A STA 60+00 TO 65+00	X
	27	00C16	PLAN AND PROFILE - ALIGNMENT A STA 65+00 TO 69+00	X
	28	00C17	PLAN AND PROFILE - ALIGNMENT A STA 69+00 TO 70+54.57	X
	29	00C18	PLAN AND PROFILE - ALIGNMENT A1 STA 10+00 TO 13+18.80	X
	30	00C19	PLAN AND PROFILE - ALIGNMENT A2 STA 10+00 TO 14+60.08	X
	31	00C20	PLAN AND PROFILE - ALIGNMENT A3 STA 10+00 TO 15+00	X
	32	00C21	PLAN AND PROFILE - ALIGNMENT A3 STA 15+00 TO 20+00	X
	33	00C22	PLAN AND PROFILE - ALIGNMENT A3 STA 20+00 TO 25+00	X
	34	00C23	PLAN AND PROFILE - ALIGNMENT A3 STA 25+00 TO 30+00	X
	35	00C24	PLAN AND PROFILE - ALIGNMENT A3 STA 30+00 TO 33+60	X
	36	00C25	PLAN AND PROFILE - ALIGNMENT A3 STA 33+60 TO 36+46.32	X
	37	00C26	PLAN AND PROFILE - ALIGNMENT A4 STA 10+00 TO 13+96.48	X
	38	00C27	PLAN AND PROFILE - ALIGNMENT A5 STA 10+00 TO 13+96.52	X
	39	00C28	PLAN AND PROFILE - ALIGNMENT A6 STA 10+00 TO 15+00	X
	40	00C29	PLAN AND PROFILE - ALIGNMENT A6 STA 15+00 TO 17+28.08	X
	41	00C30	PLAN AND PROFILE - ALIGNMENT B STA 10+00 TO 15+00	X
	42	00C31	PLAN AND PROFILE - ALIGNMENT B STA 15+00 TO 20+00	X
	43	00C32	PLAN AND PROFILE - ALIGNMENT B STA 20+00 TO 25+00	X
	44	00C33	PLAN AND PROFILE - ALIGNMENT B STA 25+00 TO 30+00	X
	45	00C34	PLAN AND PROFILE - ALIGNMENT B STA 30+00 TO 35+00	X
	46	00C35	PLAN AND PROFILE - ALIGNMENT B STA 35+00 TO 40+00	X
	47	00C36	PLAN AND PROFILE - ALIGNMENT B STA 40+00 TO 45+00	X
	48	00C37	PLAN AND PROFILE - ALIGNMENT B STA 45+00 TO 50+00	X
	49	00C38	PLAN AND PROFILE - ALIGNMENT B STA 50+00 TO 55+00	X
	50	00C39	PLAN AND PROFILE - ALIGNMENT B STA 55+00 TO 60+00	X
	51	00C40	PLAN AND PROFILE - ALIGNMENT B STA 60+00 TO 65+00	X
	52	00C41	PLAN AND PROFILE - ALIGNMENT B STA 65+00 TO 67+60.34	X
	53	00C42	PLAN AND PROFILE - ALIGNMENT B1 STA 10+00 TO 13+33.77	X
	54	00C43	PLAN AND PROFILE - ALIGNMENT B2 STA 10+00 TO 13+98.39	X
	55	00C44	PLAN AND PROFILE - ALIGNMENT B3 STA 10+00 TO 15+00	X
	56	00C45	PLAN AND PROFILE - ALIGNMENT B3 STA 15+00 TO 16+01.22	X
	57	00C46	PLAN AND PROFILE - ALIGNMENT B4 STA 10+00 TO 15+00	X
	58	00C47	PLAN AND PROFILE - ALIGNMENT B4 STA 15+00 TO 20+00	X
	59	00C48	PLAN AND PROFILE - ALIGNMENT B4 STA 20+00 TO 24+45.94	X
	60	00C49	PLAN AND PROFILE - ALIGNMENT B5 STA 10+00 TO 15+00	X
	61	00C50	PLAN AND PROFILE - ALIGNMENT B5 STA 15+00 TO 15+79.01	X
	62	00C51	PLAN AND PROFILE - ALIGNMENT B6 STA 10+00 TO 14+31.69	X
	63	00C52	PLAN AND PROFILE - ALIGNMENT B7 STA 10+00 TO 15+00	X
	64	00C53	PLAN AND PROFILE - ALIGNMENT B7 STA 15+00 TO 20+00	X
	65	00C54	PLAN AND PROFILE - ALIGNMENT B7 STA 20+00 TO 21+95.04	X
	66	00C55	PLAN AND PROFILE - ALIGNMENT B8 STA 10+00 TO 12+50.78	X
	67	00C56	PLAN AND PROFILE - ALIGNMENT B9 STA 10+00 TO 15+00	X
	68	00C57	PLAN AND PROFILE - ALIGNMENT B9 STA 15+00 TO 16+70.44	X
	69	00C58	PUMP STATION SITE PLAN	X
X	70	00C59	PUMP STATION GRADING PLAN	
X	71	00C60	PUMP STATION YARD PIPING PLAN 1	
X	72	00C61	PUMP STATION YARD PIPING PLAN 2	
X	73	00C67	EXISTING RECYCLED WATER SYSTEM IMPROVEMENTS 1	
X	74	00C68	EXISTING RECYCLED WATER SYSTEM IMPROVEMENTS 2	
X	75	00C69	GABILAN DRIVE LANDSCAPING RETROFIT - SHEET 1 OF 2	
X	76	00C70	GABILAN DRIVE LANDSCAPING RETROFIT - SHEET 2 OF 2	
X	77	00C71	WEST STREET LANDSCAPING RETROFIT	
X	78	00C72	LANDSCAPING RETROFIT DETAILS 1	
X	79	00C73	LANDSCAPING RETROFIT DETAILS 2	
X	80	00C74	PAVING PLAN 1	
X	81	00C75	PAVING PLAN 2	
X	82	00C76	PAVING PLAN 3	
X	83	00C77	PAVING PLAN 4	
X	84	00C78	PAVING PLAN 5	
X	85	00C79	PAVING PLAN 6	
X	86	00C80	PAVING PLAN 7	
X	87	00C81	PAVING PLAN 8	
			(L) - LANDSCAPE	
	88	GL1.0	OVEALL PROJECT SITE	X
	89	GL1.1	GENERAL NOTES	X
	90	L1.0	LUM MEMORIAL PARK - POINT OF CONNECTION	X
	91	L1.1	LUM MEMORIAL PARK - INVENTORY	X
	92	L2.0	PEVERINI PARK - POINT OF CONNECTION	X
	93	L2.1	PEVERINI PARK - INVENTORY	X
	94	L3.0	SANTA BARBARA PARK - POINT OF CONNECTION	X
	95	L3.1	SANTA BARBARA PARK - INVENTORY	X
	96	L4.0	SAN ANTONIO PARK - POINT OF CONNECTION	X
	97	L4.1	SAN ANTONIO PARK - INVENTORY	X
	98	L5.0	JACK FRANSCIONI ELEMENTARY - POINT OF CONNECTION	X
	99	L5.1	JACK FRANSCIONI ELEMENTARY - INVENTORY 1	X
	100	L5.2	JACK FRANSCIONI ELEMENTARY - INVENTORY 2	X
	101	L5.3	JACK FRANSCIONI ELEMENTARY - INVENTORY 3	X
	102	L5.4	JACK FRANSCIONI ELEMENTARY - INVENTORY 4	X
	103	L6.0	TOLEDO PARK - POINT OF CONNECTION	X
	104	L6.1	TOLEDO PARK - INVENTORY	X
	105	L7.0	BLAS SANTANA PARK - POINT OF CONNECTION	X
	106	L7.1	BLAS SANTANA PARK - INVENTORY 1	X
	107	L7.2	BLAS SANTANA PARK - INVENTORY 2	X
	108	L8.0	SOLEDAD HIGH SCHOOL - POINT OF CONNECTION	X
	109	L8.1	SOLEDAD HIGH SCHOOL - INVENTORY 1	X
	110	L8.2	SOLEDAD HIGH SCHOOL - INVENTORY 2	X
	111	L8.3	SOLEDAD HIGH SCHOOL - INVENTORY 3	X
	112	L8.4	SOLEDAD HIGH SCHOOL - INVENTORY 4	X
	113	L8.5	SOLEDAD HIGH SCHOOL - INVENTORY 5	X
	114	L8.6	SOLEDAD HIGH SCHOOL - INVENTORY 6	X
	115	L8.7	SOLEDAD HIGH SCHOOL - INVENTORY 7	X
	116	L8.8	SOLEDAD HIGH SCHOOL - INVENTORY 8	X
	117	L9.0	ROSE FERRERO ELEMENTARY - POINT OF CONNECTION	X
	118	L9.1	ROSE FERRERO ELEMENTARY - INVENTORY 1	X
	119	L9.2	ROSE FERRERO ELEMENTARY - INVENTORY 2	X
	120	L9.3	ROSE FERRERO ELEMENTARY - INVENTORY 3	X
	121	L9.4	ROSE FERRERO ELEMENTARY - INVENTORY 4	X
	122	L10.0	FRANK LEDESMA ELEMENTARY - POINT OF CONNECTION	X
	123	L10.1	FRANK LEDESMA ELEMENTARY - INVENTORY 1	X
	124	L10.2	FRANK LEDESMA ELEMENTARY - INVENTORY 2	X
	125	L10.3	FRANK LEDESMA ELEMENTARY - INVENTORY 3	X
	126	L12.0	JOE LEDESMA PARK - POINT OF CONNECTION	X
	127	L12.1	JOE LEDESMA PARK - INVENTORY 1	X
	128	L12.2	JOE LEDESMA PARK - INVENTORY 2	X
	129	L12.3	JOE LEDESMA PARK - INVENTORY 3	X
	130	L13.0	MAIN STREET MIDDLE SCHOOL- POINT OF CONNECTION	X
	131	L13.1	MAIN STREET MIDDLE SCHOOL - INVENTORY 1	X
	132	L13.2	MAIN STREET MIDDLE SCHOOL - INVENTORY 2	X
	133	L13.3	MAIN STREET MIDDLE SCHOOL - INVENTORY 3	X
	134	L13.4	MAIN STREET MIDDLE SCHOOL - INVENTORY 4	X
	135	L14.0	BILL RAMUS PARK - POINT OF CONNECTION	X
	136	L14.1	BILL RAMUS PARK - INVENTORY	X
	137	L15.0	LITTLE LEAGUE PARK - POINT OF CONNECTION	X
	138	L15.1	LITTLE LEAGUE PARK - INVENTORY	X
	139	L16.0	JESSE GALLARDO PARK - POINT OF CONNECTION	X
	140	L16.1	JESSE GALLARDO PARK - INVENTORY 1	X
	141	L16.2	JESSE GALLARDO PARK - INVENTORY 2	X
	142	L17.0	SAN VICENTE/GABILAN ELEMENTARY - POINT OF CONNECTION	X
	143	L17.1	SAN VICENTE/GABILAN ELEMENTARY - INVENTORY 1	X
	144	L17.2	SAN VICENTE/GABILAN ELEMENTARY - INVENTORY 2	X
	145	L17.3	SAN VICENTE/GABILAN ELEMENTARY - INVENTORY 3	X
	146	L17.4	SAN VICENTE/GABILAN ELEMENTARY - INVENTORY 4	X
	147	L18.0	ORCHARD PARK - POINT OF CONNECTION	X
	148	L18.1	ORCHARD PARK - INVENTORY	X
	149	L19.0	RAMIREZ PARK - POINT OF CONNECTION	X
	150	L19.1	RAMIREZ PARK - INVENTORY	X
	151	L20.0	VOSTI PARK - POINT OF CONNECTION	X
	152	L20.1	VOSTI PARK - INVENTORY	X
			(S) - STRUCTURAL	
X	153	00GS01	GENERAL NOTES, LEGEND AND SYMBOLS	
X	154	00S01	PUMP STATION WET WELL PLAN	
X	155	00S02	PUMP STATION WET WELL - SECTION AND DETAILS 1	
X	156	00S03	PUMP STATION WET WELL - SECTION AND DETAILS 2	
			(M) - MECHANICAL	
X	157	00GM01	GENERAL NOTES, LEGENDS AND SYMBOLS	
X	158	00M01	PUMP STATION PLAN	
X	159	00M02	PUMP STATION SECTIONS AND DETAILS 1	
X	160	00M03	PUMP STATION SECTIONS AND DETAILS 2	
X	161	00M04	PUMP STATION SECTIONS AND DETAILS 3	
X	162	00M05	SWIVEL ELL SECTIONS AND DETAILS 1	
X	163	00M06	SWIVEL ELL SECTIONS AND DETAILS 2	
			(E) - ELECTRICAL	
X	164	00GE01	GENERAL LEGEND AND SYMBOLS	
X	165	00GE02	ABBREVIATIONS	
X	166	00E01	PUMP STATION POWER AND CONTROL PLAN	
X	167	00E02	MCC ELEVATIONS - 1	
X	168	00E03	MCC ELEVATIONS - 2	
X	169	00E04	SINGLE-LINE DIAGRAM - 1	
X	170	00E05	SINGLE-LINE DIAGRAM - 2	
X	171	00E06	SCHEMATICS - 1	
X	172	00E07	SCHEMATICS - 2	
X	173	00E08	SCHEDULES - 1	
X	174	00E09	SCHEDULES - 2	
			(N) - INSTRUMENTATION	
X	175	00GN01	SYMBOLS AND ABBREVIATIONS 1	
X	176	00GN02	SYMBOLS AND ABBREVIATIONS 2	
X	177	00GN03	SYMBOLS AND ABBREVIATIONS 3	
X	178	00GN04	SYMBOLS AND ABBREVIATIONS 4	
X	179	00GN05	SCHEMATIC SYMBOLS	
X	180	00GN06	SAMPLE LOOP DRAWING	
X	181	00GN07	EQUIPMENT TAGGING SYSTEM 1	
X	182	01N01	SCADA SITE PLANS	
X	183	02N01	CONTROL PANELS / NETWORK RACKS	
X	184	03N01	SCADA BLOCK DIAGRAM	
X	185	04N01	NETWORK BLOCK DIAGRAM	
X	186	05N01	FIBER PINOUT DIAGRAMS	
X	187	06N01	CONTROL SCHEMATICS 1	
X	188	06N02	CONTROL SCHEMATICS 2	
X	189	06N03	CONTROL SCHEMATICS 3	
X	190	XXN07	PUMP STATION P&ID	
			(T) - TYPICAL DETAILS	
X	191	00TC01	CIVIL 1	
X	192	00TC02	CIVIL 2	
X	193	00TC03	CIVIL 3	
X	194	00TC04	CIVIL 4	
X	195	00TC05	CIVIL 5	
X	196	00TC06	CIVIL 6	
X	197	00TC07	CIVIL 7	
X	198	00TC08	CIVIL 8	
X	199	00TCP01	CATHODIC PROTECTION 1	
X	200	00TCP02	CATHODIC PROTECTION 2	
X	201	00TCP03	CATHODIC PROTECTION 3	
X	202	00TCP04	CATHODIC PROTECTION 4	
X	203	00TE01	ELECTRICAL 1	
X	204	00TE02	ELECTRICAL 2	
X	205	00TE03	ELECTRICAL 3	
X	206	00TL01	LANDSCAPE 1	
X	207	00TL02	LANDSCAPE 2	
X	208	00TL03	LANDSCAPE 3	
X	209	00TL04	LANDSCAPE 4	
X	210	00TM01	MECHANICAL 1	
X	211	00TM02	MECHANICAL 2	
X	212	00TN01	INSTRUMENTATION 1	
X	213	00TN02	INSTRUMENTATION 2	
X	214	00TS01	STRUCTURAL 1	
X	215	00TS02	STRUCTURAL 2	
X	216	00TS03	STRUCTURAL 3	
X	217	00TS04	STRUCTURAL 4	

X - INDICATES DRAWINGS NOT CONTAINED IN THIS SUBMITTAL

REV	DATE	BY	DESCRIPTION

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DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FOX
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
GENERAL
DRAWING INDEX

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00G02
SHEET NO.
OF

LAST SAVED BY: LHall

PROJECT NO.
FILE NAME: 20276500G02.dwg

DETAIL REFERENCES

PLAN/TITLE — VIEW; DESCRIPTION; VIEW TITLE; A PLAN; SCALE: SCALE; FILE: FILE; PLAN NOT REFERENCED

SECTION CUT — A; VIEW; ##X##; -= SHOWN ON SAME DRAWING; ##X## = SEE INDICATED DRAWING

SECTION OR DETAIL — ALPHA = SECTION; NUMERIC = DETAIL; DESCRIPTION; VIEW TITLE; C/1; ELEVATION; ##X##; SCALE: SCALE; FILE: FILE

TITLE W/ REFERENCE — DRAWING CUT ORIGINATION

DETAIL CALL-OUT (ENLARGED) — 1; VIEW; ##X##; SEE INDICATED DRAWING

DRAWING REFERENCE — ##X##; AREA DESIGNATOR (WHEN APPLICABLE); DISCIPLINE DESIGNATOR; CONSECUTIVE SHEET NUMBER

TYPICAL DETAIL REFERENCE — ?; TYP; TYPICAL DETAIL #

EXTERIOR ELEVATION VIEWS — A; ##X##

PHOTO LOCATION — #; -; ARROW INDICATES POINT OF VIEW

GRID BUBBLE

TYPICAL DETAIL # — ?; TYP; LINE 3; LINE 1; LINE 2; TYPICAL DETAIL TITLE

S — MODIFICATION NOTE
S = STANDARD
J = JOB SPECIFIC
R = REVISED
N = NOTE TO TYPICAL DETAIL USER

SHT X OF X — SHEETS IN DETAIL

XX/XX/20XX — DATE CREATED (REVISED)

LINE WORK

- NEW STRUCTURES OR EDGE OF PAVEMENT
- EXISTING STRUCTURES (SCREENED)
- NEW PIPING (TRIPLE LINES)
- NEW PIPING (SINGLE LINE)
- EXISTING PIPING (TRIPLE LINES) (SCREENED)
- EXISTING PIPING (SINGLE LINE)(SCREENED)
- HIDDEN LINE OR TRAIL EDGE
- CENTER, MONUMENT, OR SURVEY LINE
- GUARDRAIL
- EXISTING CONTOURS (SCREENED) — 310
- NEW CONTOURS — 310
- NEW FENCE
- EXISTING FENCE (SCREENED)
- REMOVE OR ABANDONED (CROSS HATCHING: FENCE SHOWN AS EXAMPLE)
- POWER POLE & LINE — OHE; PP
- CABLE TV (UNDERGROUND) — CTV
- FIBER OPTIC — FO
- FUEL — F
- NATURAL GAS — G
- UNDERGROUND ELECTRIC — UGE
- SANITARY SEWER — SS
- FORCEMAIN SANITARY SEWER — FM
- STORM DRAIN — SD
- TELEPHONE — TEL
- WATER — W
- RECYCLED WATER
- PROPERTY LINE OR RIGHT OF WAY
- SLOPE
- NEW ROAD
- EXISTING ROAD (SCREENED)
- FUTURE ROAD, WATER EDGE OR RIDGE
- CURB & GUTTER
- CURB
- SWALE
- FLOWLINE
- SHORING
- RAILROAD TRACKS
- LIMITS OF CONSTRUCTION — LOC
- SILT FENCE — SF
- EASEMENT
- EXISTING EASEMENT
- CITY LIMITS
- EXISTING GRADE (PROFILE)
- PROPOSED GRADE (PROFILE)
- MATCH LINE — MATCH LINE STA XXX SEE DWG XXX

COORDINATES / ELEVATION

COORDINATES — XX; N 1600000 E 1000000; N XXXXXXX.XX; E XXXXXXX.XX

CONTROL POINT — XX

SPOT ELEVATION — FG XX.XX; ANY SPECIFIC DESIGNATIONS NOTED WILL NEED TO REFER TO ABBREVIATIONS

EXISTING SPOT ELEVATION — X 1325.00

SLOPE CALLOUT — 2:1; 2; 1; 2.0%; S=0.0020

ROADWAY / PIPE CURVES

ROADWAY / PIPE CURVE

(SEE TABLE ON EACH PAVING AND GRADING OR CIVIL PIPING DWG WITH ROADWAY / PIPE CURVES.)

LENGTH; CURVE NUMBER; PC; CXX; CLOCKWISE; ANGLE; RADIUS; PT; RADIUS POINT; EDGE OF PVMT OR OUTSIDE FACE OF CURB

HATCH PATTERNS

- AGGREGATE BASE COURSE (ABC)
- ASPHALT PAVING
- OR
- (WITH AERIAL)
- BEDROCK
- CLSM
- CONCRETE (ALL CLASSES)
- DRAIN ROCK
- GRAVEL
- GRATING; SPAN
- LANDSCAPING
- RIPRAP
- EXISTING/ UNDISTURBED SOIL
- STRUCTURAL FILL OR BACKFILL
- STEEL
- STAGING AREA
- TREAD PLATE

SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING CONTROL POINT	CTV	CABLE TV	CO	CLEANOUT
	EXISTING MONUMENT		POWER TOWER		AIR RELEASE VALVE
XX	CONTROL POINT		GATE		BLOW OFF VALVE
B-XX	SOIL BORING LOCATIONS		GUARD POST		HOSE BIBB / YARD HYDRANT
PH	POTHOLE		HEADWALL		SERVICE CONNECTION
PHXX	POTHOLE NUMBER		ROCK WALL		BURIED VALVE
	FLOW/SLOPE DIRECTION		SHRUB/HEDGE		FLANGE
	MANHOLE (PLAN)		TREE		BALL VALVE
	CATCH BASIN		SIGN/SIGN POST		BUTTERFLY VALVE
E	ELECTRICAL MANHOLE AND PULL BOX		LIGHT		CHECK VALVE
M	METER BOX		UTILITY POLE		GATE VALVE
P	PULL BOX		UTILITY POLE GUY WIRE		PLUG VALVE
T	TELEPHONE PEDESTAL	PP	POWER POLE		PIPE CAP OR CONNECTION
			FIRE HYDRANT		REDUCER

NOTE: ALL SYMBOLS SHOWN AS NEW. EXISTING SYMBOLS ARE SCREENED.

BRACKET

BREAK LINE

PIPE BREAK PLAN VIEW

PIPE BREAK CROSS SECTION

SCALE — 0; 10'; 20'; 40'; SCALE: 1" = 20'

PIPE CONTINUATION (SINGLE LINE)

KEY NOTE — 34

REVISION DELTA — 2

EXISTING ELEVATION — EX TOW XXXX.X±

ELEVATION — TOC XXXX.XX

EQUIPMENT/DEVICE KEY TAG — 1

EQUIPMENT/DEVICE NUMBER — XXX-XX-XXX

PIPE TAG — *PIPE SIZE; FLOW STREAM; "X" XXX; FUTURE; FUTURE PIPING (WHERE APPLICABLE)

* FOR EXISTING PIPING SHOW AS EX *SIZE FLOW STREAM*

NORTH ARROW/ PLANT NORTH — 30.0°; NORTH; NORTH; TRUE; PLANT

UNDERGROUND/ OVERHEAD WARNING (STATE/REGION SPECIFIC)

811 Know what's below. Call before you dig. usanorth811.org

Avoid overhead power line contact. It's costly.

Call before you OVERHEAD

Replace with Regional Phone Number

REV	DATE	BY	DESCRIPTION

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DESIGNED CE; DRAWN CE; CHECKED; DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOR — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

GENERAL

NOTES, LEGEND, AND SYMBOLS

VERIFY SCALES — BAR IS ONE INCH ON ORIGINAL DRAWING — 0 — 1" — IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10

DRAWING NO. 00G03

SHEET NO.

OF

LAST SAVED BY: dhannasch

PROJECT NO.

FILE NAME: 20276500G03.dwg

ABBREVIATIONS

	△	DELTA, DEFLECTION ANGLE, OR CENTRAL ANGLE
	#	NUMBER (REBAR Ø)
	@	AT (MEASUREMENT)
	+/-	PLUS/MINUS
A	ABC	AGGREGATE BASE COURSE
	ABND	ABANDONED
	AC	ASPHALTIC CONCRETE
	ACI	AMERICAN CONCRETE INSTITUTE
	ACP	ASBESTOS CEMENT PIPE
	ADDL	ADDITIONAL
	ADJ	ADJACENT, ADJUST(ABLE)
	AL	ALUMINUM
	APPROX	APPROXIMATE(LY)
	ARV	AIR RELEASE VALVE
	ASSY	ASSEMBLY
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	AVG	AVERAGE
	AVV	AIR AND VACUUM VALVE
B	BC	BEGIN CURB
	BF	BLIND FLANGE
	BFP	BACK FLOW PREVENTER
	BFV	BUTTERFLY VALVE
	BH	BOREHOLE
	BLDG	BUILDING
	BM	BENCH MARK
	BO	BLOW OFF
	BOC	BACK OF CURB
	BOP	BOTTOM OF PIPE
	BOT	BOTTOM
	BV	BALL VALVE
	BVC	BEGINNING OF VERTICAL CURVE
	BYP	BYPASS
C	CATV	CABLE TV
	CAV	COMBINATION AIR VALVE
	CB	CATCH BASIN
	CC	CENTER OF CURVATURE, CENTER TO CENTER, CONCRETE CURB
	CDT	CONDUIT
	CF	CUBIC FEET
	CFM	CUBIC FOOT PER MINUTE
	CFS	CUBIC FEET PER SECOND
	CI	CAST IRON
	CIP	CAST IRON PIPE
	CIPP	CURED IN PLACE PIPE
	CJ	CONSTRUCTION JOINT
	CL	CENTER LINE
	CLK	CHAIN LINK
	CLR	CLEAR / CLEARANCE
	CLSM	CONTROL LOW STRENGTH MATERIAL
	CMLC	CEMENT MORTAR LINED AND COATED
	CMP	CORRUGATED METAL PIPE
	CMU	CONCRETE MASONRY UNIT
	CO	CLEANOUT
	CONC	CONCRETE
	CONN	CONNECT, CONNECTION
	CONST	CONSTRUCTION
	CONT	CONTINUOUS OR CONTINUATION OR (D)
	COORD	COORDINATE
	CP	CONTROL POINT
	CPLG	COUPLING
	CSP	CORRUGATED STEEL PIPE
	CTJ	CONTROL JOINT
	CTL	CONTROL
	CTR	CENTER, CENTERED
	CU	CUBIC
	CULV	CULVERT
	CY	CUBIC YARD
D	D	DRAIN, DEPTH
	D/W	DRIVEWAY APRON
	DEG or °	DEGREE
	DEMO	DEMOLISH, DEMOLITION
	DET	DETAIL
	DI	DROP INLET
	DIA or Ø	DIAMETER
	DIFF	DIFFERENCE
	DIM	DIMENSION
	DIP	DUCTILE IRON PIPE
	DIST	DISTANCE
	DR	DRIVE, DRAIN
	DWG(S)	DRAWING(S)
	E	ELECTRICAL, EAST
	EA	EACH
	EC	END OF CURB
	ECC	ECCENTRIC REDUCER
	EG	EXISTING GROUND
	EL	ELEVATION
	ELL	ELBOW
	ELEC	ELECTRICAL
	EMH	ELECTRICAL MANHOLE
	EOP	END OF PIPE
	EP	EDGE OF PAVEMENT
	EQ	EQUAL
	EQUIP	EQUIPMENT
	ES	EACH SIDE
	ESMT	EASEMENT
	EVC	END OF VERTICAL CURVE
	EW	EACH WAY
	EX/EXIST	EXISTING
	EXP	EXPANSION
	EXT	EXTERIOR
F	FC	FLEXIBLE COUPLING
	FCA	FLANGE COUPLING ADAPTER
	FF	FINISHED FLOOR
	FG	FINISHED GRADE
	FH	FIRE HYDRANT
	FIN	FINISH
	FL	FLOOR, FLOW LINE
	FLEX	FLEXIBLE
	FLG	FLANGE(D)
	FM	FORCE MAIN
	FND	FOUNDATION
	FO	FIBER OPTIC
	FOB	FLAT ON BOTTOM
	FOC	FACE OF CURB
	FOT	FLAT ON TOP
	FPM	FEET PER MINUTE
	FS	FIRE SERVICES
	FSP	FABRICATED STEEL PIPE
	FT or '	FOOT, FEET
	FTG	FOOTING
G	G	GAS, GUTTER
	GA	GAUGE
	GAL	GALLONS
	GALV	GALVANIZE(D)
	GB	GRADE BREAK
	GC	GROOVED COUPLING
	GEN	GENERAL, GENERATOR
	GM	GAS METER
	GND	GROUND
	GPD	GALLONS PER DAY
	GPM	GALLONS PER MINUTE
	GR	GRADE
	GRTG	GRATING
	GSP	GALVANIZED STEEL PIPE
	GV	GATE VALVE
H	HDPE	HIGH DENSITY POLYETHYLENE
	HORIZ	HORIZONTAL
	HP	HIGH POINT
	HPGM	HIGH PRESSURE GAS MAIN
	HW	HEADWALL, HOT WATER
	HWL	HIGH WATER LEVEL
	HWY	HIGHWAY
	HYD	HYDRANT
I	ID	INSIDE DIAMETER
	IE	INVERT ELEVATION
	IN or "	INCHES
	INCL	INCLUDE, INCLUDING
	INSTR	INSTRUMENTATION
	INV	INVERT
	IP	IRON PIPE
	IRR	IRRIGATION
J	JT	JOINT
L	L	LENGTH
	LAT	LATERAL, LATITUDE
	LB(S)	POUND(S)
	LF	LINEAL FEET
	LH	LEFT HAND
	LONG	LONGITUDINAL
	LP	LOW POINT
	LT	LEFT
	LWL	LOW WATER LEVEL
M	MATL	MATERIAL
	MAX	MAXIMUM
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MGD	MILLION GALLONS PER DAY
	MH	MANHOLE
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MJ	MECHANICAL JOINT
	MON	MONUMENT
N	N	NORTH, NORTHING
	NA	NOT APPLICABLE
	NE	NORTHEAST
	NG	NATURAL GAS
	NIC	NOT IN CONTRACT
	NO. or #	NUMBER
	NOM	NOMINAL
	NW	NORTHWEST
O	O.F.	OUTSIDE FACE
	OC	ON CENTER
	OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
	OHE	OVERHEAD ELECTRIC
P	PB	PULLBOX
	PC	POINT OF CURVATURE
	PCC	POINT OF COMPOUND CURVE
	PERP	PERPENDICULAR
	PH	POTHOLE
	PI	POINT OF INTERSECTION
	PL	PLATE, PROPERTY LINE
	POB	POINT OF BEGINNING
	PP	POWER POLE
	PRC	POINT OF REVERSE CURVATURE
	PROP	PROPERTY
	PL	PROPERTY LINE
	PSI	POUNDS PER SQUARE INCH
	PT	POINT, POINT OF TANGENCY
	PV	PLUG VALVE
	PVC	POINT OF VERTICAL CURVATURE
	PVC	POLYVINYL CHLORIDE
	PVI	POINT OF VERTICAL INTERSECTION
	PVMT	PAVEMENT
	PVT	POINT OF VERTICAL TANGENCY
Q	QTY	QUANTITY
R	R	RADIUS
	RAD	RADIAL
	RCB	REINFORCED CONCRETE BOX CULVERT
	RCP	REINFORCED CONCRETE PIPE
	RED	REDUCER
	REF	REFERENCE
	REINF	REINFORCE(D)(ING)(MENT)
	REQ'D	REQUIRED
	REV	REVISION
	RFCA	RESTRAINED FLEX COUPLING ADAPTER
	RH	RIGHT HAND
	R/W or ROW	RIGHT OF WAY
	RR	RAILROAD
	RT	RIGHT
S	S	SLOPE, SOUTH
	SCH	SCHEDULE
	SD	STORM DRAIN
	SDDI	STORM DRAIN DROP INLET
	SDMH	STORM DRAIN MANHOLE
	SE	SOUTHEAST
	SECT	SECTION
	SHLD	SHOULDER
	SHT	SHEET
	SIM	SIMILAR
	SL	SLOPE
	SPEC(S)	SPECIFICATION(S)
	SQ	SQUARE
	SS	SANITARY SEWER
	SSCO	SANITARY SEWER CLEANOUT
	SSMH	SANITARY SEWER MANHOLE
	SST	STAINLESS STEEL
	ST	STREET
	STA	STATION
	STD(S)	STANDARD(S)
	STL	STEEL
	STRUCT	STRUCTURAL
	SW	SOUTHWEST
	SWK	SIDEWALK
	SYM	SYMMETRICAL
T	TB	THRUST BLOCK
	TC	TOP OF CURB
	TEL	TELEPHONE
	TOG	TOP OF GRATING
	TMH	TELEPHONE MANHOLE
	TOC	TOP OF CONCRETE
	TOP	TOP OF PIPE
	T.O.W. or TW	TOP OF WALL
	TRD	TREAD
	TYP	TYPICAL
U	UC	UNDERCUT
	UG	UNDERGROUND
	UGE	UNDERGROUND ELECTRIC
	UNKN	UNKNOWN
	UNO	UNLESS NOTED OTHERWISE
	USA	UNDERGROUND SERVICE ALERT
V	V	VERTICAL, VALVE
	VAR	VARIES
	VB	VALVE BOX
	VC	VERTICAL CURVE, VICTAULIC COUPLER
	VCP	VITRIFIED CLAY PIPE
	VERT	VERTICAL
	VLT	VAULT
	VPI	VERTICAL POINT OF INTERSECTION
W	W	WATER, WIDTH OR WEST
	W/	WITH
	W/O	WITHOUT
	WL	WATER LEVEL
	WM	WATER METER
	WS	WATER SURFACE
	WSP	WELDED STEEL PIPE
	WSTP	WATERSTOP
	WV	WATER CONTROL VALVE
	WW	WASTEWATER
X	XFMR	TRANSFORMER
Y	YD	YARD

NOTES

GENERAL NOTES:

1. FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
3. UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
4. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK. DETAILS SHALL BE IN THE SAME AS FOR OTHER SIMILAR WORK.
5. CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
6. PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN/CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
7. ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
8. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
12. THE CONTRACTOR SHALL CONTACT THE PROPER UTILITY REPRESENTATIVE AS FOLLOWS FOR QUESTIONS OR COORDINATION OF CONSTRUCTION RELATED TO EXISTING UTILITIES.

    UNDERGROUND UTILITIES SERVICE ALERT (USA) NORTH: 811.
13. CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
14. ALL EXISTING PIPES THAT ARE TO BE ABANDONED IN PLACE OR REMOVED MAY NOT BE SHOWN. WHERE PIPING IS TO BE ABANDONED AND MUST REMAIN IN SERVICE UNTIL COMPLETION OF OTHER PHASES OF WORK, AND IT CONFLICTS WITH NEW PIPING, TEMPORARILY RELOCATE PIPING AS REQUIRED TO MAINTAIN SERVICE BY THE PLANT.
15. CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
16. ALL SIDEWALKS TO BE 3'-0" WIDE UNLESS SHOWNOTHERWISE.
17. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
18. PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
19. CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEELOR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
20. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

GENERAL PIPELINE NOTES:

1. DIMENSIONS TO STRUCTURES, REFERENCED PIPING, PAVING, AND OTHER IMPROVEMENTS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS 14 DAYS IN ADVANCE OF THE CONSTRUCTION PROGRESS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 10 FEET HORIZONTAL AND 3 FEET VERTICAL BETWEEN THE SEWER LINES AND EXISTING WATER LINES.
3. REFER TO THE GEOTECHNICAL REPORT LOCATED IN THE APPENDIX OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON THE GEOTECHNICAL CONDITIONS AND BORING INFORMATION.
4. IN ALL LOCATIONS WHERE TRENCH PLATE IS USED FOR VEHICULAR OR PEDESTRIAN TRAFFIC, THE CONTRACTOR SHALL APPLY SKID RESISTANT COATING ON THE TRENCH PLATES AND COLD MIX ASPHALT CONCRETE AT THE EDGES. THE TRENCH PLATES SHALL BE NOTCHED INTO THE ASPHALT, CONCRETE, OR TRAVELED SURFACE TO PREVENT SLIPPAGE AND ROCKING UNDER TRAFFIC.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK, THROUGHOUT THE CONSTRUCTION PERIOD.
6. ALL OPEN TRENCHES, WORK AREAS AND SHAFTS SHALL HAVE A SHORING SYSTEM IN ACCORDANCE WITH OSHA, STATE AND LOCAL REQUIREMENTS.
7. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS AND ORDINANCES RELATING TO THE SAFETY AND CHARACTER OF WORK, EQUIPMENT AND PERSONNEL. THIS INCLUDES BUT IS NOT LIMITED TO SHEETING, SHORING, BRACING, VENTILATION, CONFORMANCE WITH TRAFFIC CONTROL AND MAINTENANCE OF BARRICADES AND WARNING DEVICES.
8. LAYOUT DRAWINGS ARE REQUIRED FOR PIPING INSTALLED.
9. ALL RIPARIAN AREAS DISTURBED SHALL BE RESTORED PER THE [redacted] DRAWINGS.
10. ALL ROAD DITCHES, FENCE LINES, PASTURES AND SIMILAR AREAS SHALL BE RESTORED PER SPECIFICATION 02925.
11. ALL CROPPED AREAS DISTURBED SHALL HAVE THE TOPSOIL REPLACED AND THE ENTIRE AREA DISTURBED SHALL BE RIPPED 2 FT DEEP PER THE LAND OWNERS REQUIREMENTS.
12. CONTRACTOR SHALL TAKE ALL PRACTICAL PRECAUTIONS TO MINIMIZE DISTURBANCES TO STREAMS, VEGETATION, TREES AND CROP LANDS. WHEREVER PRACTICAL LEAVE EXISTING TREES AND VEGETATED AREAS UNDISTURBED.

UTILITY NOTES:

1. EXISTING UTILITIES IN THE PROJECT MAY BE IN A FRAGILE CONDITION. THE CONTRACTOR SHALL EXERCISE NECESSARY CAUTION WHEN WORKING NEAR EXISTING UTILITIES.
2. PLAN LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE BASED ON RECORD DRAWINGS, POTHOLING AND SURVEY INFORMATION AND ARE CONSIDERED APPROXIMATE ONLY. WHERE NO ELEVATIONS ARE SHOWN, NO INFORMATION WAS AVAILABLE DURING THE DESIGN PERIOD.
3. SOME UTILITY SERVICES MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO LOCATE AND PROTECT SERVICE DURING CONSTRUCTION.
4. CONTRACTOR SHALL CALL UNDERGROUND UTILITIES SERVICE ALERT (USA) NORTH 811. PRIOR TO ANY EXCAVATION ACTIVITIES.
5. THE LOCATION, SIZE, AND MATERIALS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND IS SHOWN FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE UTILITY OWNERS SO THAT THOSE UTILITIES MAY MARK THE LOCATION OF THEIR UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT EXISTING UTILITIES.

EARTHWORK NOTES:

1. CLEAR THE CONSTRUCTION AREA OF NATURAL OBSTRUCTIONS EXISTING FOUNDATIONS, BUILDINGS, FENCES, LUMBER, WALLS, STUMPS, BRUSH, WEEDS, RUBBISH, TREES, BOULDERS, AND ANY OTHER ITEMS WHICH INTERFERES WITH CONSTRUCTION OPERATIONS OR ARE DESIGNATED FOR REMOVAL.
2. GRUB OUT AND DISPOSE OF TREE TRUNKS AND ROOT MATERIAL BELOW THE GROUND SURFACE REMAINING AFTER CLEARING.
3. DISPOSE OF THE UNACCEPTABLE BACKFILL MATERIAL FROM THE CLEARING AND GRUBBING OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
4. STRIP AND STOCKPILE THE TOPSOIL. THE DEPTH OF STRIPPING SHALL BE ESTIMATED TO BE 12-INCHES BUT WILL BE DETERMINED IN THE FIELD AS SOIL CONDITIONS DICTATE.
5. REPLACE STOCKPILED SOIL AND RESTORE SITE AS SPECIFIED.
6. ROCK AND AGGREGATE STORAGE AREAS SHALL BE RESTORED BY EXCAVATING ANY SOILS CONTAINING ROCK OR AGGREGATE AND BACKFILLING WITH TOPSOIL. SOIL REMOVED MAY BE USED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE AND 3 FEET BELOW FINISHED GRADE.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED CE
DRAWN CE
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOX — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA — 1535 1921

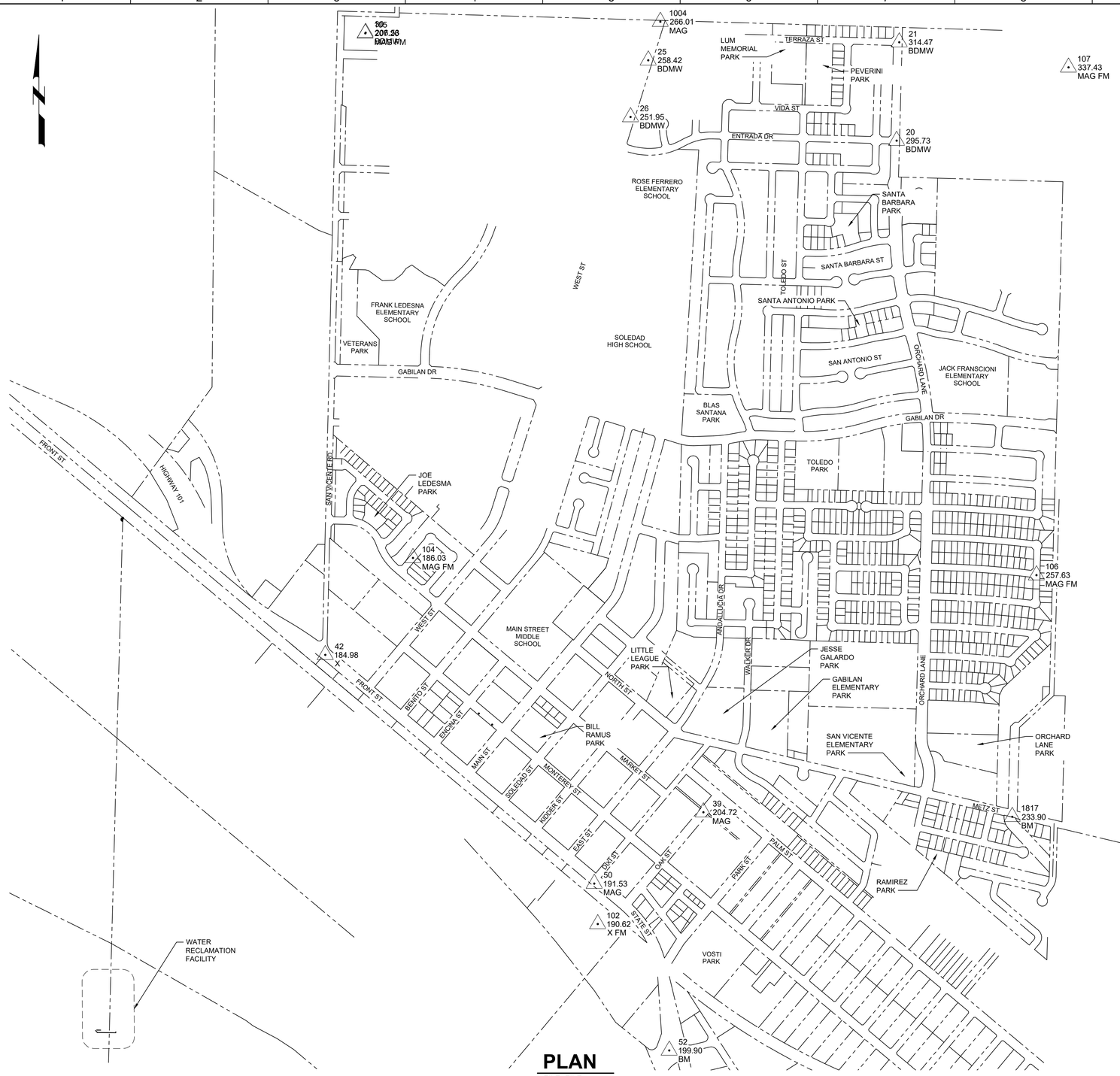
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
GENERAL
ABBREVIATIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00G04
SHEET NO.
OF

LAST SAVED BY: dhannasch

PROJECT NO. FILE NAME: 20276500G04.dwg



PLAN

FILE: FILE

HORIZONTAL DATUM:

CALIFORNIA ZONE 4 NAD83 STATE PLANE GRID (2022 EPOCH)

GEOID MODEL:

GEOID-18

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM OF 1983, CCS83(NA2011) (MYC82), ZONE 4, (2022.701 EPOCH) IN ACCORDANCE WITH THE CALIFORNIA PUBLIC RESOURCES CODE SECTIONS 8801-8819; SAID BEARINGS ARE BASED LOCALLY UPON FIELD-OBSERVED TIES TO THE GPS-CORS HxGN SMARTNET RTCM ID 3283, THE BEARING OF S49°58'54"E WAS CALCULATED BETWEEN OBSERVATIONS OF MONUMENTS ALONG THE RIGHT-OF-WAY OF FRONT STREET, THE BEARING BETWEEN SAID MONUMENTS IS SHOWN AS (S51°27'30"E), ON THE RECORD OF SURVEY FILED APRIL 5, 2004 IN VOLUME 27 OF SURVEYS, AT PAGE 63, RECORDS OF MONTEREY COUNTY, CALIFORNIA.

VERTICAL DATUM:

NAVD88

ELEVATION NOTE:

ELEVATIONS MAY BE BASED ON GPS OBSERVATIONS.

BENCHMARK:

NGS BENCHMARK, PID "GU4262", DESIGNATION "HPGN CA 05 12", A 2.5 INCH ALUMINUM DISK STAMPED "HPGN-CALIF. STA. 05-12 1990", INSIDE A 6 INCH ALUMINUM ACCESS COVER, LOCATED 100 FEET WESTERLY FROM THE CENTERLINE OF STATE HIGHWAY 146, 60 FEET NORTHEASTERLY FROM THE GORE NOSE, 35 FEET NORTHWESTERLY FROM THE CENTERLINE OF THE SOUTHERLY ON-RAMP TO SOUTHBOUND HIGHWAY 101, 29 FEET SOUTHEASTERLY FROM THE CENTERLINE OF THE NORTHERLY ON-RAMP TO SOUTHBOUND HIGHWAY 101, AND 2 FEET NORTHWEST OF A FIBERGLASS WITNESS POST, ELEVATION(NAVD88) = 199.9 FEET.

AVERAGE COMBO FACTOR:

N/A

GPS CALIBRATION:

24A2-SOLEDAD

IMAGERY NOTE:

N/A

COORDINATE TABLE

PT #	NORTHING	EASTING	ELEV	DESCRIPTION
20	2052380.5045	5880246.6070	295.73	BDMW
21	2053244.0493	5880269.6091	314.47	BDMW
25	2053085.5718	5878067.5713	258.42	BDMW
26	2052588.0735	5877912.2808	251.95	BDMW
30	2053327.7520	5875587.9147	206.53	BDMW
39	2046486.6234	5878551.3765	204.72	MAG
42	2047867.9806	5875234.0030	184.98	X
50	2045860.5913	5877594.0188	191.53	MAG
52	2044396.2450	5878251.7569	199.90	BM
100	2048960.8183	5871699.1399	179.67	HT FM
101	2044402.2934	5872056.4941	171.35	HT FM
102	2045505.7240	5877624.4186	190.62	X FM
103	2043879.3195	5881463.0768	208.56	MAG FM
104	2048718.3126	5876003.2600	186.03	MAG FM
105	2053322.0836	5875584.5738	207.26	MAG FM
106	2048567.2239	5881473.6400	257.63	MAG FM
107	2053023.8733	5881754.8719	337.43	MAG FM
1004	2053424.5415	5878173.4137	266.01	MAG
1817	2046446.6392	5881261.2233	233.90	BM

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

◇# KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY PLAN

SCALE

0 250' 500' 1000'

SCALE: 1" = 500'

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED S. FOX
DRAWN K. SIMPSON
CHECKED J. MARSHALL
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

GENERAL

SURVEY CONTROL

VERIFY SCALES
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0 1"
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JOB NO. 202765.10
DRAWING NO. 00G05
SHEET NO. X OF

LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500G05.dwg

Plot Date: 9/12/2022 7:29:07 AM

ALIGNMENT A

PLAN

FILE: FILE

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

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usanorth811.org

KEY PLAN

KEY PLAN NORTH

SCALE

0 150' 300' 600'

SCALE: 1" = 300'

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED S. FOX
DRAWN K. SIMPSON
CHECKED J. MARSHALL
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

GENERAL

KEY MAP 1
ALIGNMENT A

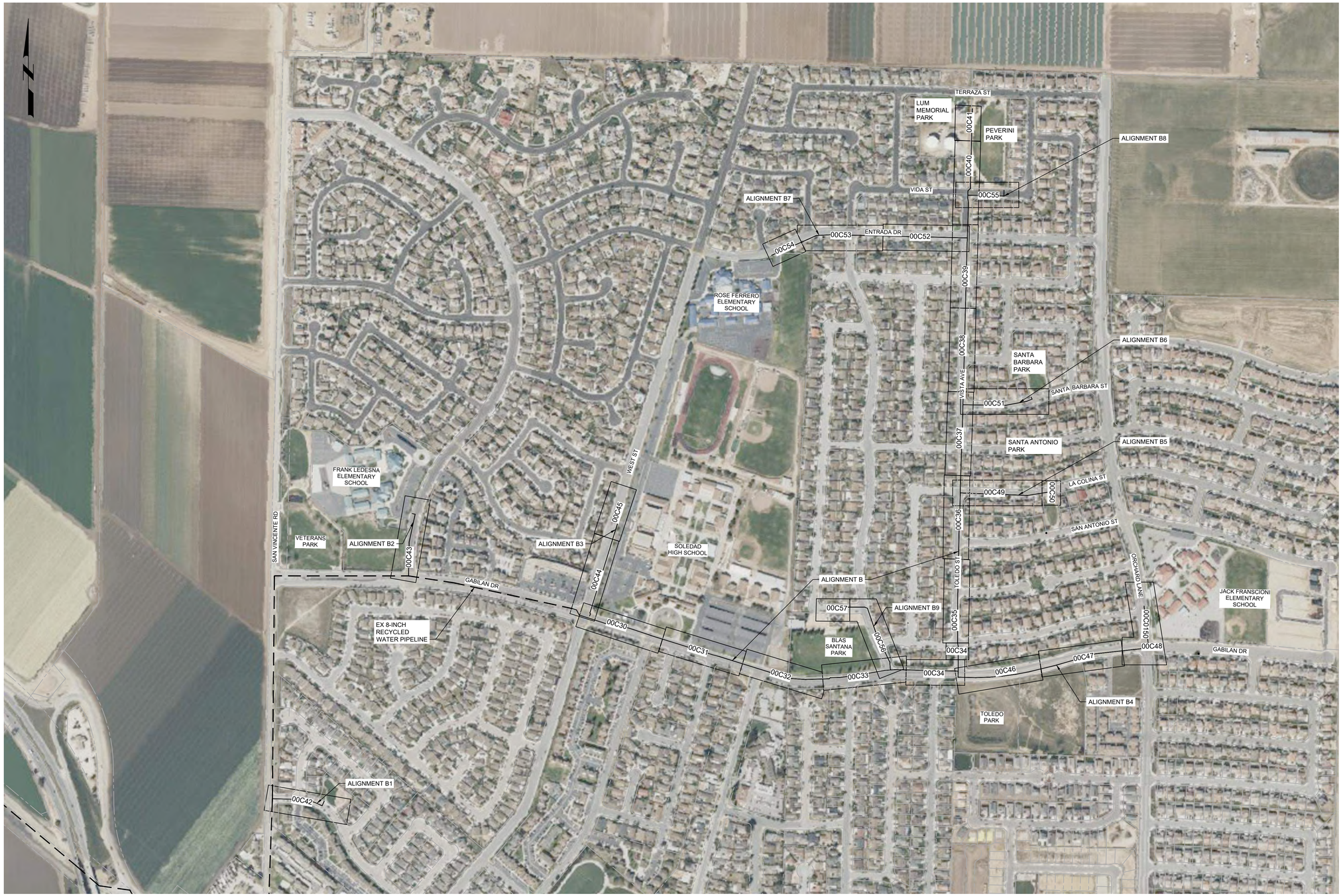
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00G06
SHEET NO. X OF

Plot Date: 9/12/2022 7:29:07 AM

LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500G06.dwg



ALIGNMENT B

PLAN

FILE: FILE

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY PLAN

KEY PLAN NORTH

SCALE

0 150' 300' 600'

SCALE: 1" = 300'

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED S. FOX
DRAWN K. SIMPSON
CHECKED J. MARSHALL
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

GENERAL

KEY MAP 2
ALIGNMENT B

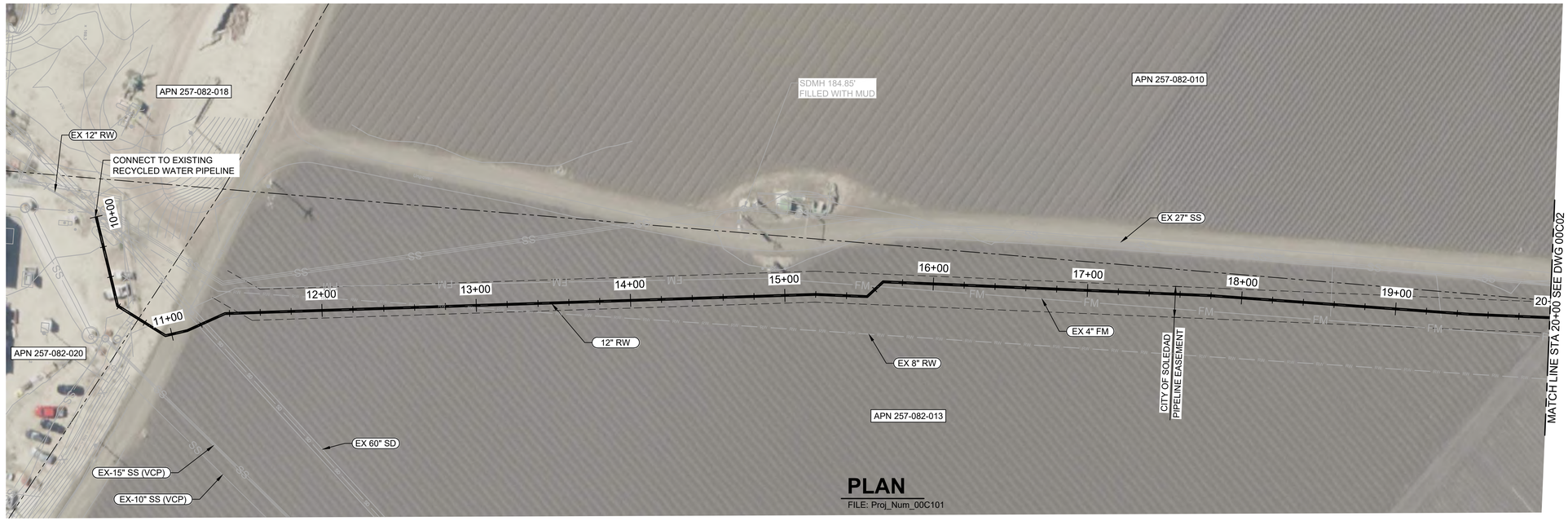
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00G07
SHEET NO. X OF

Plot Date: 9/12/2022 7:29:07 AM

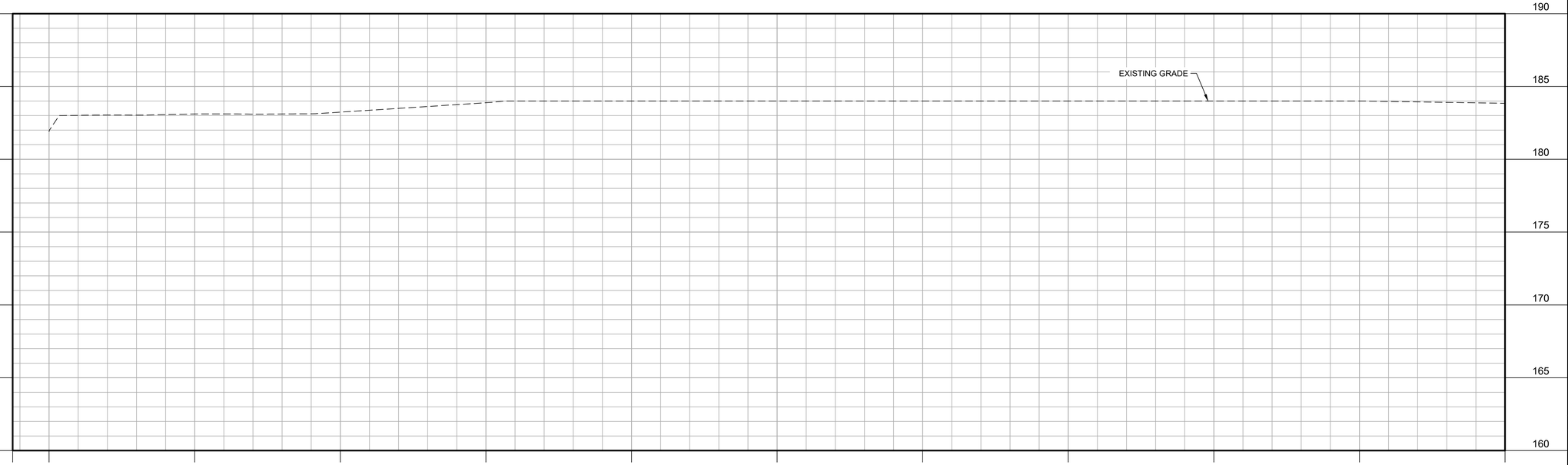
LAST SAVED BY: dhannasch

PROJECT NO. 202765-100000 FILE NAME: 20276500G07.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

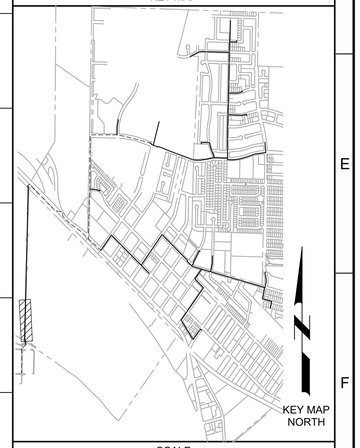
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 20' 40' 80'

SCALE: 1" = 40' (HORIZ)

0 5' 10' 20'

SCALE: 1" = 10' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE- TRANSMISSION MAIN STA 10+00 TO STA 20+00

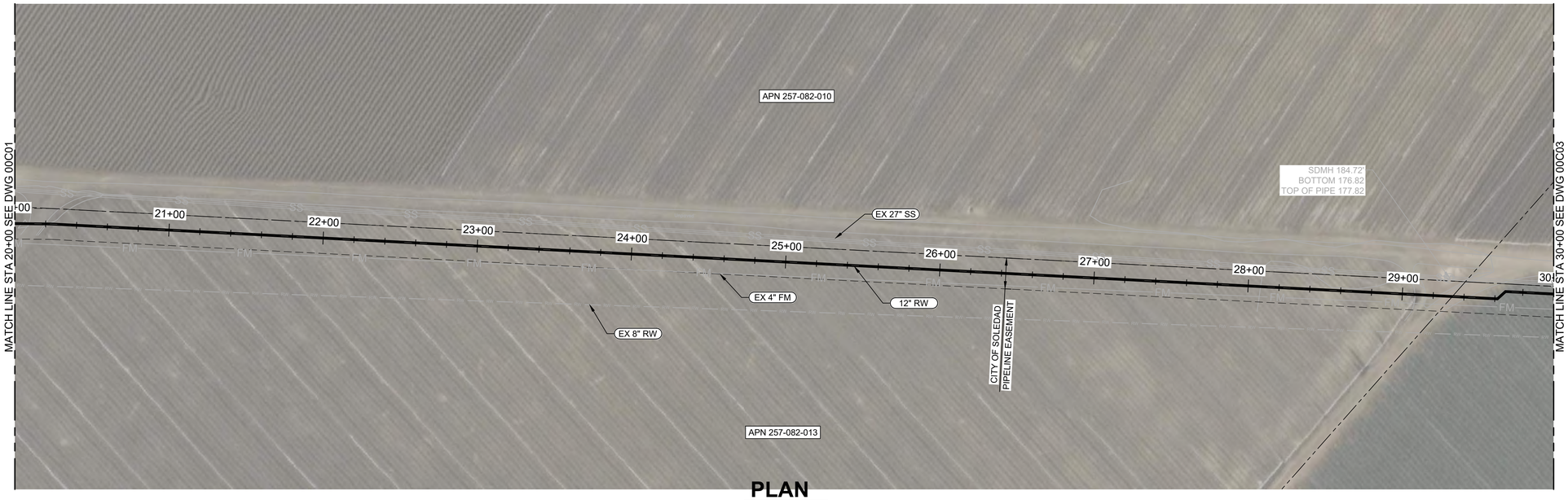
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C01
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM

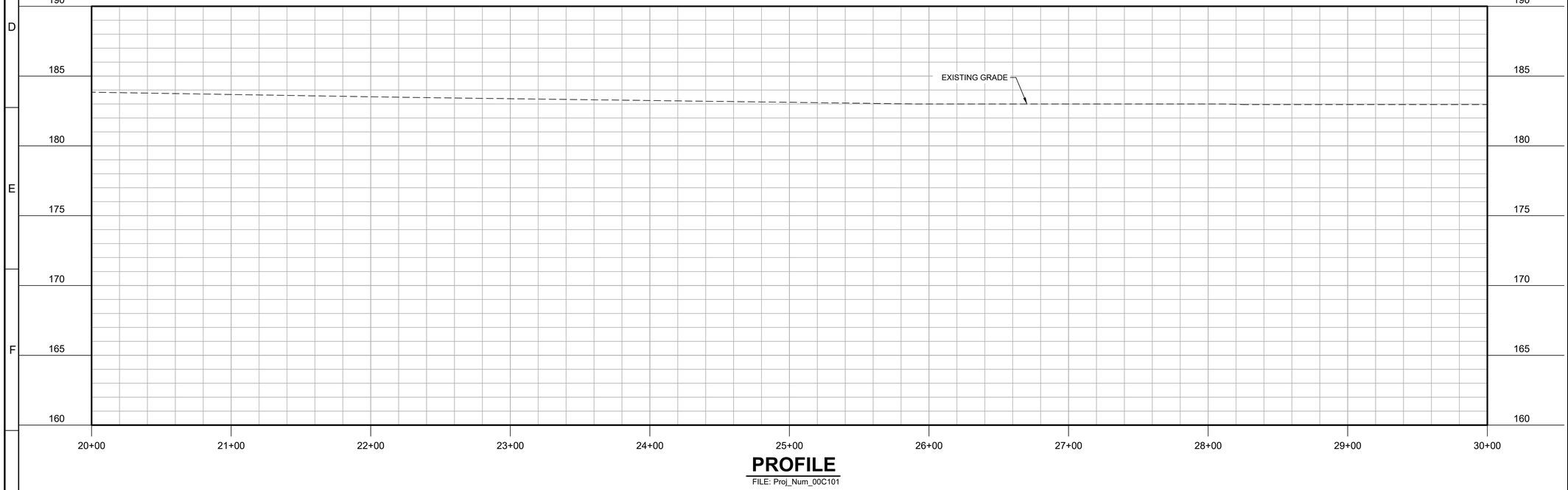
LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500C01.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

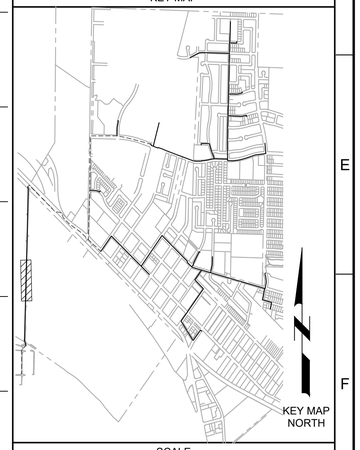
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 20' 40' 80'
SCALE: 1" = 40' (HORIZ)

0 5' 10' 20'
SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
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DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

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CIVIL

PLAN AND PROFILE - TRANSMISSION MAIN STA 20+00 TO STA 30+00

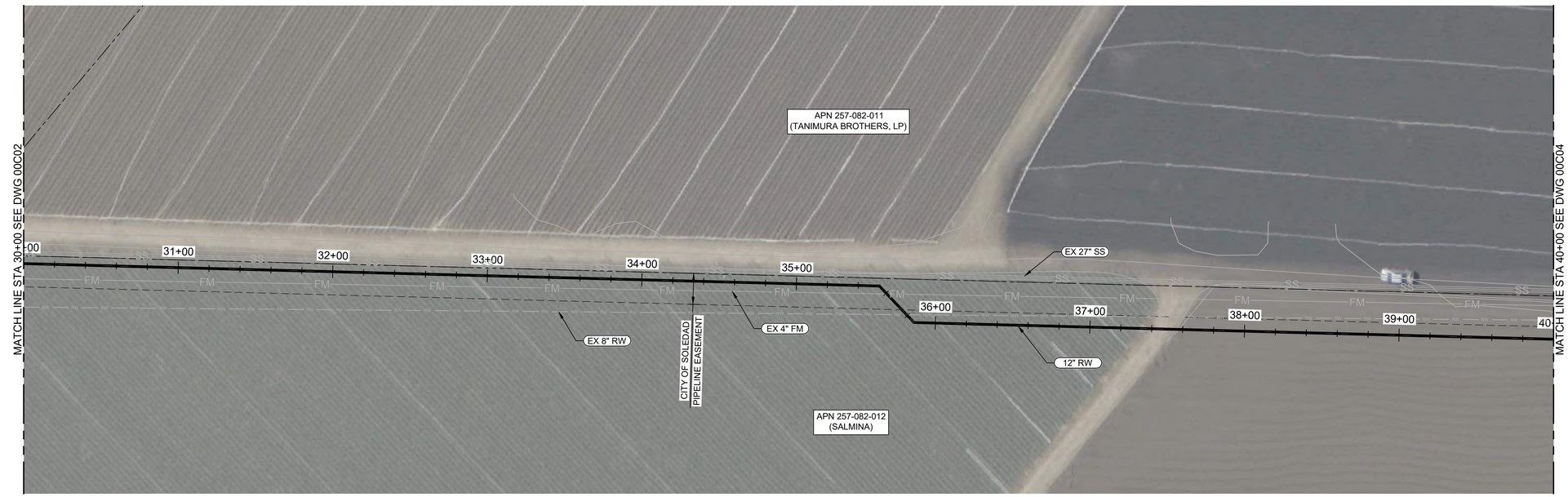
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C02
SHEET NO.
OF

LAST SAVED BY: KSimpson

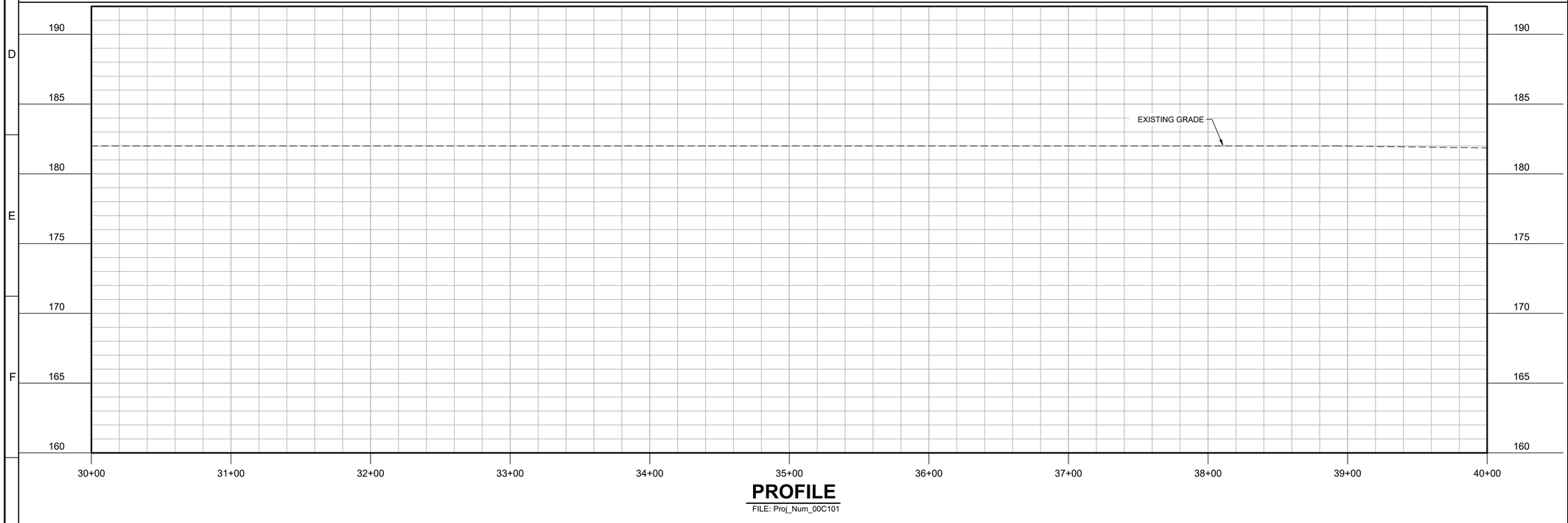
PROJECT NO. 202765-100000 FILE NAME: 20276500C02.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

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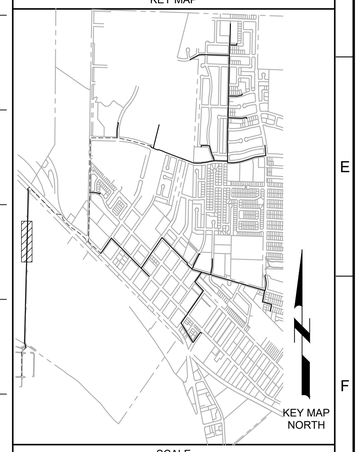
KEY MAP



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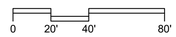
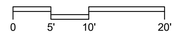


SCALE: 1" = 40' (HORIZ)



SCALE: 1" = 10' (VERT)

REV	DATE	BY	DESCRIPTION
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REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - TRANSIMISSION MAIN STA 30+00 TO STA 40+00

VERIFY SCALES
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0 1"
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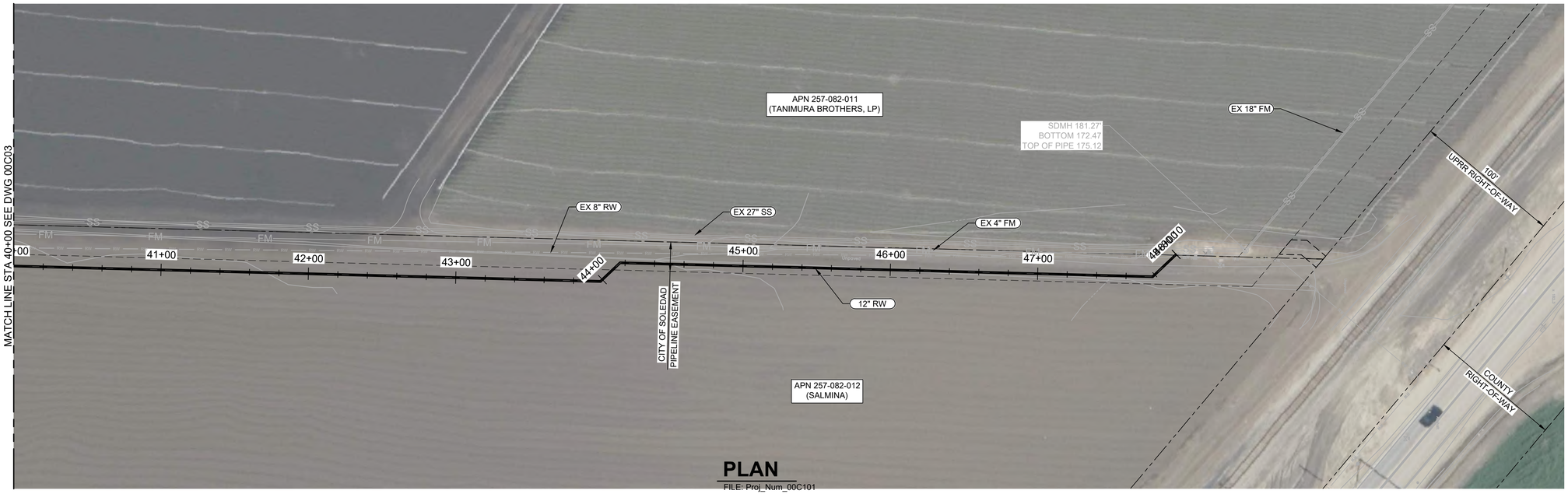
JOB NO. 202765.10
DRAWING NO. 00C03
SHEET NO.
OF

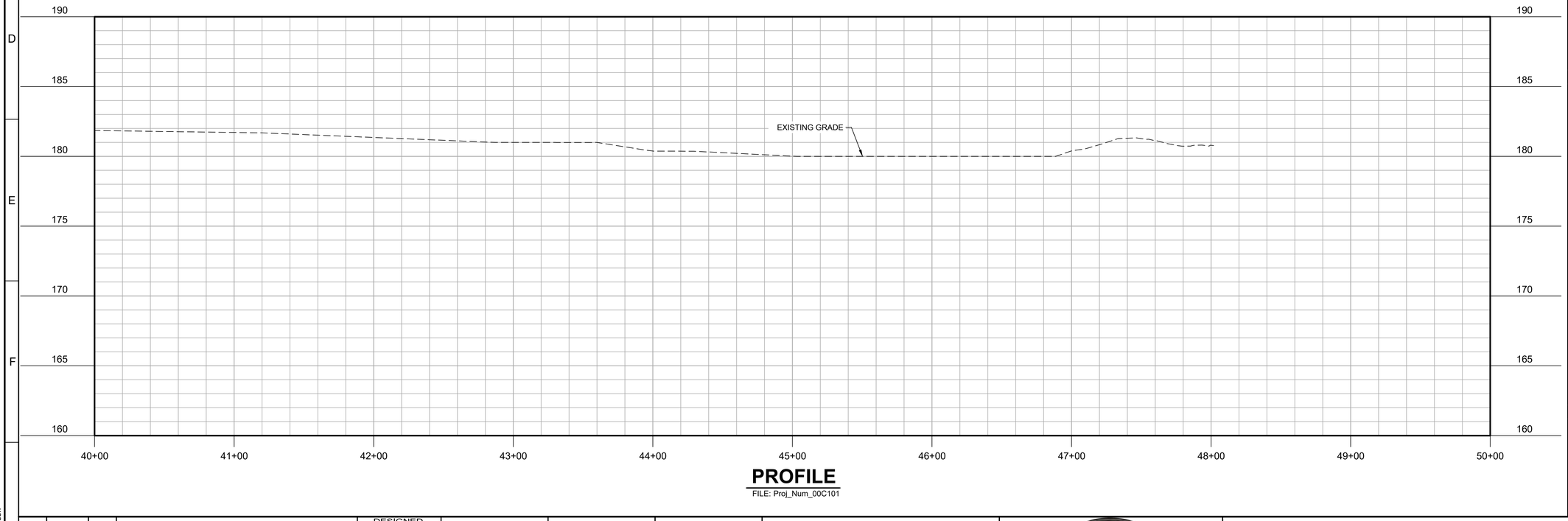
LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500C03.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

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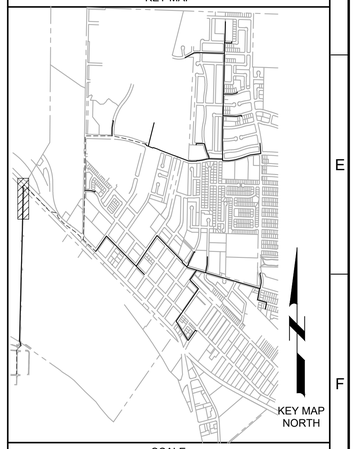
KEY MAP



SCALE

0 20' 40' 80'
SCALE: 1" = 40' (HORIZ)

0 5' 10' 20'
SCALE: 1" = 10' (VERT)

REV	DATE	BY	DESCRIPTION
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REGISTERED PROFESSIONAL ENGINEER
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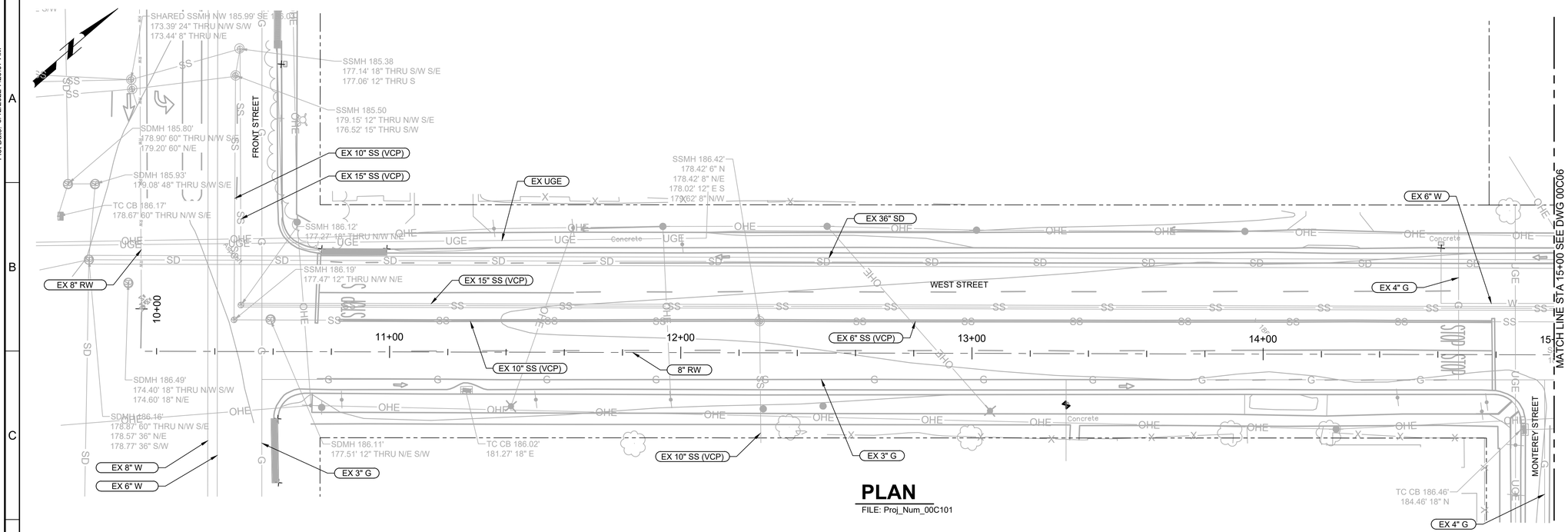
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - TRANSIMISSION MAIN
STA 40+00 TO STA 48+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C04
SHEET NO.
OF

LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500C04.dwg



PLAN

FILE: Proj_Num_00C101

PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

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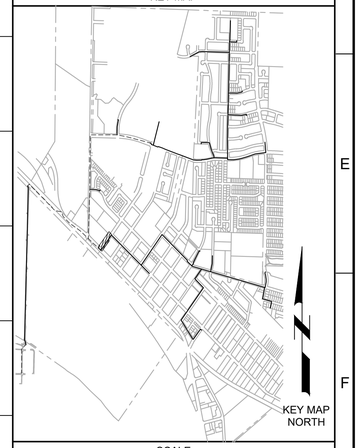
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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DATE JUNE 2024

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PLAN AND PROFILE - ALIGNMENT A
STA 10+00 TO STA 15+00

VERIFY SCALES
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0 1"
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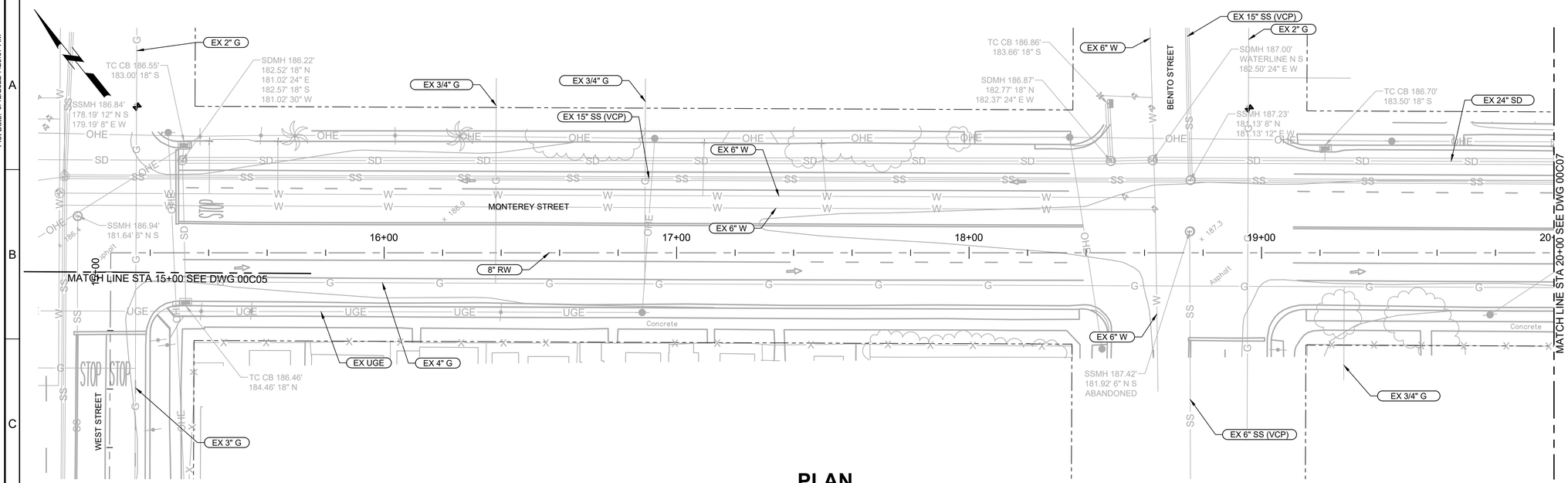
JOB NO. 202765.10
DRAWING NO. 00C05
SHEET NO.
OF

LAST SAVED BY: LHall

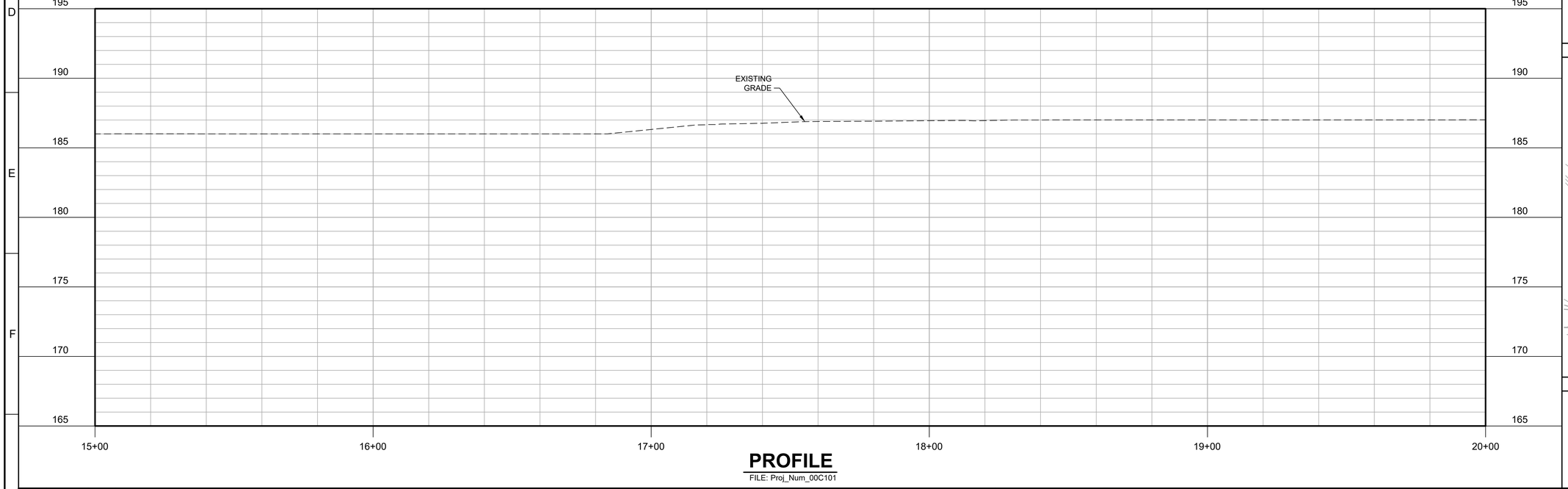
PROJECT NO. 202765-100000 FILE NAME: 20276500C05.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

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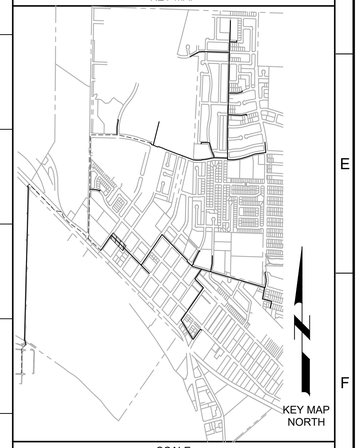
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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PLAN AND PROFILE - ALIGNMENT A
STA 15+00 TO STA 20+00

VERIFY SCALES
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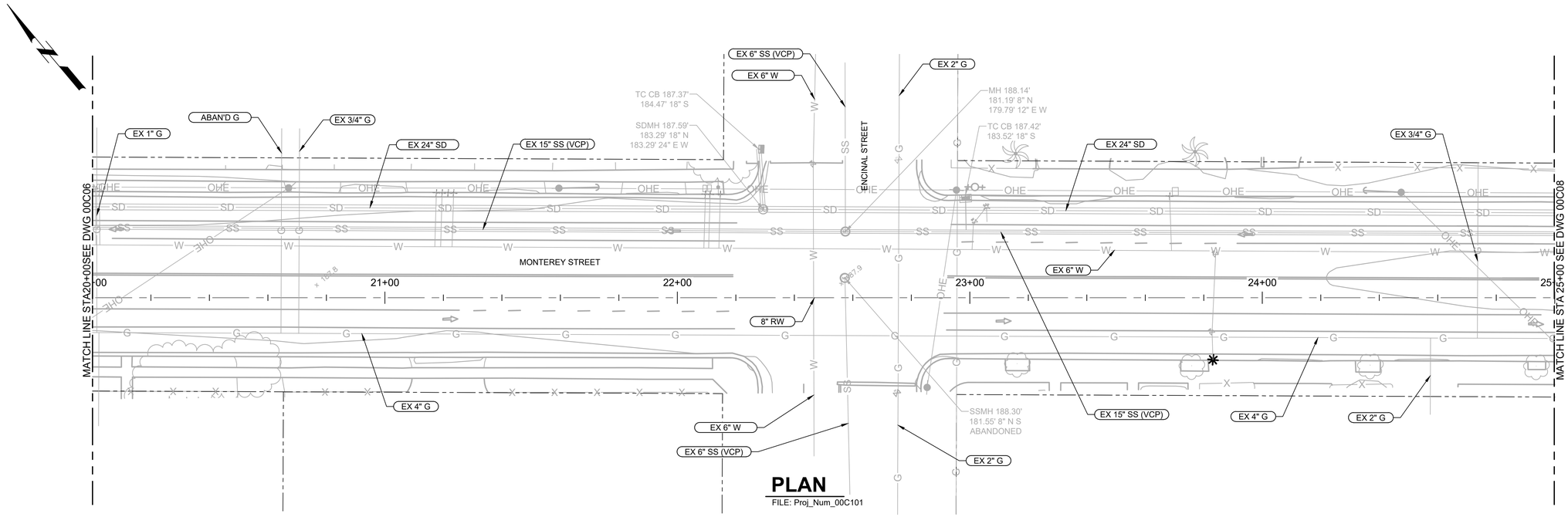
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C06
SHEET NO.
OF

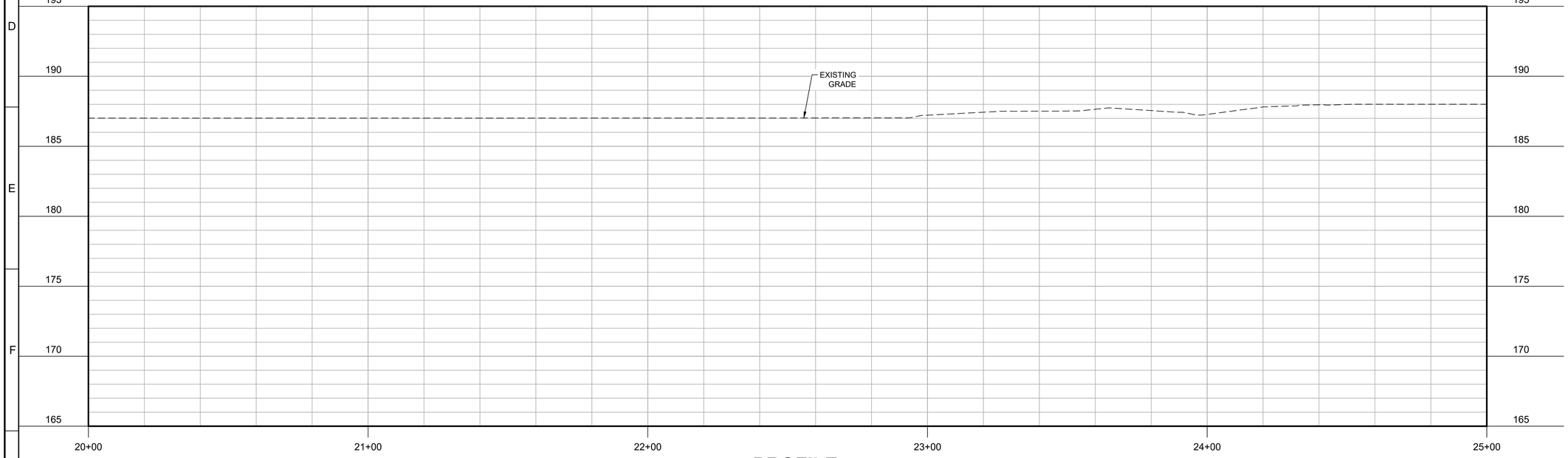
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C06.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
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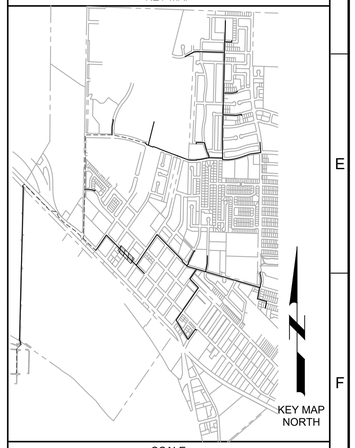
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT A
STA 20+00 TO STA 25+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

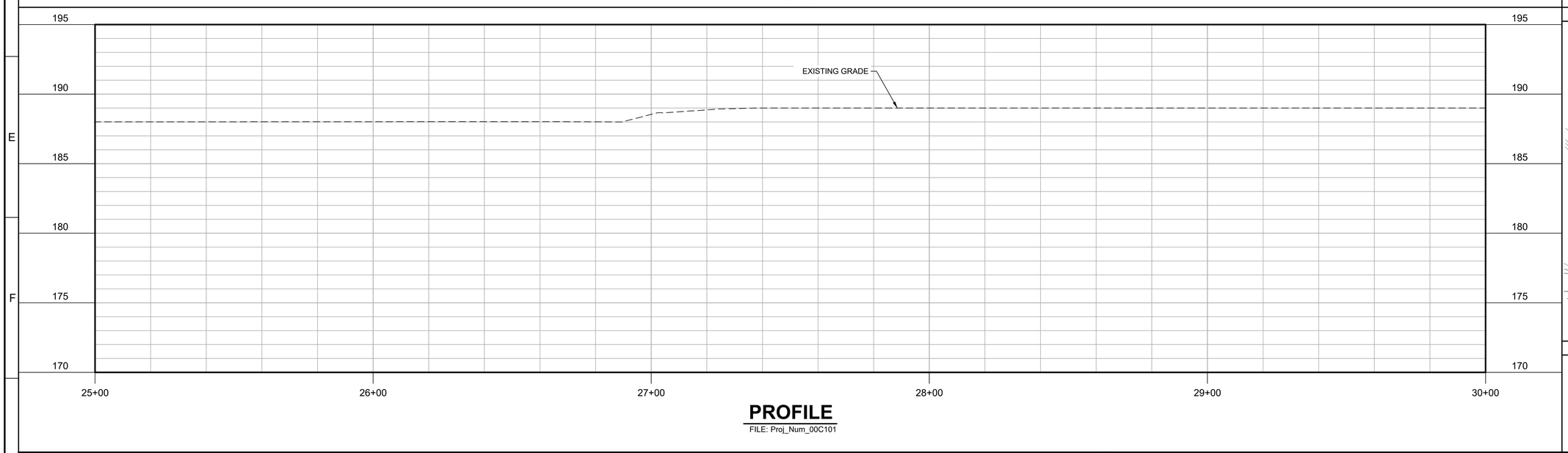
JOB NO. 202765.10
DRAWING NO. 00C07
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: LHall
PROJECT NO. 202765-100000 FILE NAME: 20276500C07.dwg

MATCH LINE STA 25+00 SEE DWG 00C07

EX 3/4" G
EX 6" W
8" RW
EX 24" SD
EX 15" SS (VCP)
EX 3/4" G
EX 4" G
MONTEREY STREET
SDMH 187.95'
184.25' 18" N
183.60' 24" E W
SDMH 188.60'
185.60' WATERLINE N S
183.75' 24" E W
TC CB 187.94'
184.44' 18" S
SSMH 189.05'
182.45' 6" N S
ABANDONED
EX 12" W
EX 6" SS (VCP)
EX 8" W
EX 24" SD
MAIN STREET
SSMH 189.05'
182.00' 8" N
180.85' 12" E W
EX 12" W
SDMH 188.64'
184.14' 18" N S
184.14' 24" E W
CB 188.43'
184.43' 18" S
ALIGNMENT A1
SEE DWG 00C18
EX 12" W
EX 6" SS (VCP)
EX 3/4" G
8" RW
EX 2" G
EX 3/4" G
EX 6" W
EX 3" G
EX 6" W
EX 1/2" G
25+00
26+00
27+00
28+00
29+00
30+00
MATCH LINE STA 30+00 SEE DWG 00C09

PLAN
FILE: Proj_Num_00C101



PROFILE
FILE: Proj_Num_00C101

GENERAL NOTES:
1. PLACE TEXT
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KEY NOTES:
1. PLACE TEXT
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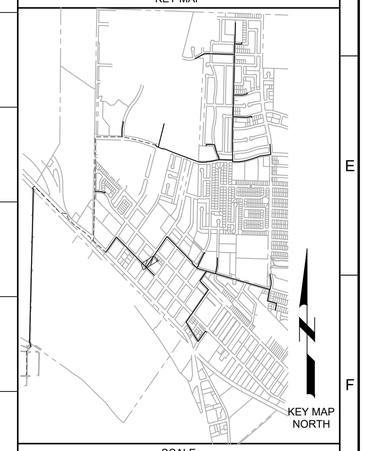
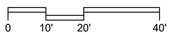
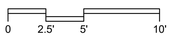
KEY MAP



SCALE



SCALE: 1" = 20' (HORIZ)



SCALE: 1" = 5' (VERT)

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REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOX No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT A
STA 25+00 TO 30+00

VERIFY SCALES
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0 1"
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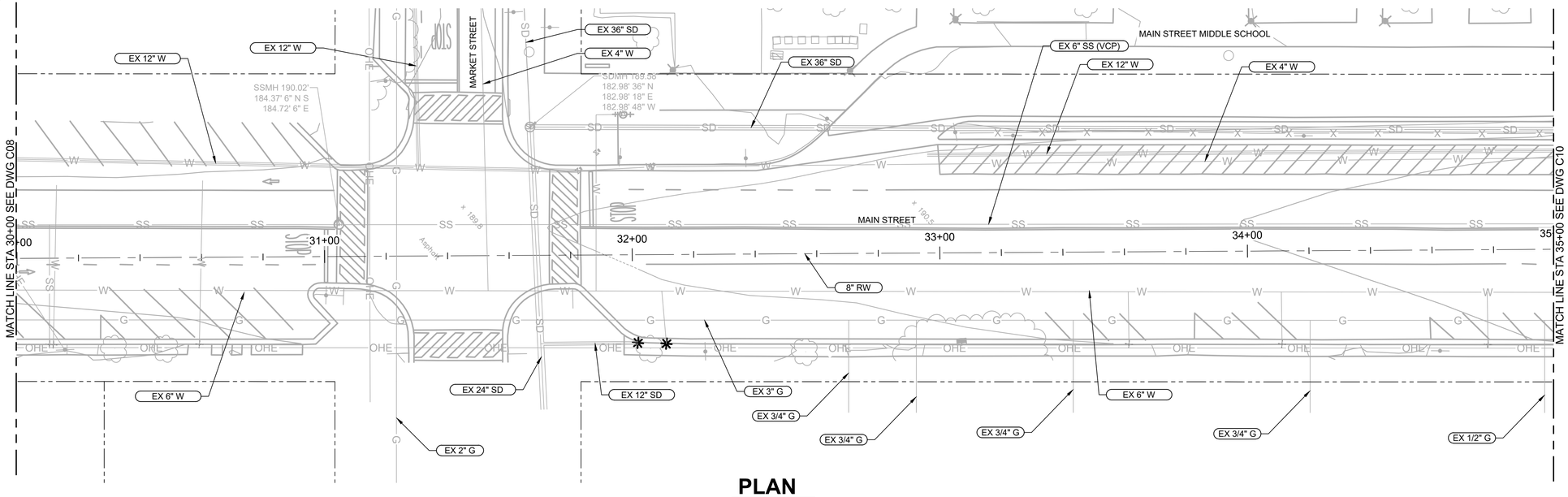
JOB NO. 202765.10
DRAWING NO. 00C08
SHEET NO. OF

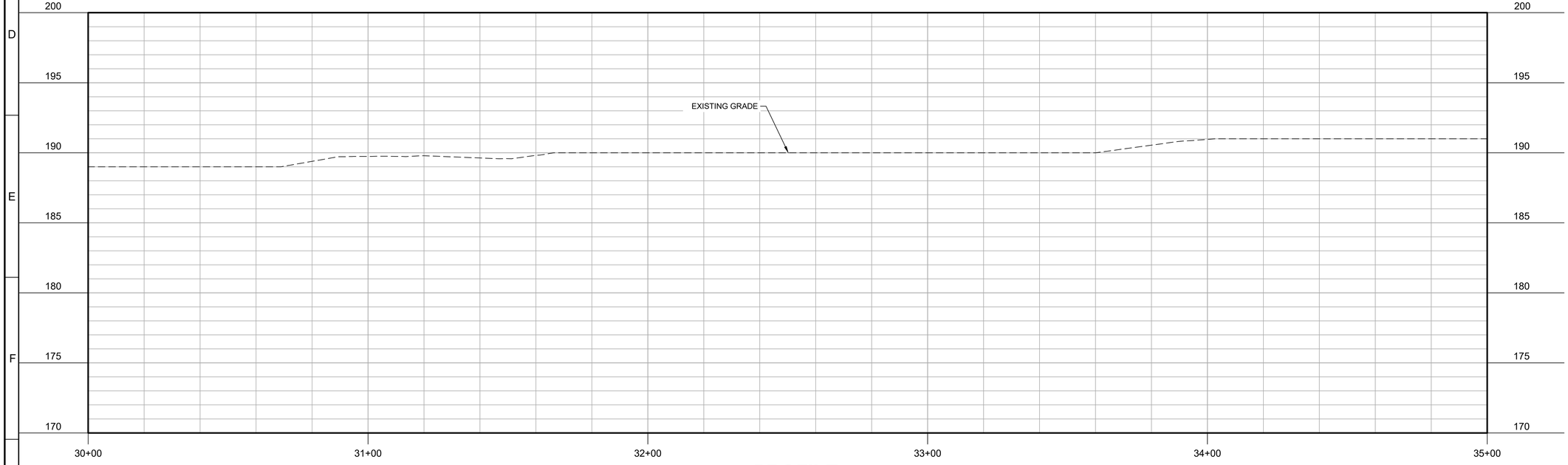
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C08.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOR No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A STA 30+00 TO STA 35+00

VERIFY SCALES
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0 1"
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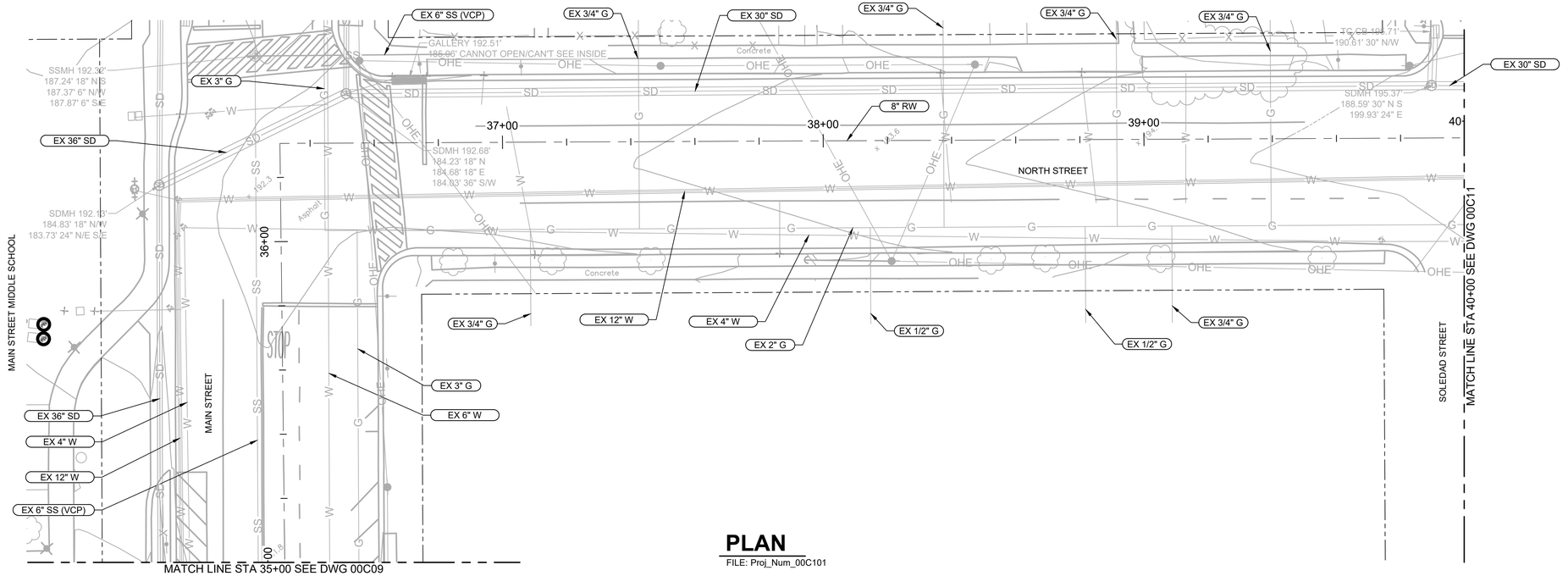
JOB NO. 202765.10
DRAWING NO. 00C09
SHEET NO. OF

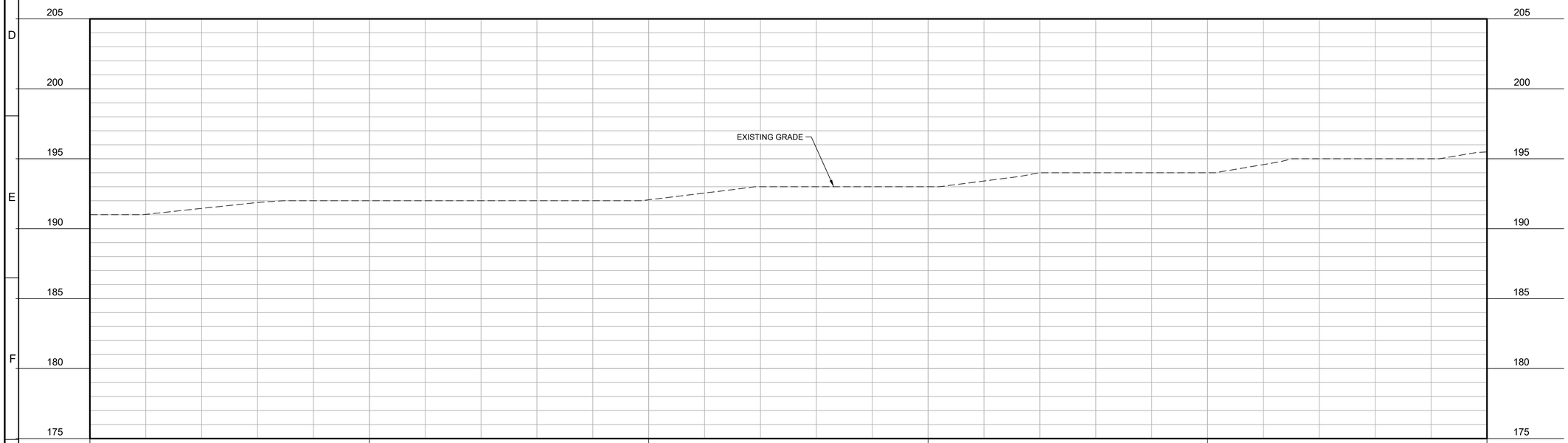
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C09.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

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KEY NOTES:

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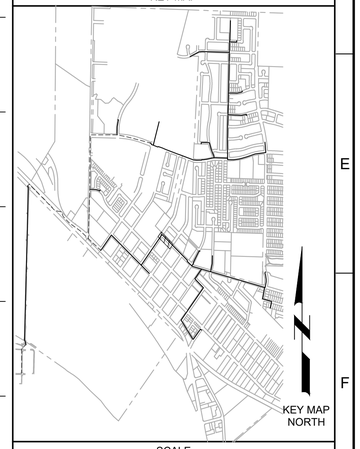
KEY MAP



SCALE

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0 2.5' 5' 10'
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REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOX — No. 73998 — CIVIL — STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A
STA 35+00 TP STA 40+00

VERIFY SCALES
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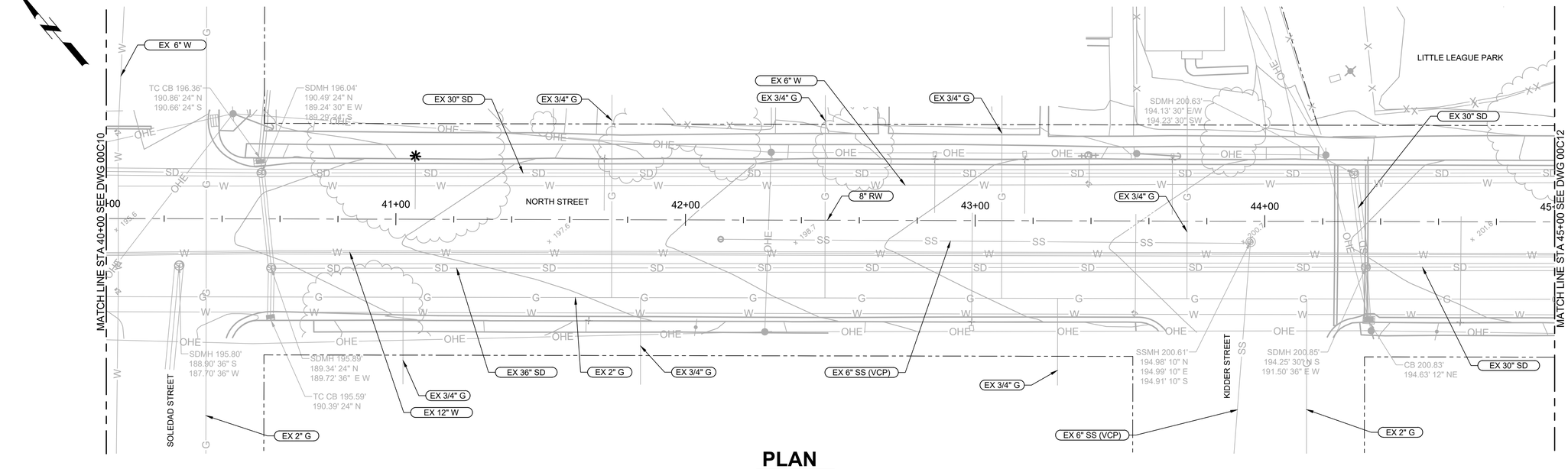
JOB NO. 202765.10
DRAWING NO. 00C10
SHEET NO.
OF

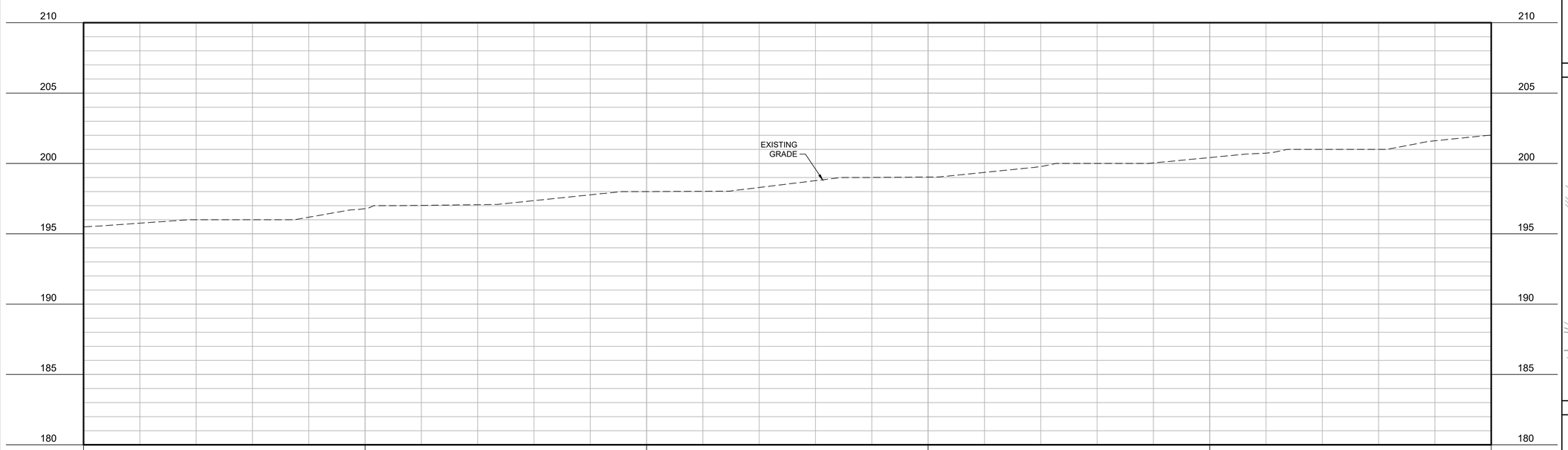
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C10.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

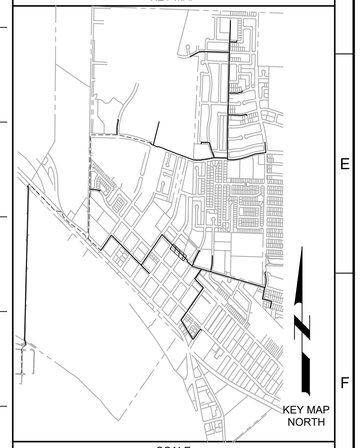
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

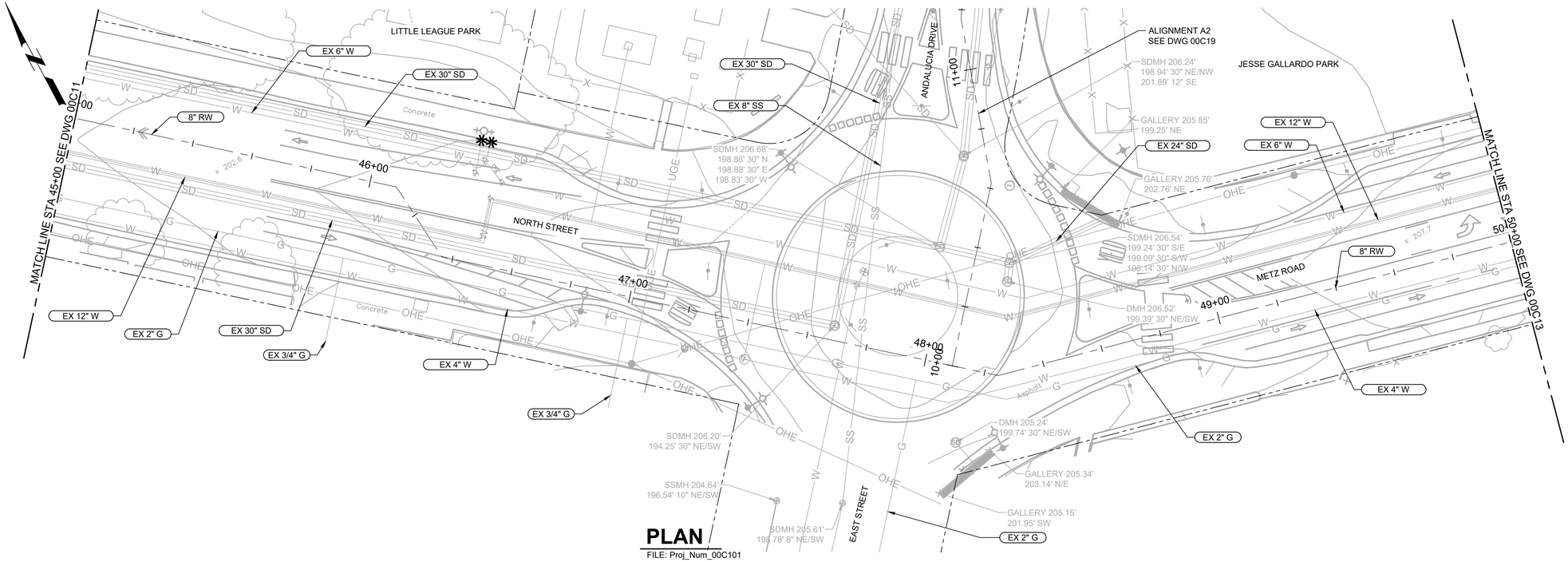
PLAN AND PROFILE - ALIGNMENT A
STA 40+00 TO STA 45+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

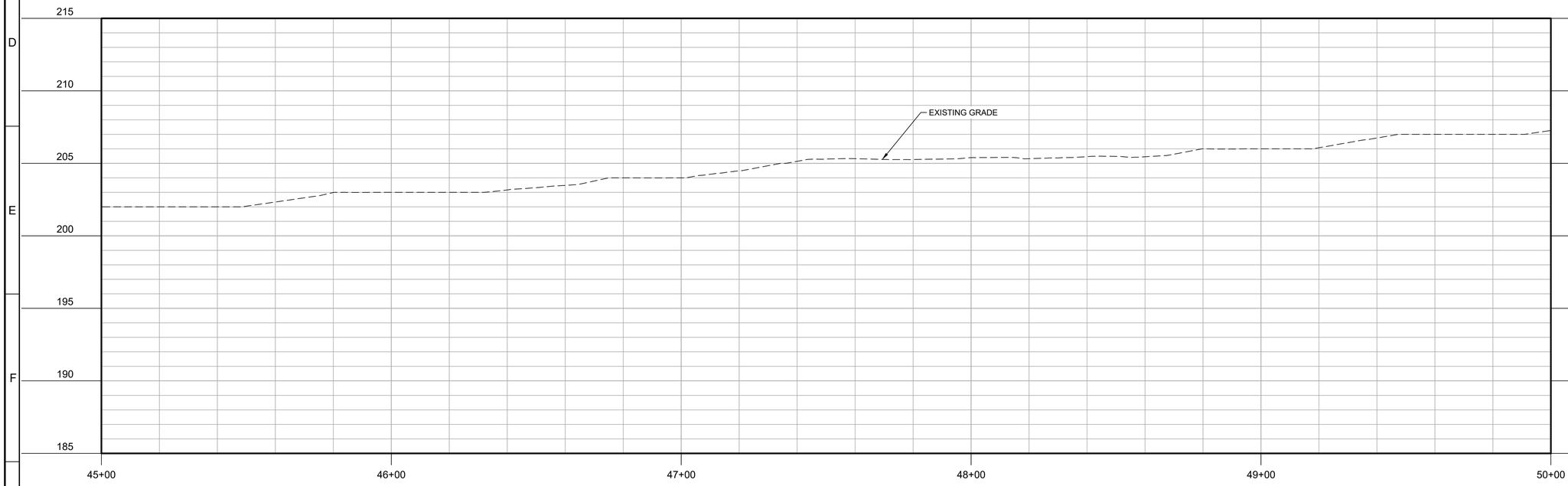
JOB NO. 202765.10
DRAWING NO. 00C11
SHEET NO.
OF

LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C11.dwg



PLAN
FILE: Proj_Num_00C101



PROFILE
FILE: Proj_Num_00C101

GENERAL NOTES:

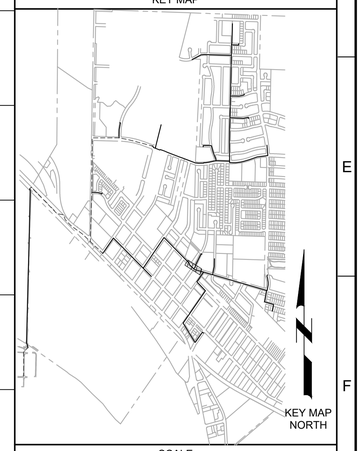
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

SCALE: 1" = 20' (HORIZ)

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

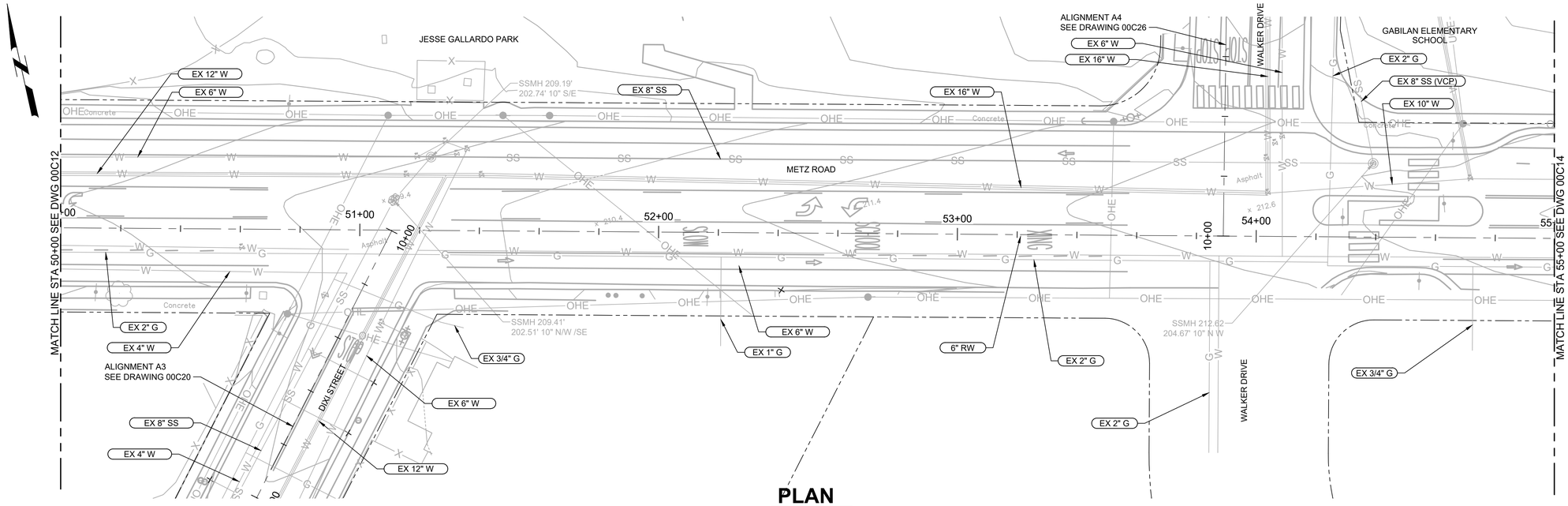
PLAN AND PROFILE - ALIGNMENT A
STA 45+00 TO STA 50+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C12
SHEET NO.
OF

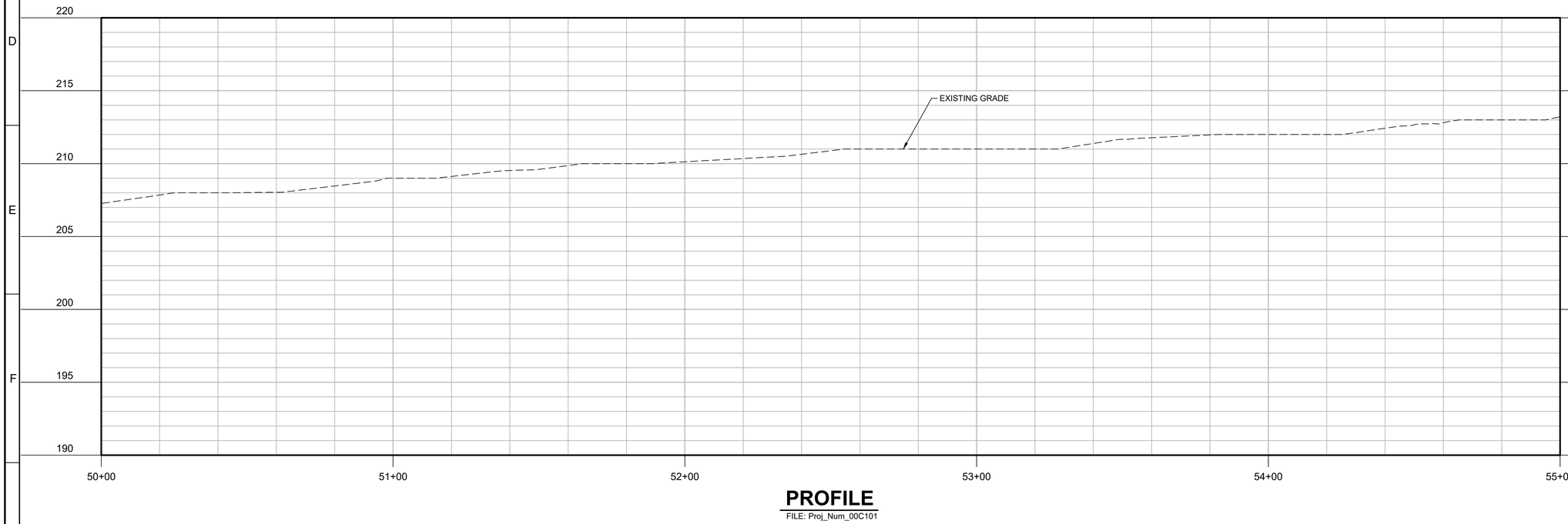
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C12.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOR — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD

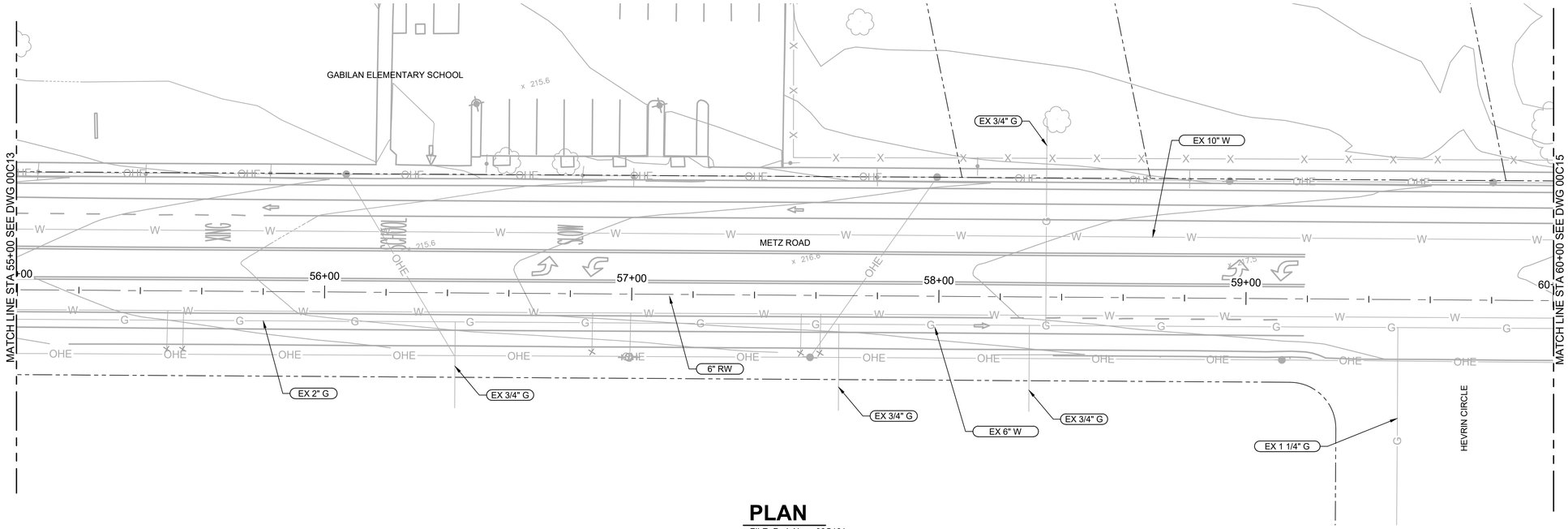
RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A
STA 50+00 TO STA 55+00

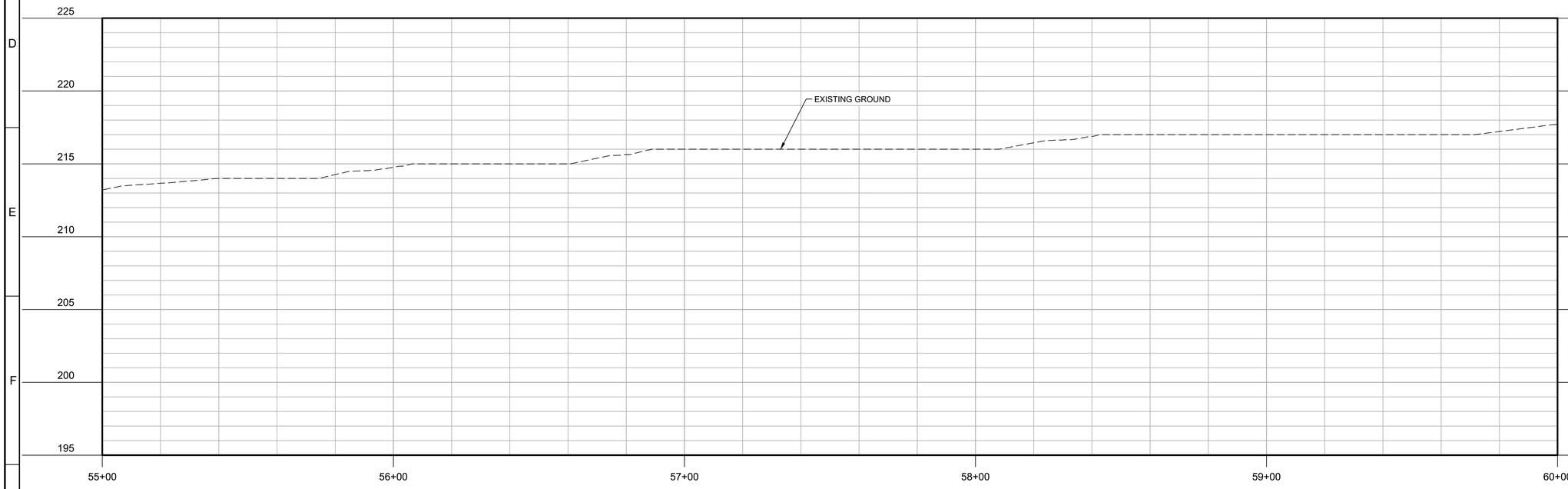
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C13
SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

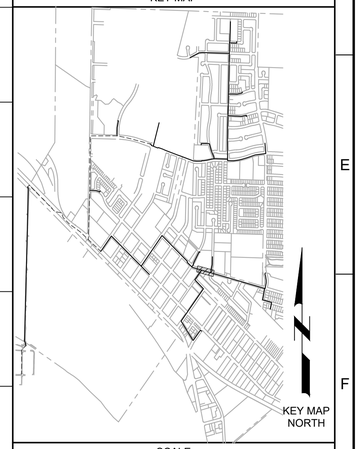
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED

DRAWN

CHECKED

DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOR No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A STA 55+00 TO STA 60+00

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10

DRAWING NO. 00C14

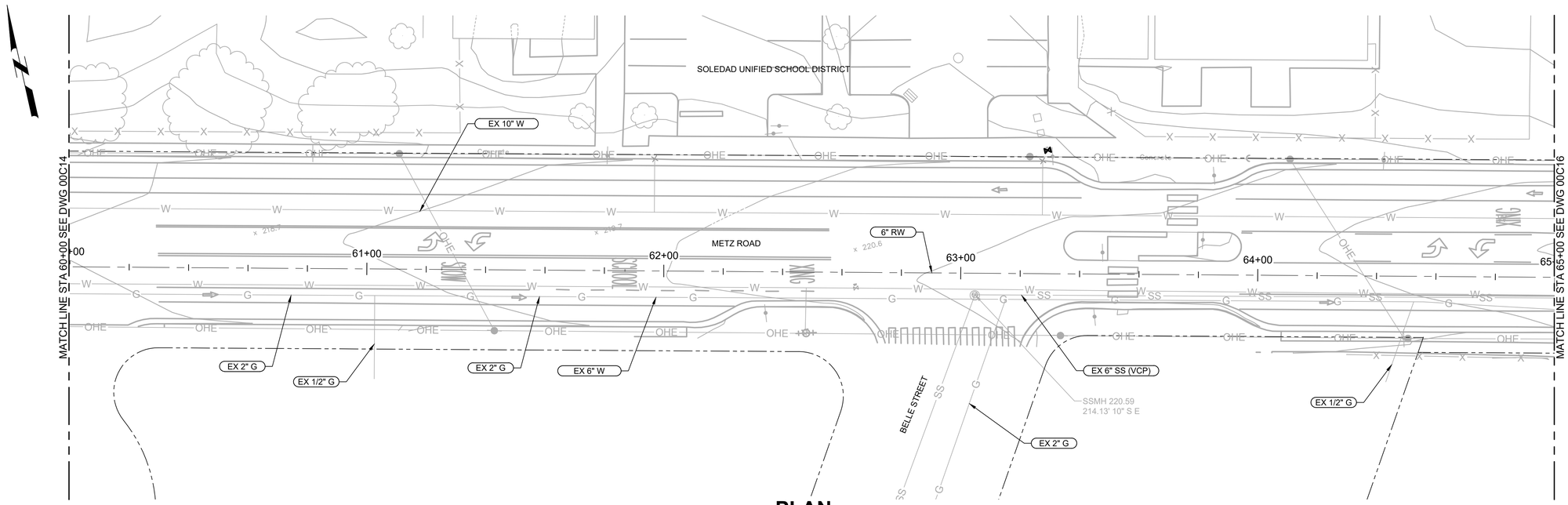
SHEET NO.

OF

LAST SAVED BY: dhannasch

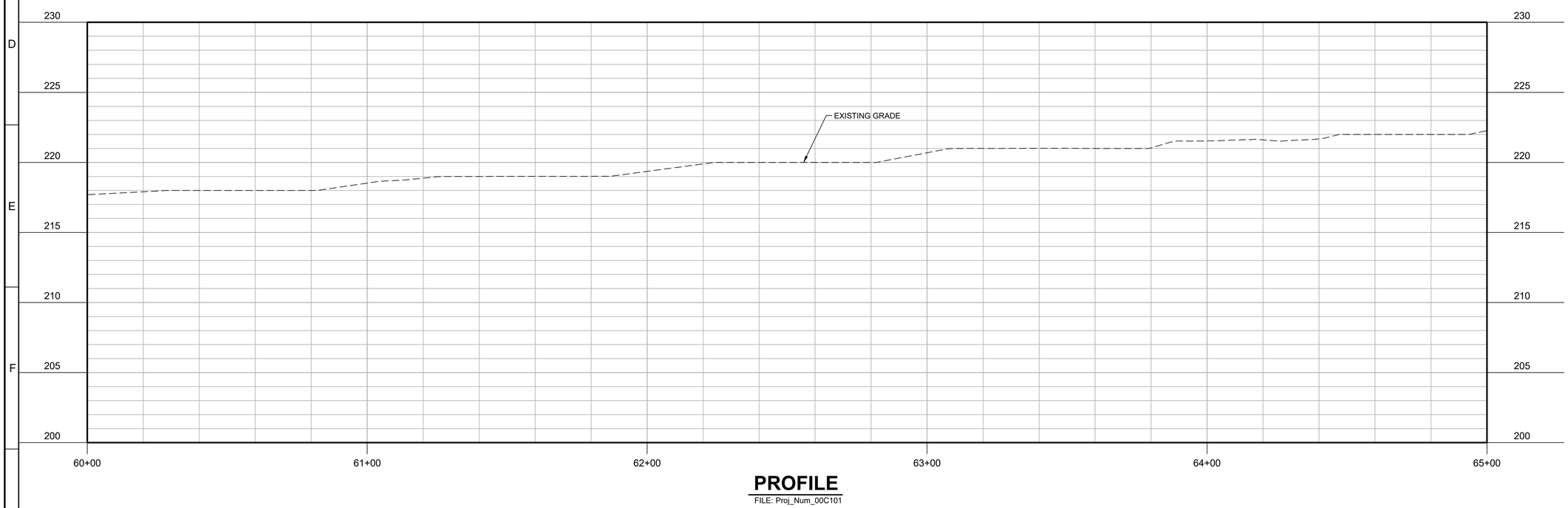
PROJECT NO. 202765-100000 FILE NAME: 20276500C14.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

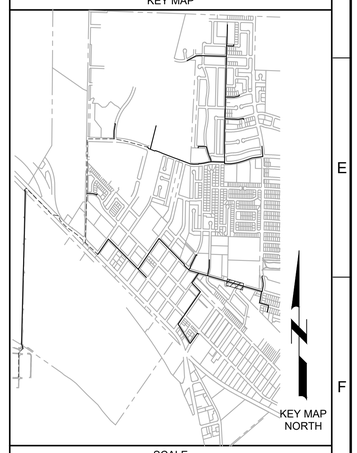
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOR — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

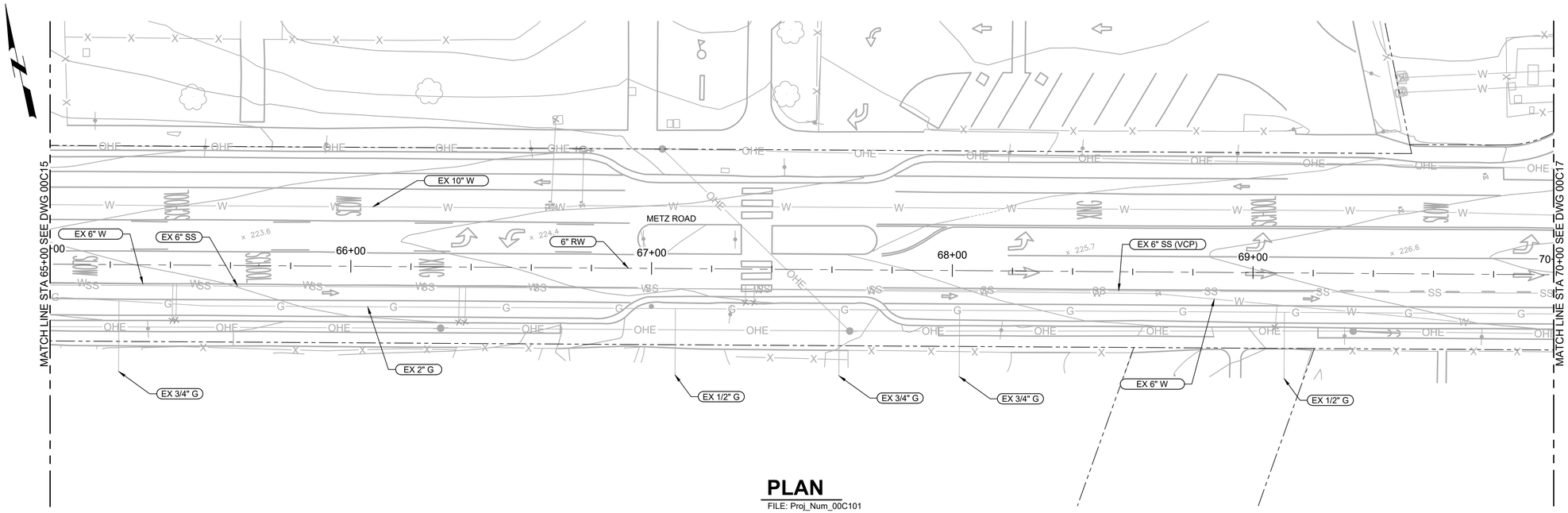
PLAN AND PROFILE - ALIGNMENT A
STA 60+00 TO STA 65+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C15
SHEET NO. OF

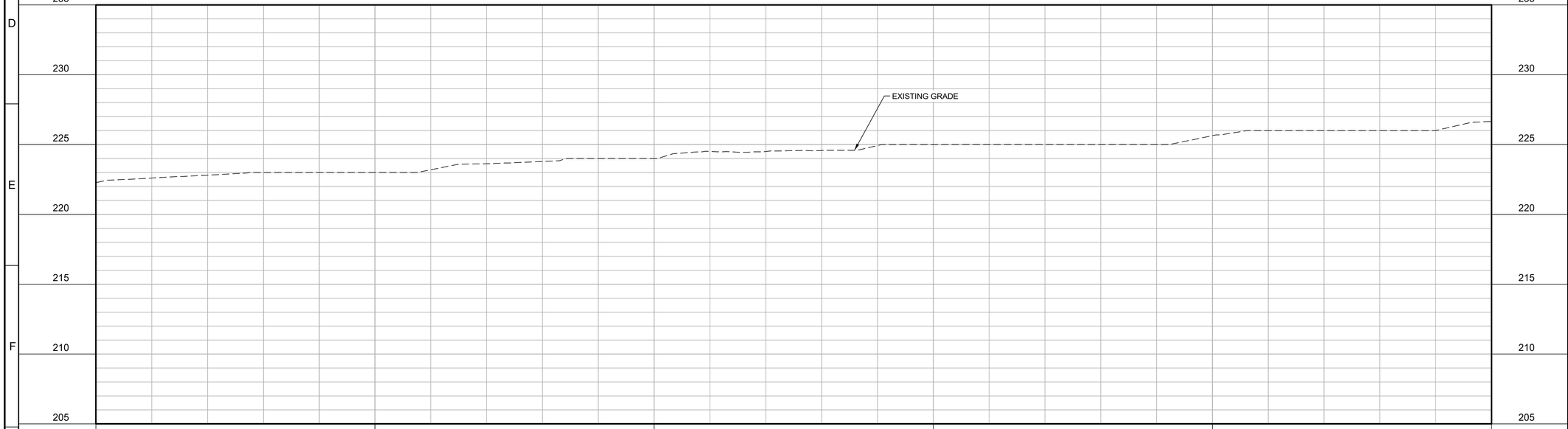
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C15.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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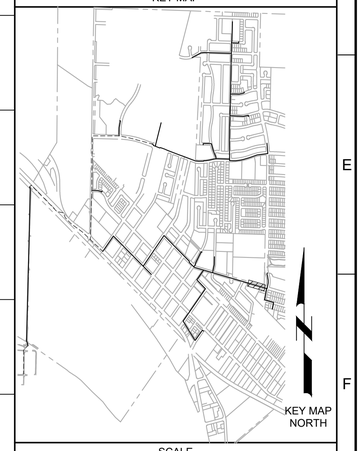
KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOX No. 73998 CIVIL STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD 1535 1921 CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

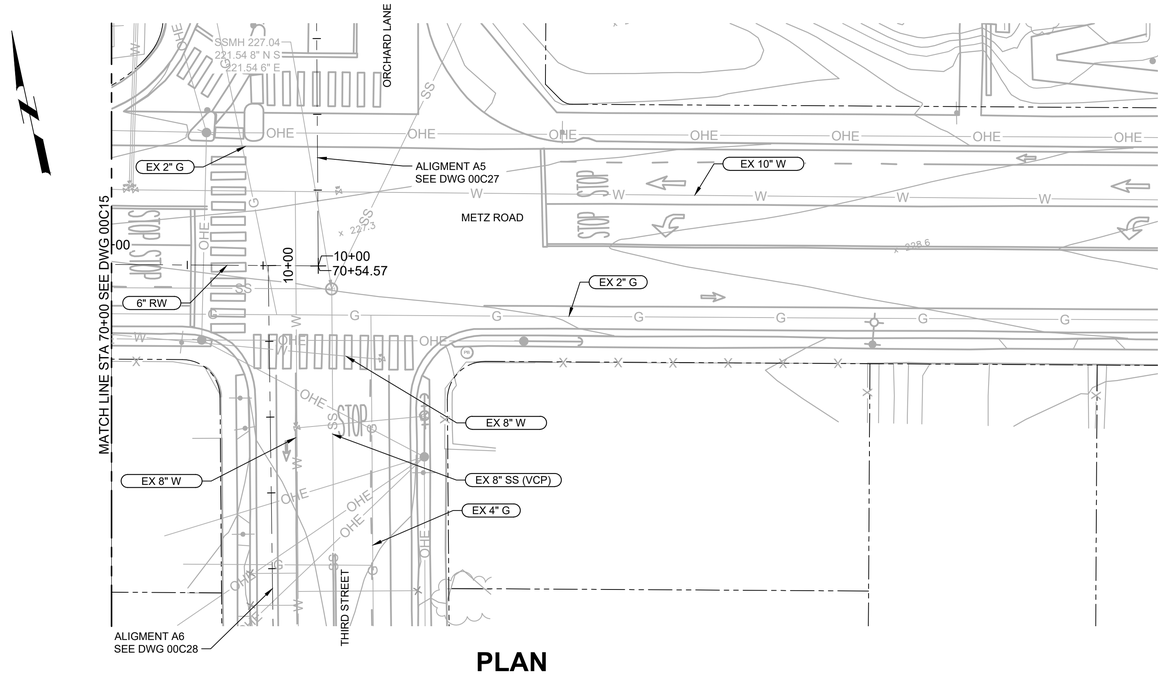
PLAN AND PROFILE - ALIGNMENT A
STA 65+00 TO STA 70+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C16
SHEET NO.
OF

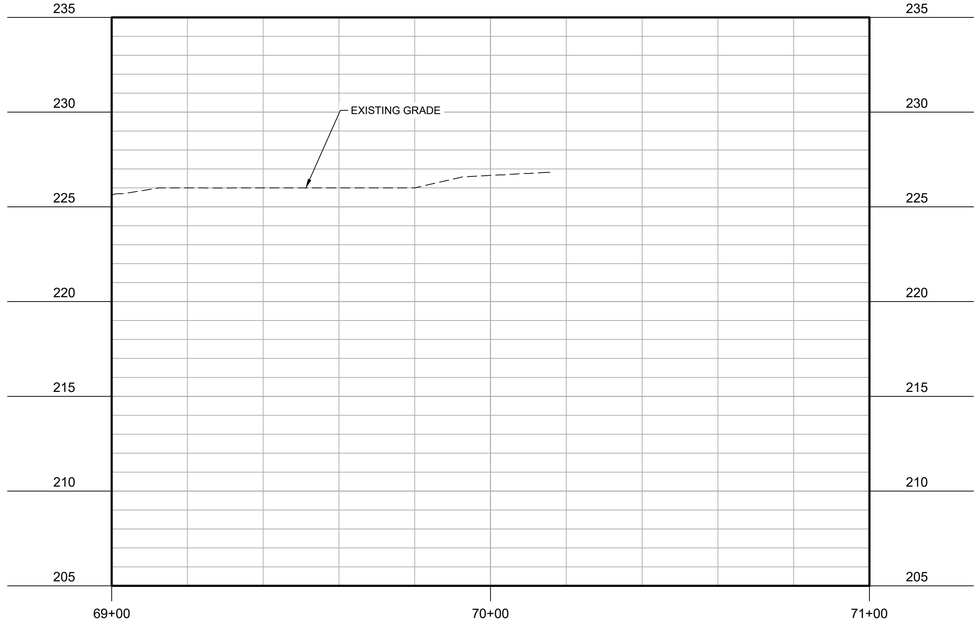
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C16.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

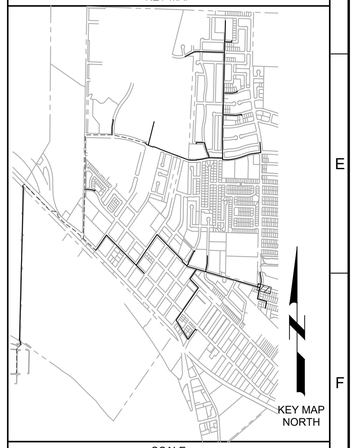
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

 # KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

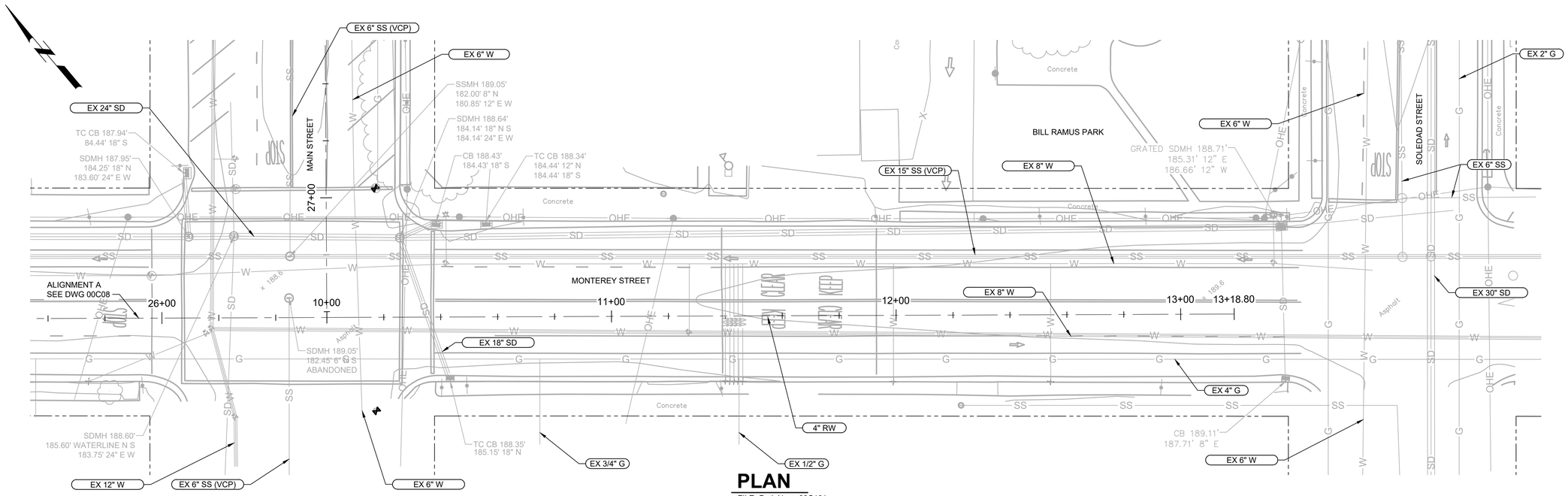
PLAN AND PROFILE - ALIGNMENT A
STA 70+00 TO STA 70+54.57

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C17
SHEET NO.
OF

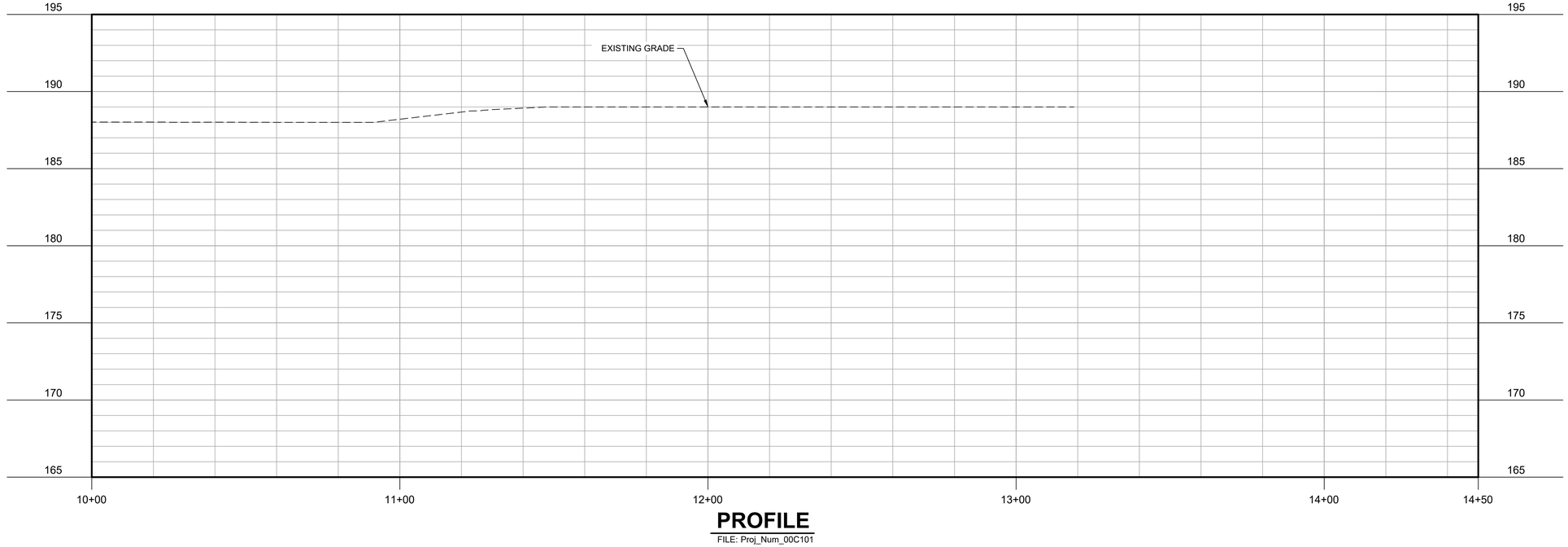
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C17.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

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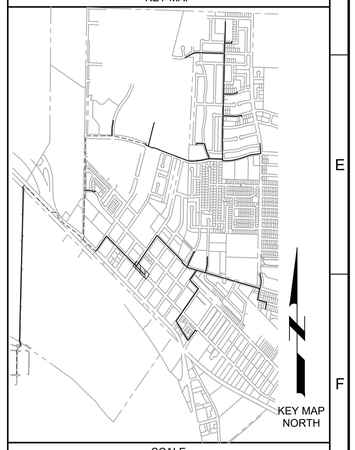
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

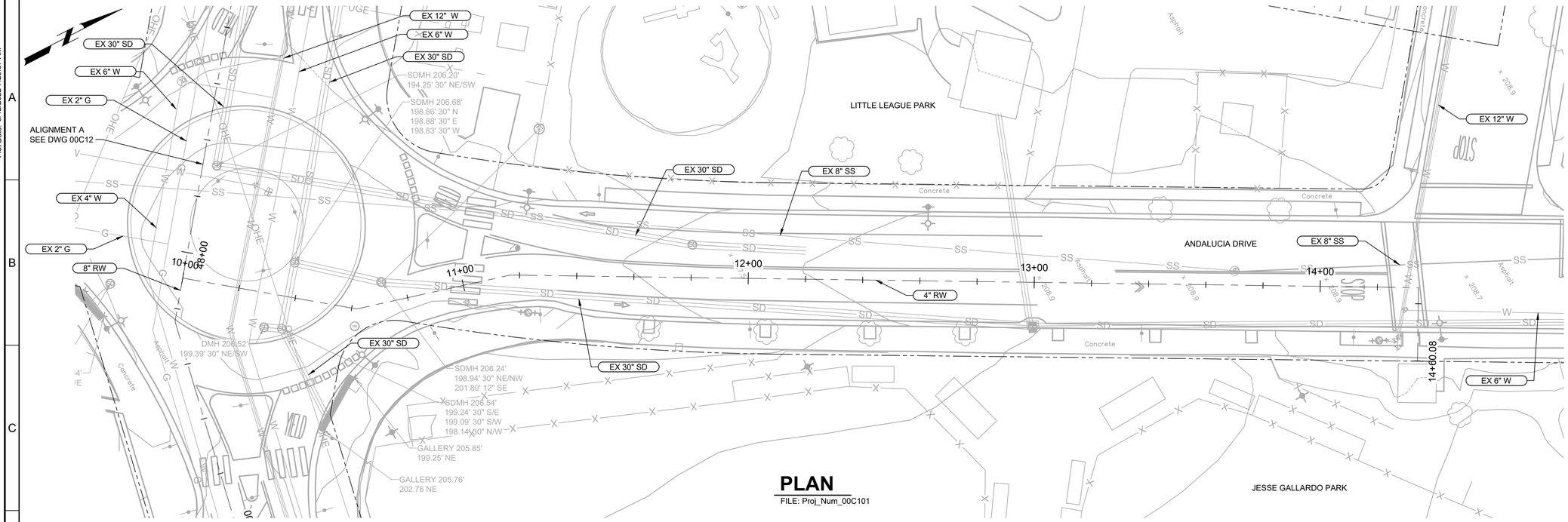
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT A1
STA 10+00 TO STA 13+18.80

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C18
SHEET NO.
OF

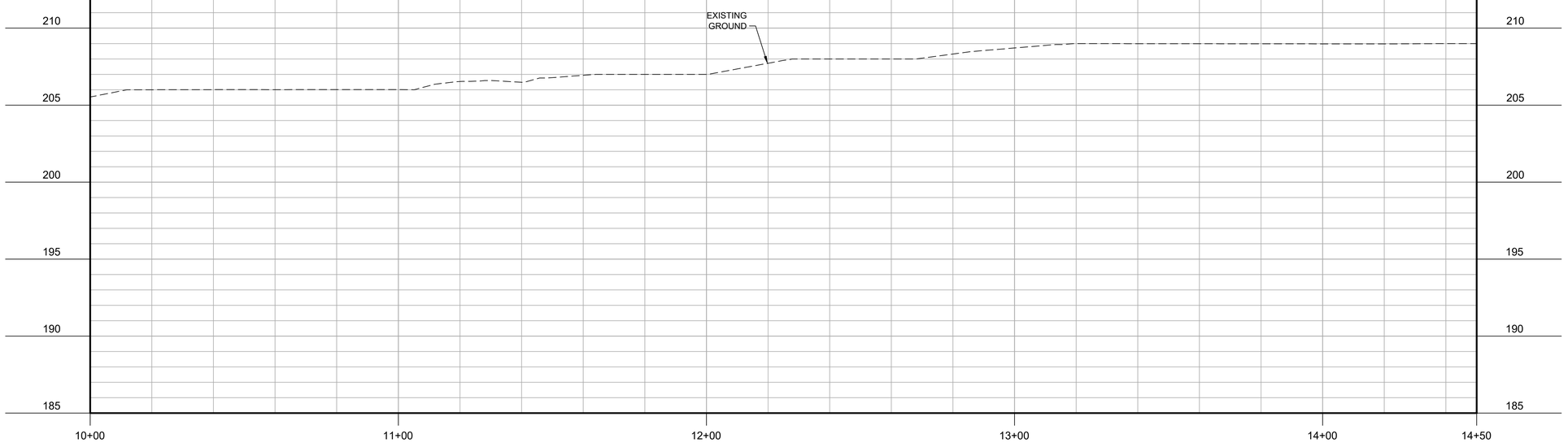
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C18.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FOR
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT A2
STA 10+00 TO STA 14+60

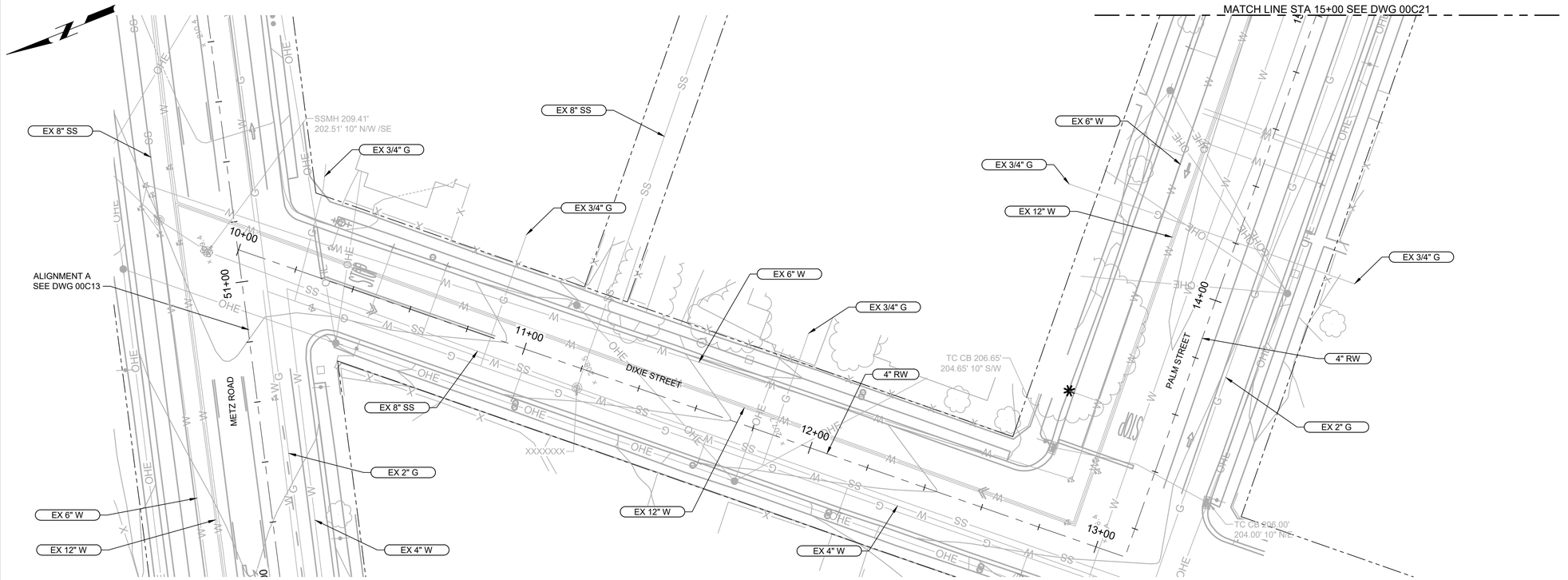
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C19
SHEET NO.
OF

LAST SAVED BY: KSimpson

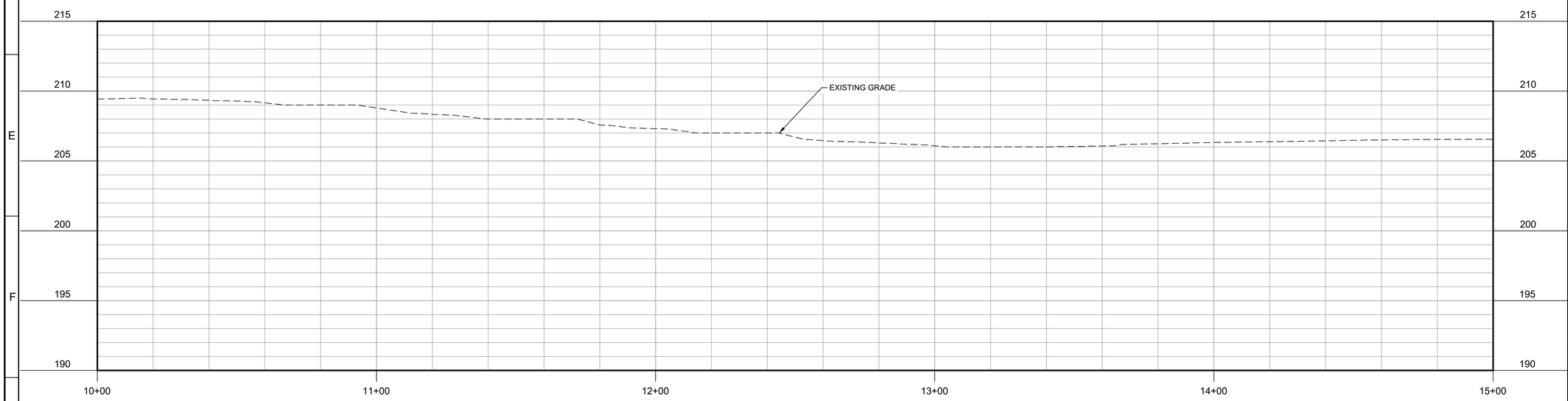
PROJECT NO. 202765-100000 FILE NAME: 20276500C19.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

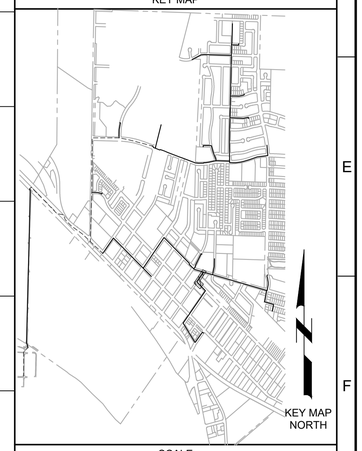
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

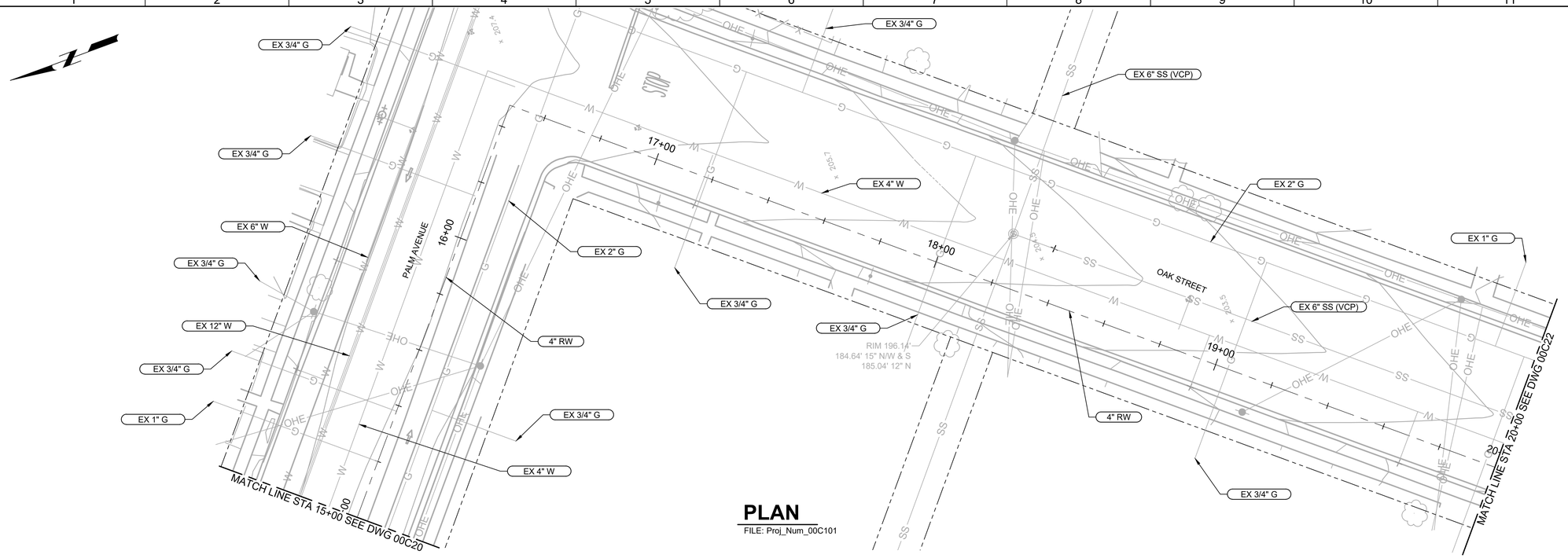
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT A3
STA 10+00 TO STA 15+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C20
SHEET NO.
OF

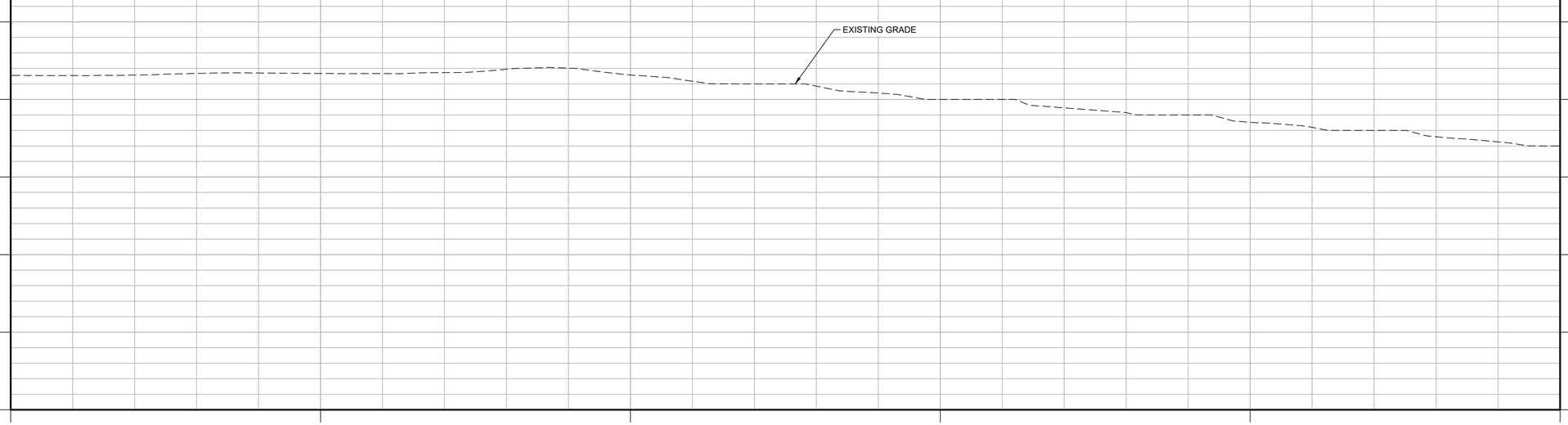
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C20.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

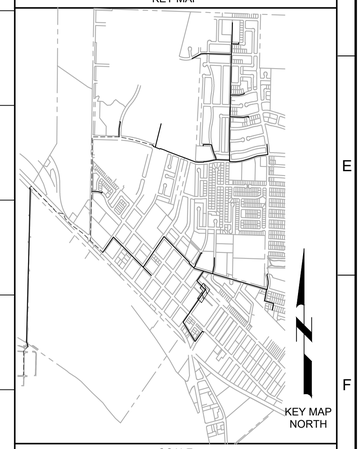
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED

DRAWN

CHECKED

DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOR — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A3
STA 15+00 TO STA 20+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10

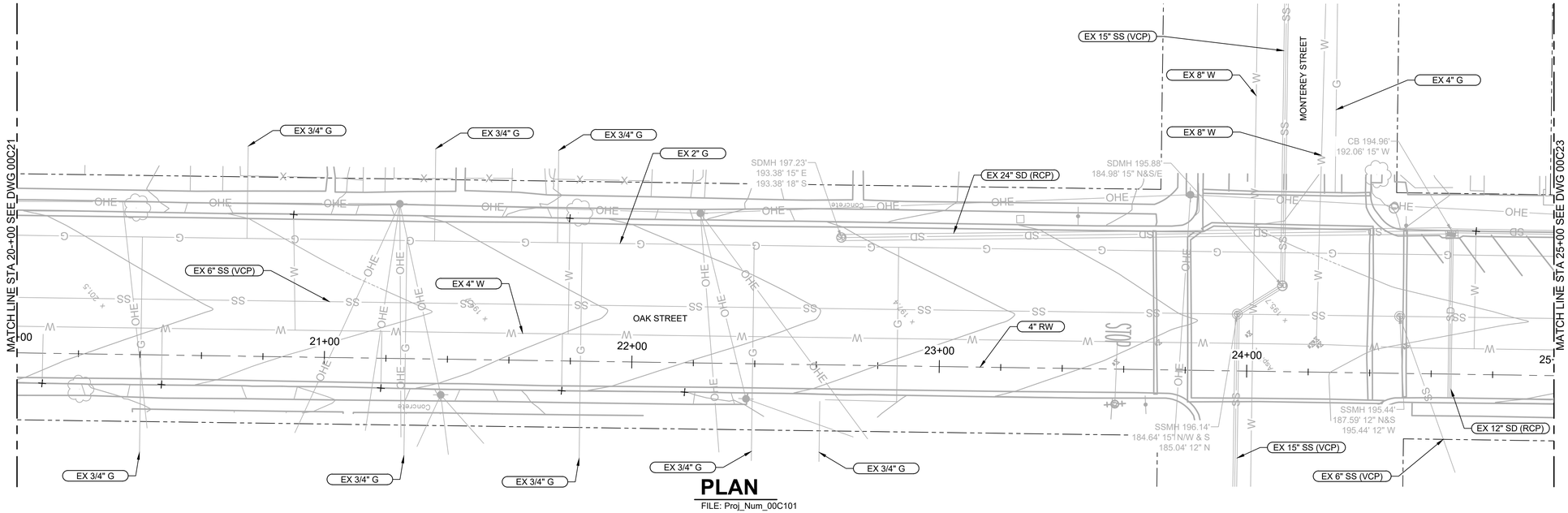
DRAWING NO. 00C21

SHEET NO. OF

Plot Date: 9/12/2022 7:29:07 AM

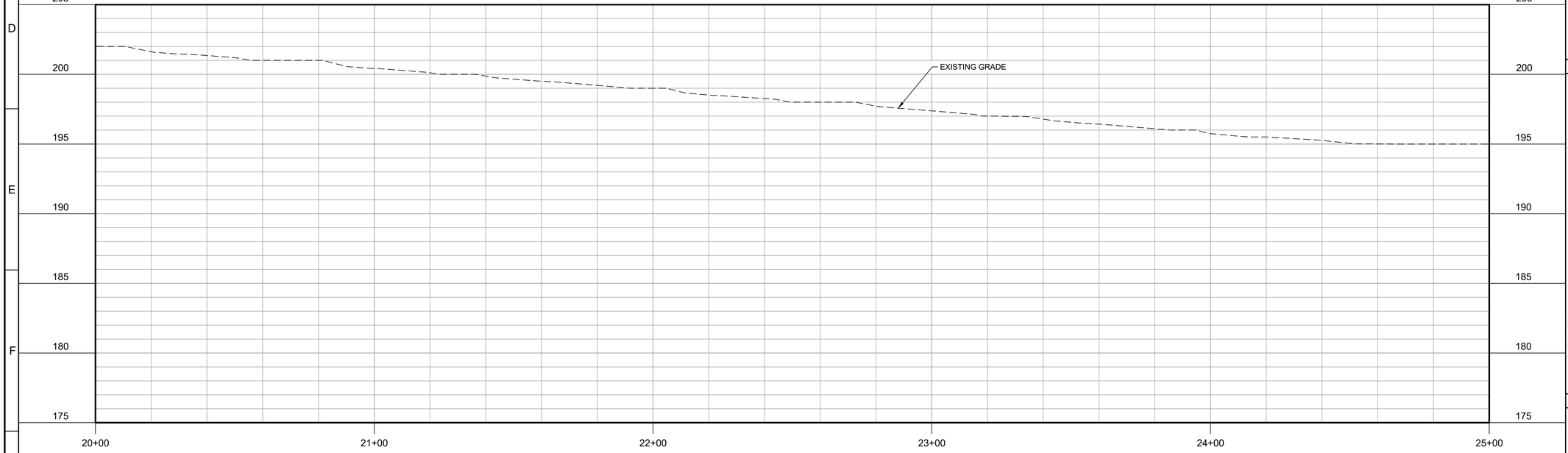
LAST SAVED BY: dhannasch

PROJECT NO. 202765-100000 FILE NAME: 20276500C21.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

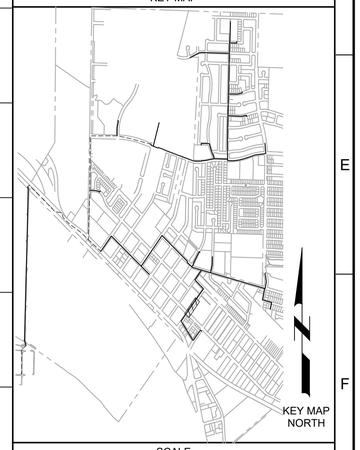
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A3
STA 20+00 TO STA 25+00

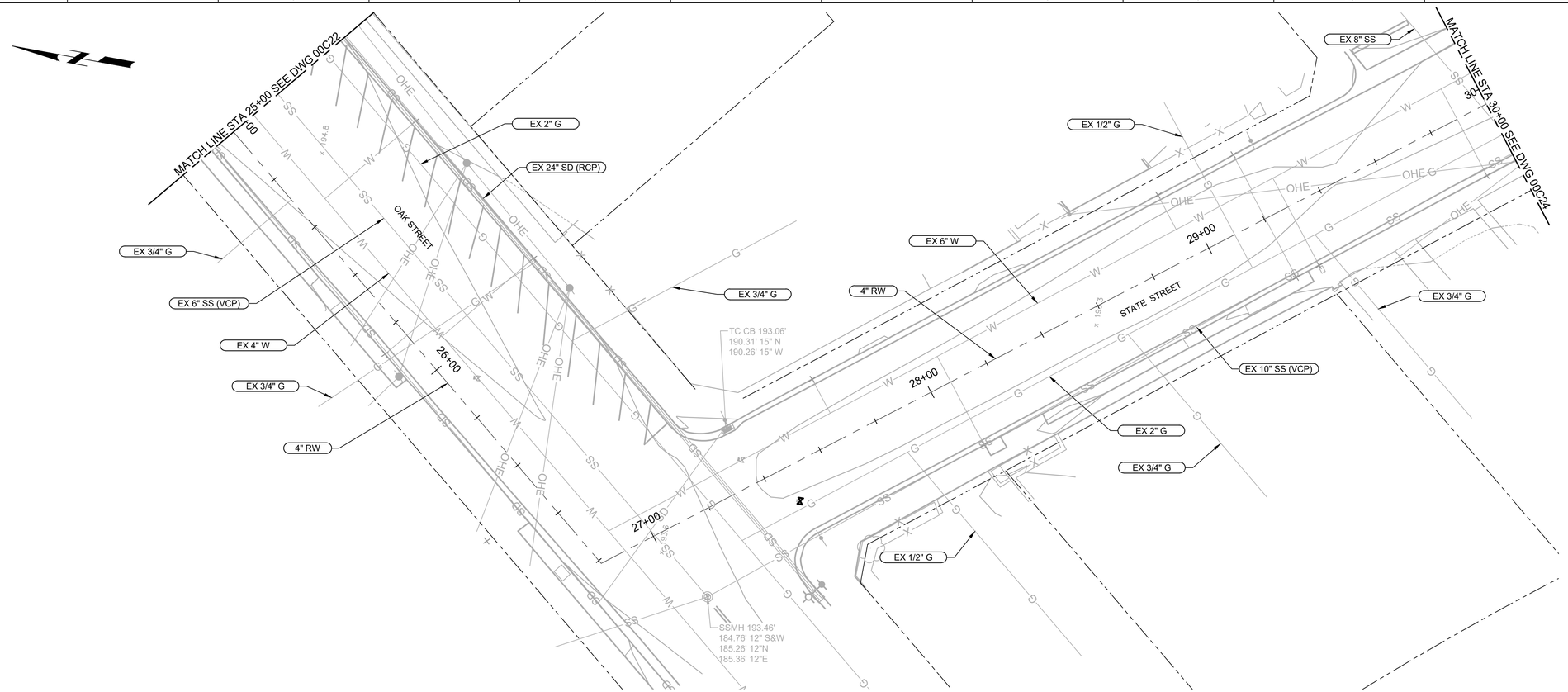
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C22
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM

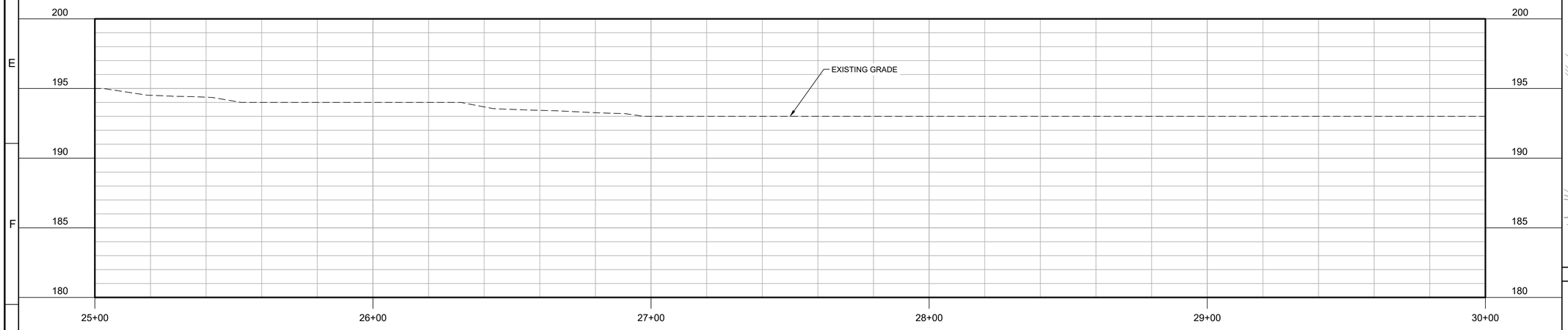
LAST SAVED BY: dhannasch

PROJECT NO. 202765-100000 FILE NAME: 20276500C22.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

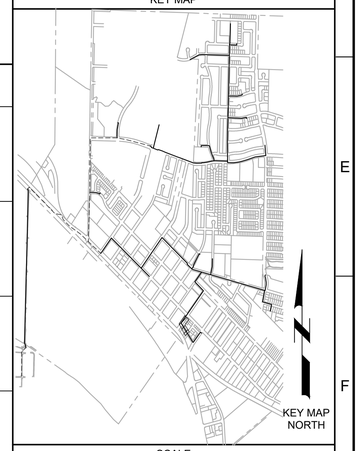
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOX — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA — 1918 1921

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

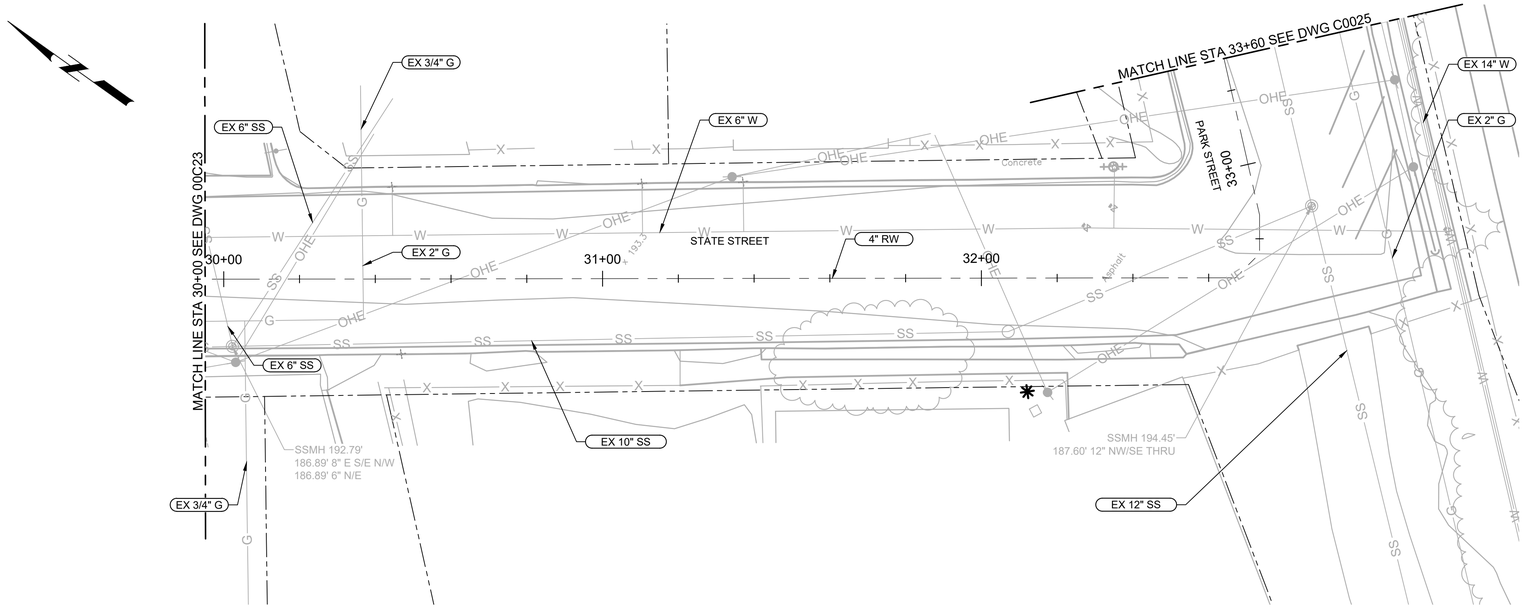
CIVIL

PLAN AND PROFILE - ALIGNMENT A3
STA 30+00 TO STA 35+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

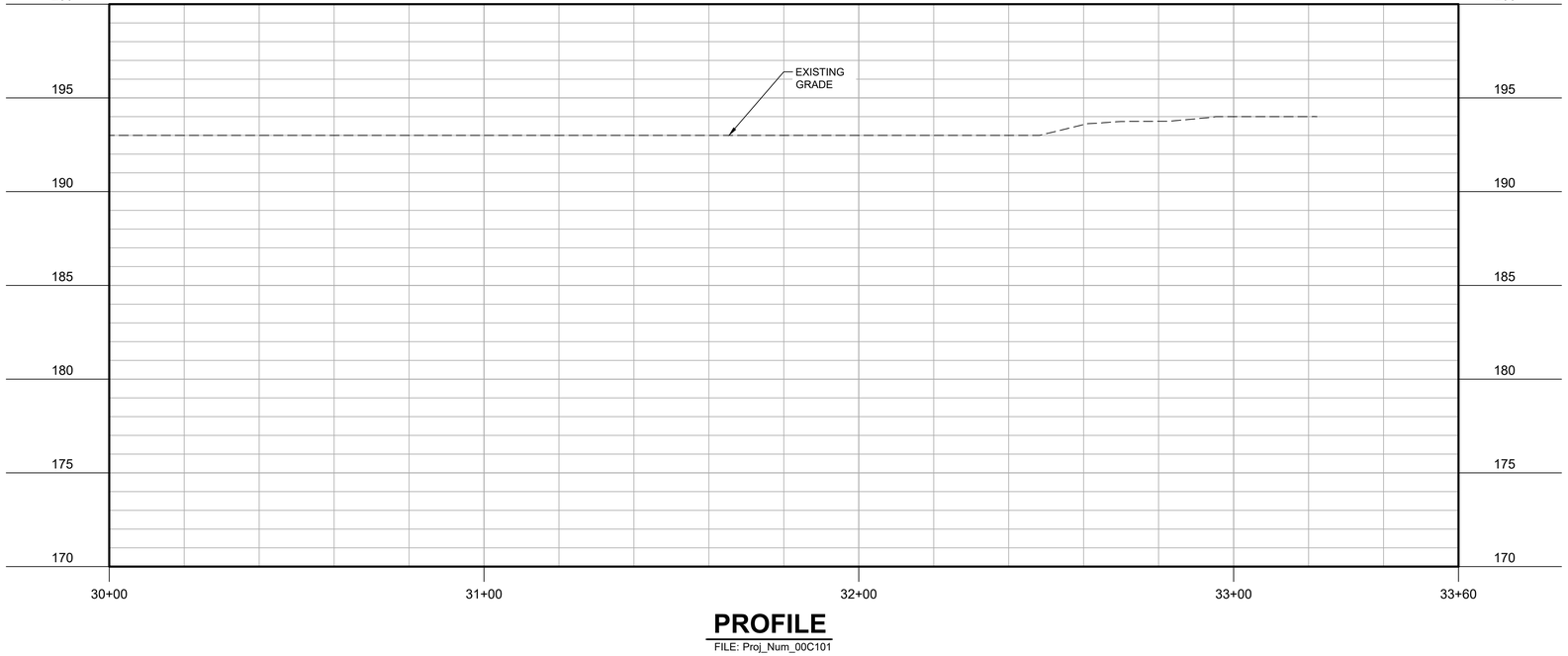
JOB NO. 202765.10
DRAWING NO. 00C23
SHEET NO. OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: KSimpson
PROJECT NO. 202765-100000 FILE NAME: 20276500C23.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

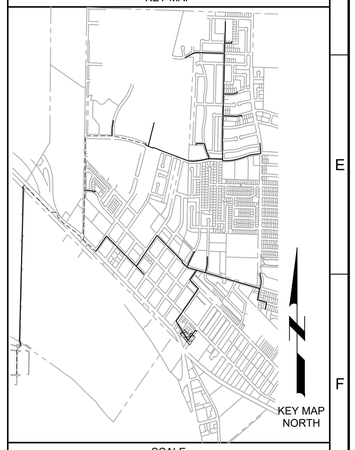
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

SCALE: 1" = 20' (HORIZ)

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

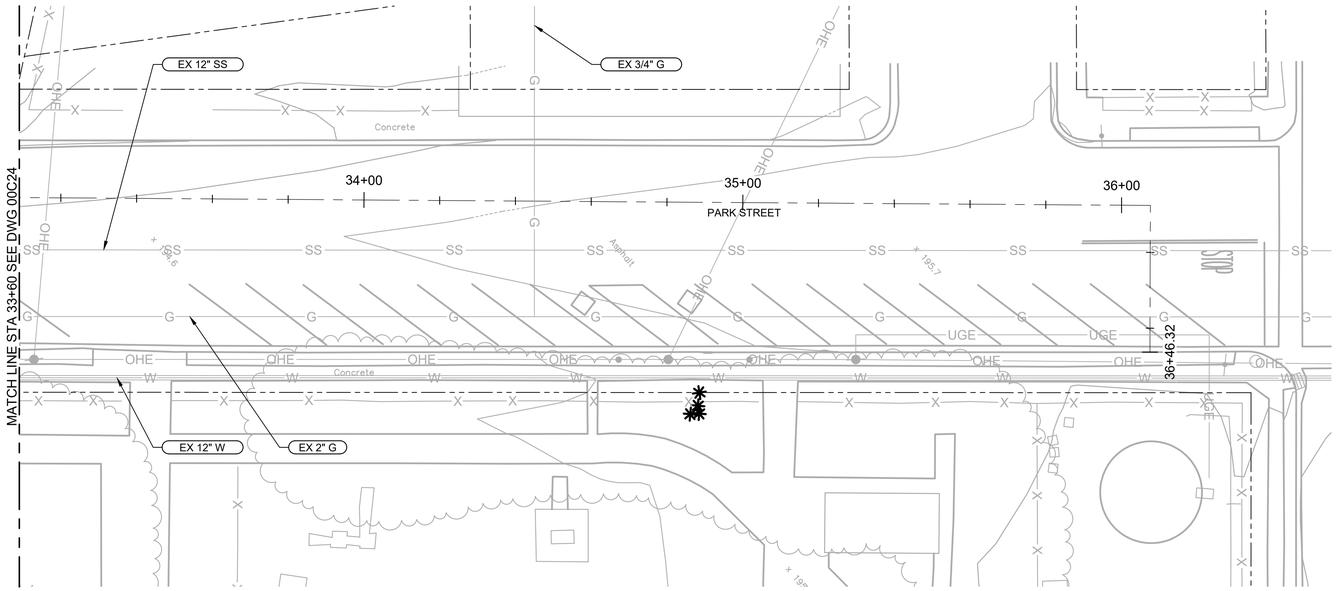
PLAN AND PROFILE - ALIGNMENT A3
STA 30+00 TO STA 33+60

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C24
SHEET NO.
OF

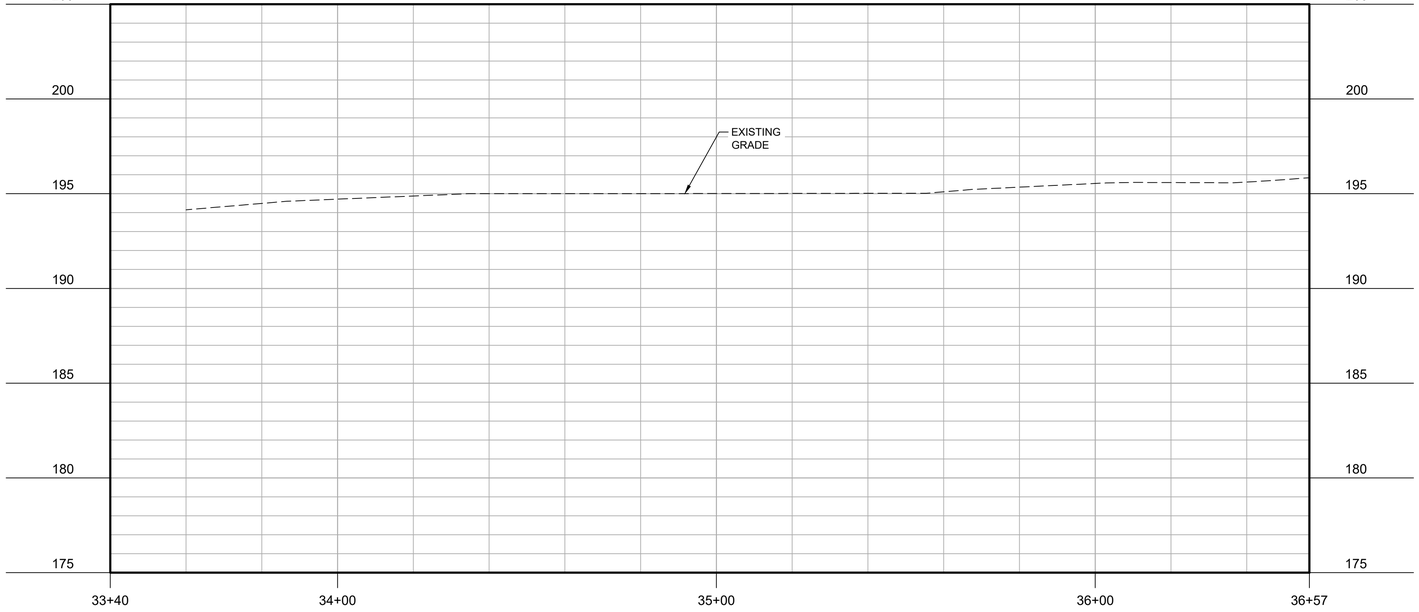
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C24.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

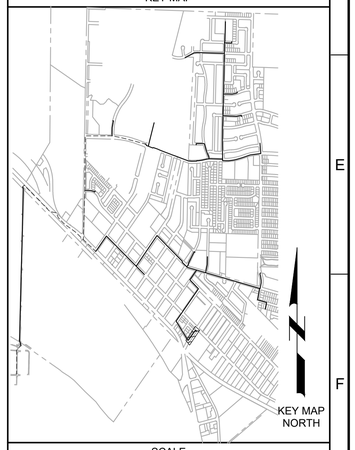
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED

DRAWN

CHECKED

DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A3
STA 33+60 TO STA 36+46.32

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10

DRAWING NO. 00C25

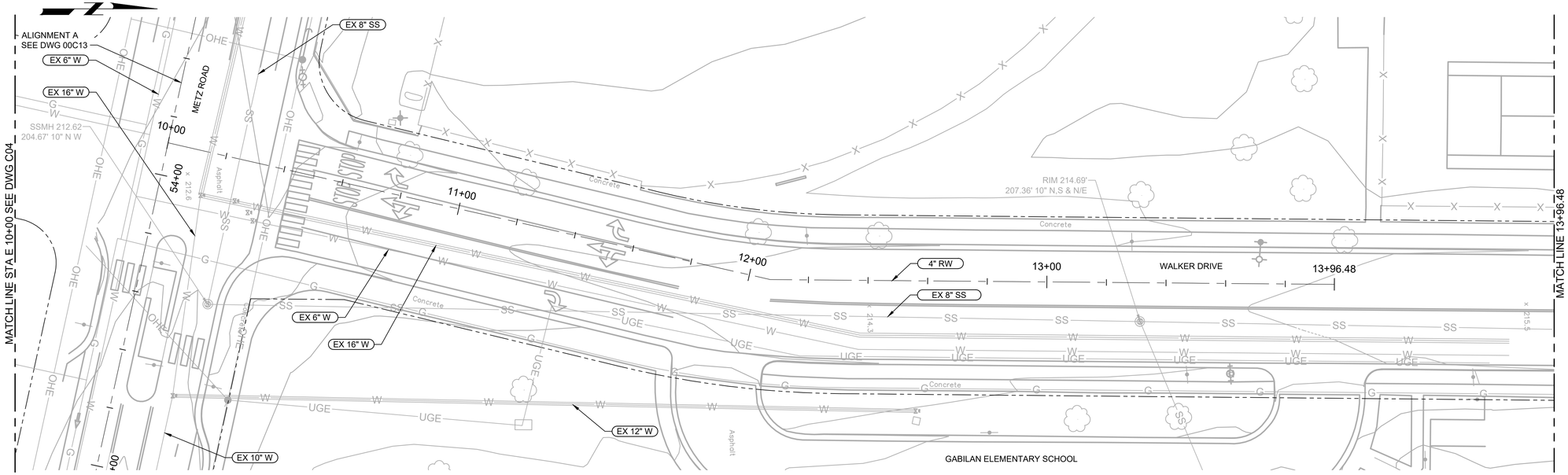
SHEET NO.

OF

Plot Date: 9/12/2022 7:29:07 AM

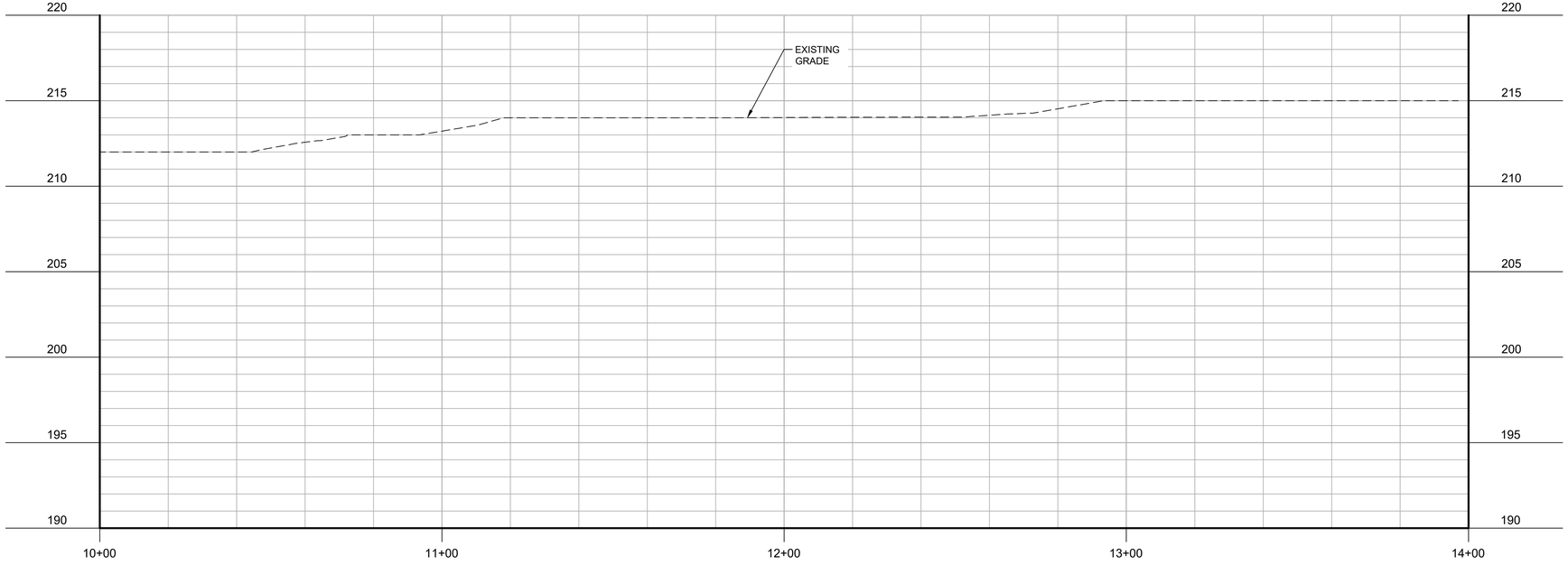
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C25.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

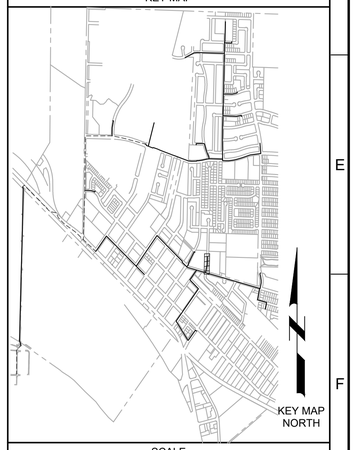
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

SCALE: 1" = 20' (HORIZ)

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

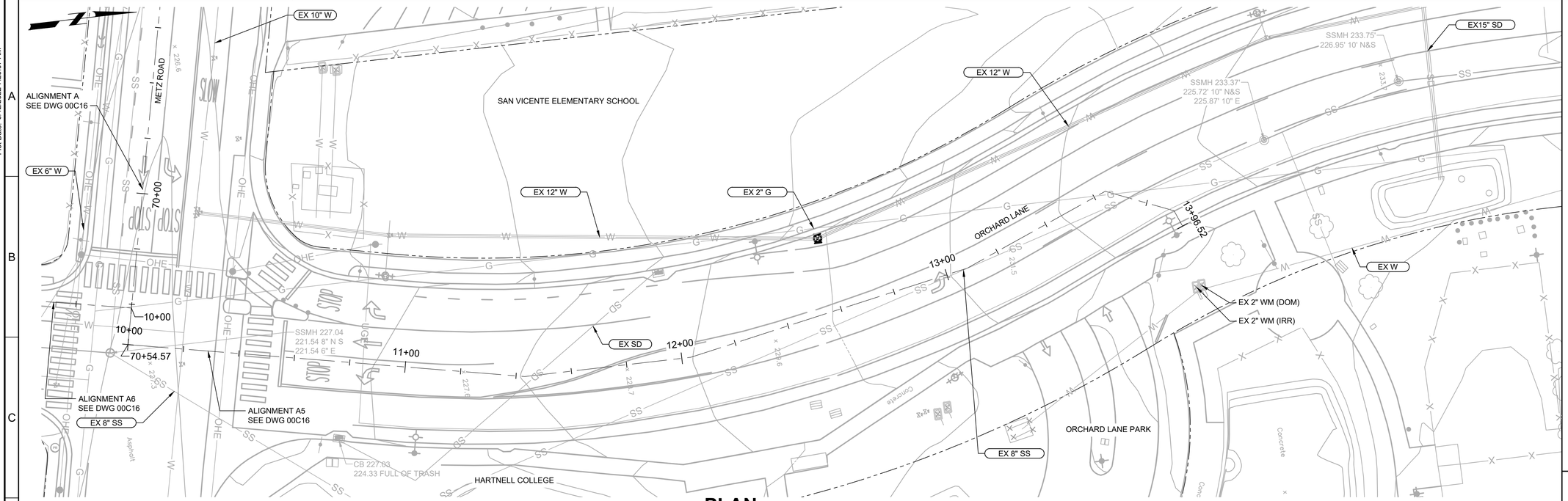
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE ALIGNMENT A4
STA 10+00 TO STA 13+96.48

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C26
SHEET NO.
OF

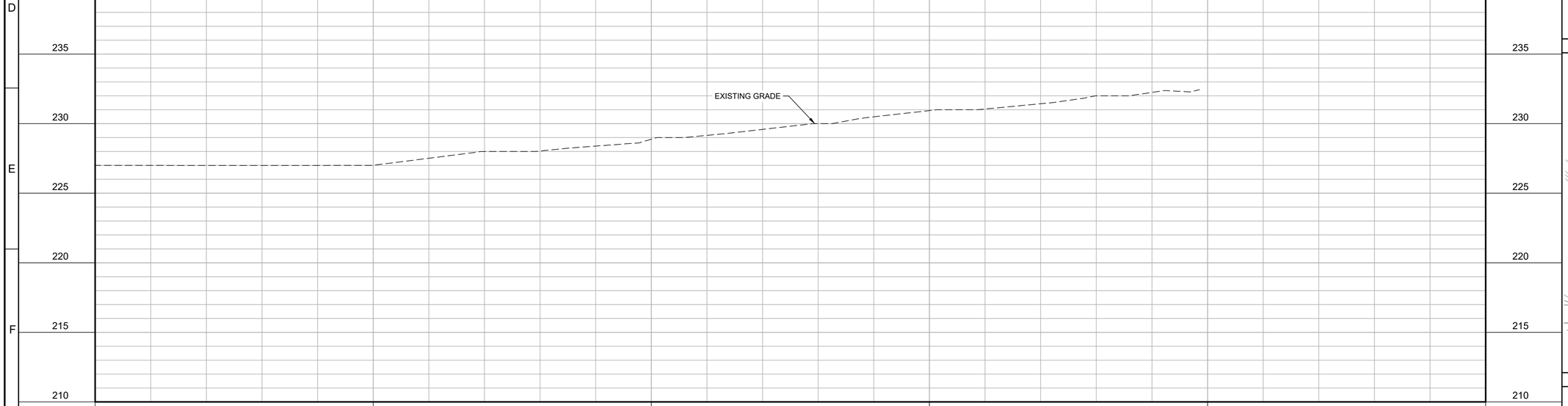
LAST SAVED BY: dhannasch

PROJECT NO. 202765-100000 FILE NAME: 20276500C26.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

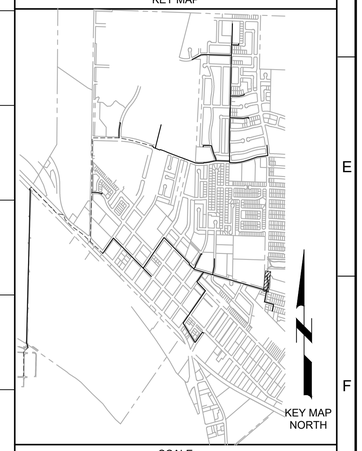
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED

DRAWN

CHECKED

DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT A5
STA 10+00 TO 13+97.12

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
202765.10

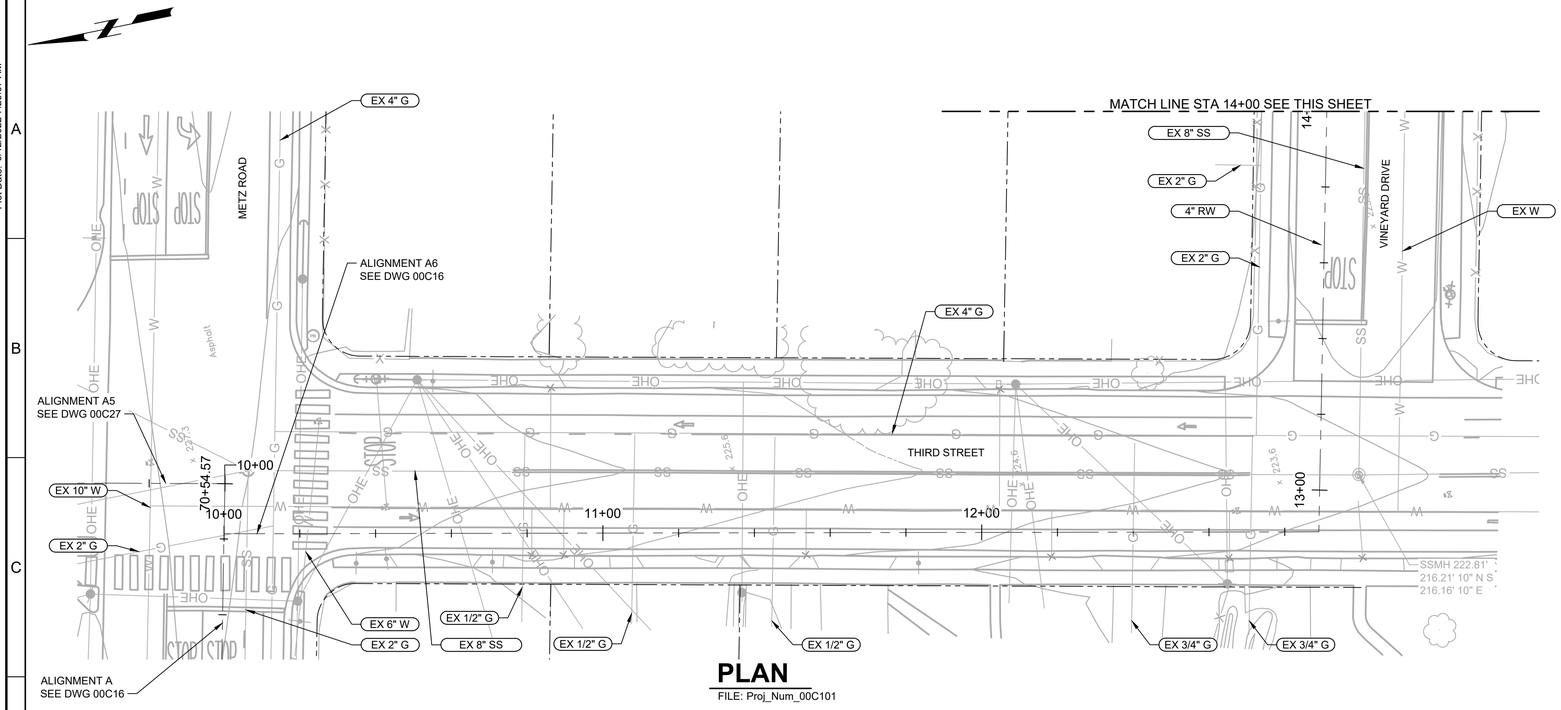
DRAWING NO.
00C27

SHEET NO.
OF

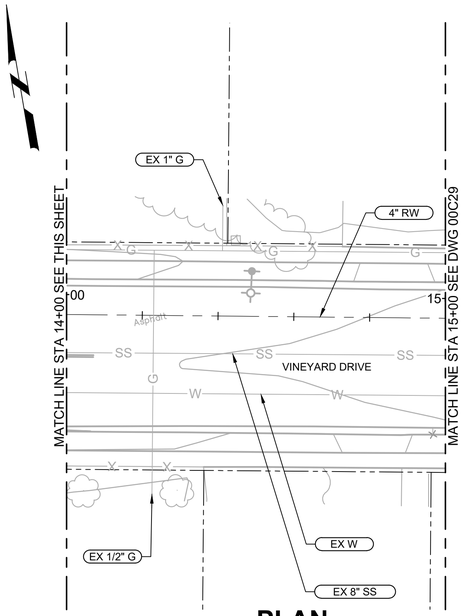
Plot Date: 9/12/2022 7:29:07 AM

LAST SAVED BY: dhannasch

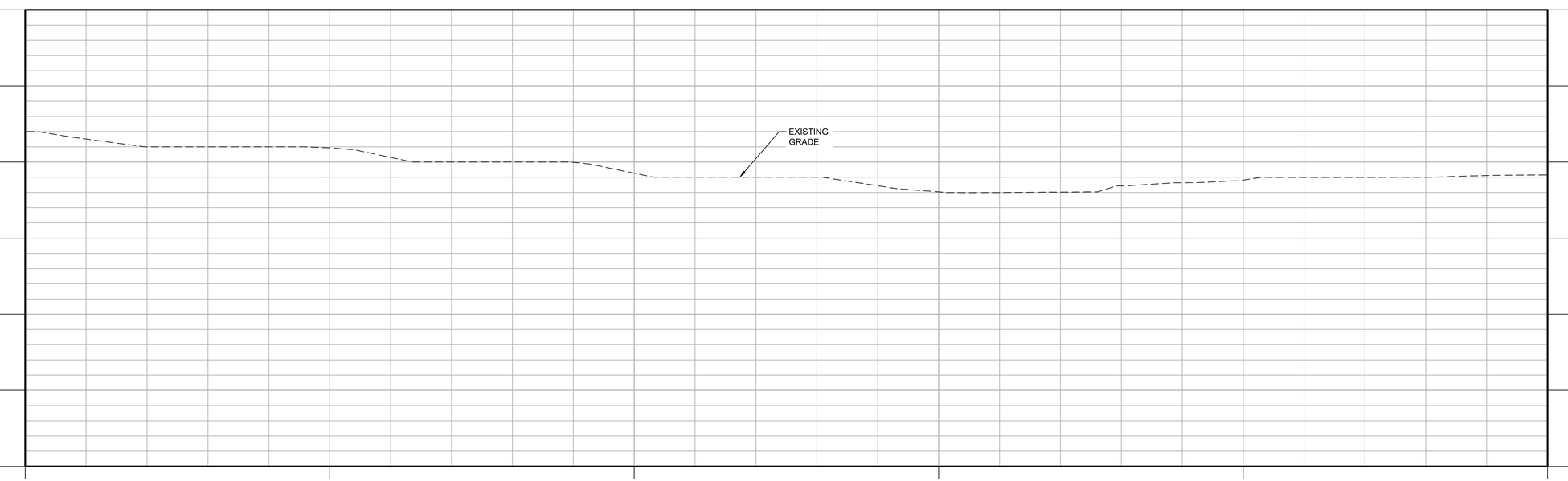
PROJECT NO. 202765-100000 FILE NAME: 20276500C27.dwg



PLAN
FILE: Proj_Num_00C101



PLAN
FILE: Proj_Num_00C101



PROFILE
FILE: Proj_Num_00C101

GENERAL NOTES:

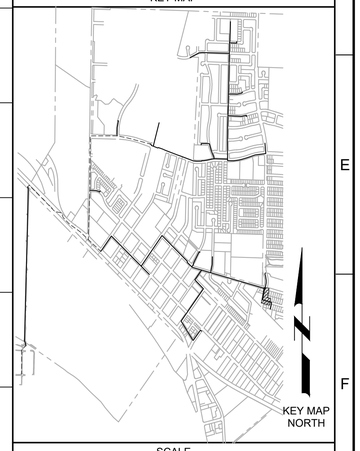
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

SCALE: 1" = 20' (HORIZ)

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

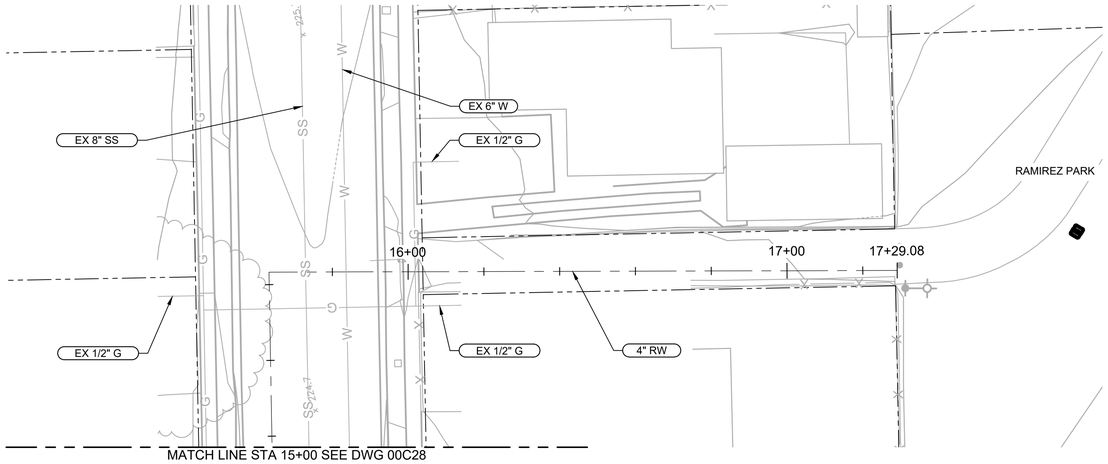
CIVIL

PLAN AND PROFILE - ALIGNMENT A6
STA 10+00 TO STA 15+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

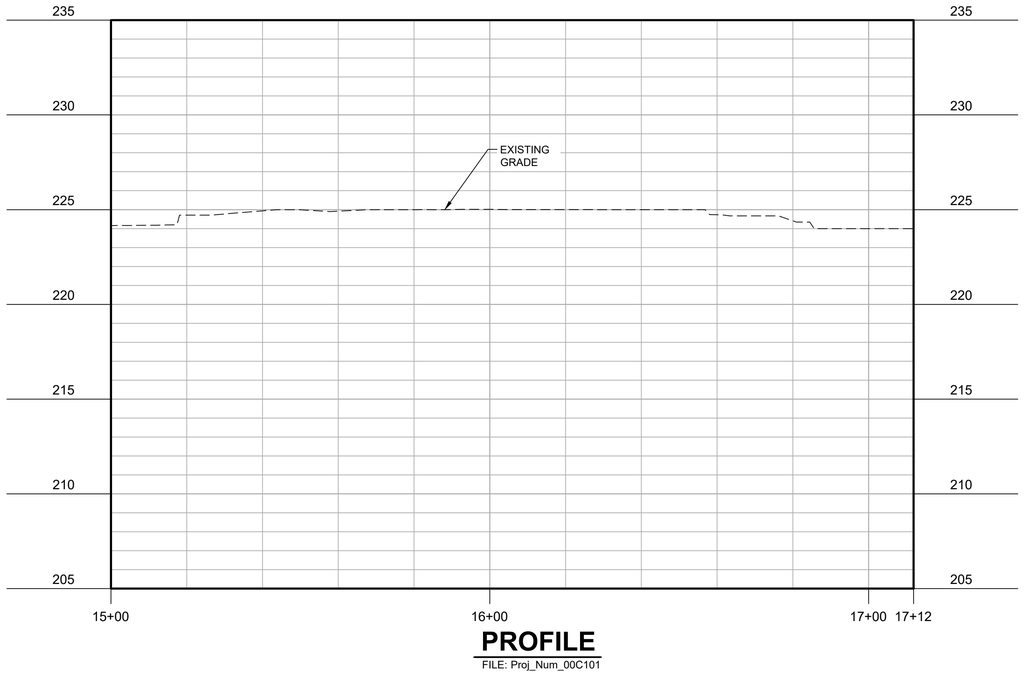
JOB NO. 202765.10
DRAWING NO. 00C28
SHEET NO.
OF

PROJECT NO. 202765-100000 FILE NAME: 20276500C28.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

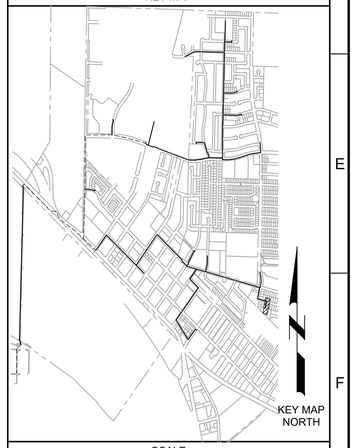
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

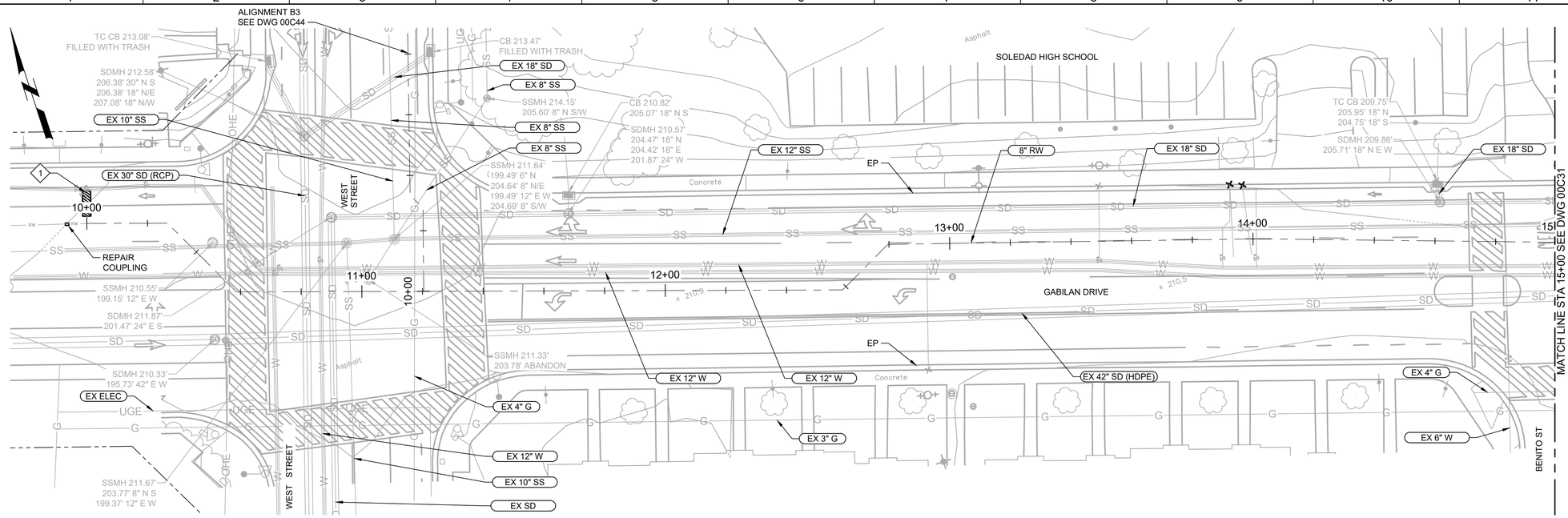
REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT A6
STA 15+00 TO 17+29.08

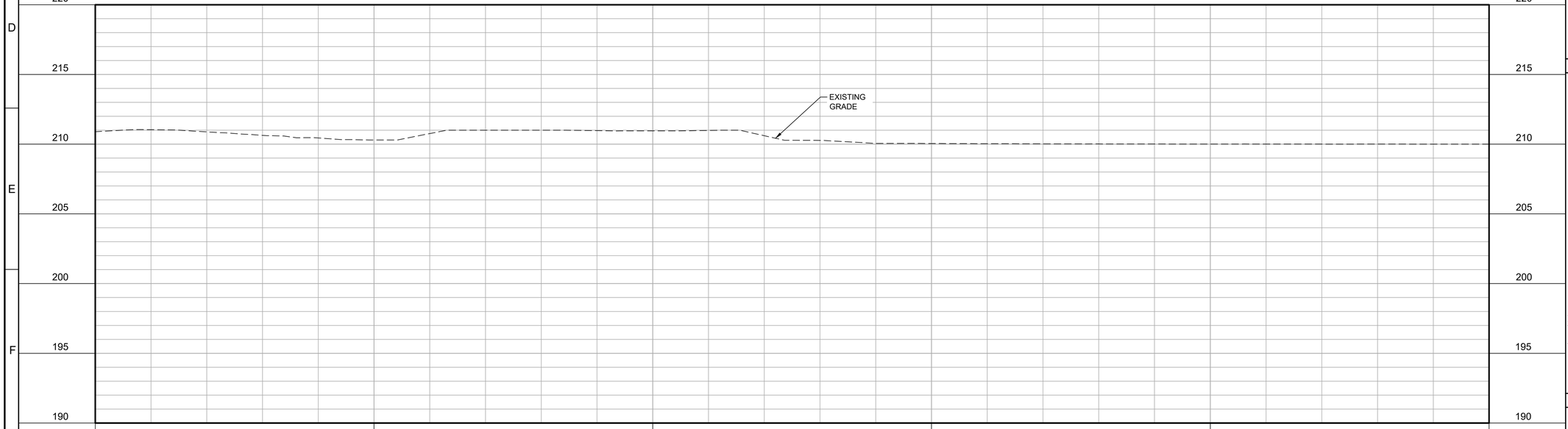
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C29
SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

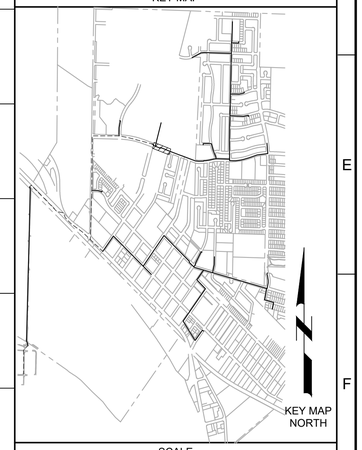
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. DISCONNECT, REMOVE, AND DISPOSE APPROXIMATE 10LF OF EX 8" RW AND EX 8" GV. INSTALL BF ON TEE BRANCH.

811
Know what's below.
Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FOK
No. 73998
CIVIL
STATE OF CALIFORNIA

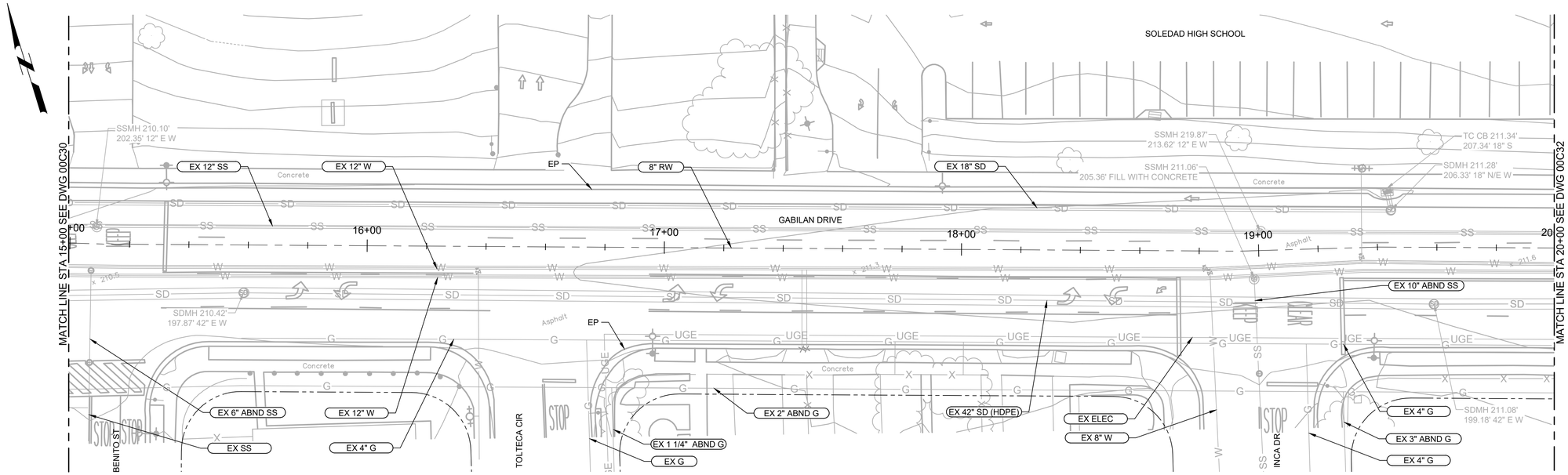
carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 10+00 TO STA 15+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

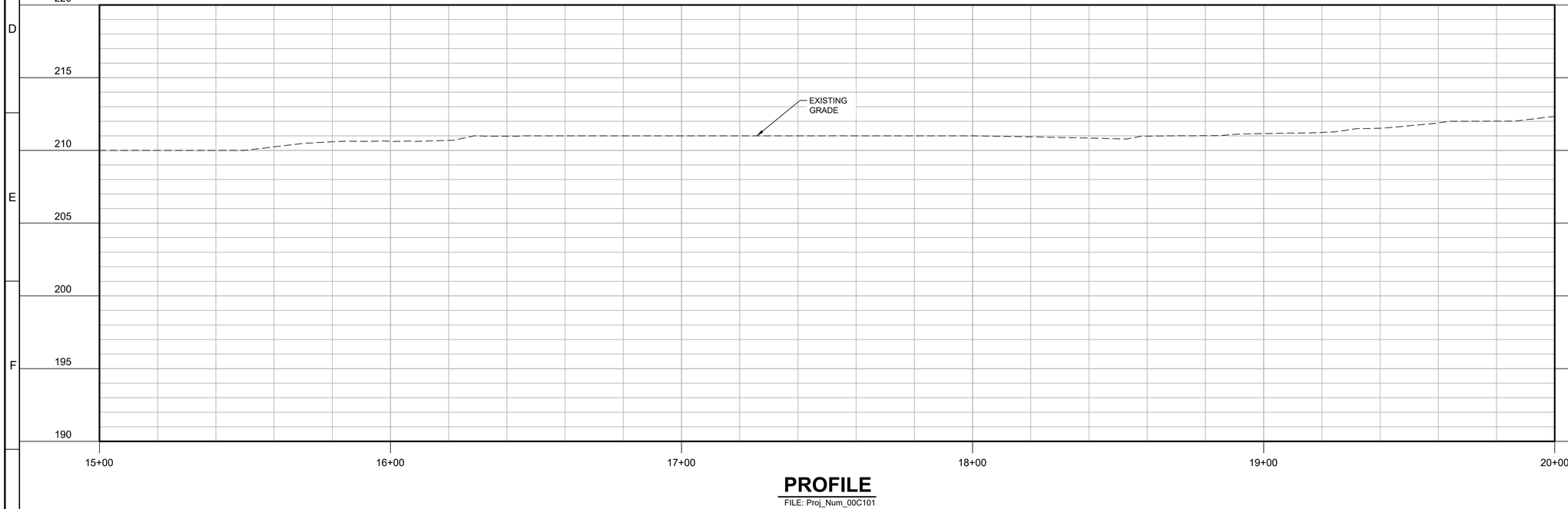
JOB NO. 202765.10
DRAWING NO. 00C30
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: SAdams
PROJECT NO. 202765-100000 FILE NAME: 20276500C30.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

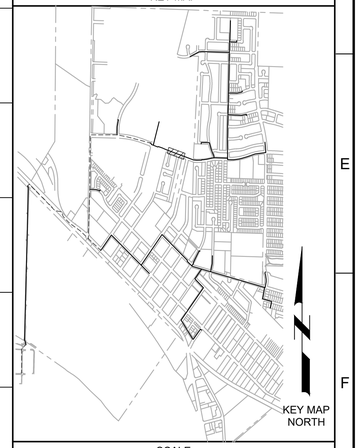
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOK No. 73998 CIVIL STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

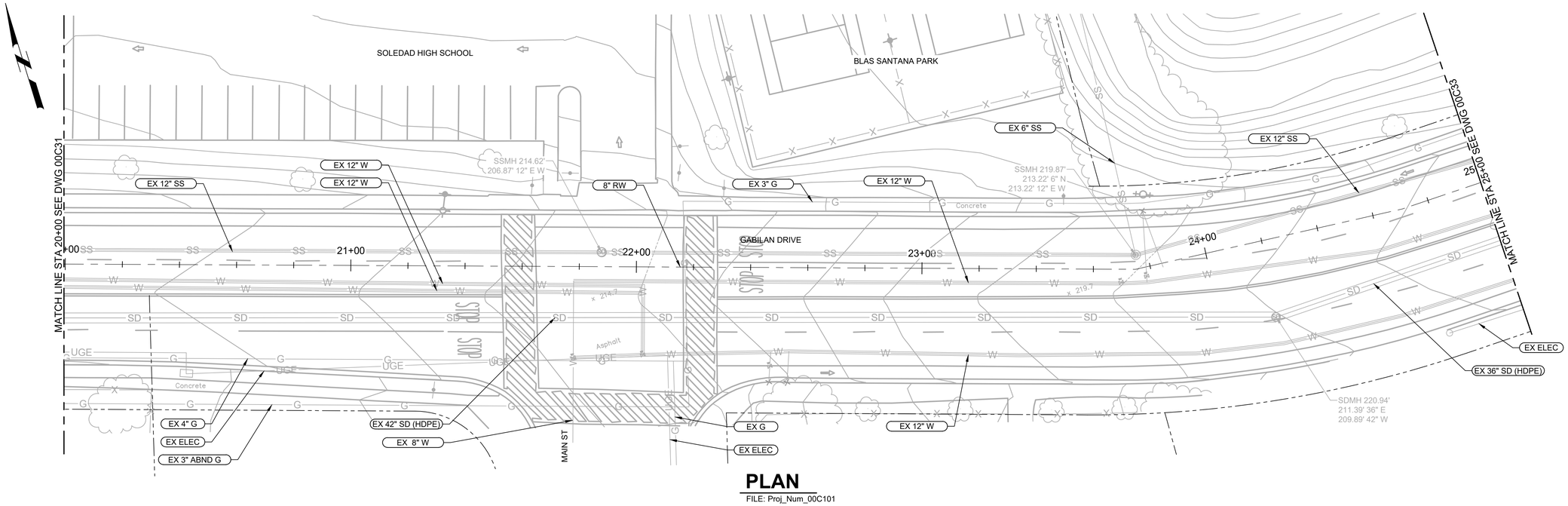
PLAN AND PROFILE - ALIGNMENT B
STA 15+00 TO STA 20+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C31
SHEET NO.
OF

LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C31.dwg



PLAN

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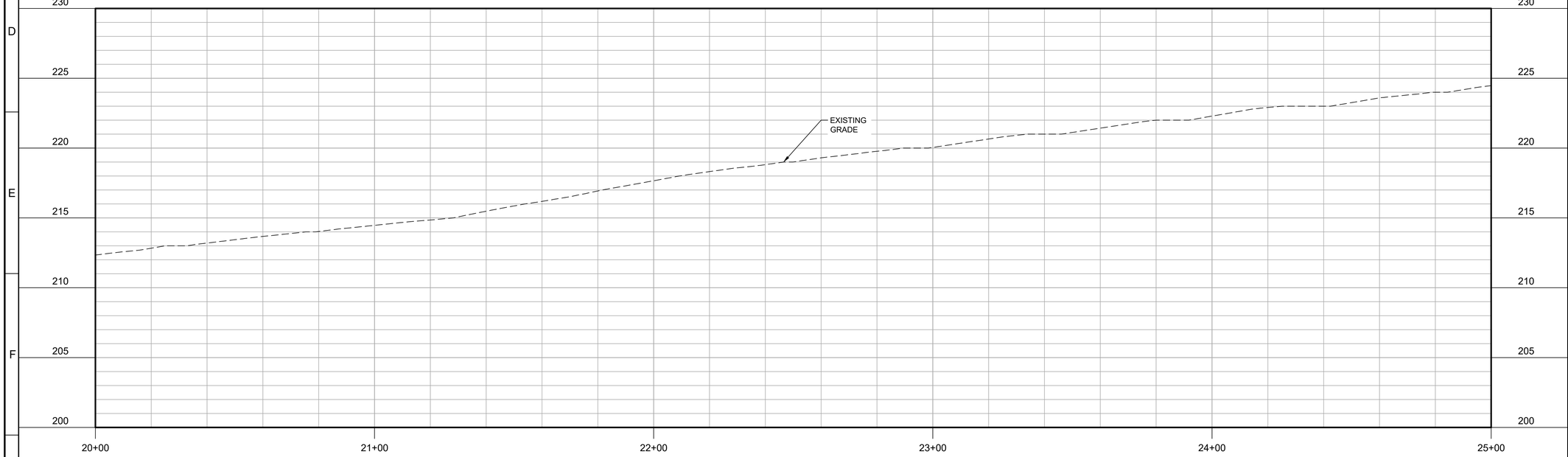


PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

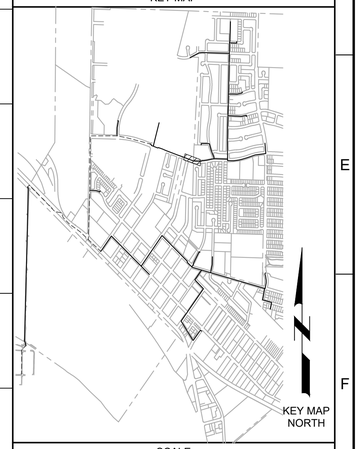
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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SUSAN NGO FOK
No. 73998
CIVIL
STATE OF CALIFORNIA

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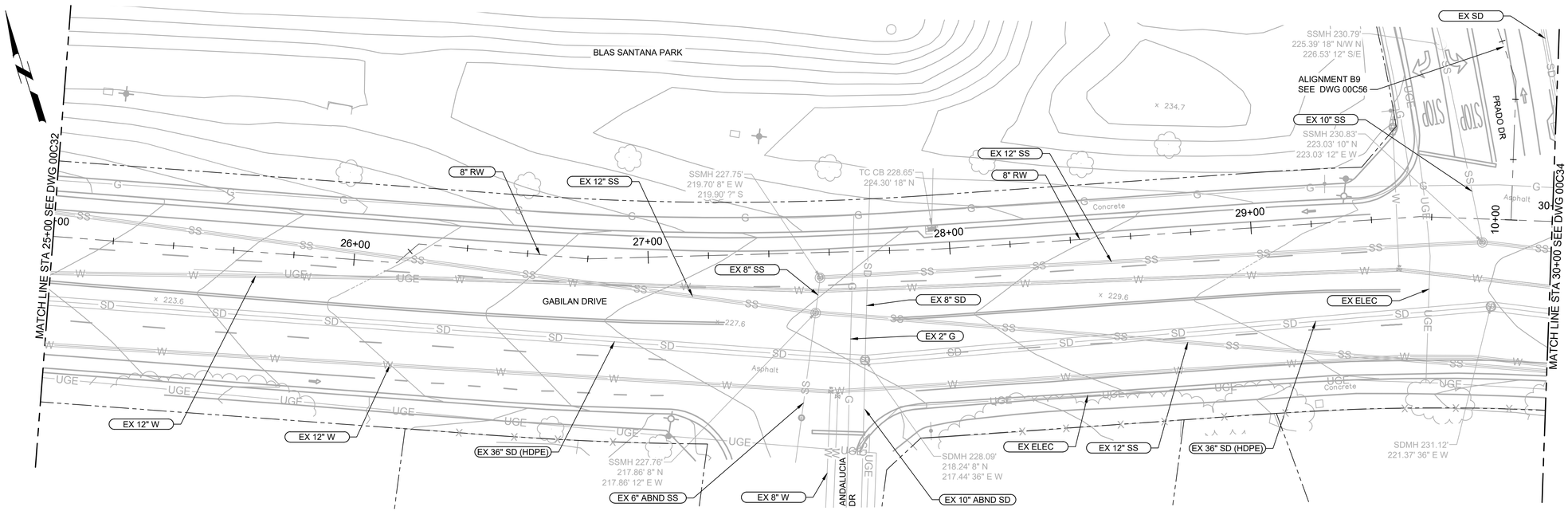
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 20+00 TO STA 25+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C32
SHEET NO.
OF

LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C32.dwg



PLAN

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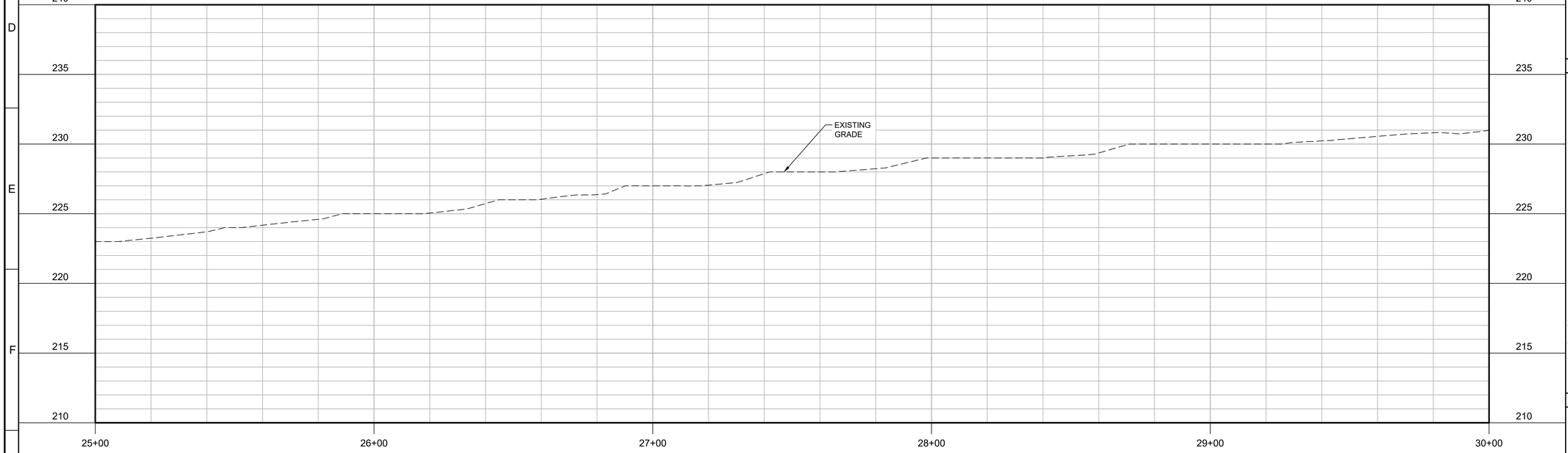

PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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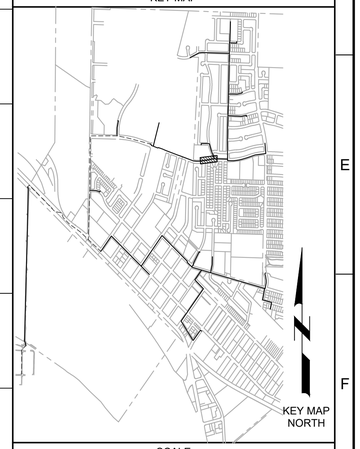
KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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PLAN AND PROFILE - ALIGNMENT B
STA 25+00 TO STA 30+00

VERIFY SCALES
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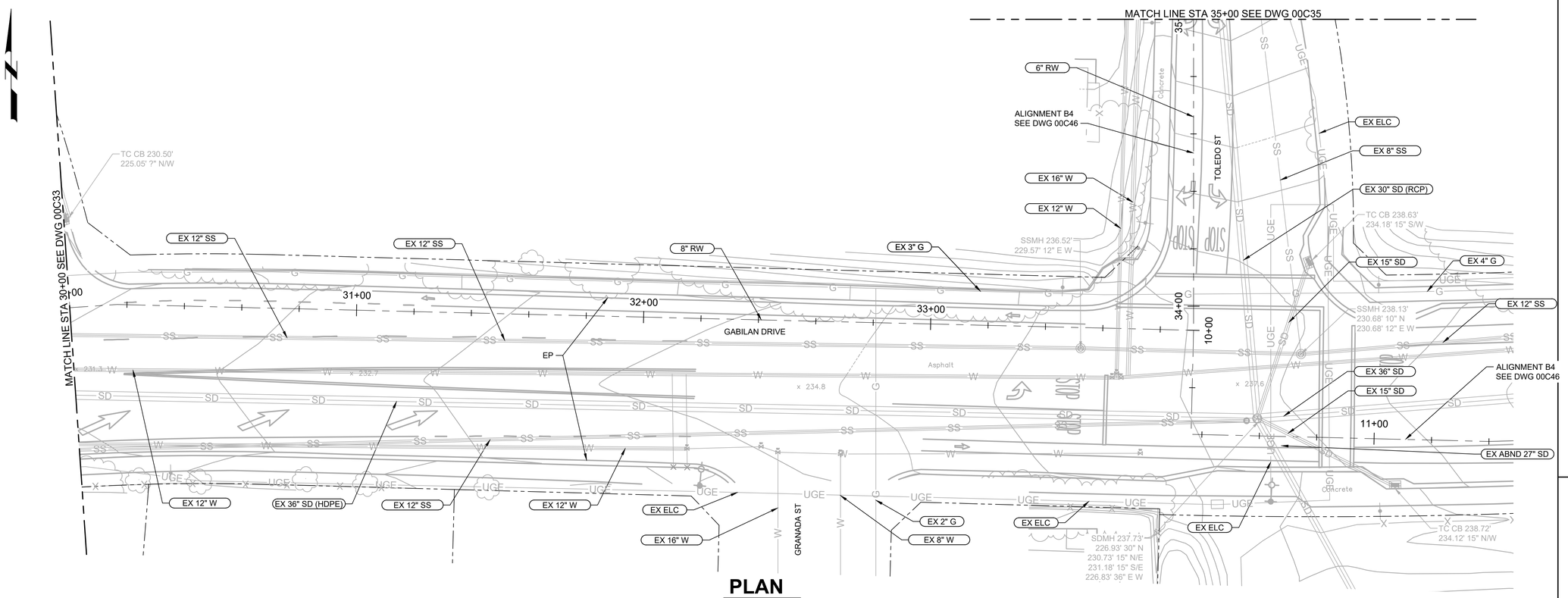
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C33
SHEET NO.
OF

LAST SAVED BY: dhannasch

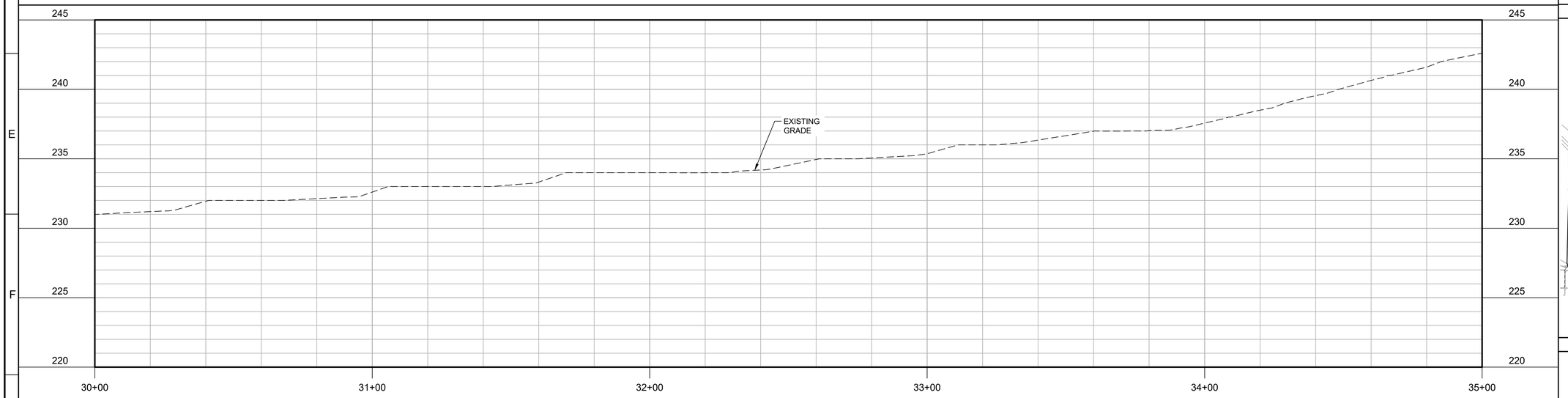
PROJECT NO. 202765-100000 FILE NAME: 20276500C33.dwg

Plot Date: 6/21/2024 12:06:49 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

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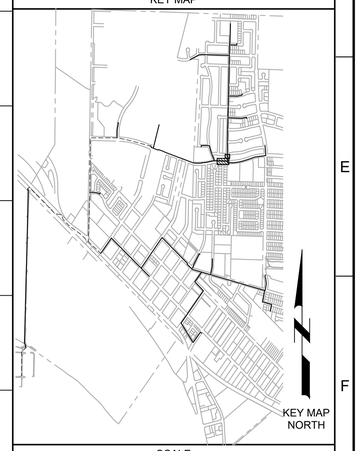
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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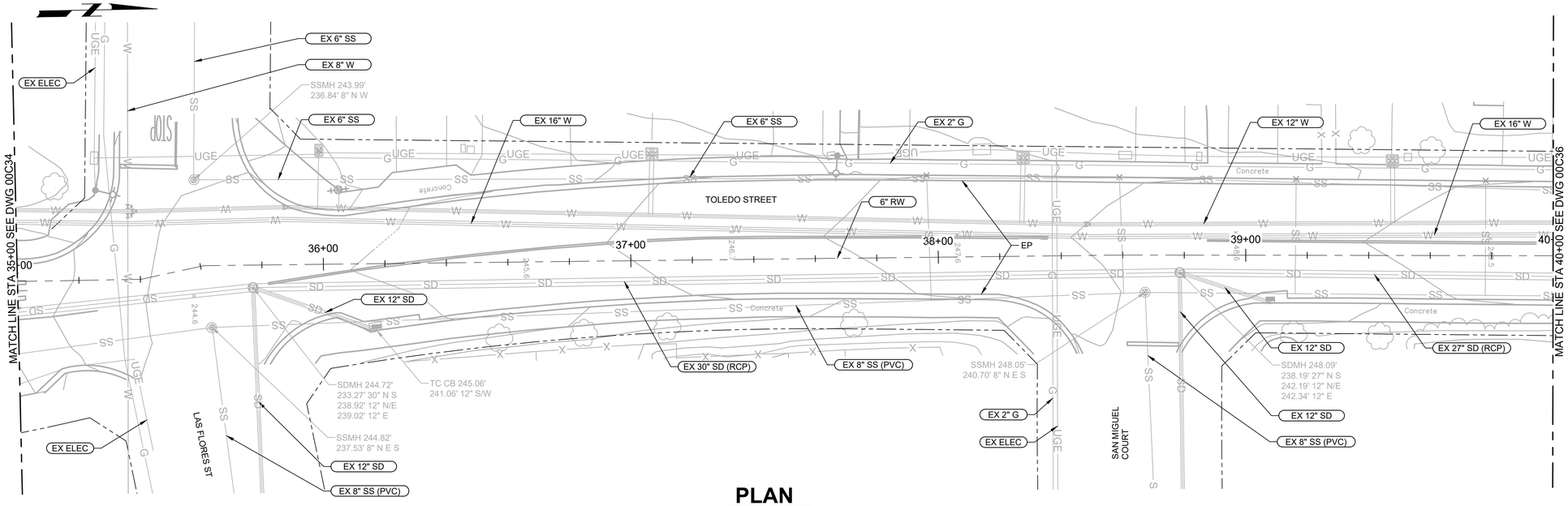
PLAN AND PROFILE - ALIGNMENT B
STA 30+00 TO STA 35+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C34
SHEET NO.
OF

PROJECT NO. 202765-100000 FILE NAME: 20276500C34.dwg



PLAN

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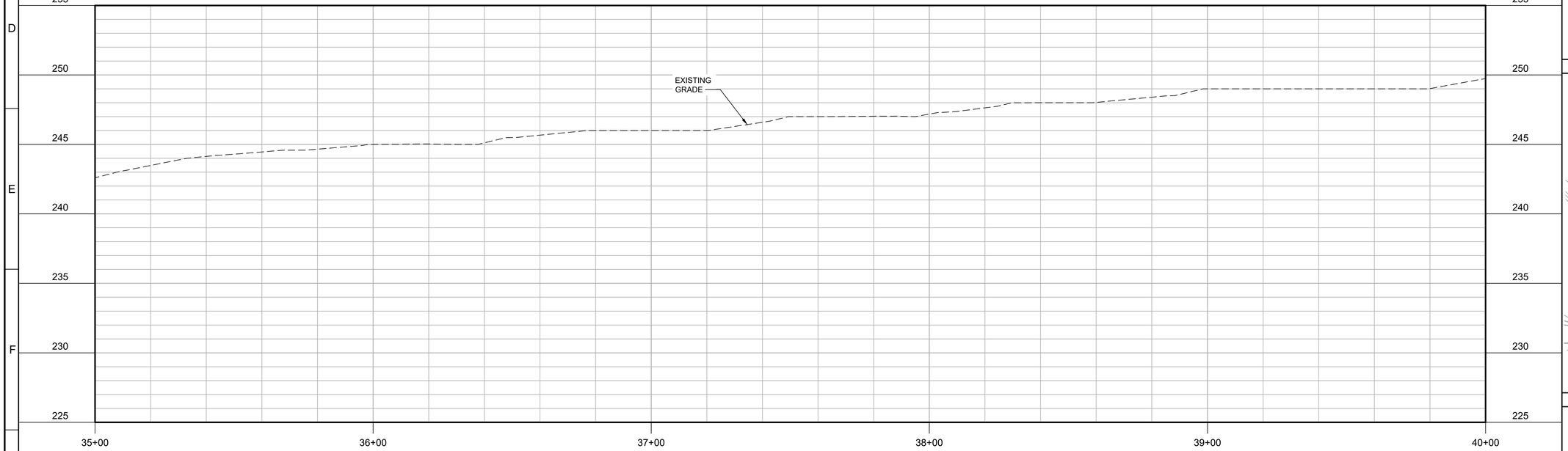

PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

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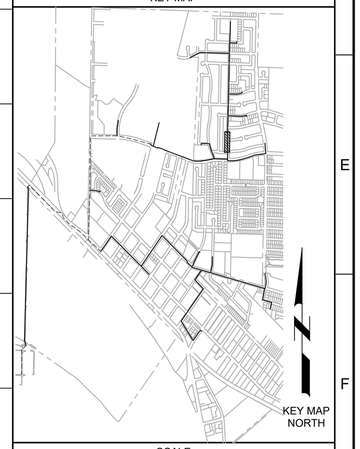
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

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SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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DATE JUNE 2024

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PLAN AND PROFILE - ALIGNMENT B
STA 35+00 TO STA 40+00

VERIFY SCALES
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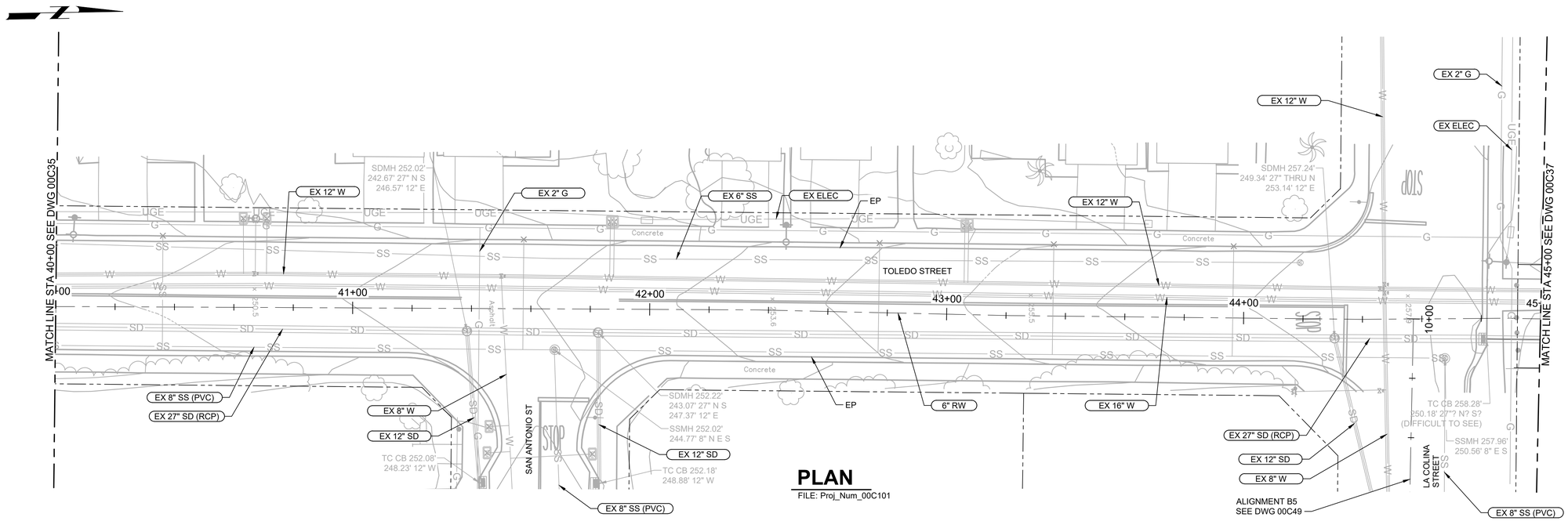
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C35
SHEET NO.
OF

LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C35.dwg



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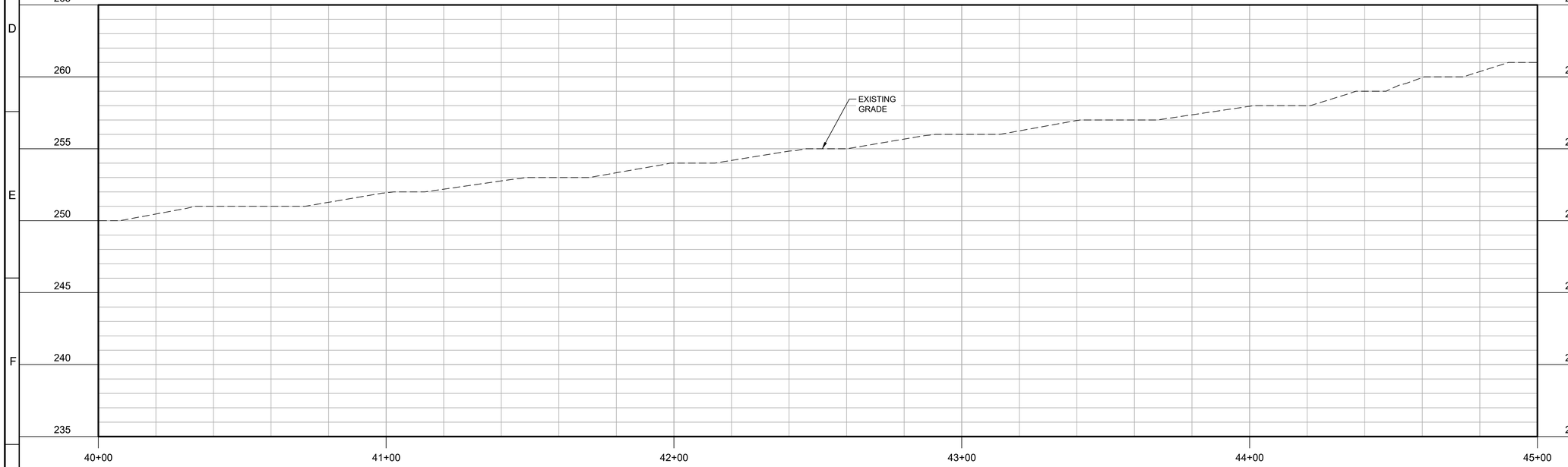

PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
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KEY NOTES:

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2. PLACE TEXT
3. PLACE TEXT

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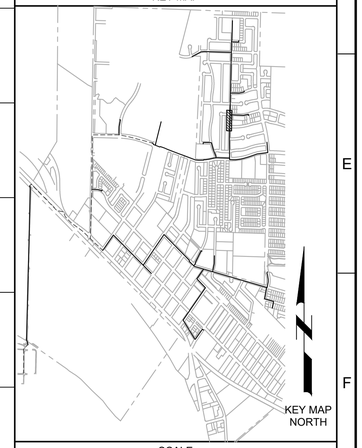
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

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SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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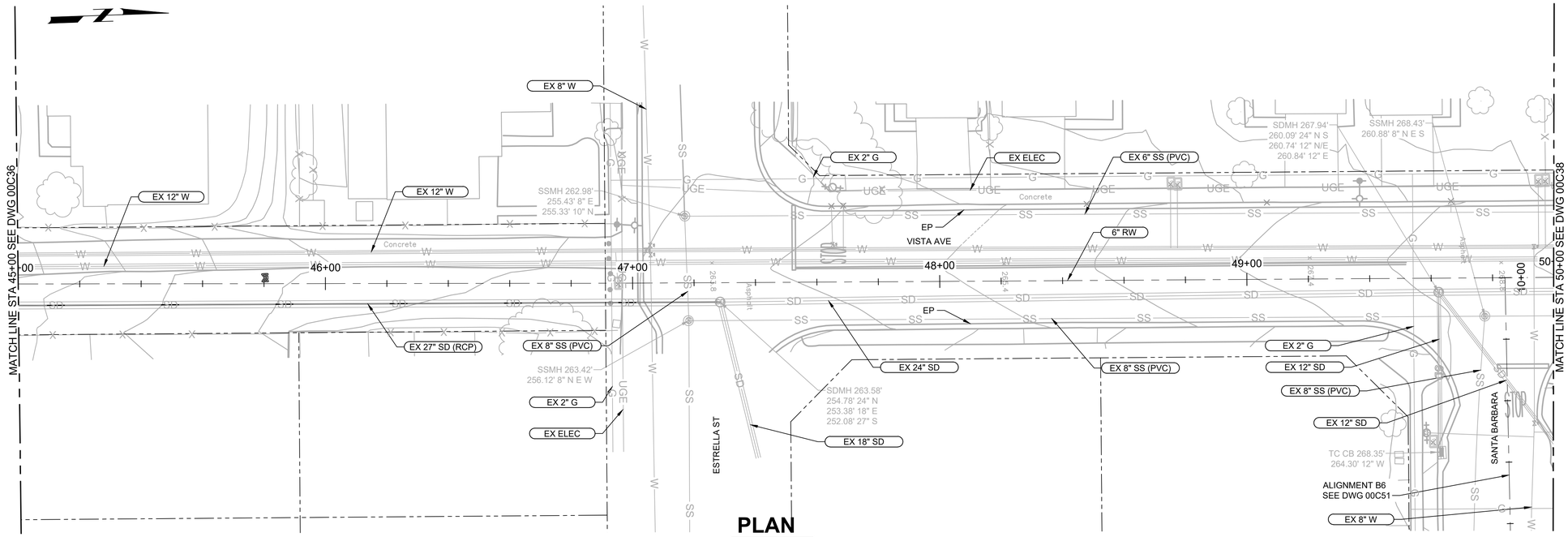
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 40+00 TO STA 45+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

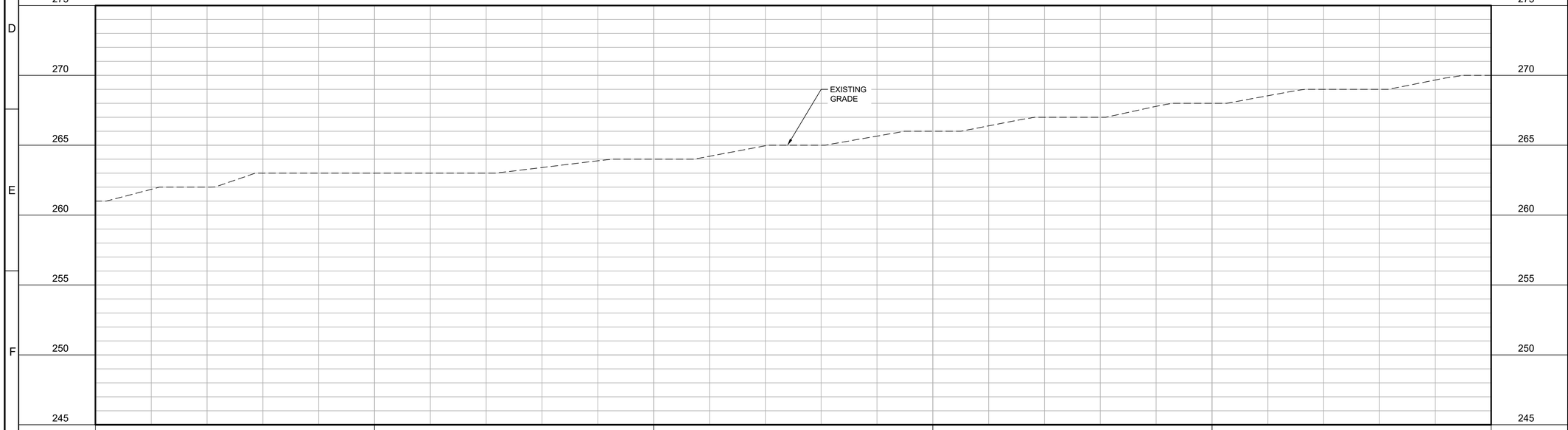
JOB NO. 202765.10
DRAWING NO. 00C36
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: SAdams
PROJECT NO. 202765-100000 FILE NAME: 20276500C36.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
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KEY NOTES:

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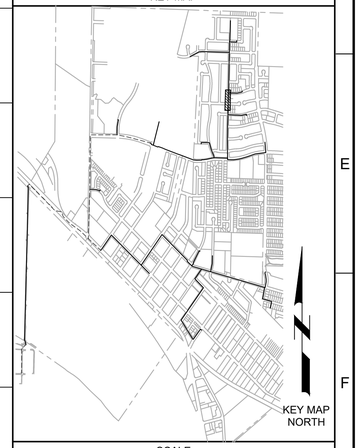
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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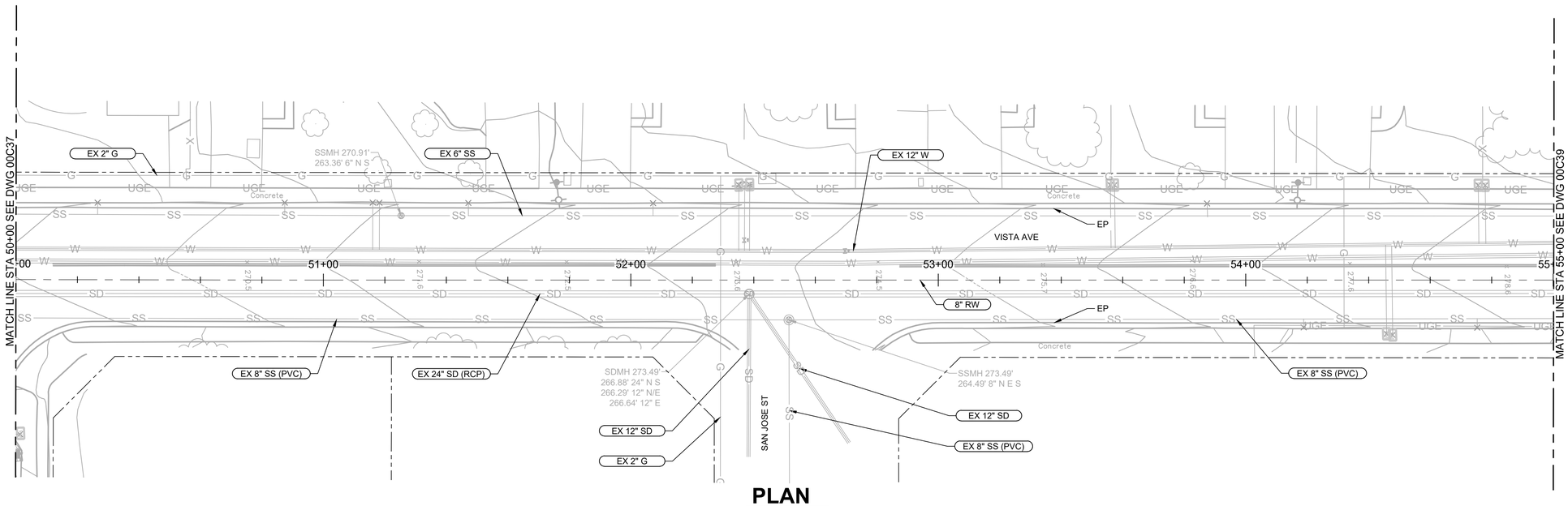
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 45+00 TO STA 50+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C37
SHEET NO.
OF

LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C37.dwg



PLAN

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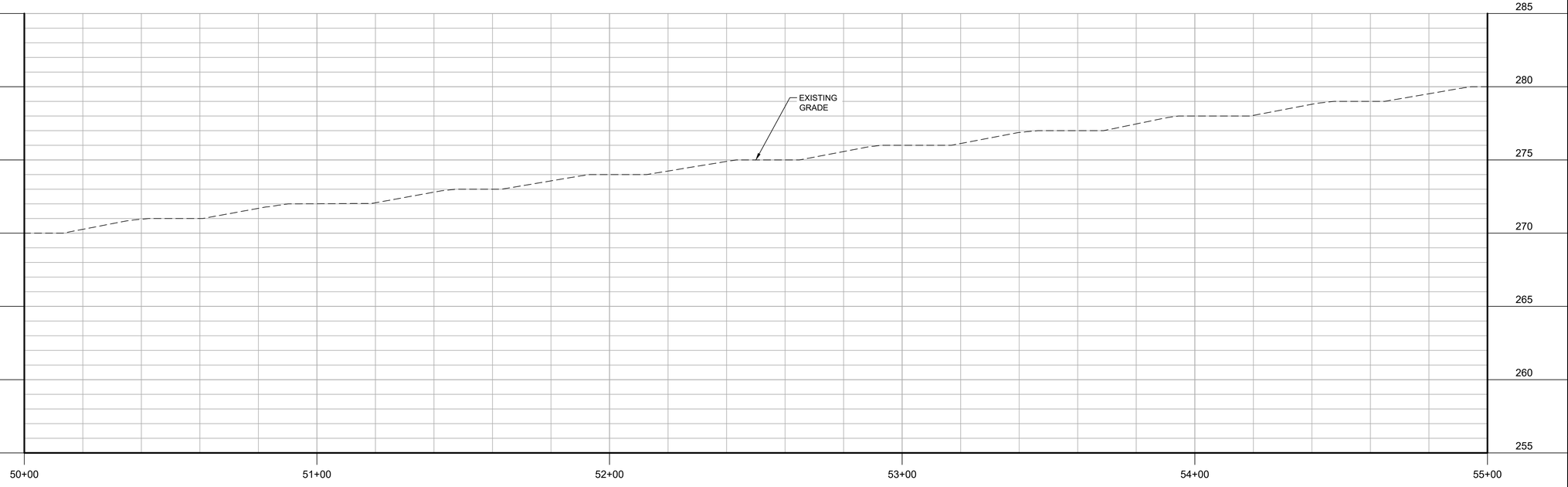

PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

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KEY NOTES:

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2. PLACE TEXT
3. PLACE TEXT

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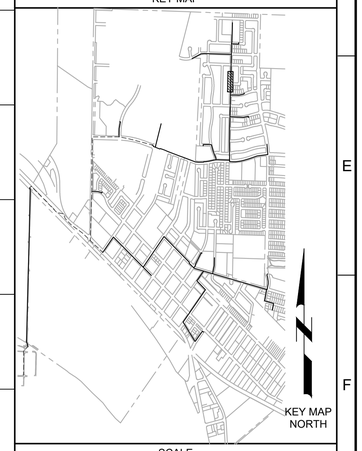
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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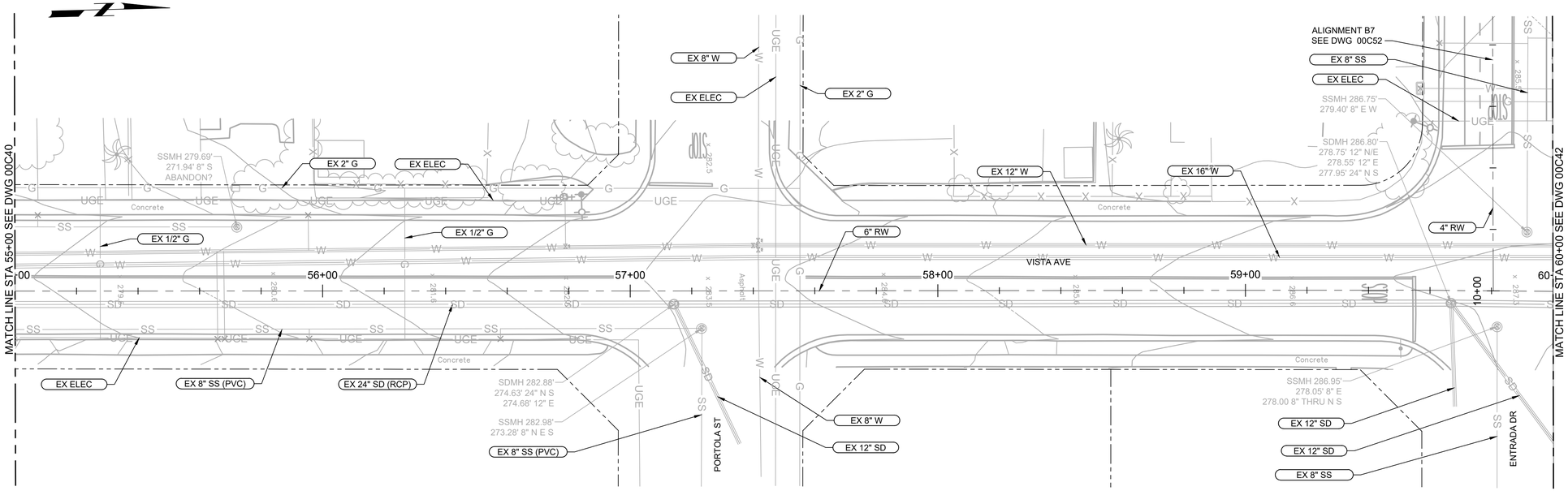
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 50+00 TO STA 55+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C38
SHEET NO.
OF

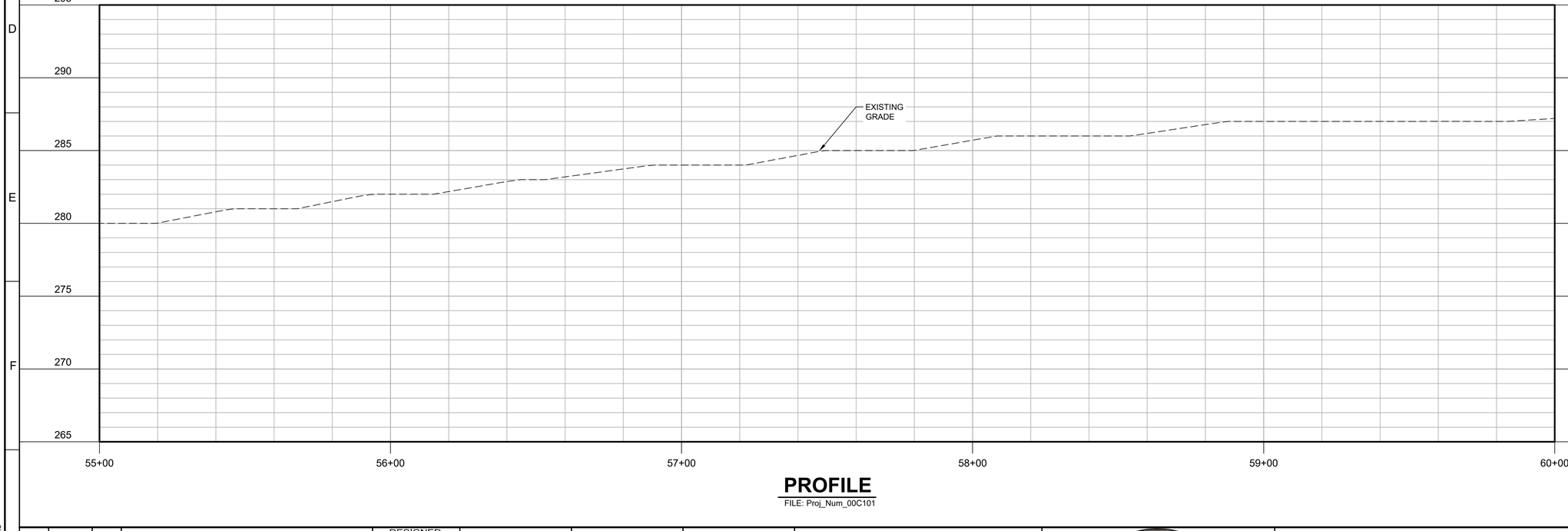
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C38.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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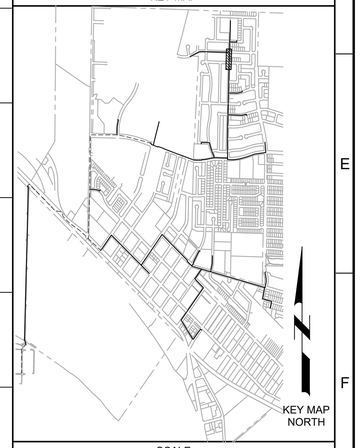
KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

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SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 55+00 TO STA 60+00

VERIFY SCALES
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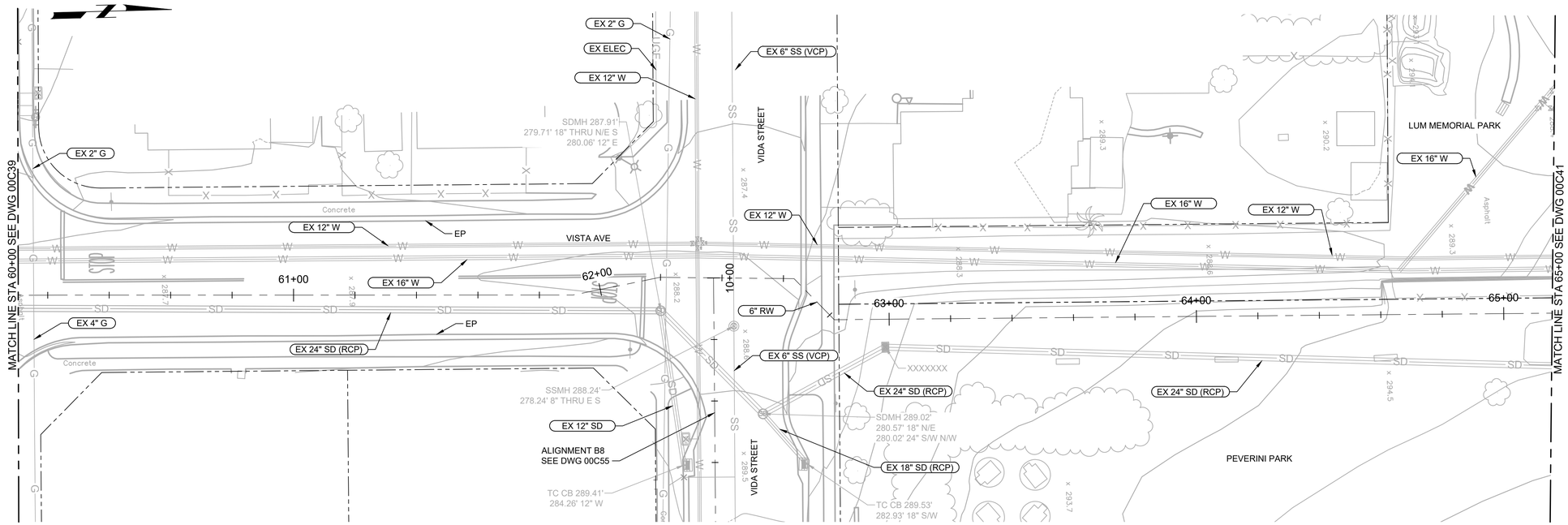
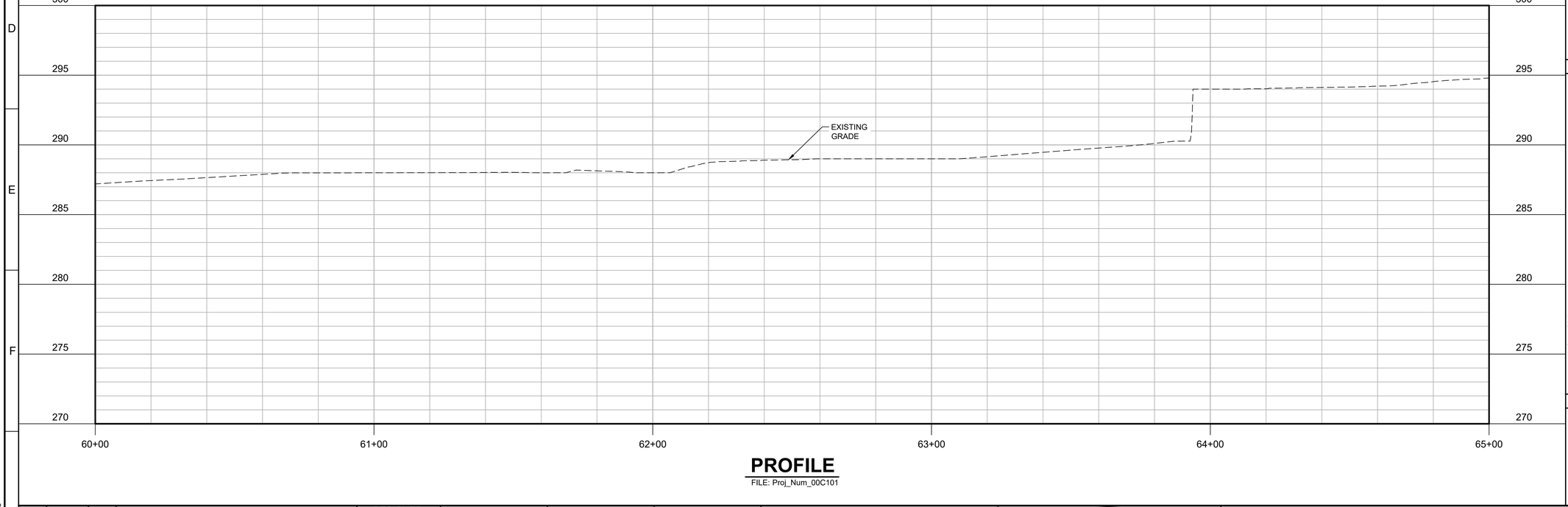
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C39
SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
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KEY NOTES:

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2. PLACE TEXT
3. PLACE TEXT

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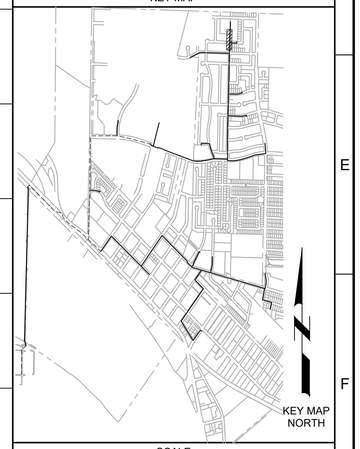
KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
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STATE OF CALIFORNIA

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CITY OF SOLEDAD

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CIVIL

PLAN AND PROFILE ALIGNMENT B
STA 60+00 TO STA 65+00

VERIFY SCALES
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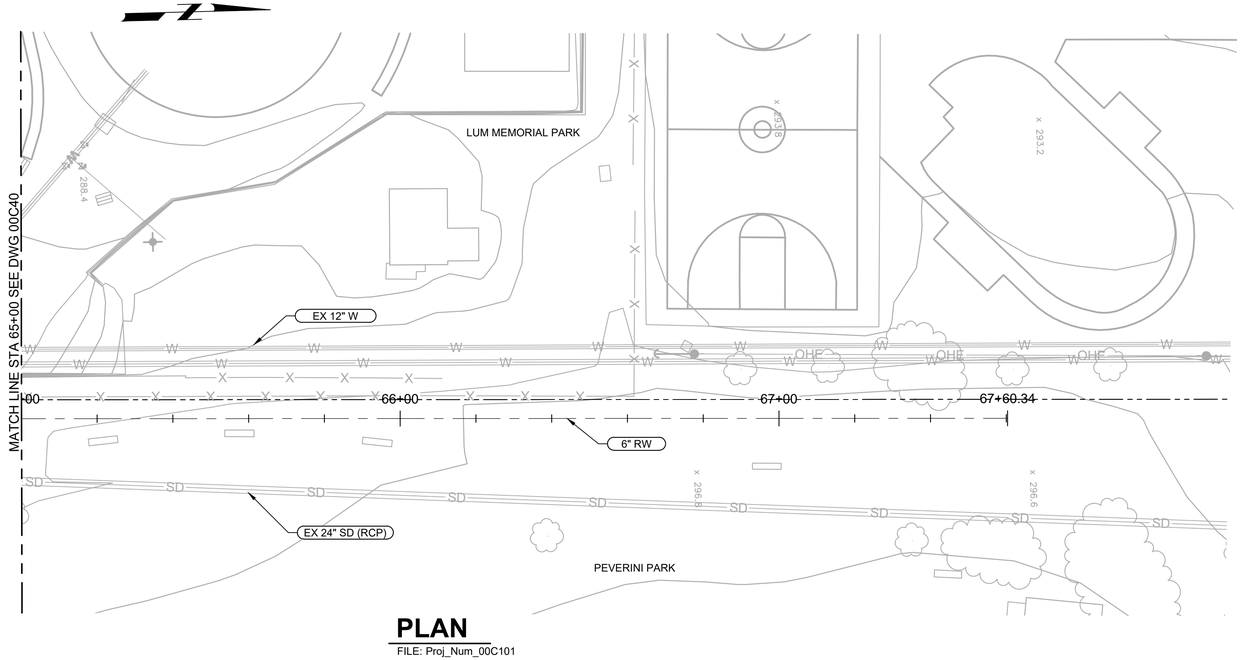
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C40
SHEET NO.
OF

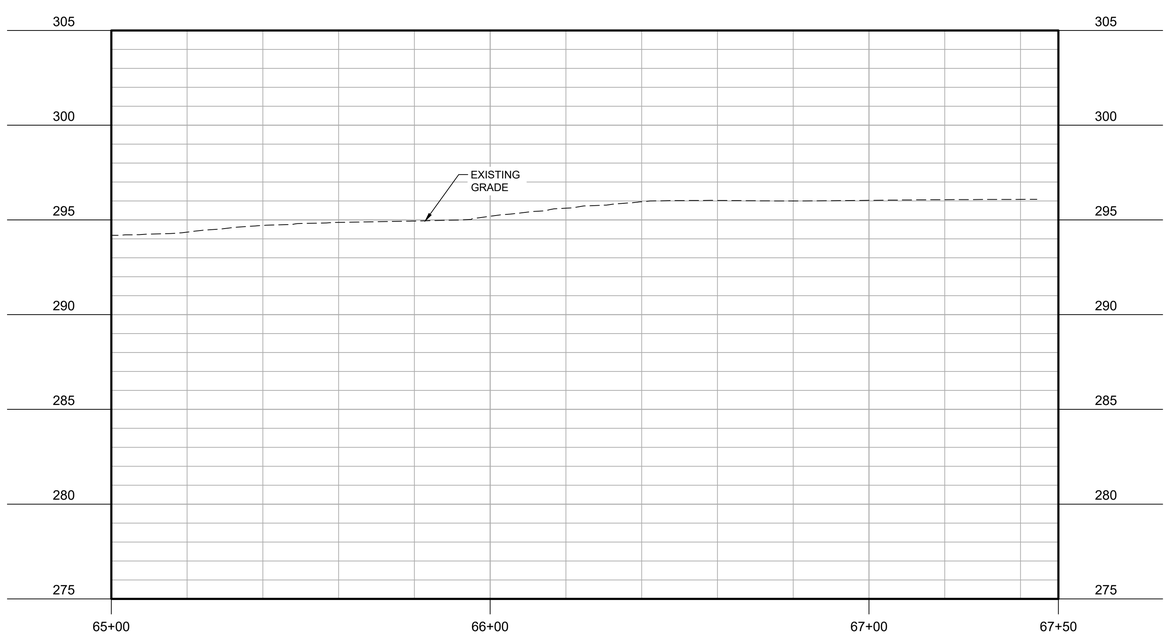
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C40.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

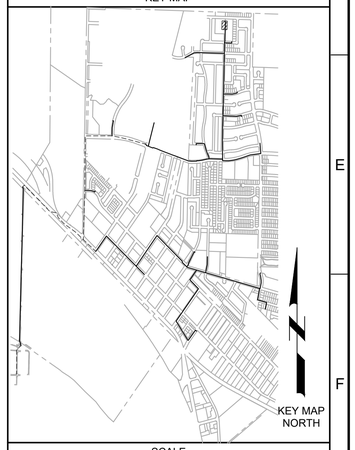
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B
STA 65+00 TO STA 67+60.34

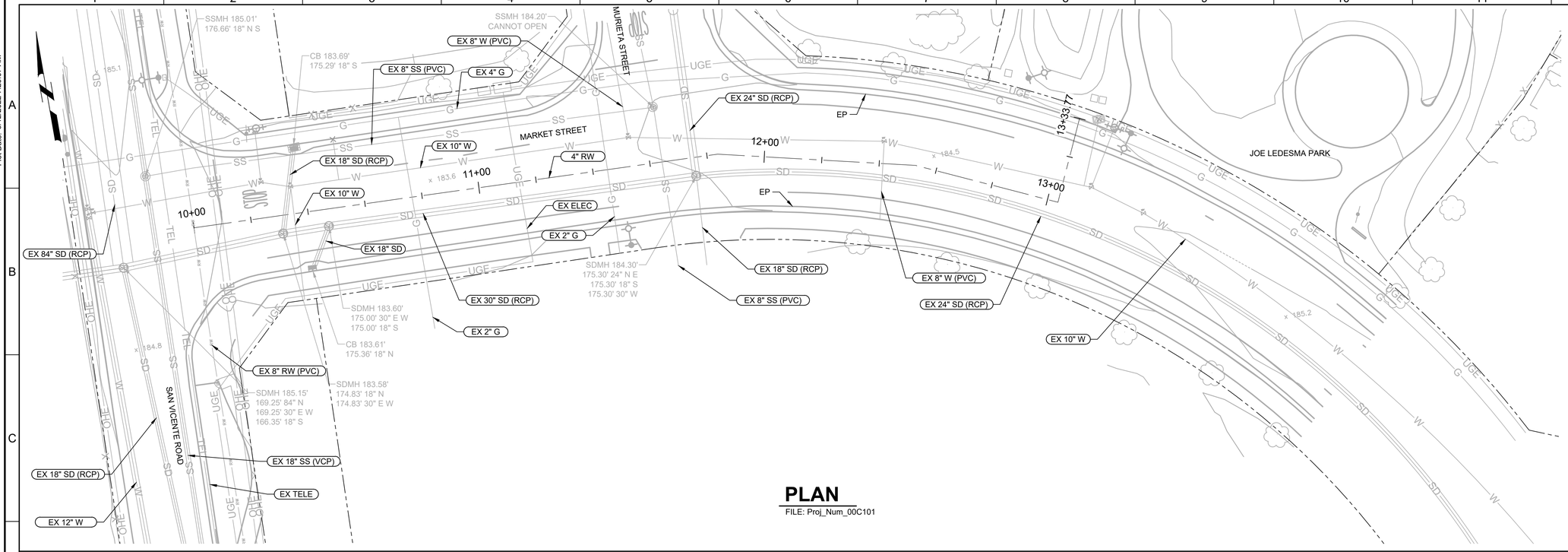
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C41
SHEET NO.
OF

LAST SAVED BY: SAdams

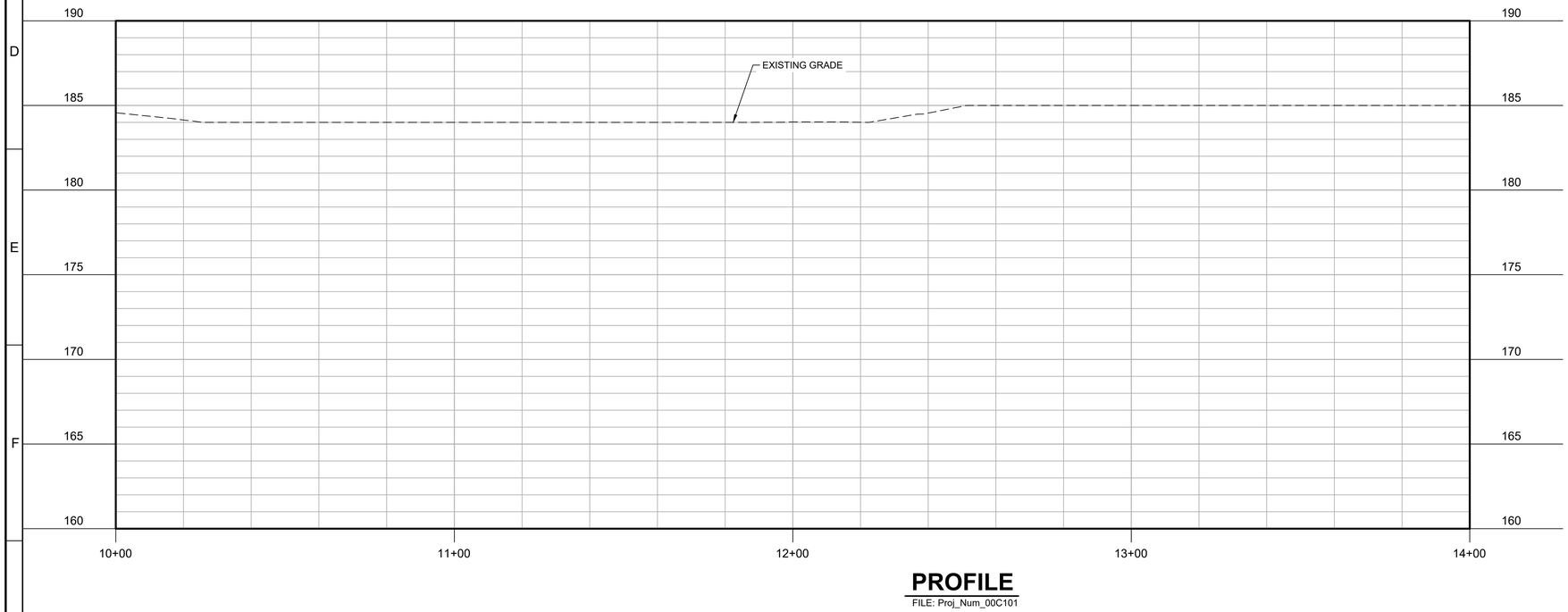
PROJECT NO. 202765-100000 FILE NAME: 20276500C41.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

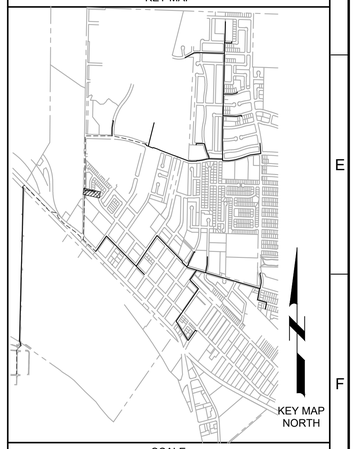
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT B1
STA 10+00 TO STA 13+33.77

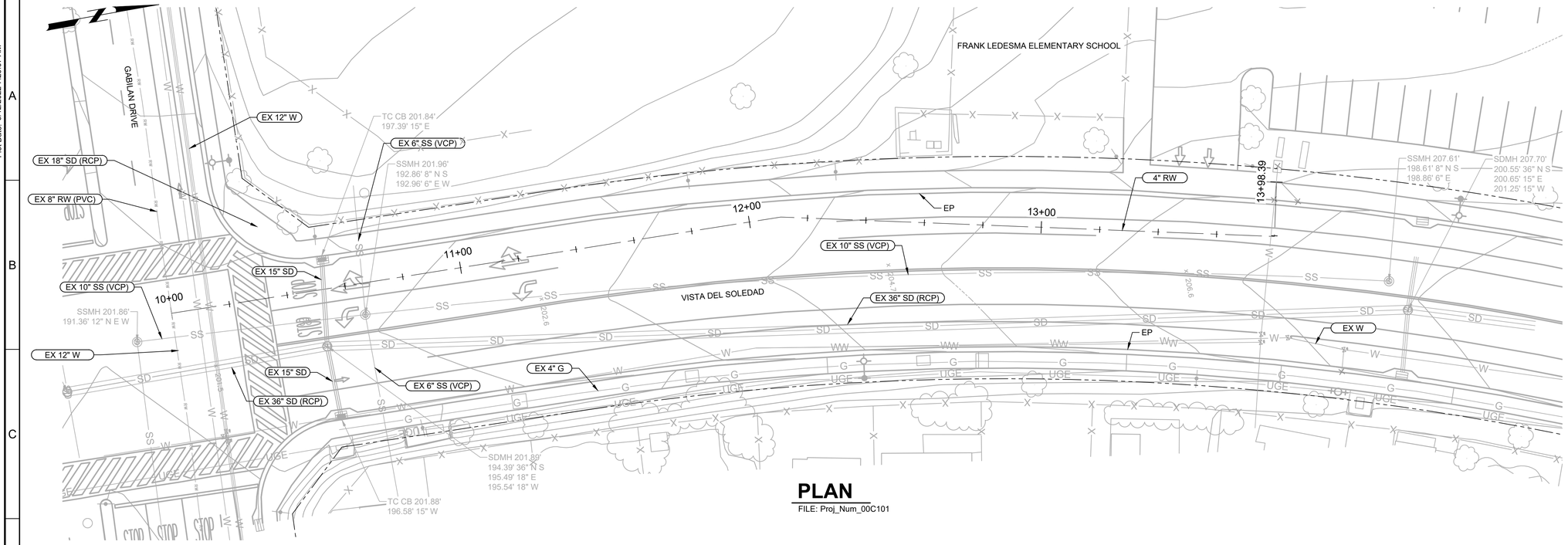
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C42
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: KSimpson

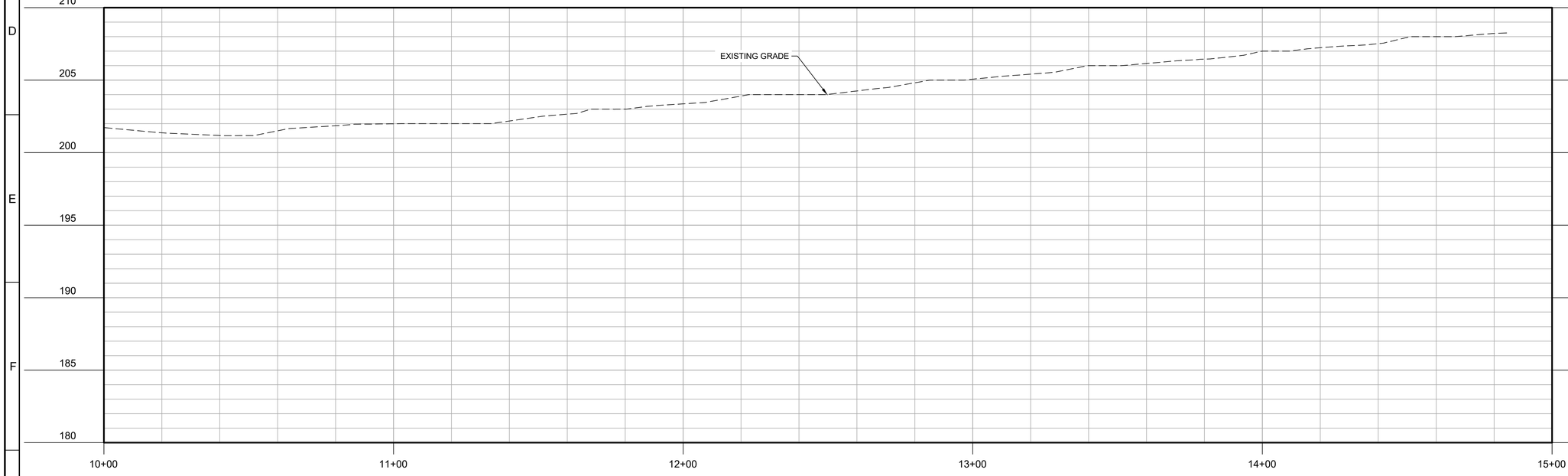
PROJECT NO. 202765-100000 FILE NAME: 20276500C42.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOR No. 73998 CIVIL STATE OF CALIFORNIA

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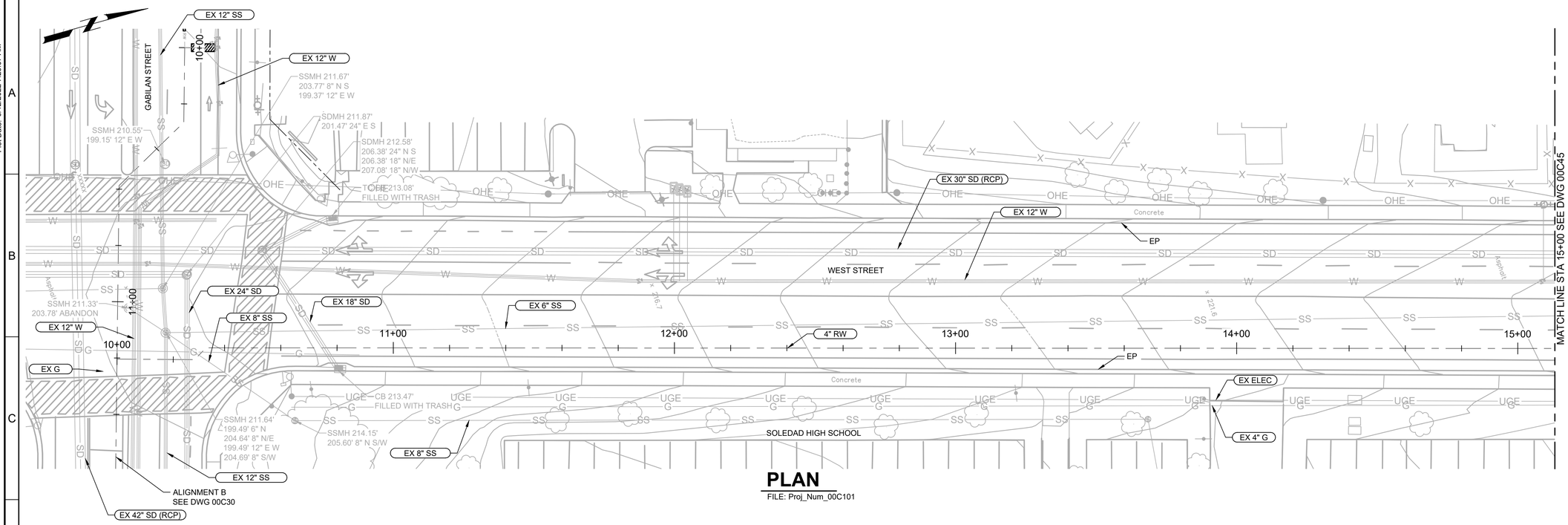
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B2
STA 10+00 TO STA 14+84.36

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C43
SHEET NO. OF

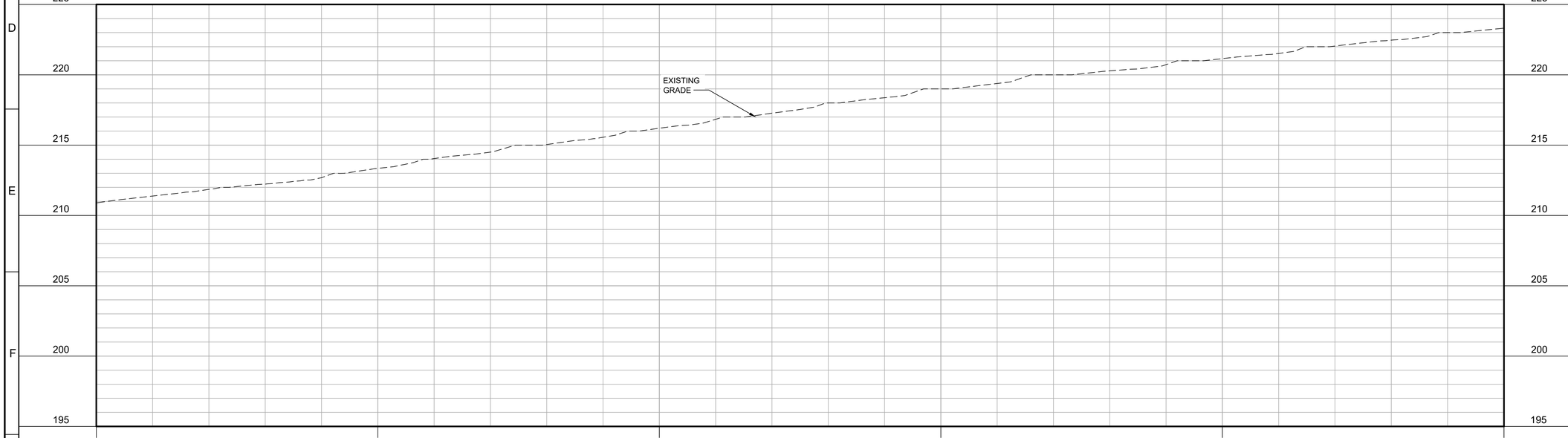
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C43.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

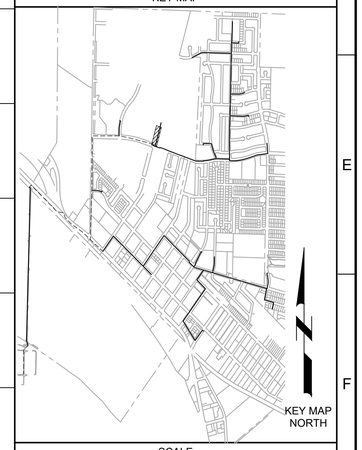
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED | DRAWN | CHECKED | DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOK — No. 73998 — CIVIL — STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

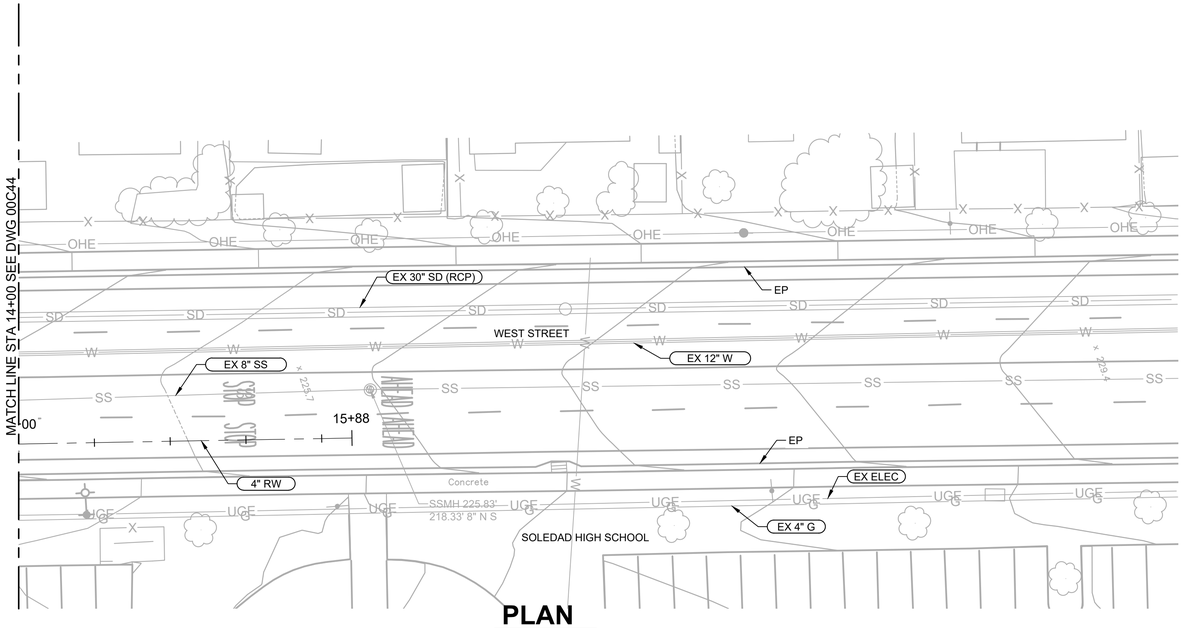
PLAN AND PROFILE - ALIGNMENT B3
STA 10+00 TO STA 15+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C44
SHEET NO.
OF

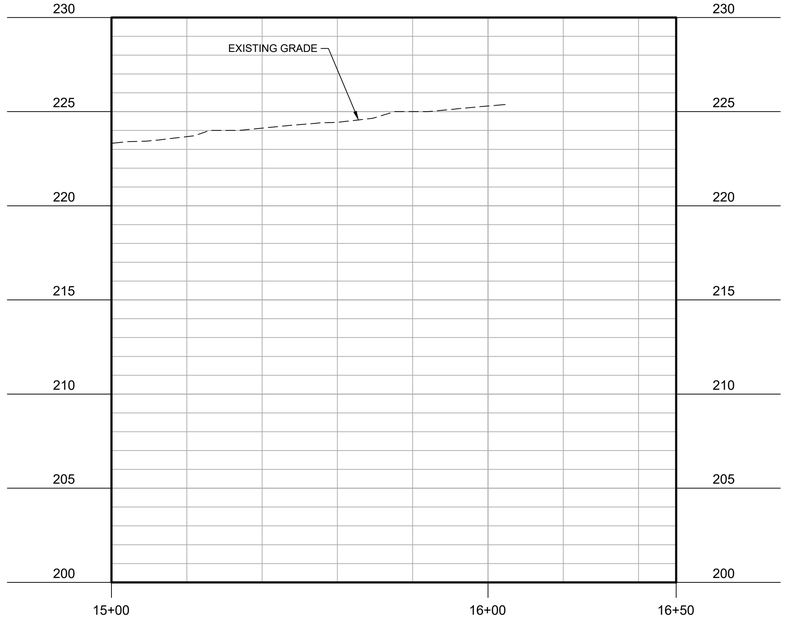
LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500C44.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

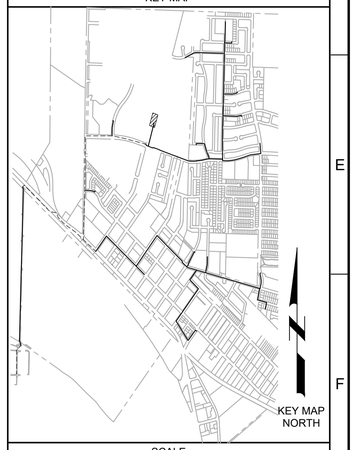
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FONG No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD

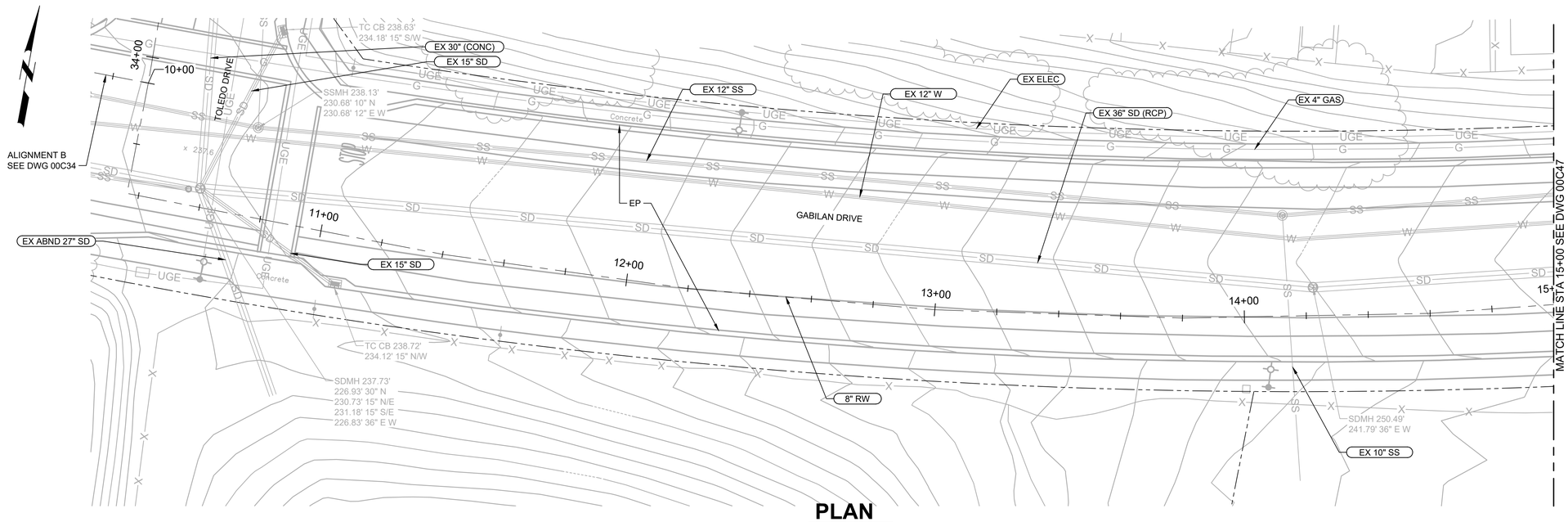
RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT B3
STA 15+00 TO 15+88.00

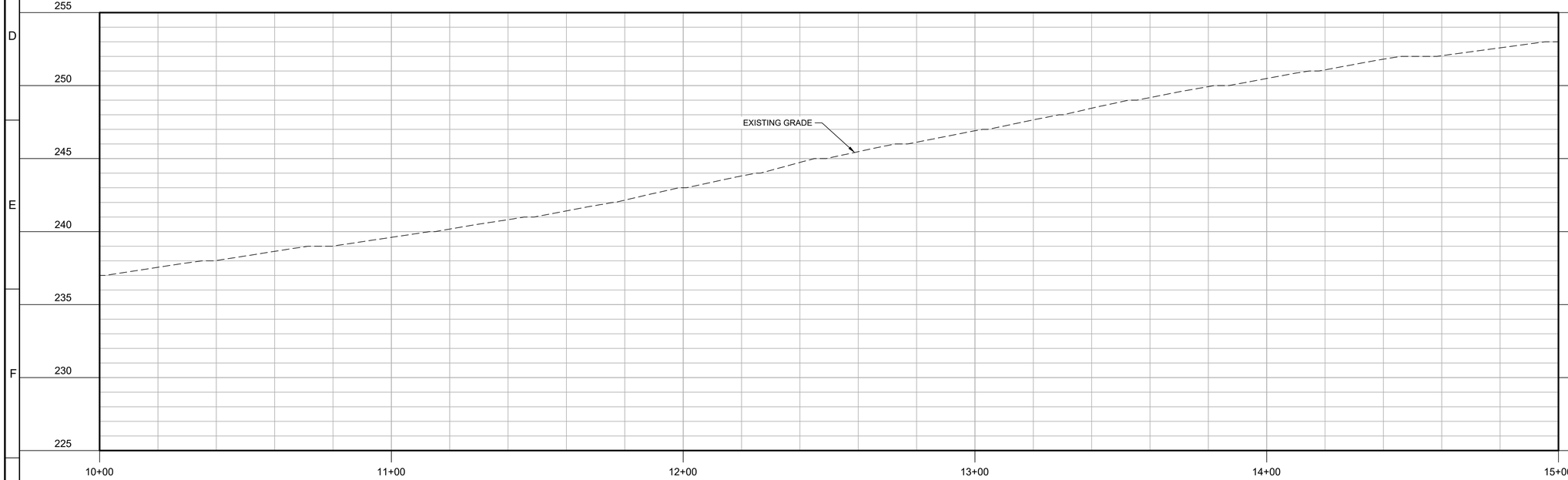
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C45
SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FOR
No. 73998
CIVIL
STATE OF CALIFORNIA

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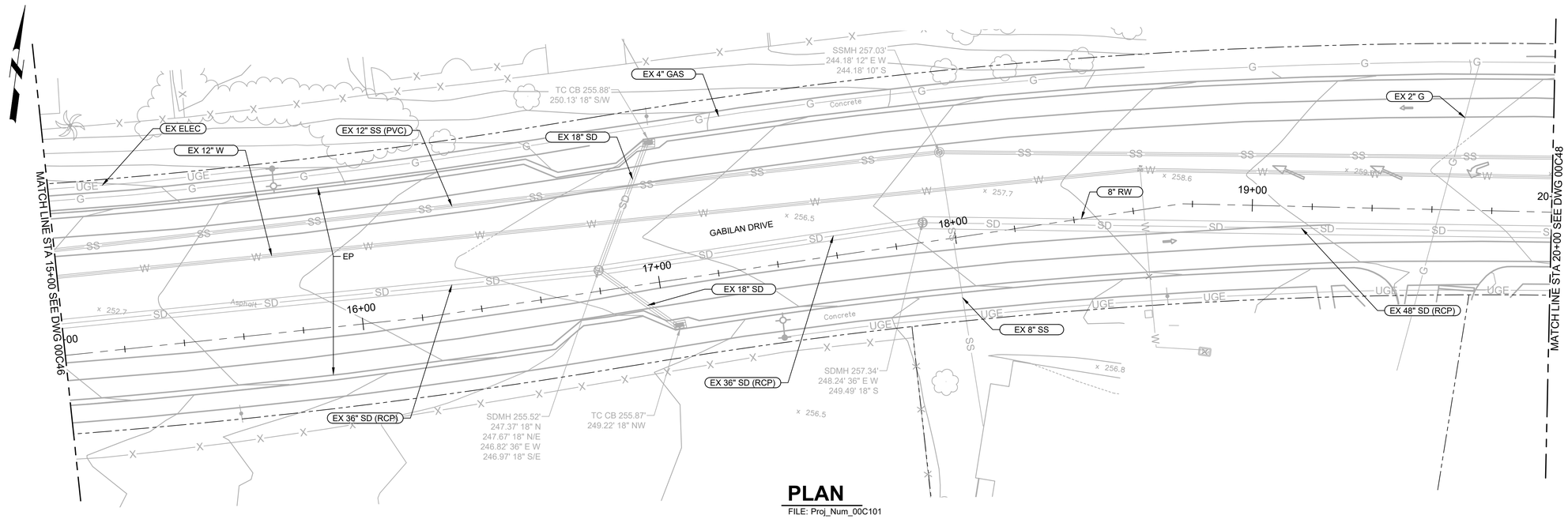
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B4
STA 10+00 TO STA 15+00

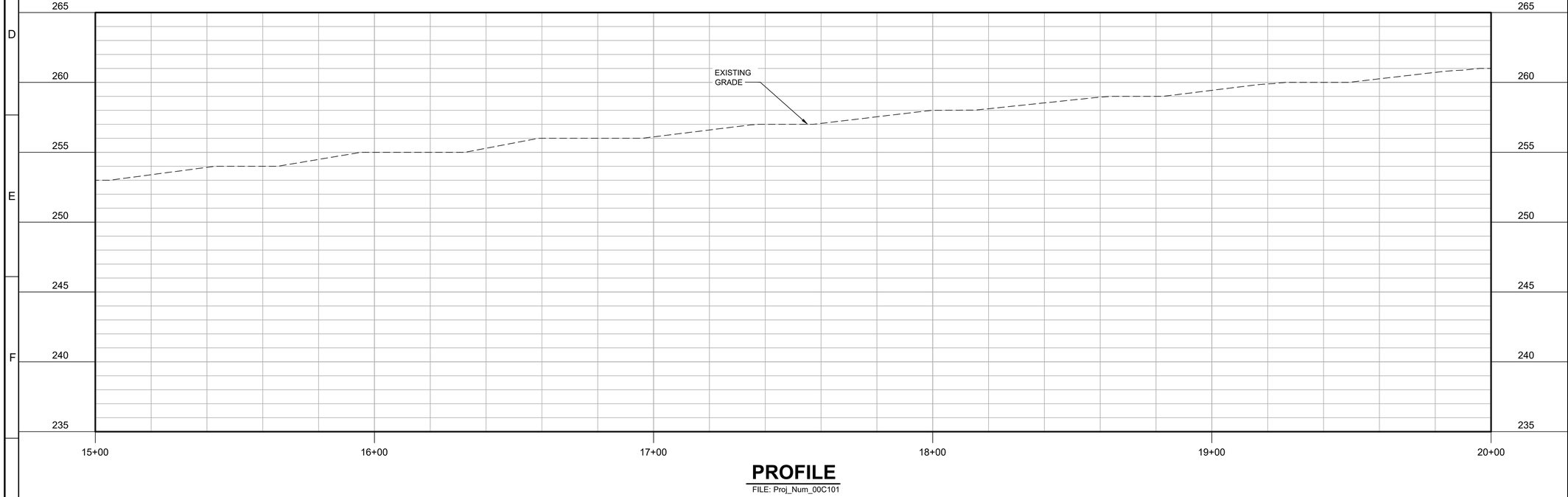
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C46
SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOR No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT B4
STA 15+00 TO STA 20+00

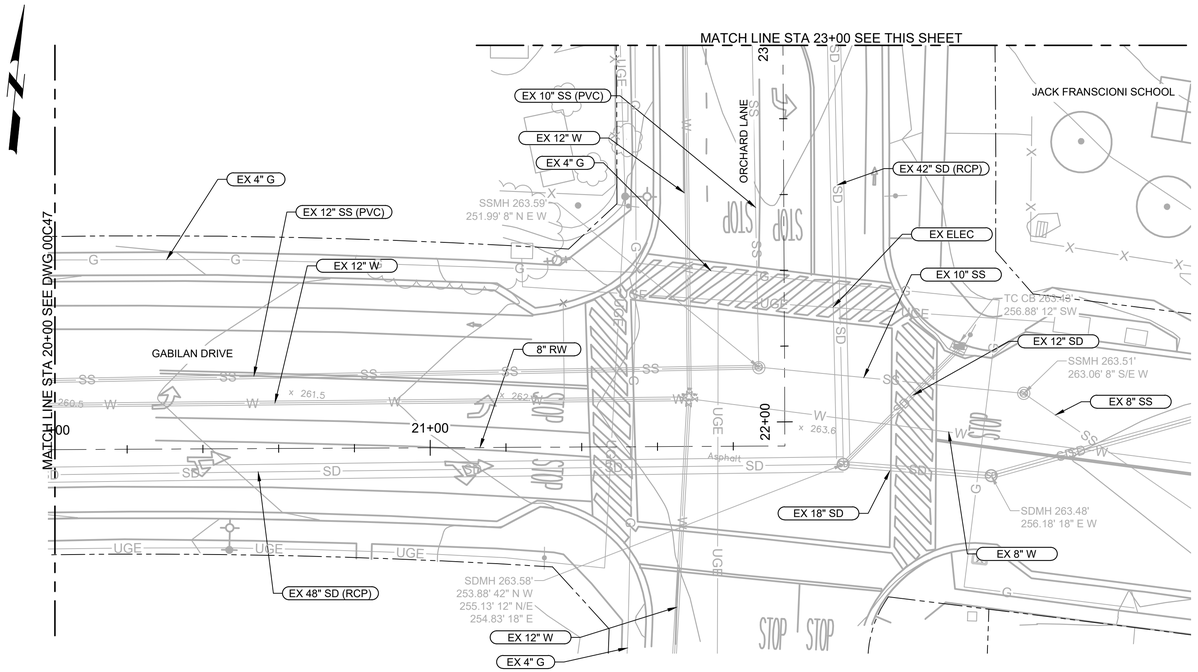
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C47
SHEET NO. OF

LAST SAVED BY: LHall

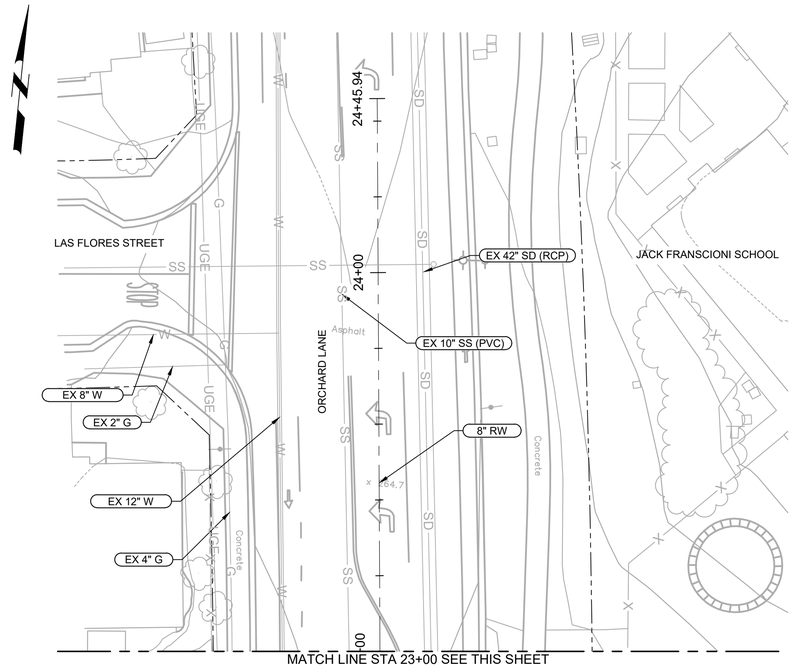
PROJECT NO. 202765-100000 FILE NAME: 20276500C47.dwg

Plot Date: 9/12/2022 7:29:07 AM



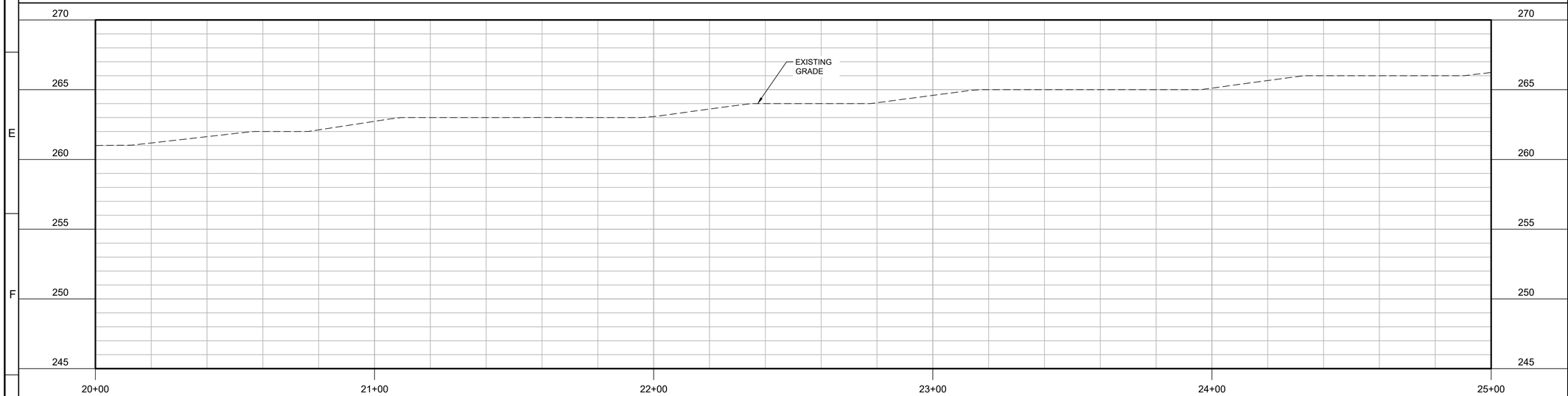
PLAN

FILE: Proj_Num_00C101



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

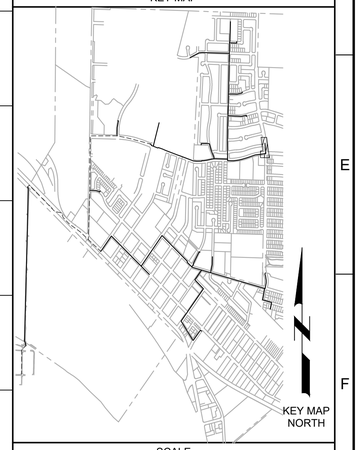
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED

DRAWN

CHECKED

DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER SUSAN NGO FOR No. 73998 CIVIL STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT B4
STA 20+00 TO 24+45.94

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

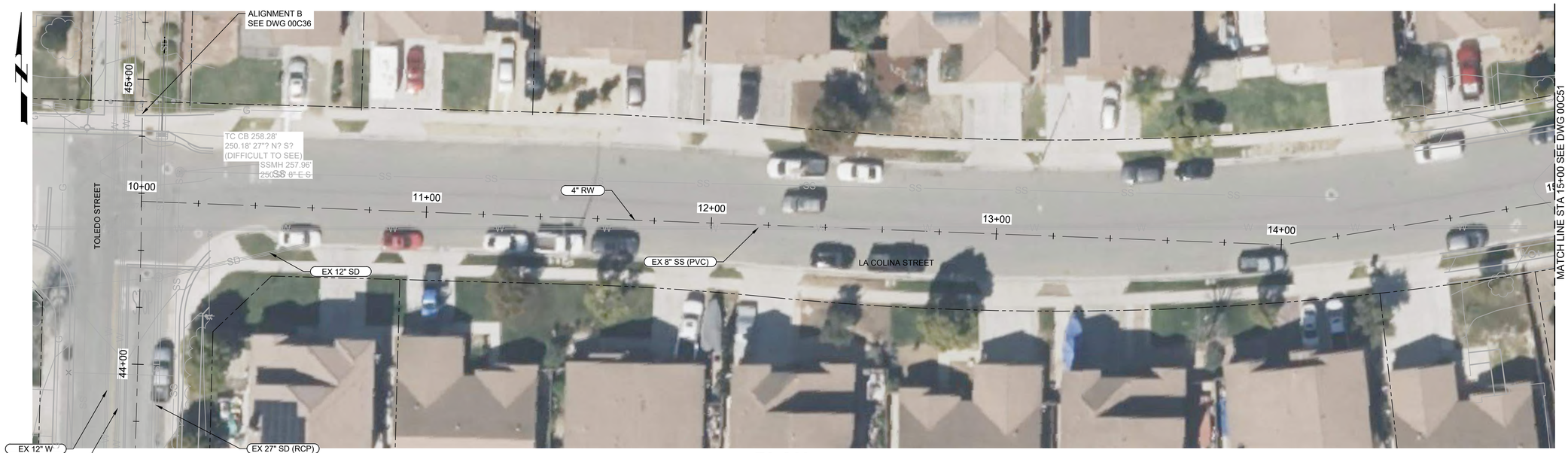
JOB NO. 202765.10

DRAWING NO. 00C48

SHEET NO. OF

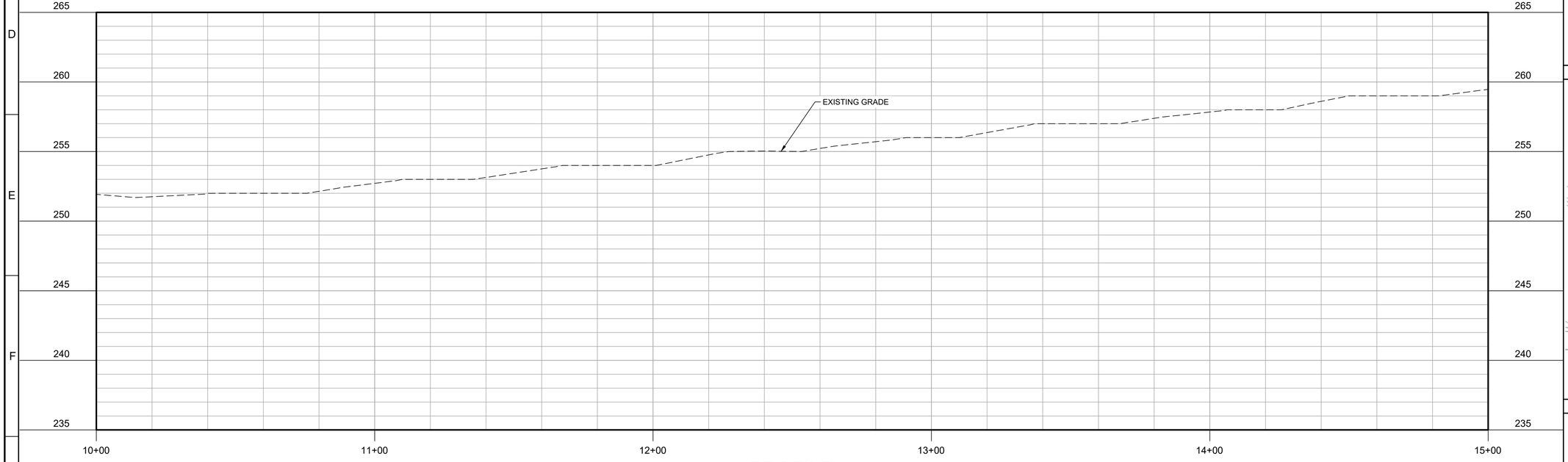
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C48.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

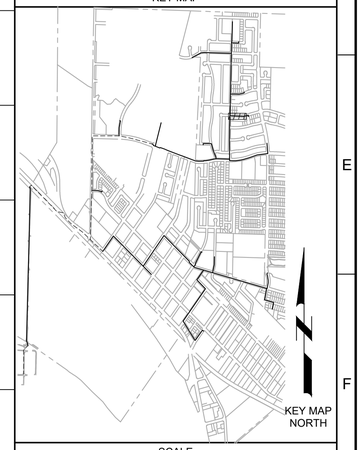
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

SCALE: 1" = 20' (HORIZ)

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOR — No. 73998 — CIVIL — STATE OF CALIFORNIA

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CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNEMNT B5
STA 10+00 TO STA 15+00

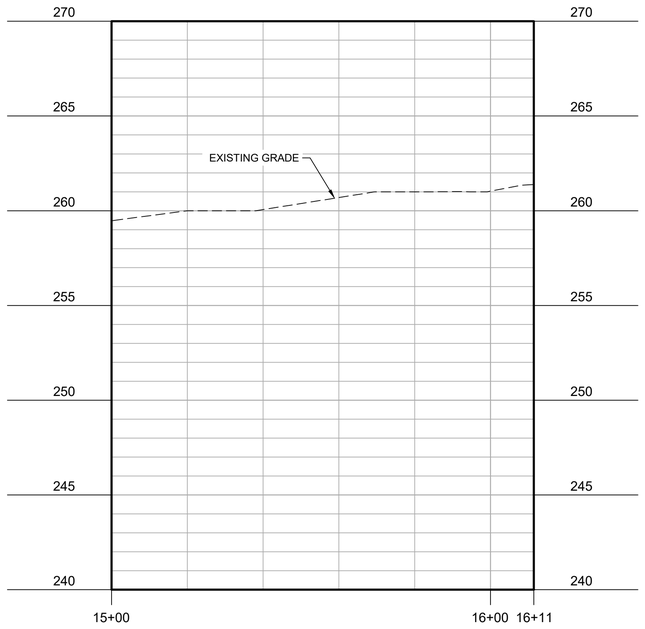
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C49
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: LHall
PROJECT NO. 202765-100000 FILE NAME: 20276500C49.dwg

PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED

DRAWN

CHECKED

DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOR — No. 73998 — CIVIL — STATE OF CALIFORNIA

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CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

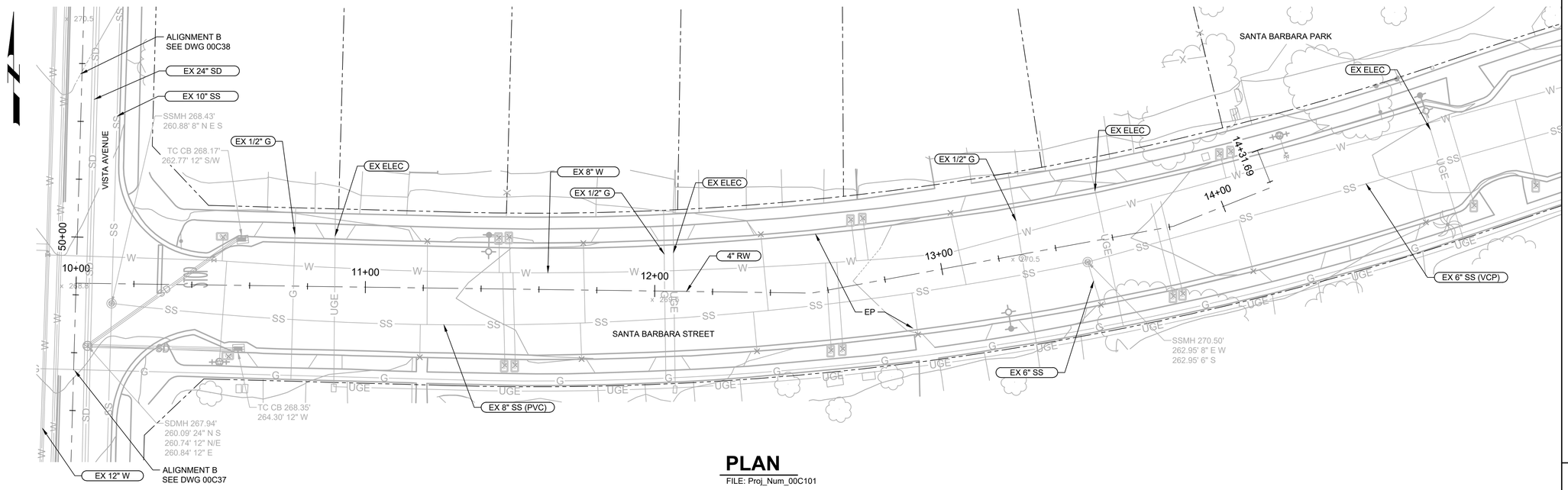
PLAN AND PROFILE - ALIGNMENT B5
STA 15+00 TO 16+10.67

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
202765.10

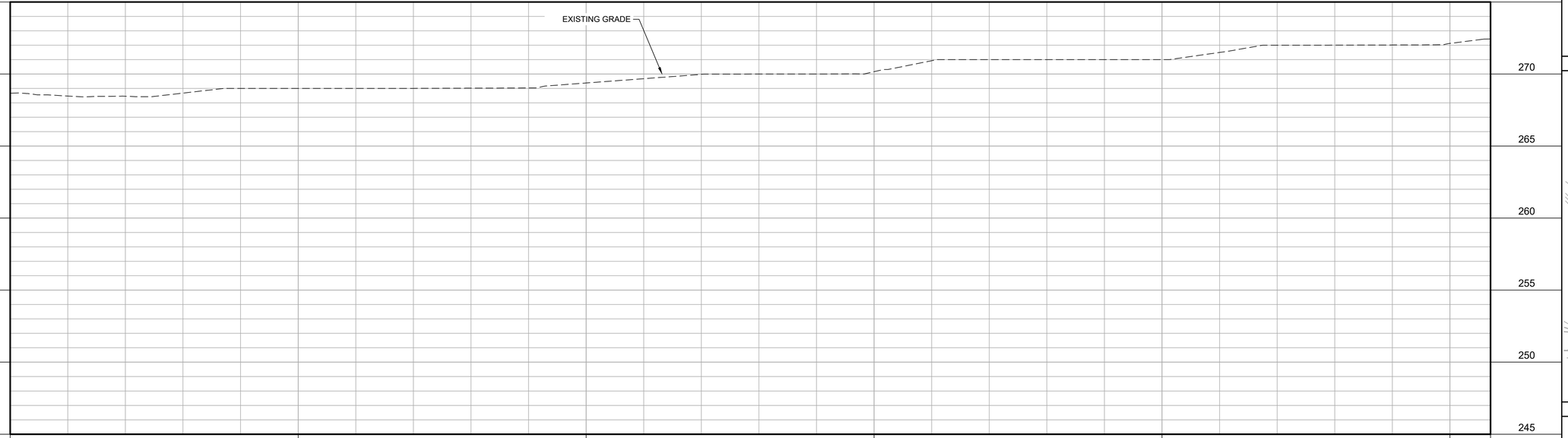
DRAWING NO.
00C50

SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

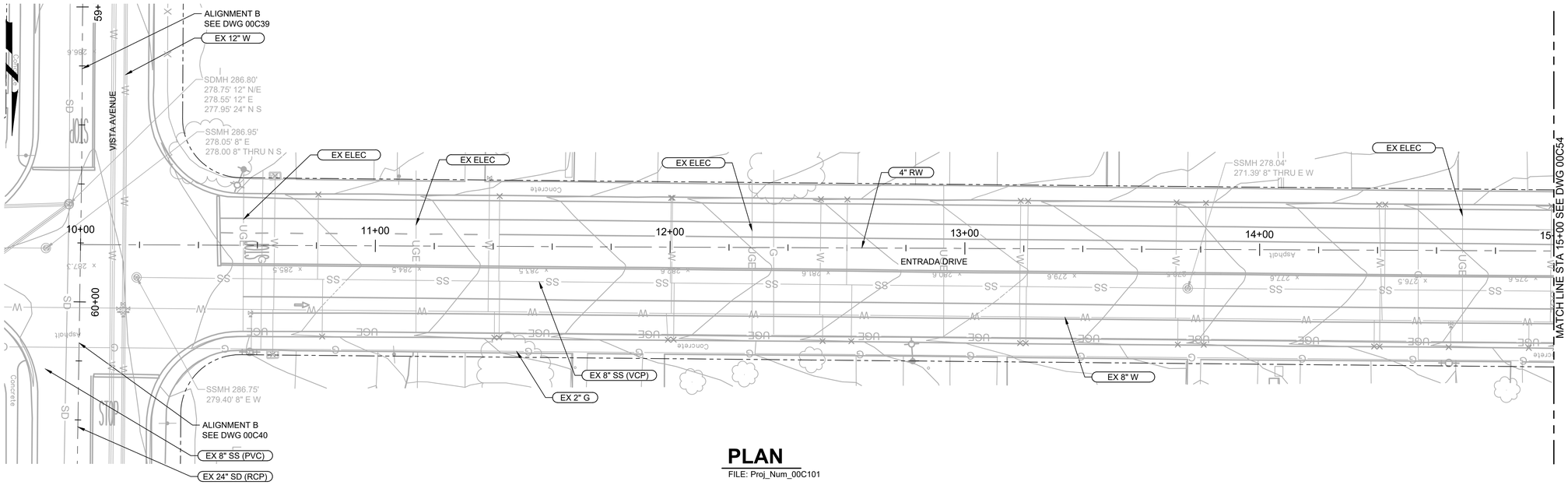
REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FOR
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B6
STA 10+00 TO 15+14.10

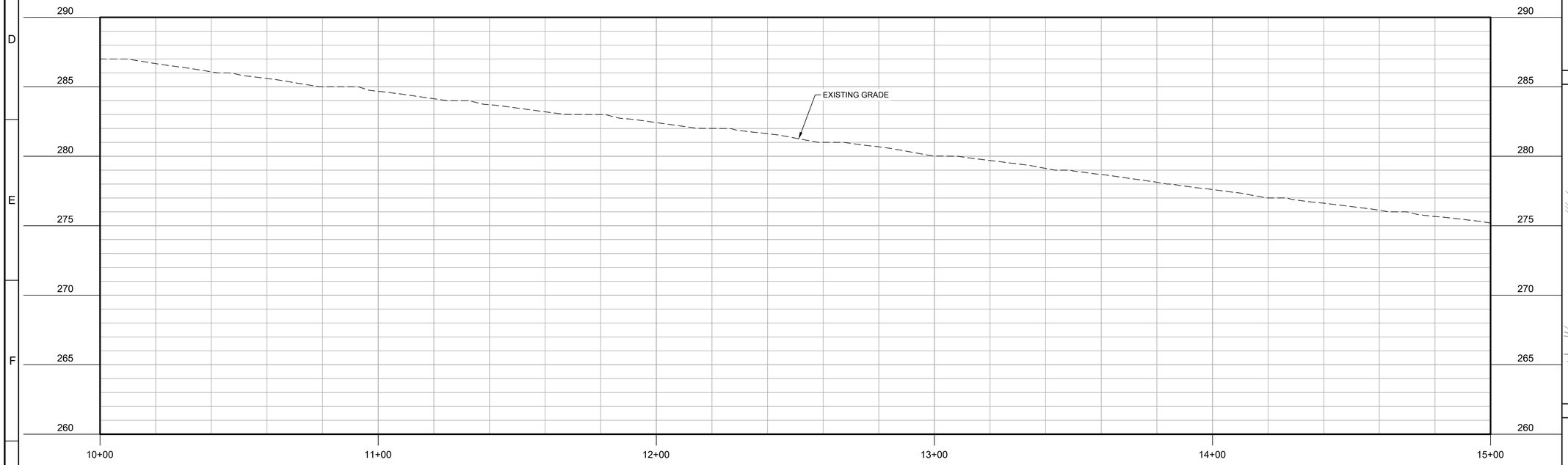
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C51
SHEET NO.
OF



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

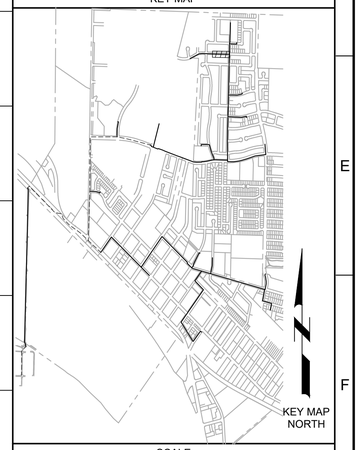
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED | DRAWN | CHECKED | DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT B7
STA 10+00 TO STA 15+00

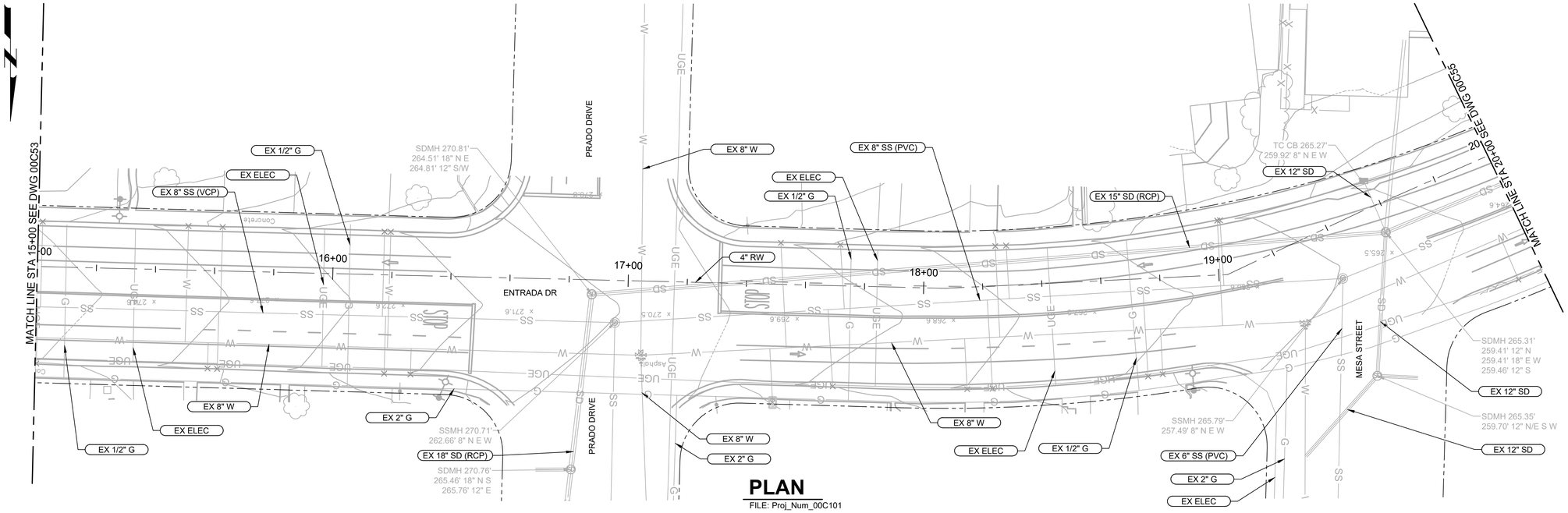
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C52
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM

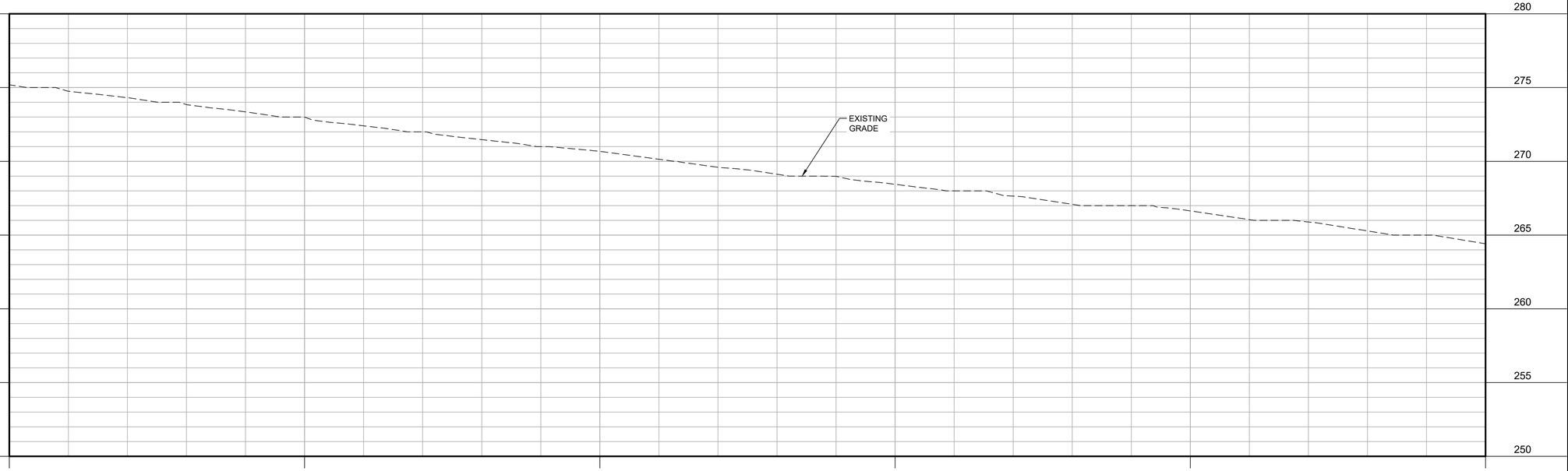
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C52.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

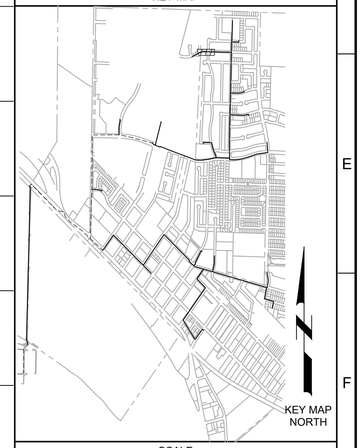
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

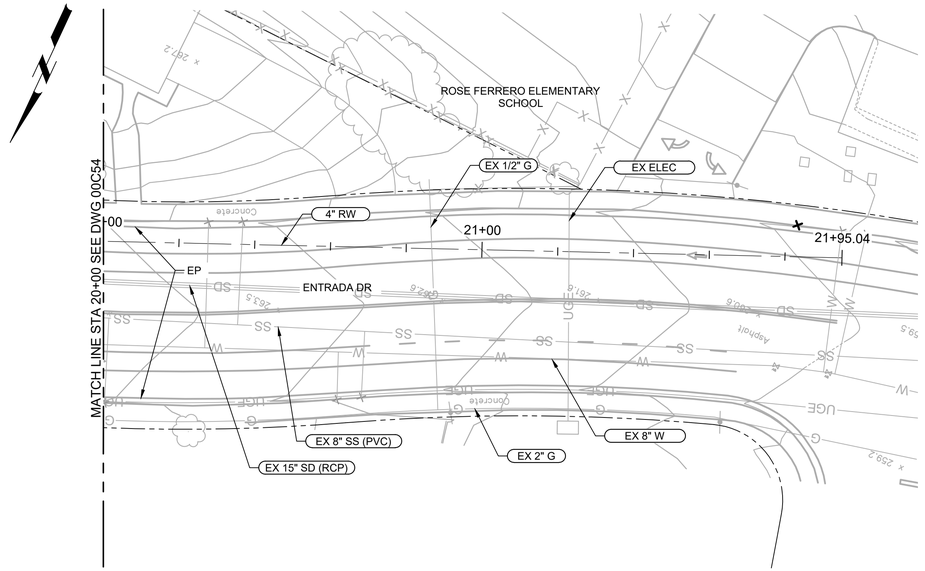
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B7
STA 15+00 TO STA 20+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C53
SHEET NO.
OF

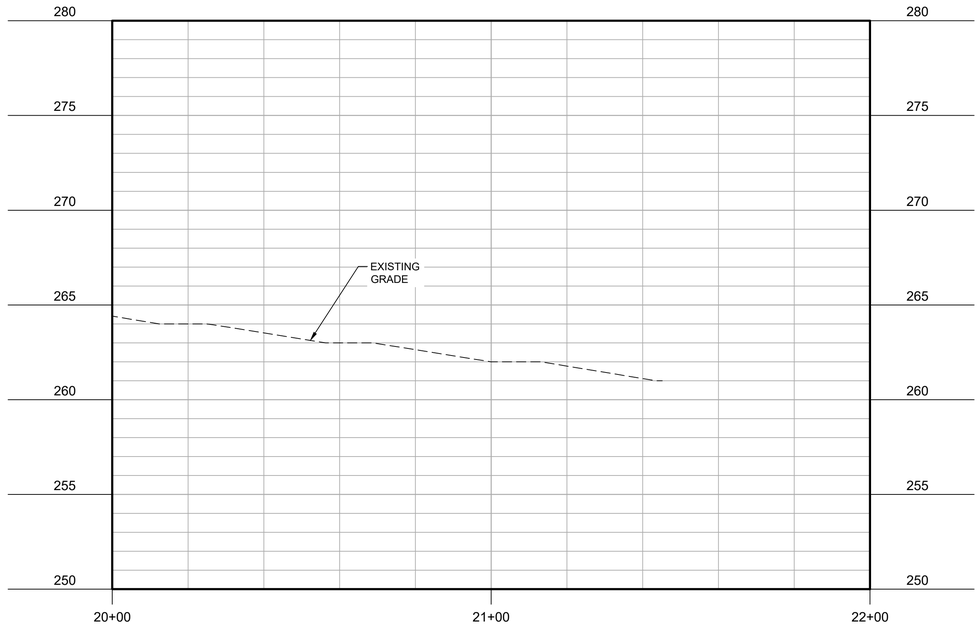
LAST SAVED BY: LHall

PROJECT NO. 202765-100000 FILE NAME: 20276500C53.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

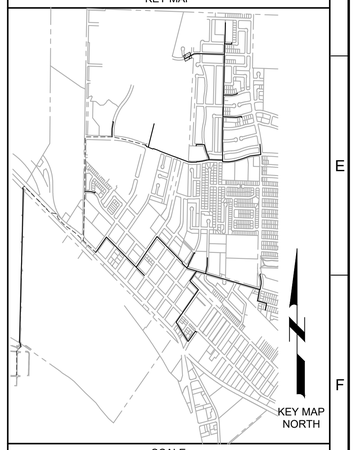
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

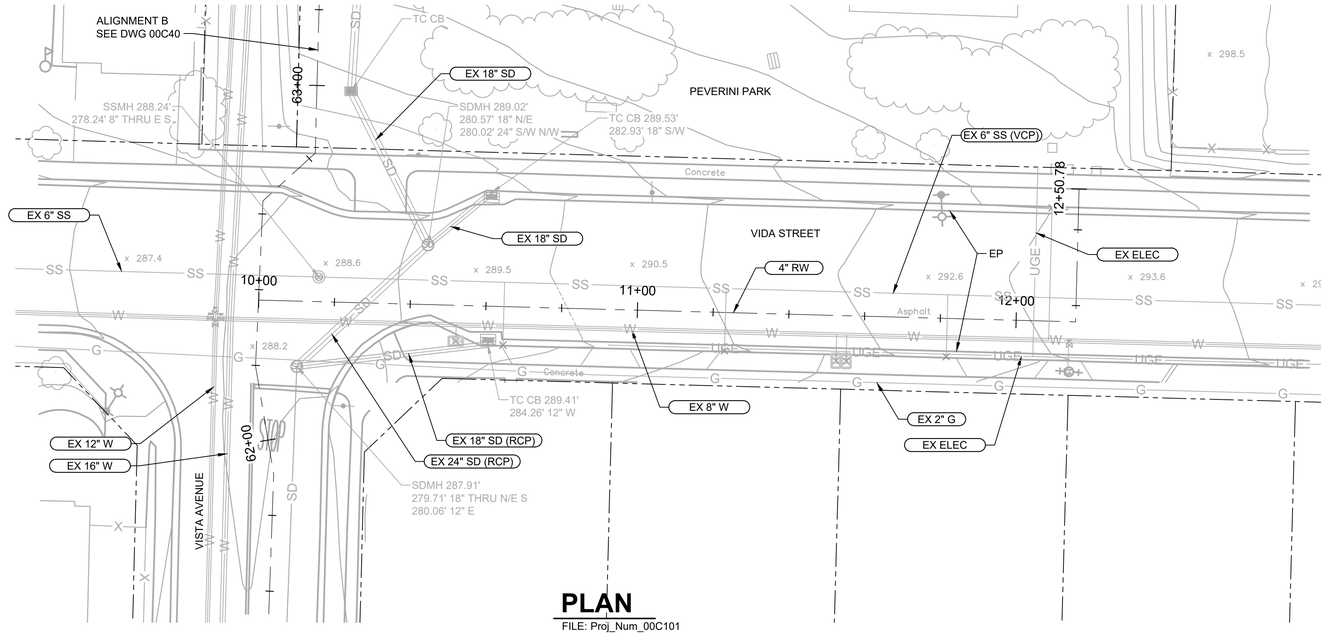
carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B7
STA 20+00 TO STA 22+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

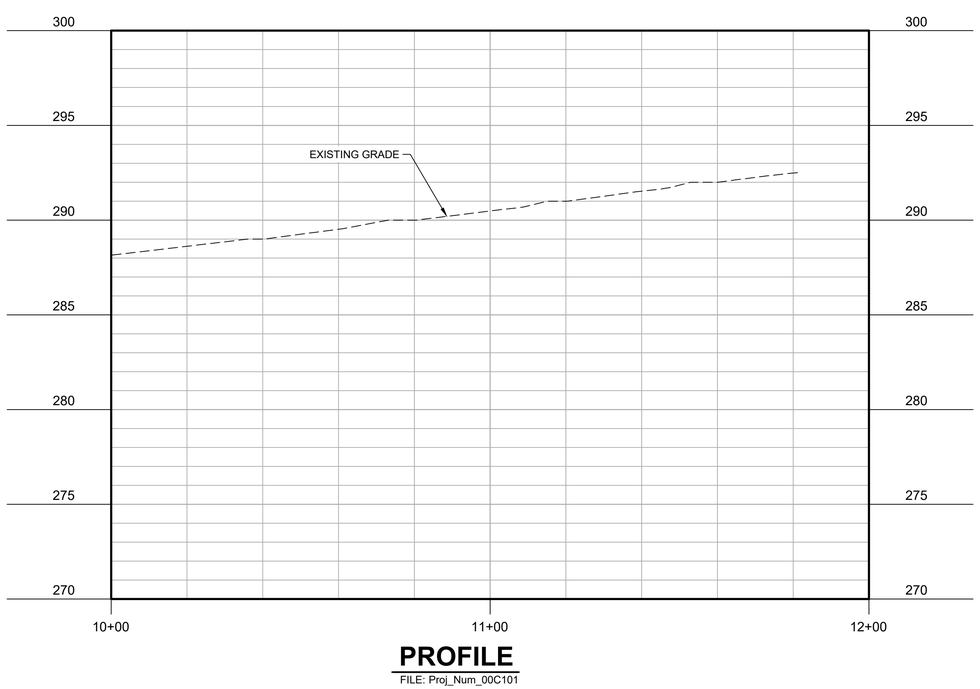
JOB NO. 202765.10
DRAWING NO. 00C54
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: SAdams
PROJECT NO. 202765-100000 FILE NAME: 20276500C54.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP

SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

30% DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO FONG
No. 73998
CIVIL
STATE OF CALIFORNIA

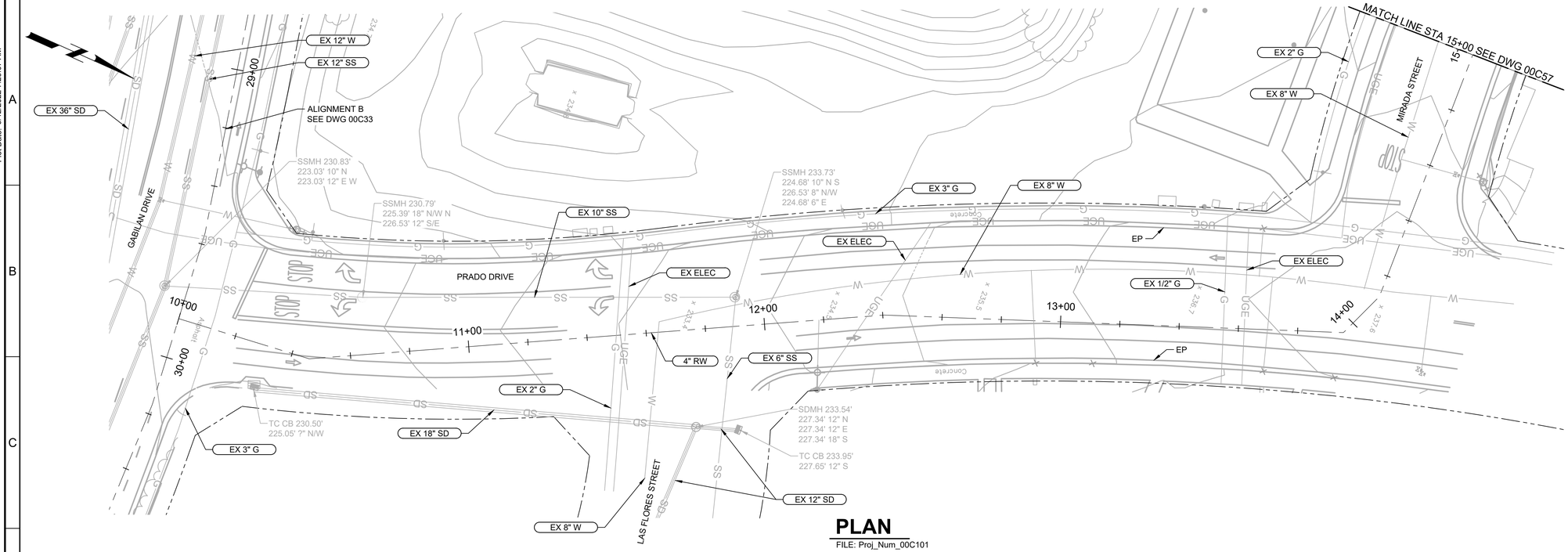
carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B8
STA 10+00 TO 12+50.78

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

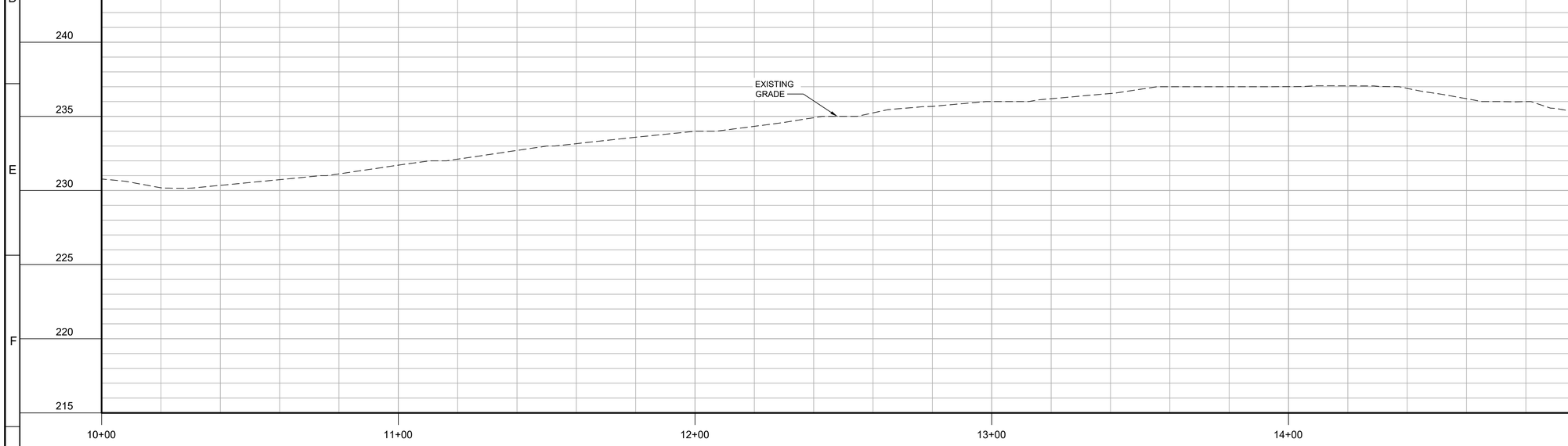
JOB NO. 202765.10
DRAWING NO. 00C55
SHEET NO.
OF

Plot Date: 9/12/2022 7:29:07 AM
LAST SAVED BY: LHall
PROJECT NO. 202765-100000 FILE NAME: 20276500C55.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

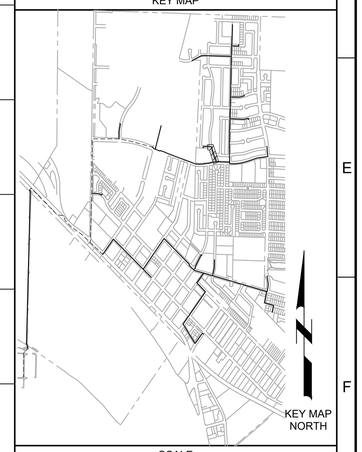
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

Know what's below. Call before you dig.
usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'

SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'

SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE
JUNE 2024

REGISTERED PROFESSIONAL ENGINEER
SUSAN NGO TOM
No. 73998
CIVIL
STATE OF CALIFORNIA

carollo

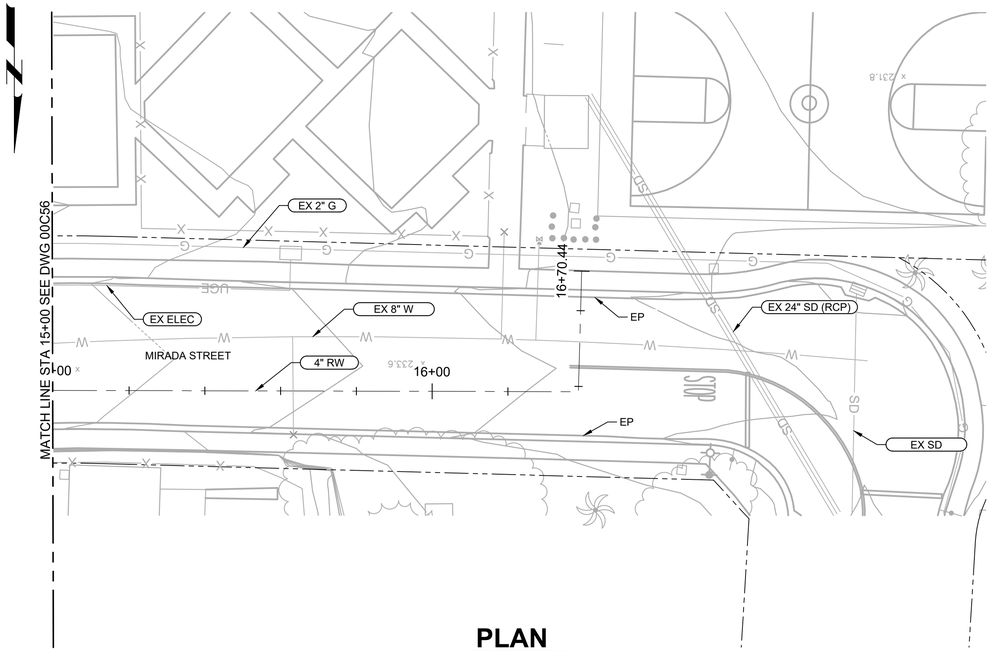
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
CIVIL
PLAN AND PROFILE - ALIGNMENT B4
STA 10+00 TO STA 15+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C56
SHEET NO.
OF

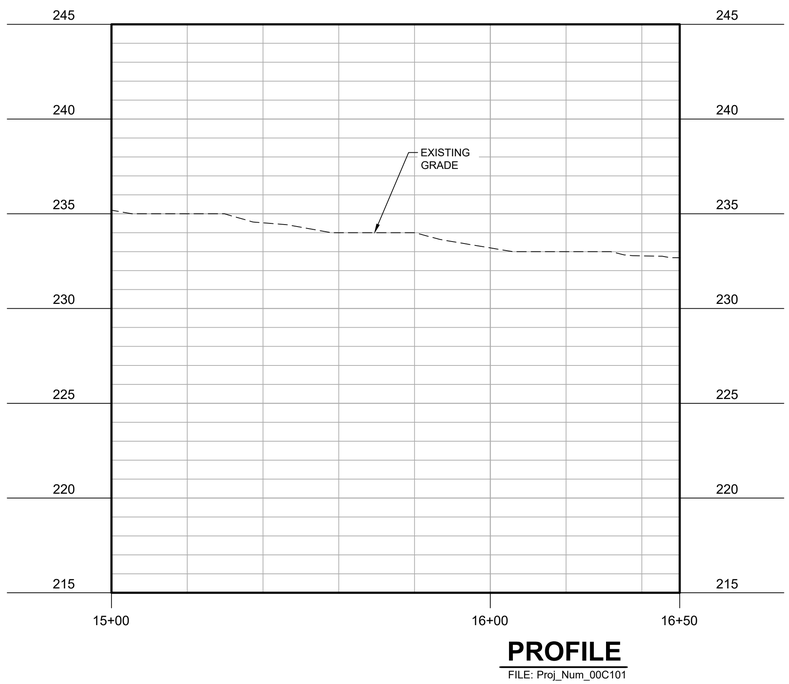
LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C56.dwg



PLAN

FILE: Proj_Num_00C101



PROFILE

FILE: Proj_Num_00C101

GENERAL NOTES:

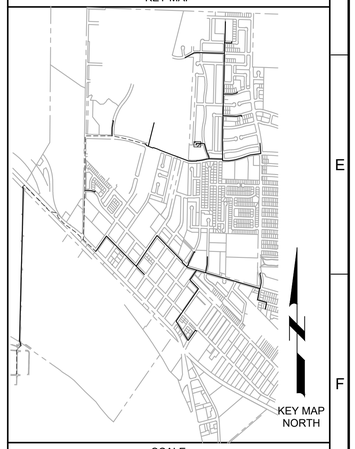
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 10' 20' 40'
SCALE: 1" = 20' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED
DRAWN
CHECKED
DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — JUSTIN NGO TONG — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PLAN AND PROFILE - ALIGNMENT B9
STA 15+00 TO 16+70.44

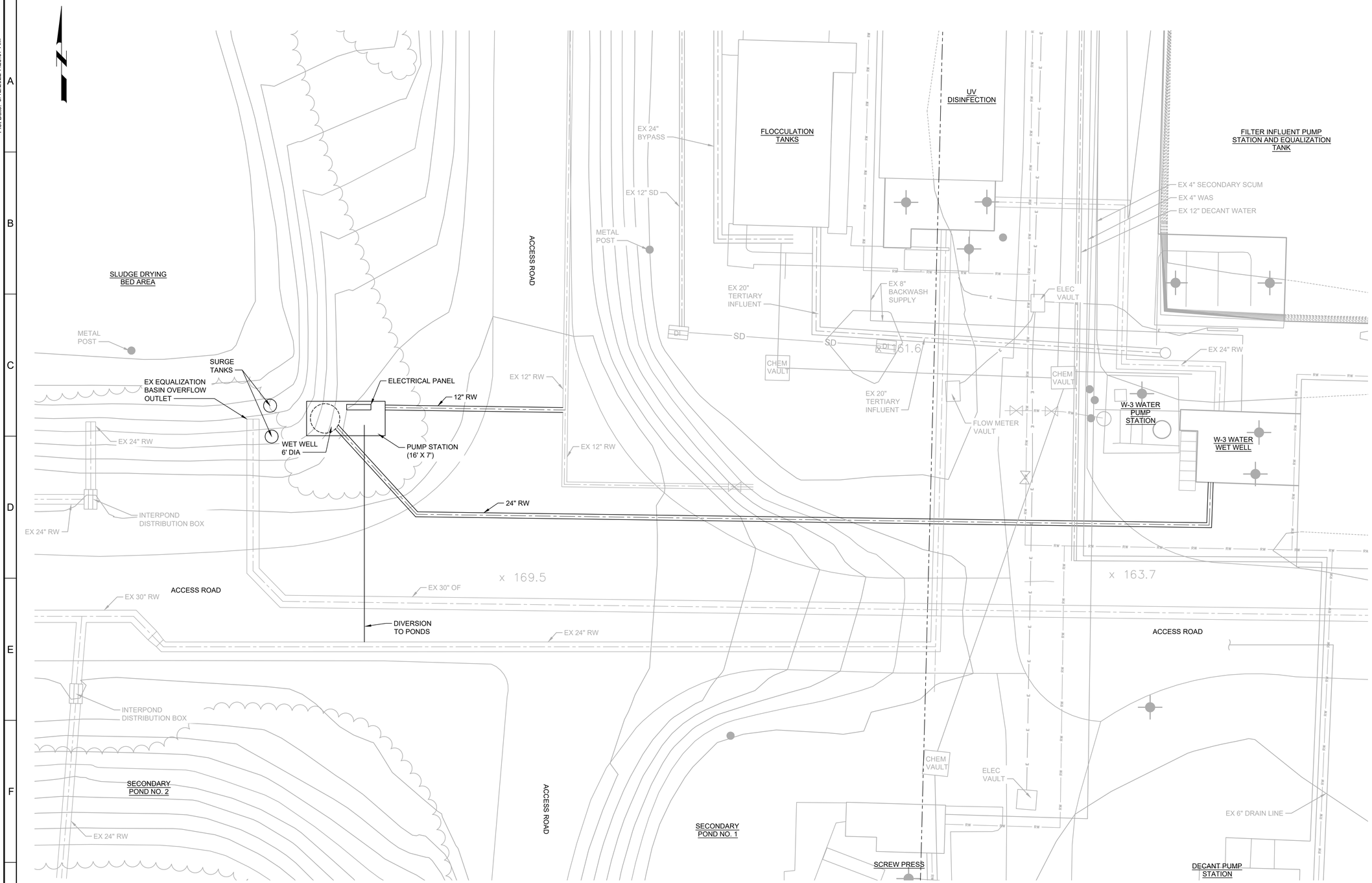
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10
DRAWING NO. 00C57
SHEET NO.
OF

LAST SAVED BY: SAdams

PROJECT NO. 202765-100000 FILE NAME: 20276500C57.dwg

Plot Date: 9/12/2022 7:29:07 AM



PLAN

FILE: Proj_Num_00C101

GENERAL NOTES:

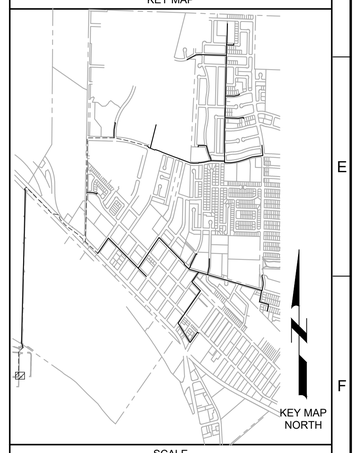
1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

811 Know what's below. Call before you dig. usanorth811.org

KEY MAP



SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED | DRAWN | CHECKED | DATE JUNE 2024

REGISTERED PROFESSIONAL ENGINEER — SUSAN NGO FOX — No. 73998 — CIVIL — STATE OF CALIFORNIA

carollo

CITY OF SOLEDAD — CALIFORNIA — 1535 1871

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

CIVIL

PUMP STATION SITE PLAN

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202765.10

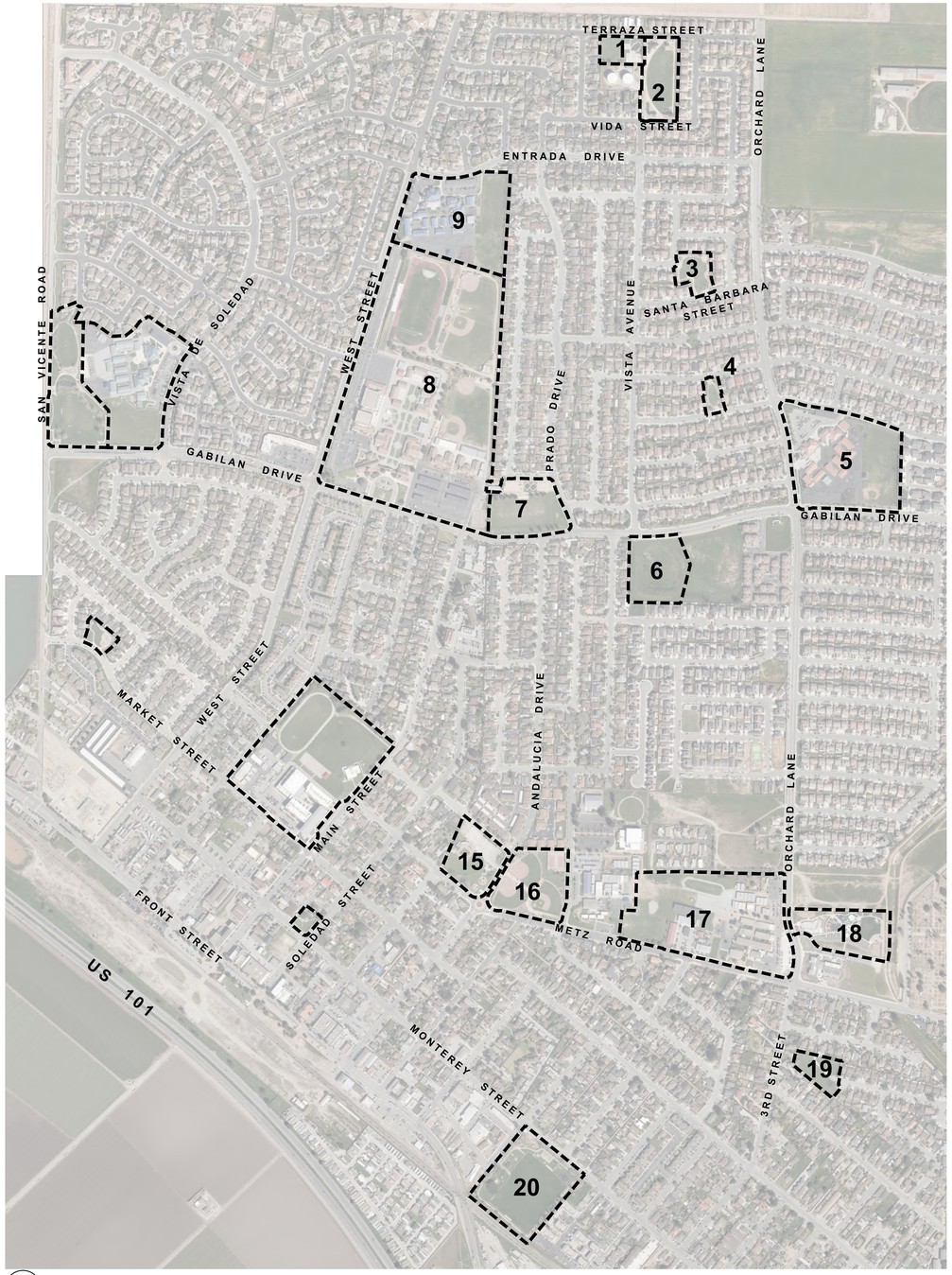
DRAWING NO. 00C58

SHEET NO.

OF

LAST SAVED BY: KSimpson

PROJECT NO. 202765-100000 FILE NAME: 20276500C58.dwg



KEY MAP SITE LIST

SITE	SITE NAME	TYPE	SHEET NUMBER
1	LUM MEMORIAL PARK	PARK	L1.0 / L1.1
2	PEVERINI PARK	PARK	L2.0 / L2.1
3	SANTA BARBARA PARK	PARK	L3.0 / L3.1
4	SAN ANTONIO PARK	PARK	L4.0 / L4.1
5	JACK FRANSCIONI ELEMENTARY	SCHOOL	L5.0 / L5.1 - L5.4
6	TOLEDO PARK	PARK	L6.0 / L6.1
7	BLAS SANTANA PARK	PARK	L7.0 / L7.1 - L7.2
8	SOLEDAD HIGH SCHOOL	SCHOOL	L8.0 / L8.1 - L8.8
9	ROSE FERRERO ELEMENTARY	SCHOOL	L9.0 / L9.1 - L9.4
10	FRANK LEDESMA ELEMENTARY	SCHOOL	L10.1 / L10.1 - L10.3
11	VETERANS PARK	PARK	L11.0 / L11.1
12	JOE O. LEDESMA PARK	PARK	L12.0 / L12.1
13	MAIN STREET MIDDLE SCHOOL	SCHOOL	L13.0 / L13.1 - L13.4
14	ALBERT BILL RAMUS PARK	PARK	L14.0 / L14.1
15	CHESTER AAROE PARK (LITTLE LEAGUE)	PARK	L15.0 / L15.1
16	JESSE GALLARDO PARK	PARK	L16.0 / L16.1 - L16.2
17	SAN VICENTE ELEMENTARY	SCHOOL	L17.0 / L17.1 - 17.4
18	ORCHARD LANE PARK	PARK	L18.0 / L18.1
19	AURELIO N. RAMIREZ PARK	PARK	L19.0 / L19.1
20	VOSTI PARK	PARK	L20.0 / L20.1

30% DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
OVERALL PROJECT SITE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. GL1.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-GL1.0-OVERALL PROJECT SITE.dwg -- 06/18/24

VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS

CONSTRUCTION AND MATERIALS SHALL COMPLY WITH PROVISIONS OF THE LATEST BUILDING CODE, STATE WATER BOARD (TITLE 22), AND WITH OTHER RULES, REGULATIONS AND ORDINANCE OVER THE DRAWINGS. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE ANY DISCREPANCIES OR CONFLICTS BETWEEN THE

REFERENCE TO ANY DETAIL OR DRAWING IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT

DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK SHOWN ON THESE DRAWINGS, NOTES, AND SPECIFICATIONS UNLESS SPECIFICALLY NOTED OTHERWISE.

THE CONTRACT DRAWINGS, NOTES, AND SPECIFICATIONS REPRESENT THE FINISHED WORK UNLESS OTHERWISE SHOWN; THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY OWNER'S REPRESENTATIVES SHALL NOT INCLUDE INSPECTIONS OF THE CONSTRUCTION PROCEDURES REQUIRED, WHICH ARE THE SOLE RESPONSIBILITY OF THE CONSTRUCTOR. ANY SUPPORT SERVICES PERFORMED BY THE OWNER'S REPRESENTATIVE DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE OWNER'S REPRESENTATIVE, WHETHER OF MATERIAL OR WORK, AND WHETHER PERFORMED TO, DURING, OR AFTER COMPLETION OF CONSTRUCTION ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND NOTES, BUT THEY DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

PROTECTION FENCING SHALL BE CONSTRUCTED AND MAINTAINED DURING CONSTRUCTION

MAINTAIN SANITARY TOILET FACILITIES DURING CONSTRUCTION AS REQUIRED BY

ALLOWABLE WORK HOURS: MONDAY THROUGH FRIDAY 8:00 A.M. TO 6:00 P.M.

THE CONTRACTOR SHALL PROVIDE ALL AS-BUILT REVISION PRIOR TO THE ACCEPTANCE OF

CONTRACTOR WARRANTS TO THE OWNER AND THE LANDSCAPE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW UNLESS OTHERWISE SPECIFIED AND THAT ALL WORK WILL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH OTHER

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. CONTRACTOR TO CALL DIG ALERT AT: 811, PRIOR TO ANY DIGGING TO LOCATE AND MARK BURIED UTILITIES. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN

VERIFY LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.

IN THE CASE OF DISCREPANCIES IN THE DRAWING, NOTES TAKE PRECEDENCE OVER

SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR SHALL ENSURE THAT ALL TRADES ARE PROVIDED WITH CURRENT DRAWINGS AND NOTES APPROVED FOR CONSTRUCTION. DO NOT ALLOW DOCUMENTS NOT

STATE WATER BOARD REQUIREMENTS

1. ANY USE OF RECYCLED WATER SHALL COMPLY WITH THE FOLLOWING:
   a) ANY IRRIGATION APPLICATION SHALL BE CONFINED TO THE RECYCLED WATER AREA.
   b) SPRAY, MIST, OR RUNOFF SHALL NOT ENTER DWELLINGS, DESIGNATED OUTDOOR EATING AREAS, OR FOOD HANDLING FACILITIES.
   c) DRINKING WATER FOUNTAINS SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST OR RUNOFF.
   d) SPRAY APPLICATION HOURS SHALL COMPLY WITH STATE WATER BOARD REQUIREMENTS.
2. NO SPRAY IRRIGATION OF ANY RECYCLED WATER, OTHER THAN DISINFECTED TERTIARY RECYCLED WATER, SHALL TAKE PLACE WITHIN 100 FEET OF A RESIDENCE OR A PLACE WHERE PUBLIC EXPOSURE COULD BE SIMILAR TO THAT OF A PARK, PLAYGROUND, OR SCHOOL YARD.
3. ALL USE AREAS WHERE RECYCLED WATER IS USED THAT ARE ACCESSIBLE TO THE PUBLIC SHALL BE POSTED WITH SIGNS THAT ARE VISIBLE TO THE PUBLIC, IN A SIZE NO LESS THAN 4 INCHES HIGH BY 8 INCHES WIDE, THAT INCLUDE THE FOLLOWING WORDING: "RECYCLED WATER - DO NOT DRINK". EACH SIGN SHALL DISPLAY AN INTERNATIONAL SYMBOL FOR "DO NOT DRINK". THE DEPARTMENT MAY ACCEPT ALTERNATIVE SIGNAGE PROVIDED THE APPLICANT DEMONSTRATES TO THE DEPARTMENT THE THE ALTERNATIVE SIGNAGE WILL ASSURE AN EQUIVALENT DEGREE OF PUBLIC NOTIFICATION.
4. THE PORTIONS OF THE RECYCLED WATER PIPING SYSTEM THAT ARE IN AREAS SUBJECT TO ACCESS BY THE GENERAL PUBLIC SHALL NOT INCLUDE ANY HOSE BIBS. ONLY QUICK COUPLERS THAT DIFFER FROM THOSE USED ON THE POTABLE WATER SYSTEM SHALL BE USED ON THE PORTIONS OF THE RECYCLED WATER PIPING SYSTEM IN AREAS SUBJECT TO PUBLIC ACCESS.

IRRIGATION RETROFIT NOTES

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE SITE SUPERVISOR DURING CONSTRUCTION. NAME: JOEL ALVAREZ, PUBLIC WORKS MANAGER CONTACT INFORMATION: 248 MAIN ST., SOLEDAD. PH (805) 223-5181
2. INFORMATION WAS DERIVED FROM A VARIETY OF AVAILABLE RESOURCES, INFORMATION AND SCANS AND SHOULD BE USED FOR REFERENCE ONLY. WHILE EVERY EFFORT HAS BEEN MADE ENSURE THAT THIS DATA AND INFORMATION IS ACCURATE AND RELIABLE. CONTRACTOR TO VERIFY EXACT LOCATIONS OF COMPONENTS IN THE FIELD AT THE START OF CONSTRUCTION.
3. ALL WORK SHALL CONFORM TO LOCAL AND STATE CODES AND ORDINANCES AND THE PLANS, DETAILS AND NOTES FOR THIS PROJECT, READ THOROUGHLY AND BECOME FAMILIAR WITH THE NOTES AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, INCLUDING, BUT NOT LIMITED TO. UNDERGROUND UTILITIES AND STRUCTURES.
5. EXISTING POTABLE WATER PRESSURES HAVE BEEN REPORTED TO BE 34 TO 100 PSI. CONTRACTOR TO VERIFY IN FIELD PRIOR TO START OF RETROFIT WORK.
6. IRRIGATION VALVE BOXES SHALL BE PURPLE IN COLOR. IF EXISTING IRRIGATION VALVE BOXES ON SITE ARE NOT PURPLE, THE CONTRACTOR SHALL REPLACE THE BOX WITH A BOX OF SIMILAR SIZE THAT IS PURPLE IN COLOR. ALSO REPLACE BROKEN VALVE BOX COVERS WITH PURPLE COVERS (ESTIMATED AT 20 COVERS).
7. DO NOT PROCEED WITH THE RETROFIT OF THE SYSTEM WHEN IT IS EVIDENT THAT FIELD CONDITIONS OR DIFFERENCES EXIST THAT COULD NOT HAVE BEEN CONSIDERED IN ENGINEERING OR IF DISCREPANCIES IN DRAWINGS, DETAILS, AND NOTES ARE DISCOVERED, BRING ALL SUCH DIFFERING FIELD CONDITIONS AND DISCREPANCIES TO THE ATTENCION OF THE OWNER'S REPRESENTATIVE.
8. THE EXISTING BACKFLOW PREVENTION ASSEMBLY SHALL BE USED ON THE PARK'S EXISTING POTABLE WATER METER.
9. ALL NEW IRRIGATION PIPES SHALL BE PURPLE IN COLOR. SEE DRAWINGS AND LEGEND FOR PIPE CALLOUTS.
10. UNLESS OTHERWISE NOTED, TRENCHING DEPTHS FOR IRRIGATION PIPES SHALL BE 24" FOR MAINLINES AND 12" FOR LATERALS. DEPTH SHALL BE MEASURED FROM THE TOP OF PIPE TO FINISHED SOIL LEVEL.
11. INSTALL RECYCLED WATER ADVISORY SIGNS WHERE SHOWN ON PLANS.
12. ALL VALVE ON THE PARK IRRIGATION SYSTEM SHALL BE BROUGHT UP TO FULL WORKING ORDER.
13. PRIOR TO BACKFILLING THE EXISTING POTABLE WATER IRRIGATION DISCONNECTION WORK AREA, AN INSPECTION BY A WATER BOARD APPROVED INDIVIDUAL SHALL OCCUR TO VERIFY THAT THERE IS NO CROSS CONNECTION BETWEEN THE POTABLE WATER AND THE RECYCLED WATER SYSTEM. PROVIDE PHOTOS OF ALL WORK.
14. PRIOR TO BACKFILLING THE POTABLE AND RECYCLED WATER CROSSING WORK AREAS, AN INSPECTION BY A WATER BOARD APPROVED INDIVIDUAL SHALL OCCUR TO VERIFY THAT THERE IS NO CROSS CONNECTION BETWEEN THE POTABLE WATER AND THE RECYCLED WATER SYSTEMS. PROVIDE PHOTOS OF ALL WORK.
15. PRIOR TO BACKFILLING THE NEW RECYCLED WATER IRRIGATION CONNECTION WORK AREA, AND INSPECTION BY A WATER BOARD APPROVED INDIVIDUAL SHALL OCCUR TO VERIFY THAT THERE IS NO CROSS CONNECTION BETWEEN THE POTABLE WATER THE RECYCLED WATER SYSTEMS. PROVIDE PHOTOS OF ALL WORK.
16. CROSS CONNECTION TESTING BETWEEN THE POTABLE WATER AN RECYCLED WATER SYSTEMS MUST BE PERFORMED BY A CERTIFIED CROSS CONNECTION SPECIALIST. SPECIALIST TO BE PROVIDED BY THE CITY.

TAL ON

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD CALIFORNIA EST 1921

CITY OF SOLEDAD

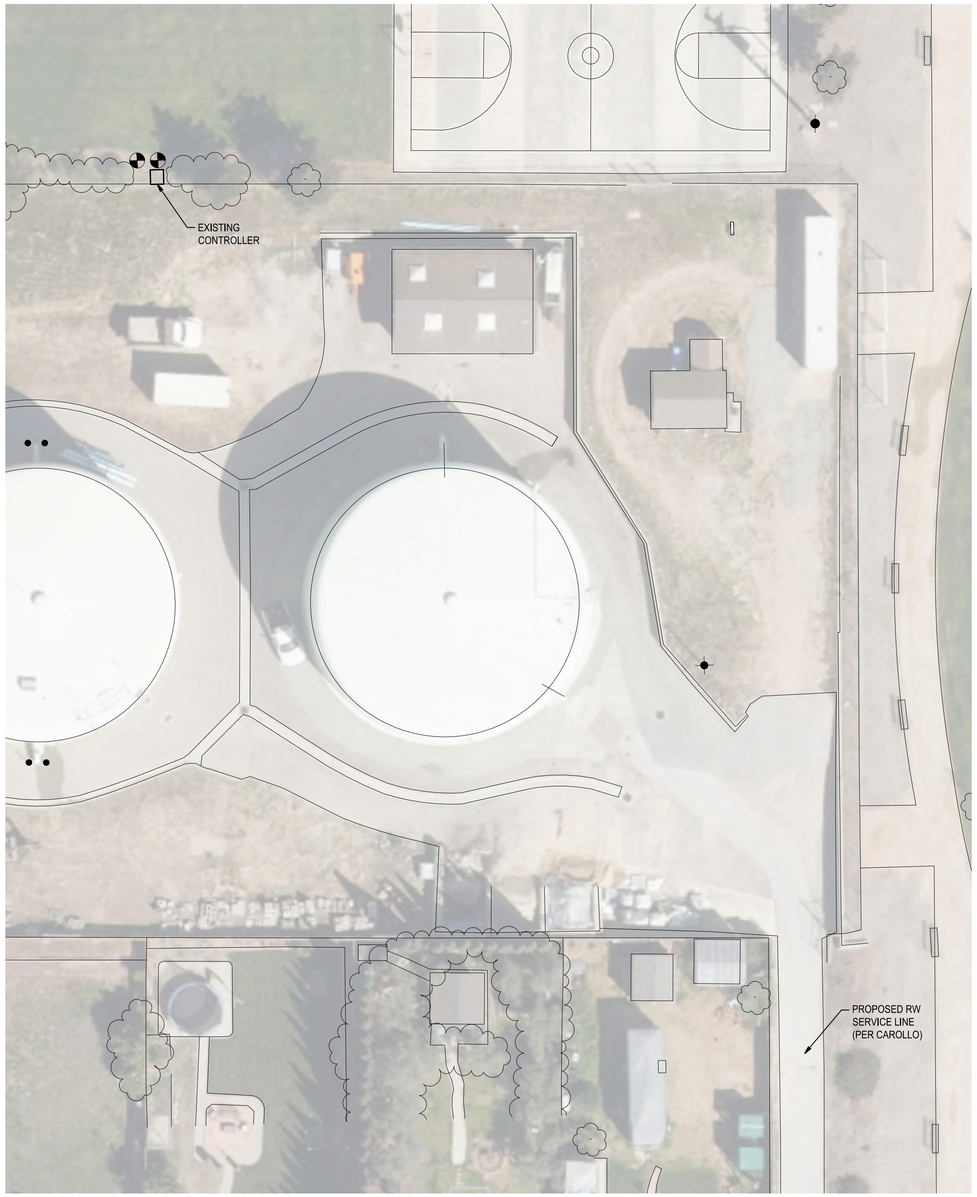
RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

GENERAL NOTES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. GL1.1 OF XX



IRRIGATION POINT OF CONNECTION

POINT OF CONNECTION

CONTROLLER

WATER METER

BACKFLOW PREVENTER

DRINKING FOUNTAIN

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
1	LUM MEMORIAL PARK	PARK	520 TERRAZA STREET, SOLEDAD, CA 93960	2.53		X		ORBIT 28568 (PLASTIC IN A METAL BOX)	NO	NO	NO	66	54	NO	NO	1	NO QUICK COUPLERS IN THE SITE

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

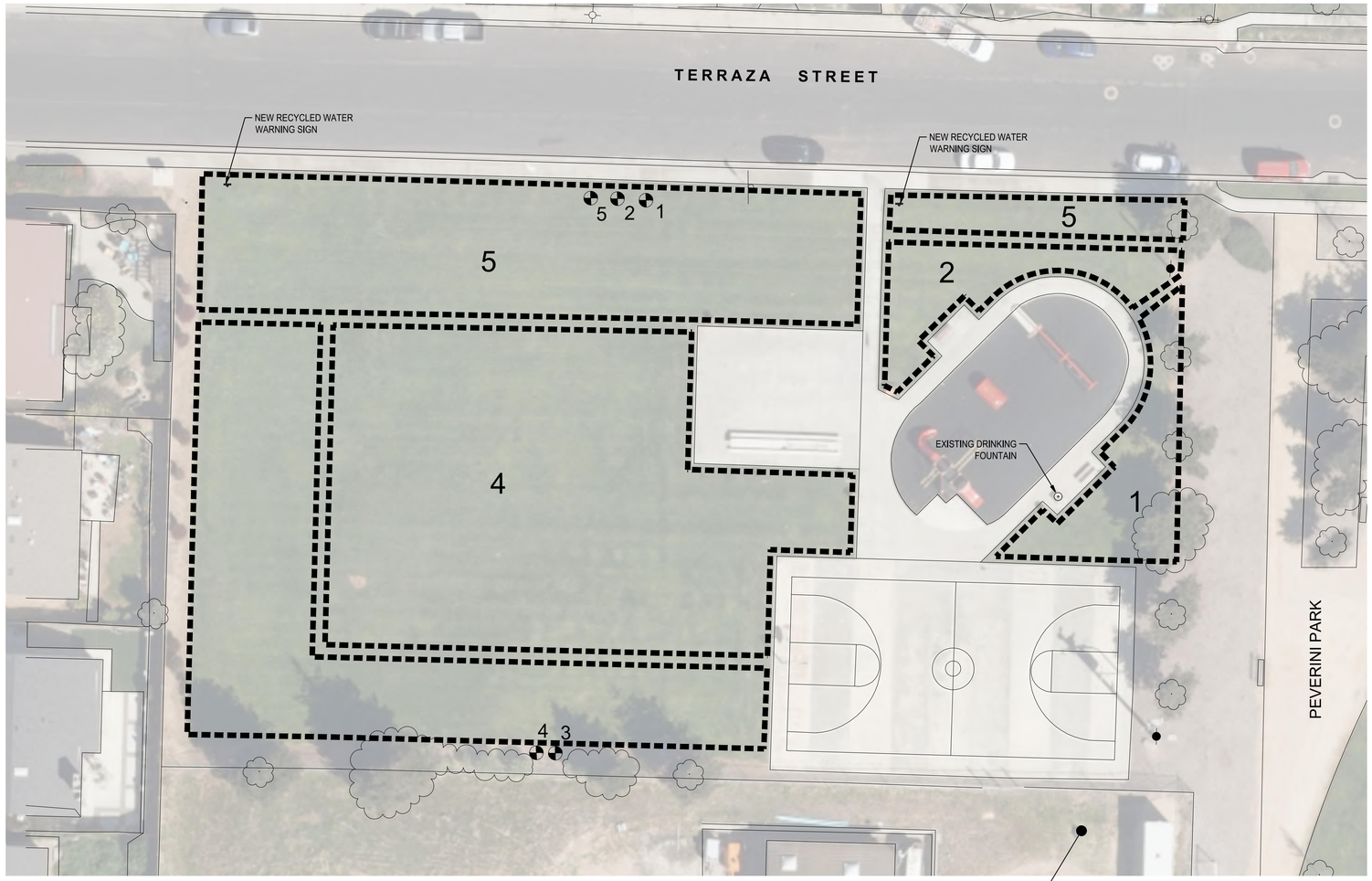
CITY OF SOLEDAD CALIFORNIA EST 1921

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
LUM MEMORIAL PARK - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L1.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L1-LUM MEMORIAL PARK.dwg -- 06/18/24



SITE SUMMARY

LUM MEMORIAL PARK
2.53 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PLAYGROUND, BASKETBALL COURT, PICNIC TABLES, AND BENCHES.
  - ONE DRINKING FOUNTAIN.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY					TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	
VALVES								
RAIN BIRD PEB	1"-2" REMOTE CONTROL VALVE	PEBNPHAN 1 NON POTABLE HANDLE	1	1	1	1	1	**5**
HEADS								
HUNTER I-20-04-R	4" POP-UP ROTOR PUPLE RECLAIMED WATER	(NOT TO BE REPLACED)	1				1	**2**
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R	5	4	8		8	**25**
HUNTER I-25-04	4" POP-UP ROTOR	I-25-04-R				8		**8**
HUNTER PRO SPRAY NOZZLE W/ PRS-40-BODY	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP	4	2				**6**
MISCELLANEOUS								
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR						**1**
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	**5**
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	**5**
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	**5**
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL						**1**
RW WARNING SIGNS	WARNING SIGNS							**2**

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
LUM MEMORIAL PARK - INVENTORY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L1.1 OF XX

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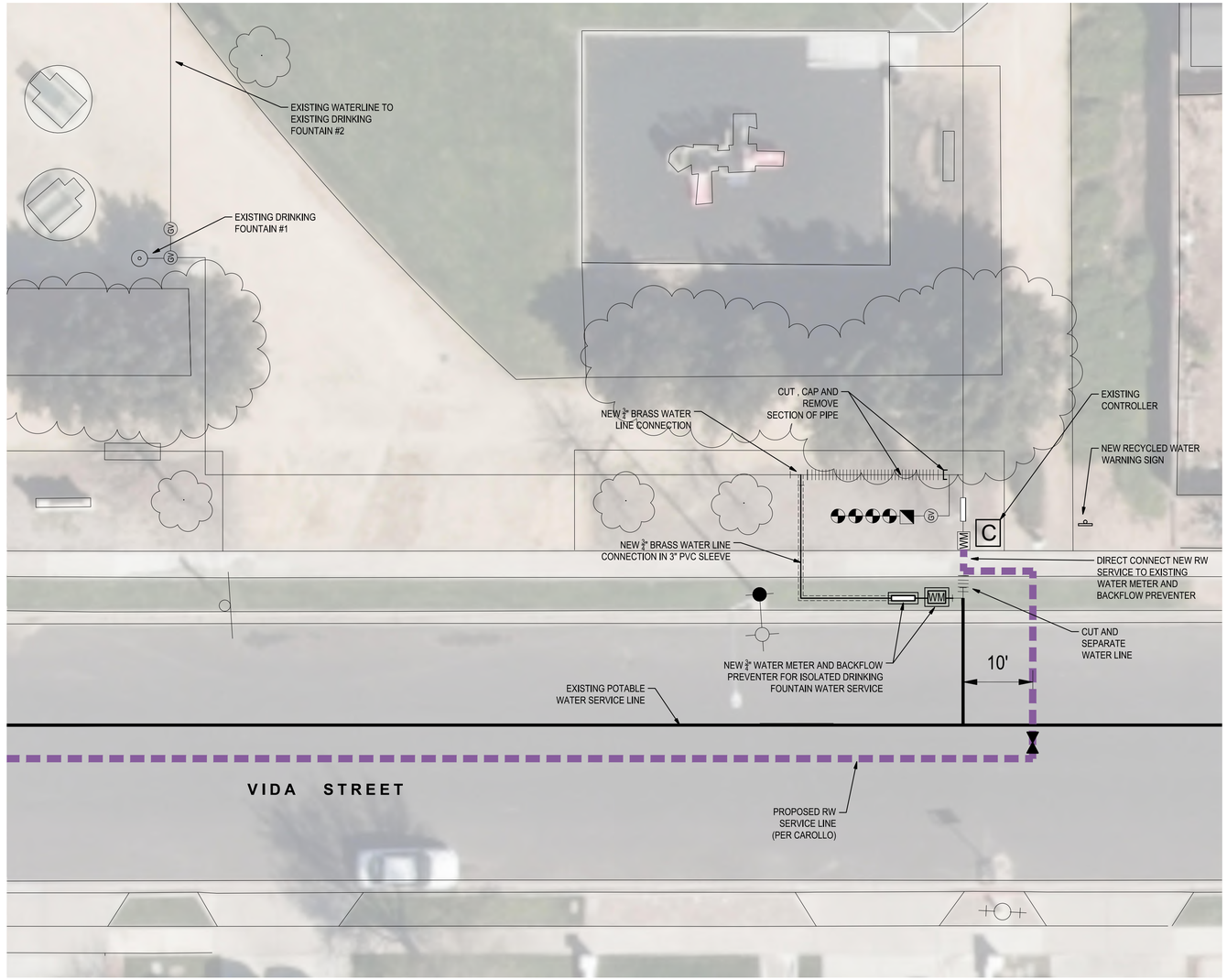



POINT OF CONNECTION


CONTROLLER


WATER METER


BACKFLOW PREVENTER

DRINKING FOUNTAIN

DRINKING FOUNTAIN

RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
2	PEVERINI PARK	PARK	VIDA STREET, SOLEDAD, CA 93960	3.06	ELSTER	FEBCO 825YA 1 1/2"		IRRITROL MC-24-PLUS+	NO	NO	NO	66	57	NO	1	2 (COPPER)	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT — ROBERT J. NORBUT JR. — No.5595 — Signature — Exp. 11/30/25 — STATE OF CALIFORNIA

SIEGFRIED

carollo

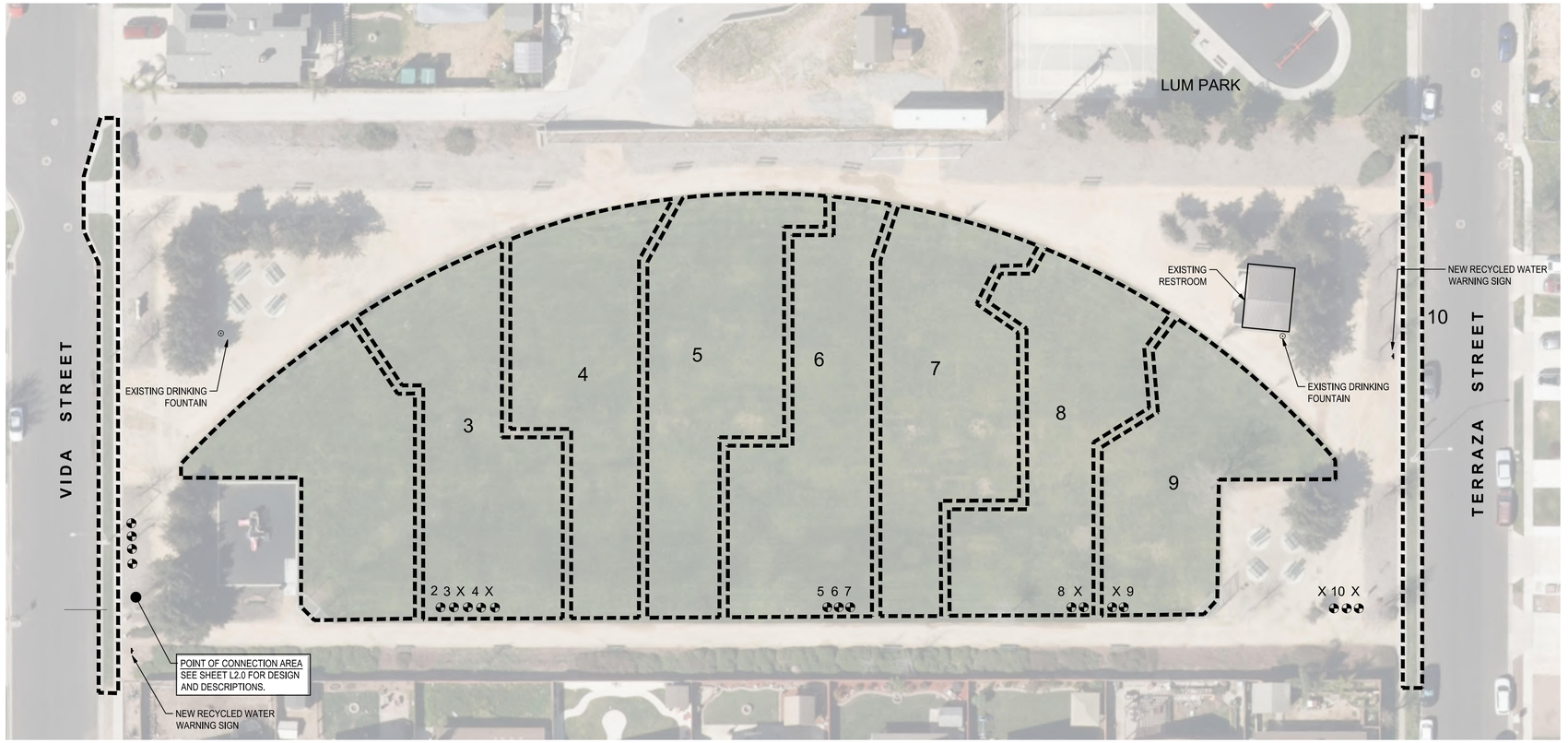
CITY OF SOLEDAD — CALIFORNIA — EST 1921

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
PEVERINI PARK - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L2.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L2-PEVERINI PARK.dwg -- 06/18/24



0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

PEVERINI PARK
3.06 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO (2) DRINKING FOUNTAINS.
  - PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (9) NINE

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY									TOTAL
PRODUCT	DESCRIPTION	PRODUCT										QUANTITY
VALVES			1	2	3	4	5	6	7	8	9	10	
RAIN BIRD PEB	1"-2" REMOTE CONTROL VALVE	PEBNPHAN 1 NON POTABLE HANDLE	1	1	1	1	1	1	1	1	1	1	**10**
RAIN BIRD 33DLRC	3/4" LOCKING QUICK COUPLER	33-DNP											**1**
HEADS													
HUNTER I-20-04	4" POP-UP ROTOR	HUNTER I-20-04-R		12	11	12	11	9	12	9	12		**88**
HUNTER PRO SPRAY NOZZLE W/ PRS-40-BODY	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP		4							4		**8**
TORO 570 MPR PLUS SPRAY NOZZLE W/IRRITROL I-PRO BODY	SPRAY BODY	IRRITROL I-PRO-NPC CAP	58									45	**103**
MISCELLANEOUS													
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR											**1**
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	1	1	1	1	1	**10**
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	**10**
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	**10**
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL											**1**
RW WARNING SIGNS	WARNING SIGNS												**2**

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
PEVERINI PARK - INVENTORY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L2.1 OF XX

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IRRIGATION POINT OF CONNECTION

POINT OF CONNECTION

CONTROLLER

WATER METER

BACKFLOW PREVENTER

DRINKING FOUNTAIN

DRINKING FOUNTAIN

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
3	SANTA BARBARA PARK	PARK	913 SANTA BARBARA, SOLEDAD, CA 93960	1.3		ZURN 975 XL 1 1/2"		IRRITROL DIAL-11	NO	NO	NO	74	62	NO	1	2 (WITH GATE VALVE)	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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CITY OF SOLEDAD

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SANTA BARBARA PARK - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L3.0 OF XX

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0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

SANTA BARBARA PARK
1.3 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO DRINKING FOUNTAINS.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (2) TWO

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY							TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	
VALVES											
RAIN BIRD PEB	1"-2" REMOTE CONTROL VALVE	PEBNPHAN 1 NON POTABLE HANDLE	1	1	1	1	1	1	1		**8**
RAIN BIRD 44 LRC	1" LOCKING QUICK COUPLER	44 LRC-R									**1**
HEADS											
HUNTER I-20-04-R	4" POP-UP ROTOR PUPLE RECLAIMED WATER	*(NOT TO BE REPLACED)*						9			**9**
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R			14	13	11	4			**42**
HUNTER MP 1000/2000 NOZZLE W/ PRO SPRAY PRS-40 BODY	6" SPRAY POP-UP ROTATOR W/ CHECK VALVE	458520SP RW BODY CAP		20							**20**
HUNTER PRO SPRAY NOZZLE W/IRRITROL I-PRO BODY	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP	43							39	**82**
RAIN BIRD MPR SPRAY NOZZLE W/ 1804 BODY	4" POP-UP WITH (8-14' NOZZLES)	1800 NP SNAP-ON CAP							16		**16**
MISCELLANEOUS											
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR									**1**
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	1	1	1	**8**
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	1	1	1	**8**
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	1	1	1	**8**
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL									**1**
RW WARNING SIGNS	WARNING SIGNS										**3**

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD

CITY OF SOLEDAD CALIFORNIA EST. 1921

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SANTA BARBARA PARK - INVENTORY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L3.1 OF XX

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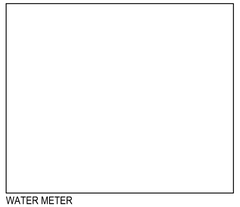
IRRIGATION POINT OF CONNECTION


POINT OF CONNECTION


CONTROLLER


WATER METER


BACKFLOW PREVENTER


DRINKING FOUNTAIN

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- EXISTING CONTROLLER
- EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- EXISTING WATER MONITORING STATION
- NEW WATER METER
- NEW BACKFLOW PREVENTER
- NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

GENERAL NOTES

1. IF A DISCREPANCY BETWEEN THESE PLANS AND ACTUAL ON-SITE CONDITIONS OCCURS, THE CONTRACTOR IS TO NOTIFY THE OWNER IMMEDIATELY, BEFORE PROCEEDING WITH WORK, FOR A DECISION.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH LOCAL AND STATE STANDARDS AND CODES.
3. ALL PLANTS BROUGHT ONTO THE SITE SHALL BE WATERED AND PROTECTED FROM EXCESSIVE WIND, SUN, FROST, PHYSICAL DAMAGE AND THEFT UNTIL PLANTED.
4. ALL ASPHALT, BASE COURSE AND OTHER DEBRIS ARE TO BE REMOVED COMPLETELY BELOW PLANTING AREAS TO NATIVE SOIL LEVEL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE SURFACE DRAINAGE AT 2% MINIMUM IN PLANTING AREAS EXCEPT WHERE SHOWN.
6. THE CONTRACTOR SHALL FURNISH AND APPLY THE APPROPRIATE PRE-EMERGENT HERBICIDE AT RATES PRESCRIBED BY LAW AND THE MANUFACTURER'S RECOMMENDATIONS. 'SURFLAN 75W' IS RECOMMENDED FOR GROUND COVER AND SHRUB AREAS. ALL PRE-EMERGENT HERBICIDES SHALL BE APPLIED BY LICENSED OPERATORS UNDER FAVORABLE WEATHER CONDITIONS.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
4	SAN ANTONIO PARK	PARK	1097 SAN ANTONIO STREET, SOLEDAD, CA 93960	0.52		FEBCO 825YA 1 1/2"		IRRITROL DIAL-7	NO	NO	NO	78	69	NO	NO	1 NO ISOLATION VALVE	NO QUICK COUPLERS, ONE HOSE BIB

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SAN ANTONIO PARK - POINT OF CONNECTION

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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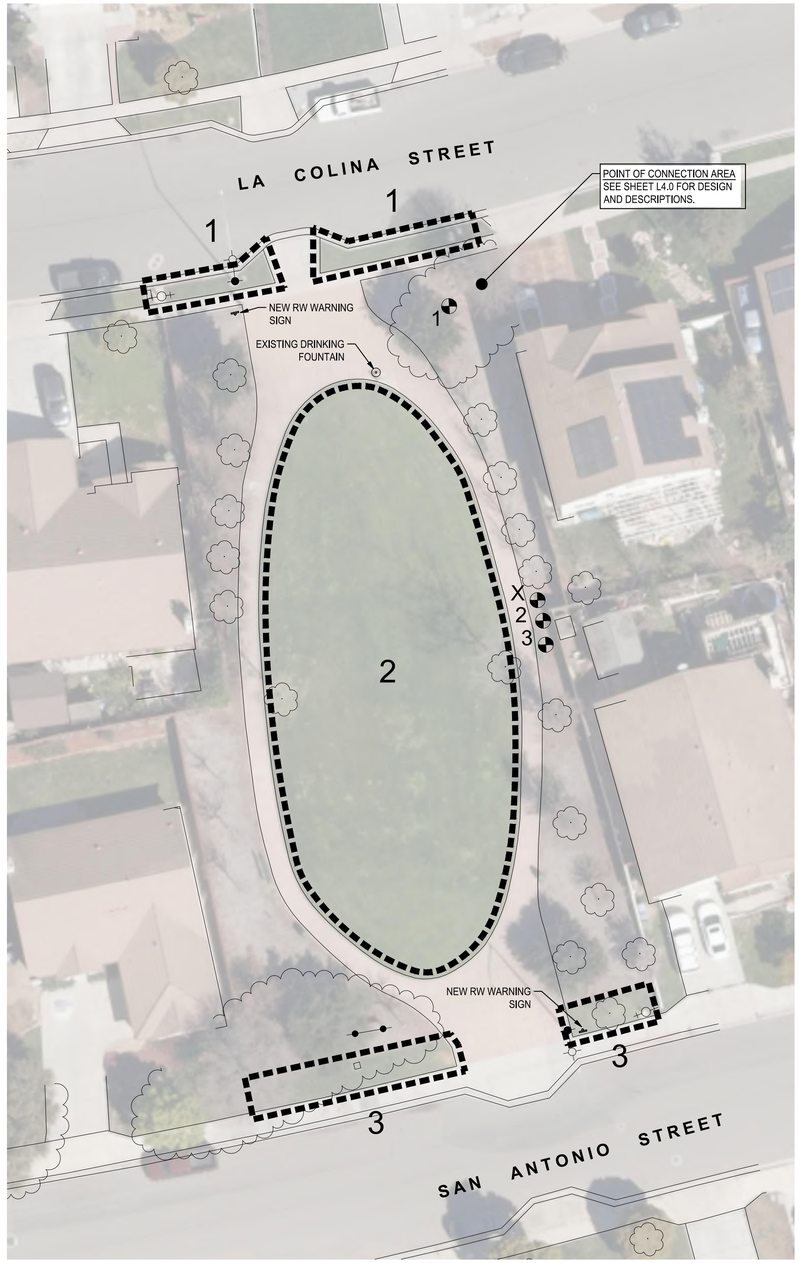

0' 10' 20' 40'

SCALE: 1"=20'

SITE SUMMARY

SAN ANTONIO PARK
0.52 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.

  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.

  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (1) ONE

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE /			TOTAL
PRODUCT	DESCRIPTION	PRODUCT	QUANTITY			QUANTITY
			1	2	3	
VALVES						
RAIN BIRD PEB	1"-2" REMOTE CONTROL VALVE	PEBNPHAN 1 NON POTABLE HANDLE	1	1	1	3
HEADS						
HUNTER I-20-04-R	4" POP-UP ROTOR PUPLE RECLAIMED WATER	(NOT TO BE REPLACED)		2		2
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R		16		16
HUNTER PGP-ADJ	4" POP-UP ROTOR	PGP-ADJ-R		1		1
RAIN BIRD MPR SPRAY NOZZLE W/ 1804 BODY	4" POP-UP WITH (8-14' NOZZLES)	1800 NP SNAP-ON CAP	29		24	53
MISCELLANEOUS						
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR				1
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	3
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	3
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	3
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL				1
RW WARNING SIGNS	WARNING SIGNS					2

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SAN ANTONIO PARK - INVENTORY

VERIFY SCALES
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0 1"
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SHEET NO. L4.1 OF XX

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POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

GENERAL NOTES

1. IF A DISCREPANCY BETWEEN THESE PLANS AND ACTUAL ON-SITE CONDITIONS OCCURS, THE CONTRACTOR IS TO NOTIFY THE OWNER IMMEDIATELY, BEFORE PROCEEDING WITH WORK, FOR A DECISION.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH LOCAL AND STATE STANDARDS AND CODES.
3. ALL PLANTS BROUGHT ONTO THE SITE SHALL BE WATERED AND PROTECTED FROM EXCESSIVE WIND, SUN, FROST, PHYSICAL DAMAGE AND THEFT UNTIL PLANTED.
4. ALL ASPHALT, BASE COURSE AND OTHER DEBRIS ARE TO BE REMOVED COMPLETELY BELOW PLANTING AREAS TO NATIVE SOIL LEVEL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE SURFACE DRAINAGE AT 2% MINIMUM IN PLANTING AREAS EXCEPT WHERE SHOWN.
6. THE CONTRACTOR SHALL FURNISH AND APPLY THE APPROPRIATE PRE-EMERGENT HERBICIDE AT RATES PRESCRIBED BY LAW AND THE MANUFACTURER'S RECOMMENDATIONS. 'SURFLAN 75W' IS RECOMMENDED FOR GROUND COVER AND SHRUB AREAS. ALL PRE-EMERGENT HERBICIDES SHALL BE APPLIED BY LICENSED OPERATORS UNDER FAVORABLE WEATHER CONDITIONS.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
5	JACK FRANSCIONI ELEMENTARY	SCHOOL	779 ORCHARD LANE, SOLEDAD, CA 93960	10.58								78	70				

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT — ROBERT J. NORBUT JR. — No.5595 — Signature — Exp. 11/30/25 — STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
JACK FRANSCIONI ELEMENTARY - POINT OF CONNECTION

VERIFY SCALES
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0 1"
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JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L5.0 OF XX

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0' 15' 30' 60'

SCALE: 1"=30'

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING PRODUCT	DESCRIPTION	REPLACEMENT PRODUCT	ZONE / QUANTITY 1	2	3	4	5	6	7	8	9	10	TOTAL QUANTITY
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

JACK FRANSCIONI ELEMENTARY - INVENTORY I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)

DRAWING NO.

SHEET NO. L5.1 OF XX

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FOR CONTINUATION SEE SHEET L5.4

0' 15' 30' 60'

SCALE: 1"=30'

SEE SHEET L5.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

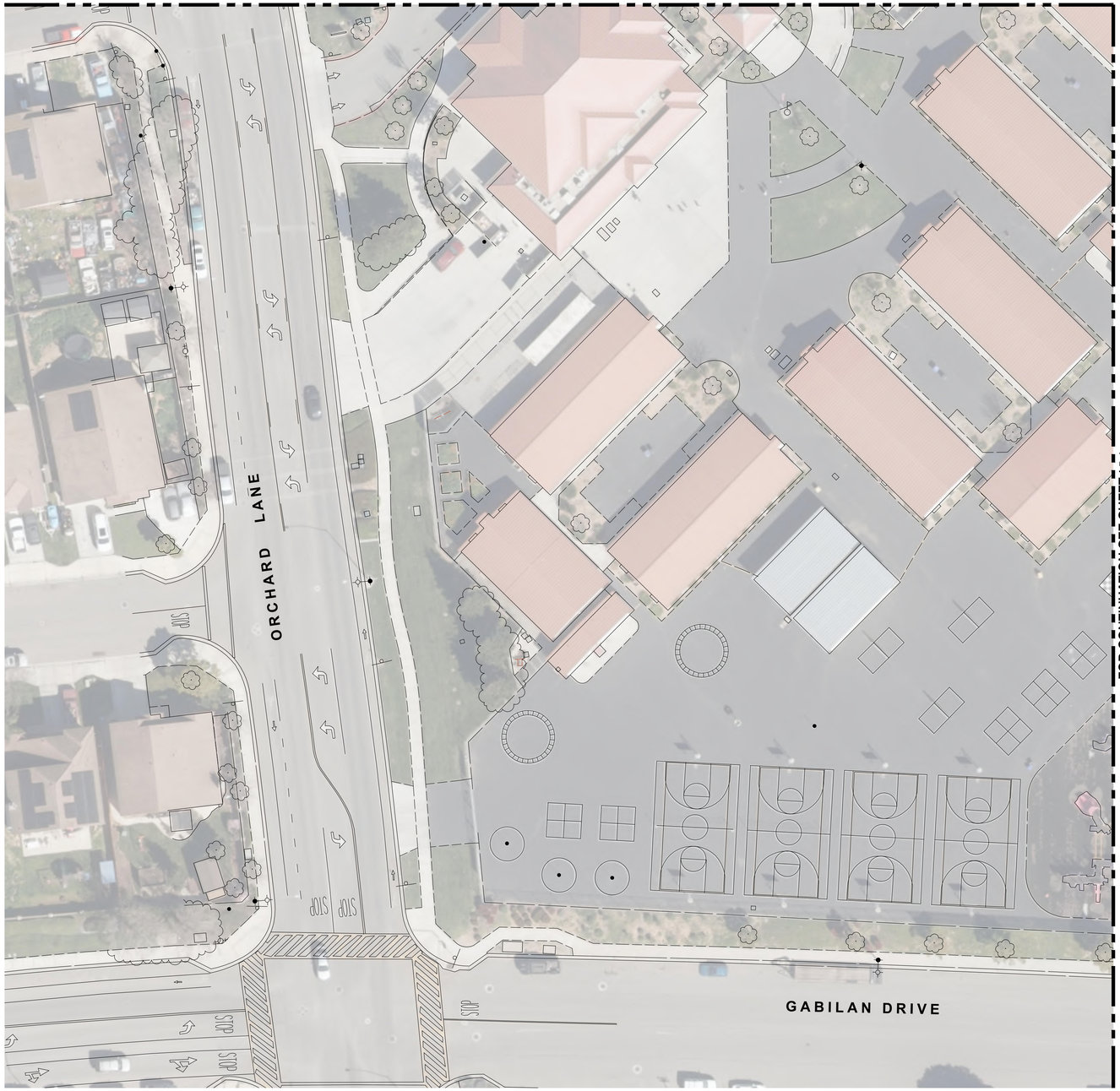
JACK FRANSCIONI ELEMENTARY - INVENTORY II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L5.2 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L5-JACK FRANSCIONI ELEMENTARY.dwg -- 06/18/24

FOR CONTINUATION SEE SHEET L5.1



FOR CONTINUATION SEE SHEET L5.4

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L5.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

JACK FRANSCIONI ELEMENTARY - INVENTORY III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L5.3 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L5-JACK FRANSCIONI ELEMENTARY.dwg -- 06/18/24

FOR CONTINUATION SEE SHEET L5.2

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L5.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

JACK FRANSCIONI ELEMENTARY - INVENTORY IV

VERIFY SCALES
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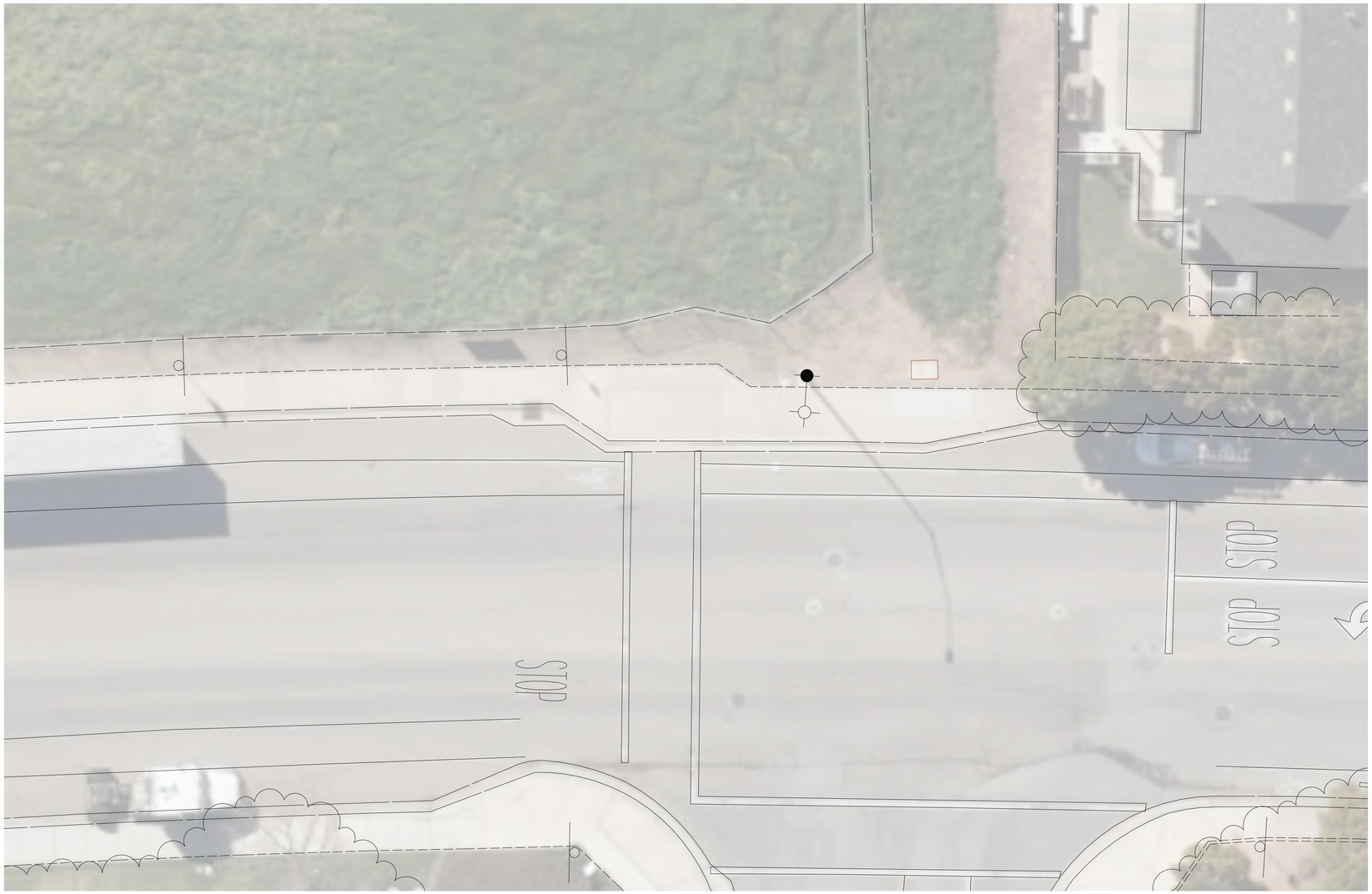
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L5.4 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L5-JACK FRANSCIONI ELEMENTARY.dwg --- 06/18/24



GENERAL NOTES

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6. THE CONTRACTOR SHALL FURNISH AND APPLY THE APPROPRIATE PRE-EMERGENT HERBICIDE AT RATES PRESCRIBED BY LAW AND THE MANUFACTURER'S RECOMMENDATIONS. 'SURFLAN 75W' IS RECOMMENDED FOR GROUND COVER AND SHRUB AREAS. ALL PRE-EMERGENT HERBICIDES SHALL BE APPLIED BY LICENSED OPERATORS UNDER FAVORABLE WEATHER CONDITIONS.

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
6	TOLEDO PARK	PARK	GABILAN DRIVE, SOLEDAD, CA 93960	3.97													SITE IS FENCED AND NON-IRRIGATED.

REV	DATE	BY	DESCRIPTION
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LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

TOLEDO PARK - POINT OF CONNECTION

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L6.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L6-TOLEDO PARK.dwg --- 06/18/24

0' 30' 60' 120'
SCALE: 1"=60'

SITE SUMMARY

SANTA BARBARA PARK
1.3 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO (2) DRINKING FOUNTAINS.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.

  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.

  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.

  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

SITE NOTES

1. PROJECT IS COMPLETED BY OTHERS, AND NOT PART OF INVENTORY.
2. SEE ATTACHMENT FOR TOLEDO PARK IMPROVEMENT PLANS.
3. EQUIPMENT LIST IS RETROFITTING SITE AND SERVICE OF RECYCLED WATER.

RECYCLED WATER PRODUCT SCHEDULE

PRODUCT	DESCRIPTION	RW PART
VALVES		
HEADS		
DRIP		
MISCELLANEOUS		
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	
VALVE RW TAGS	ID VALVE TAGS	
VALVE RW STATION TAG	ID VALVE TAGS	
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	
RW WARNING SIGNS	WARNING SIGNS	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
TOLEDO - INVENTORY

VERIFY SCALES
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IRRIGATION POINT OF CONNECTION

POINT OF CONNECTION

CONTROLLER

WATER METER

BACKFLOW PREVENTER

RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
7	BLAS SANTANA PARK	PARK	GABILAN DRIVE, SOLEDAD, CA 93960	4.75		ZURN 375 AST 3"		(LAWN) RAIN BIRD ESP-24 MC CYCLE+SOAK (PLAYGROUND AREA) HUNTER NODE-100 BATTERY	NO	NO	NO	91	82	NO	1	NO	NO QUICK COUPLERS IN THE SITE

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RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
BLAS SANTANA PARK - POINT OF CONNECTION

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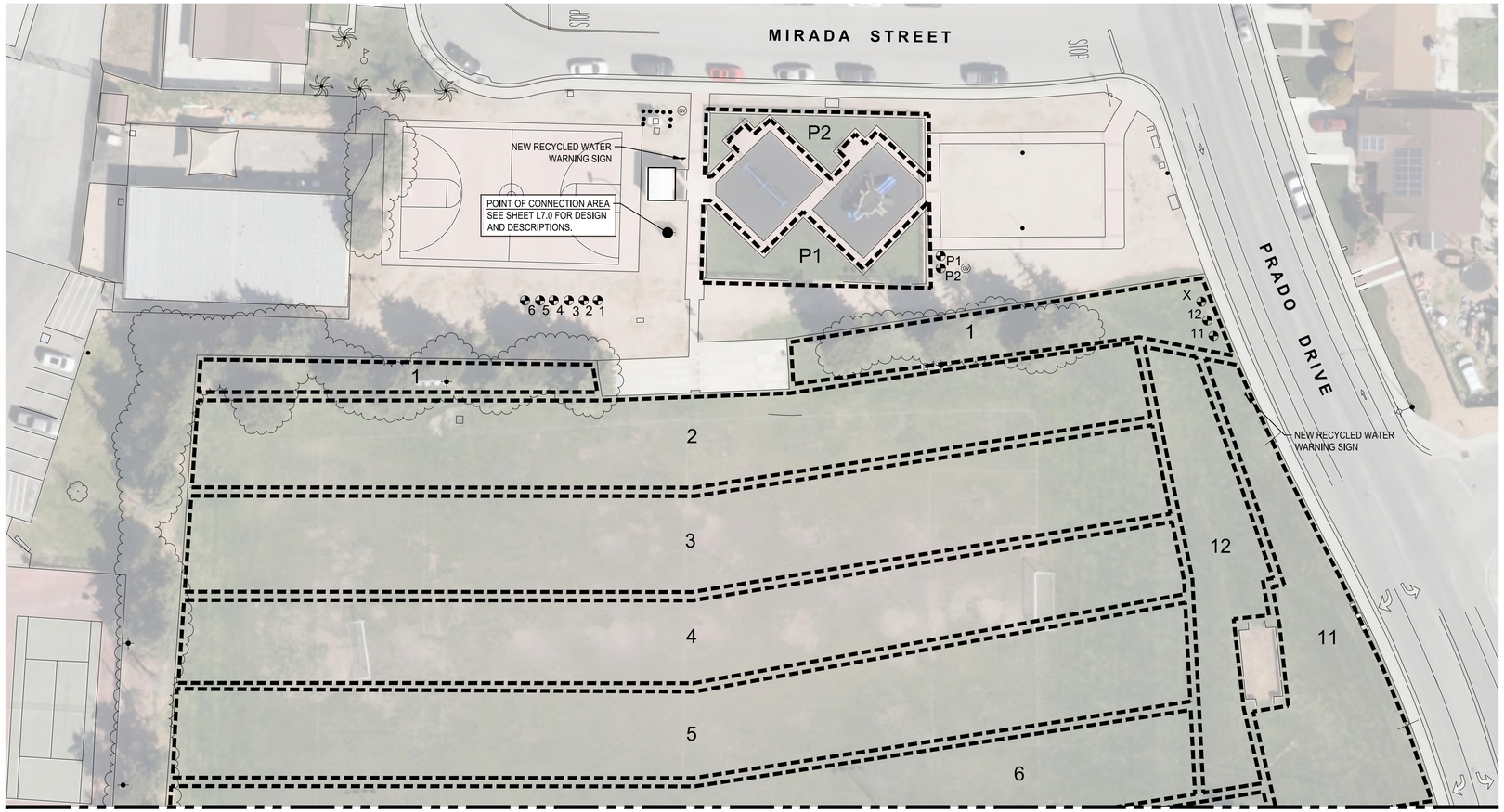

FOR CONTINUATION SEE SHEET L7.2

0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

BLAS SANTANA PARK
4.75 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PLAYGROUND, BASKETBALL COURT, AND BENCHES.
  - PUBLIC BATHROOMS.
  - NO DRINKING FOUNTAIN.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (1) ONE

EXISTING IRRIGATION PRODUCT LIST

EXISTING		REPLACEMENT	ZONE / QUANTITY												TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	9	10	11	12	P1	P2	
VALVES																	
WEATHERMATIC MAX-DW BLACK BULLET	1 1/2"-3" REMOTE CONTROL VALVE	MAX-DW PURPLE HANDLE	1	1	1	1	1	1	1	1	1	1	1	1	1		14
HEADS																	
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R	10	10	12	12	11	11	11	3	14	11	12	9			126
RAIN BIRD 3504	4" POP-UP ROTOR	3504-NP														2	2
HUNTER PGJ-04	4" SPRAY POP-UP	PGJ-04-R													1		1
HUNTER PRO SPRAY NOZZLE W/IRRITROL I-PRO BODY	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP													11		11
RAIN BIRD MPR SPRAY NOZZLE W/ 1804 BODY	4" POP-UP WITH (8-14' NOZZLES)	1800 NP SNAP-ON CAP														10	10
MISCELLANEOUS																	
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR															1
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL															1
RW WARNING SIGNS	WARNING SIGNS																4

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

BLAS SANTANA PARK - INVENTORY I

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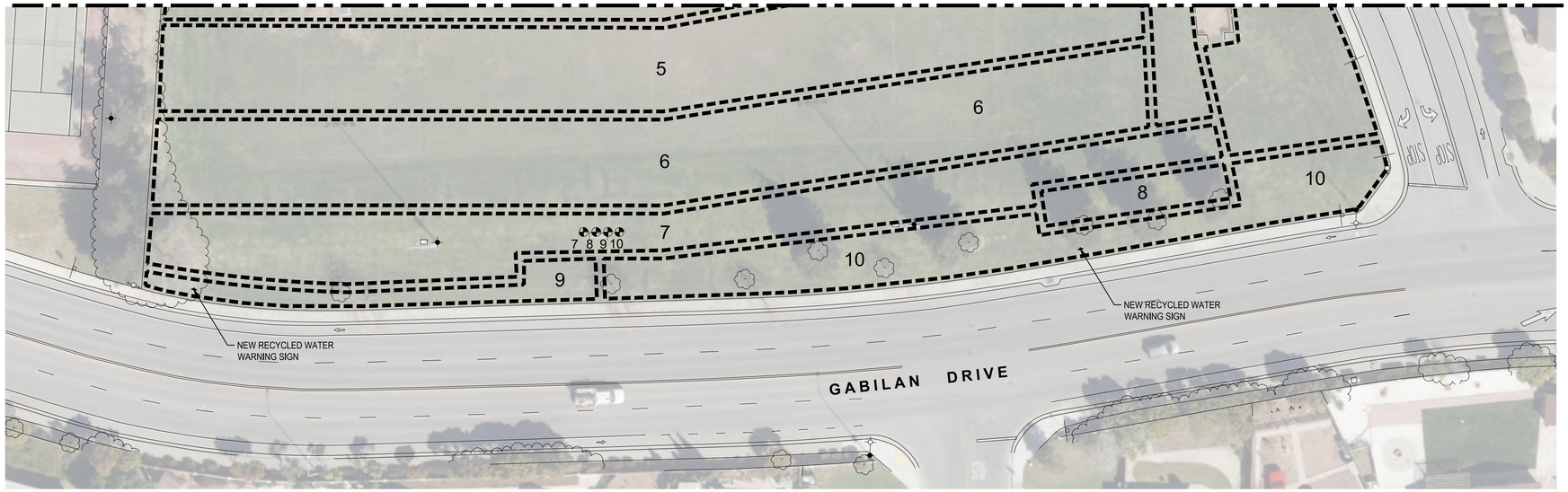

0' 15' 30' 60'

SCALE: 1"=30'

SEE SHEET L7.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION

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No. 5595
Signature
Exp. 11/30/24
STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
BLAS SANTANA PARK - INVENTORY II

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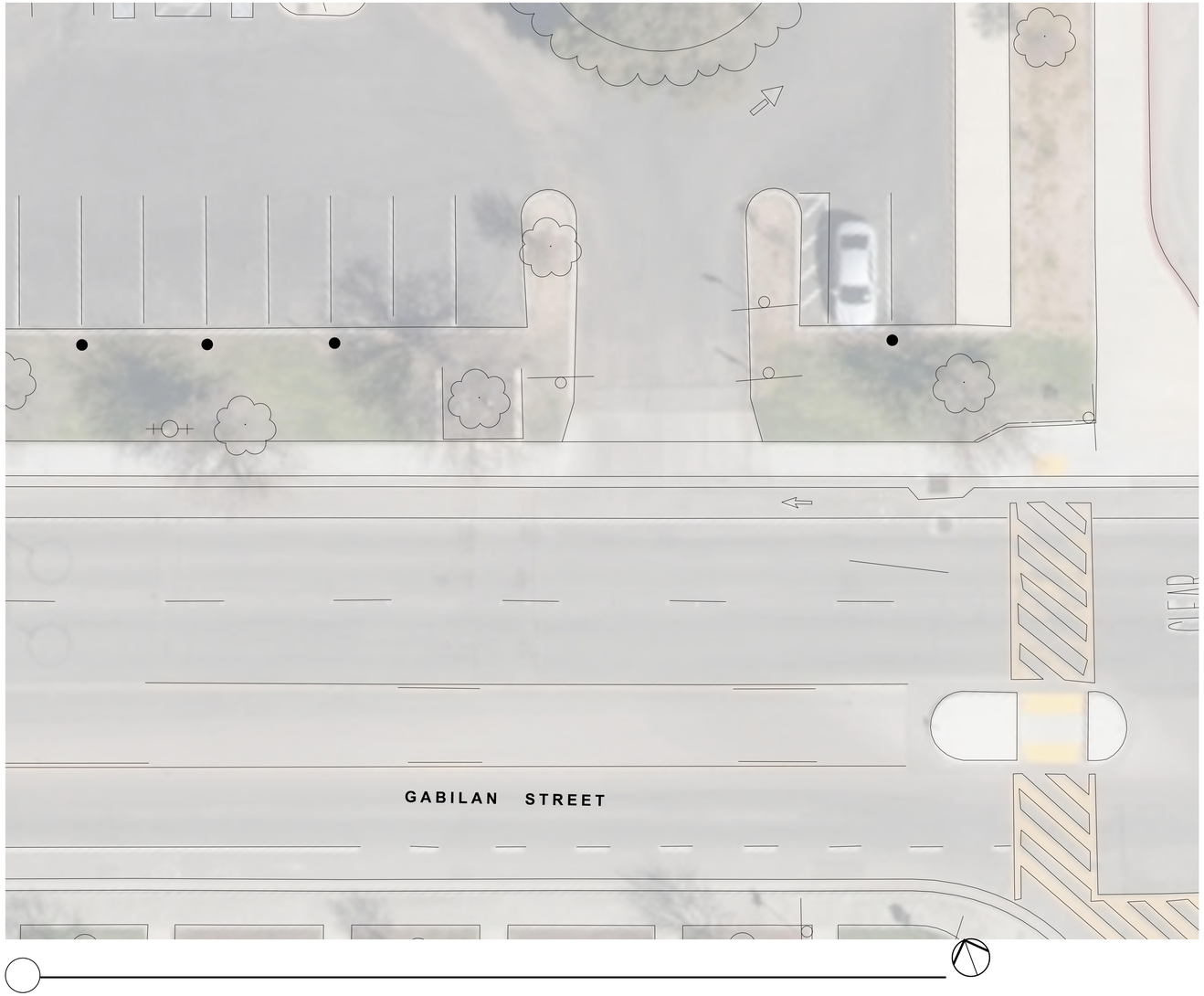

POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
8	SOLEDAD HIGH SCHOOL	SCHOOL	425 GABILAN DRIVE, SOLEDAD, CA 93960	39.81								98	90	X			

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - POINT OF CONNECTION

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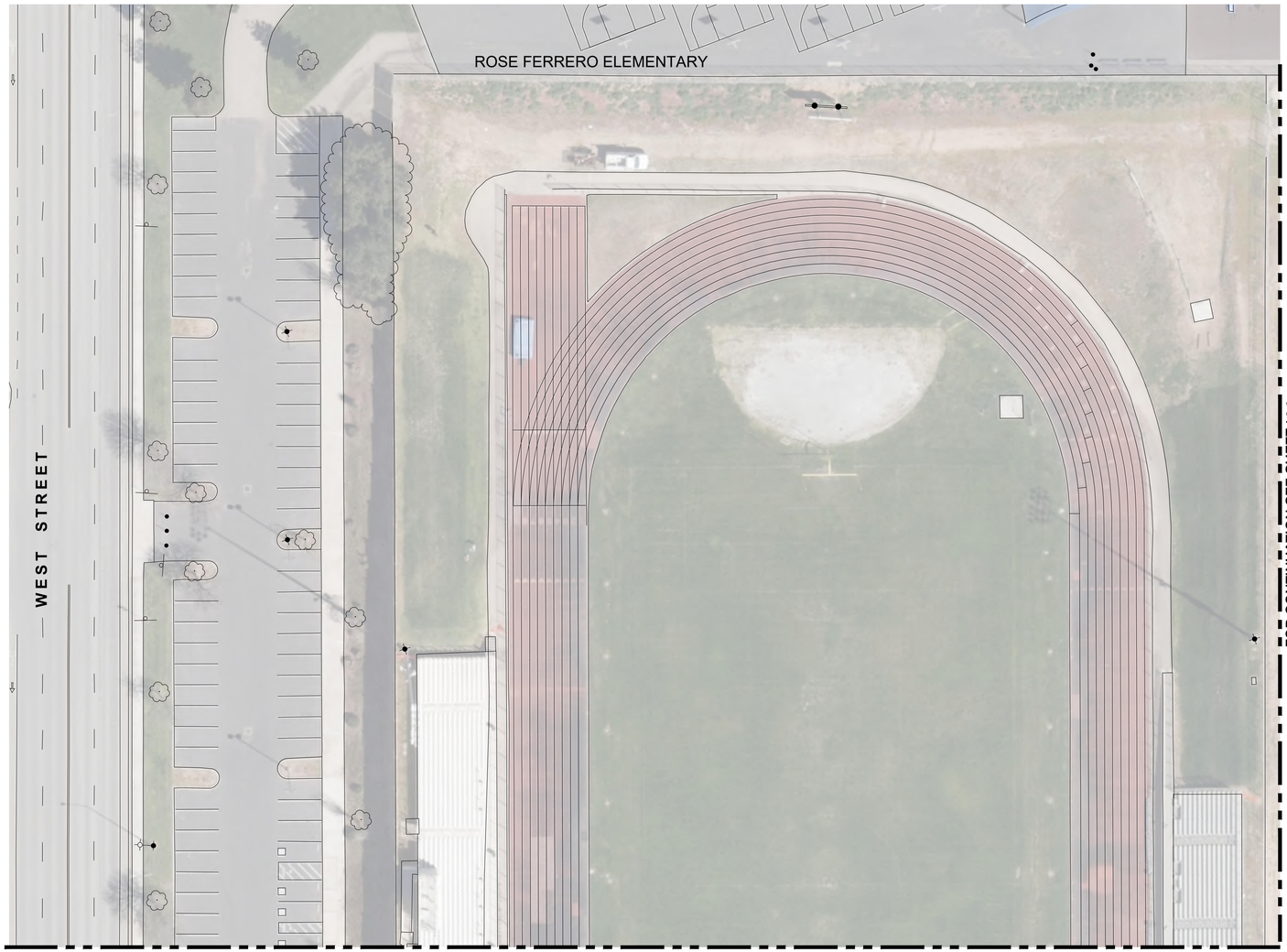

0' 15' 30' 60'
SCALE: 1"=30'

SITE SUMMARY

SOLEDAD HIGH SCHOOL
39.81 ACRE SOLEDAD UNIFIED SCHOOL DISTRICT
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, BENCHES, SEATING SPACES AND OPEN ASPHALT ACTIVITY AREAS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED NATURAL TURFGRASS SPORTS PLAY FIELDS, COURTYARD AND FRONT STREET FRONTAGE LAWN AREAS.
  - SHADE TREES IN LAWN, SHRUB AND BARK MULCH AREAS.
  - IRRIGATED AND MAINTAINED SHRUB AREAS.
  - SITE HAS ISOLATED AND SEPARATE POTABLE WATER POINTS OF CONNECTION FOR FIRE SERVICE, BUILDING SERVICE AND ONE FOR LANDSCAPE IRRIGATION.
- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL LANDSCAPE IRRIGATION EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - TREE/SHRUB VALVE ZONES:
    - EXISTING TREE, SHRUB AND GROUNDCOVER VALVES TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

EXISTING SHRUB IRRIGATION NOTES

EXISTING IRRIGATED SHRUB AREA

1. FIELD INVENTORY AND QUANTITY OF DRIP EMITTERS IS BASED ON FIELD REVIEW OF PLANTS.
2. DRIPLINE AND EMITTERS WERE NOT PHYSICALLY VISIBLE AND BELOW GRADE OR UNDER MATURE PLANTS.
3. QUANTITY FOR BIDDING PURPOSES IS BASED ON THE FOLLOWING
   - 3.1. (2) TWO 2.0 GPH DRIP EMITTERS PER TREE/ LARGE SHRUBS
   - 3.2. (1) ONE 2.0 GPH DRIP EMITTERS PER SMALL PLANTS/ GROUNDCOVERS.
4. EXISTING DRIPLINE WAS FOUND EXPOSED IN CERTAIN LOCATIONS.
5. SHRUB DRIPLINE AREAS WERE OPERATIONAL AND MAINTAINED.
6. SHRUB AREAS WITH SPRAY WERE INVENTORIED WITH THE FOLLOWING ASSUMPTIONS :
   - 6.1. PRODUCT WAS BASED ON IMPROVEMENT PLANS, AND SITE FIELD INVENTORY.
   - 6.2. QUANTITY IS BASED ON IMPROVEMENT PLANS PROVIDED.
   - 6.3. REPLACEMENT AND QUANTITY ARE SHOWN ON EXISTING PRODUCT SCHEDULE SHOWN BELOW.

TREE/ SHRUB ZONES

VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES WITHOUT STATION REFERENCE.

EXISTING PRODUCT SCHEDULE

EXISTING PRODUCT	DESCRIPTION	REPLACEMENT PRODUCT	ZONE / QUANTITY 1	2	3	4	5	6	7	8	9	10	TOTAL QUANTITY
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY I

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FOR CONTINUATION SEE SHEET L8.4

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

TAL ON

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CITY OF SOLEDAD
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LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY II

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XXXXX (CAROLLO)
23284 (SEI)
DRAWING NO.
SHEET NO.
L8.2
OF XX

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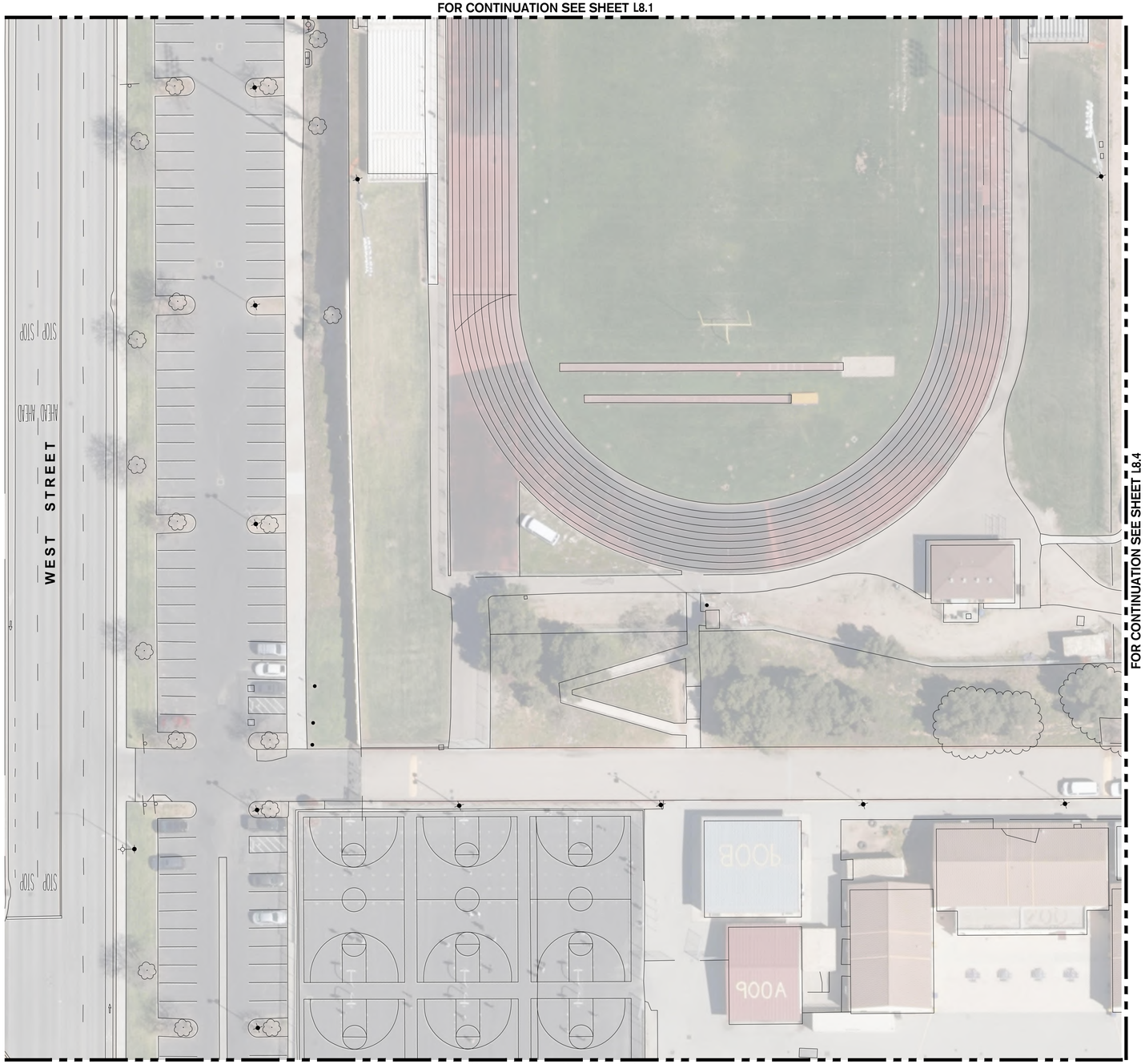

FOR CONTINUATION SEE SHEET L8.4

FOR CONTINUATION SEE SHEET L8.5

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY III

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FOR CONTINUATION SEE SHEET L8.2

L8.3

FOR CONTINUATION SEE SHEET L8.6

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY IV

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SHEET NO. L8.4 OF XX

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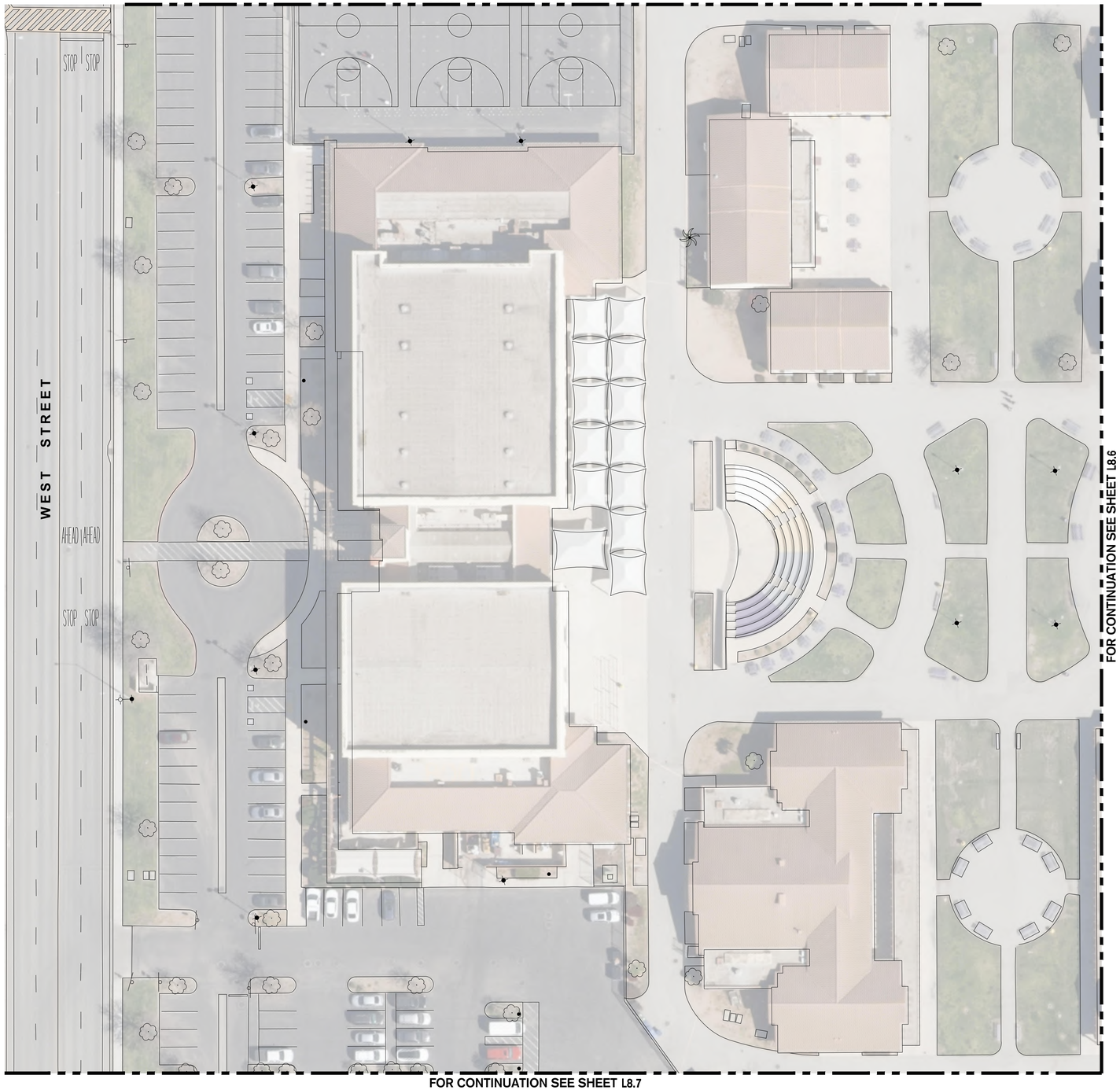

FOR CONTINUATION SEE SHEET L8.6

FOR CONTINUATION SEE SHEET L8.7

0' 15' 30' 60'
SCALE: 1"=30"

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY V

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SHEET NO. L8.5 OF XX

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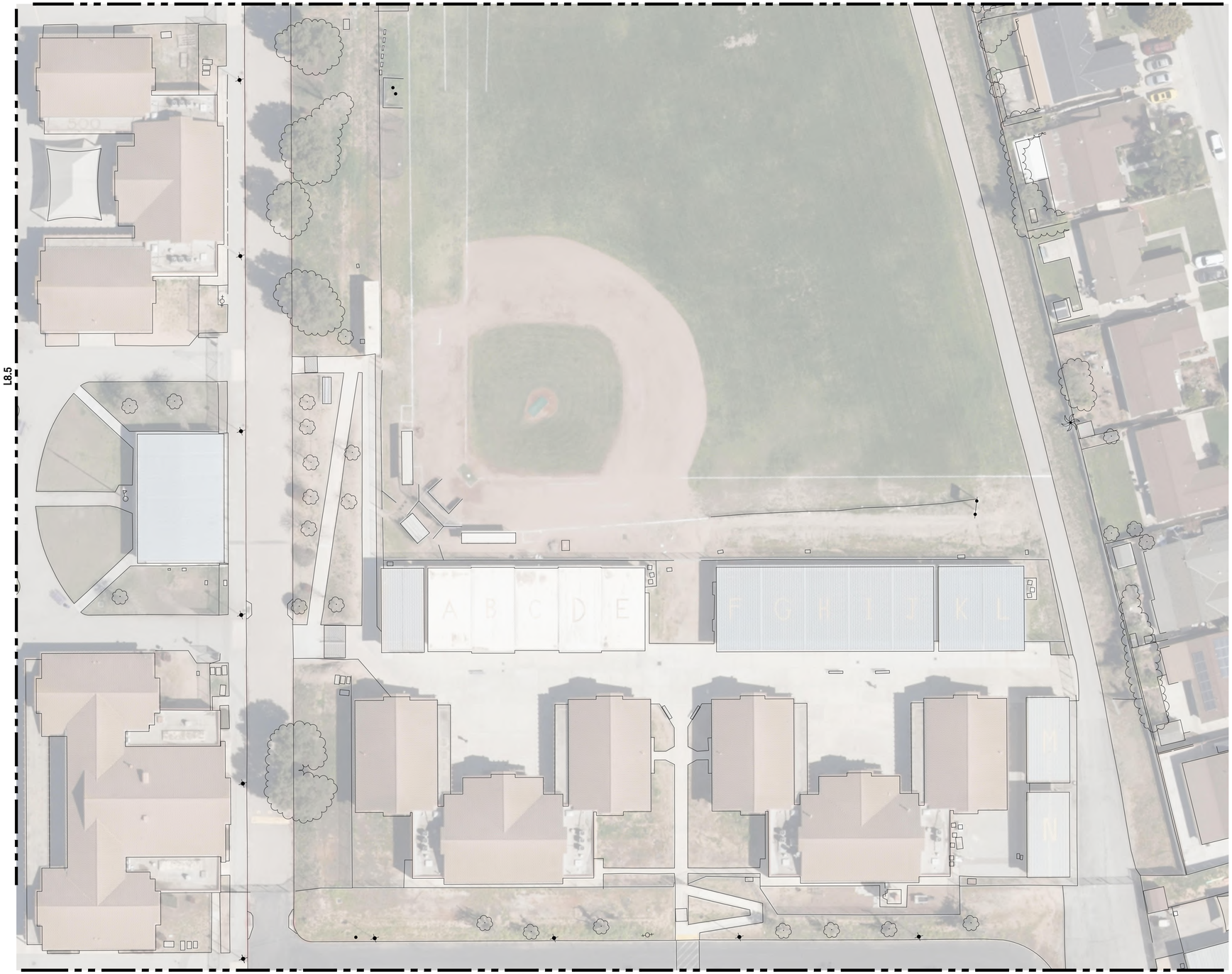

L8.5

FOR CONTINUATION SEE SHEET L8.8

0' 15' 30' 60'

SCALE: 1"=30'

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION

30% DESIGN SUBMITTAL
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No.5595
Signature
Exp. 11/30/24
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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY VI

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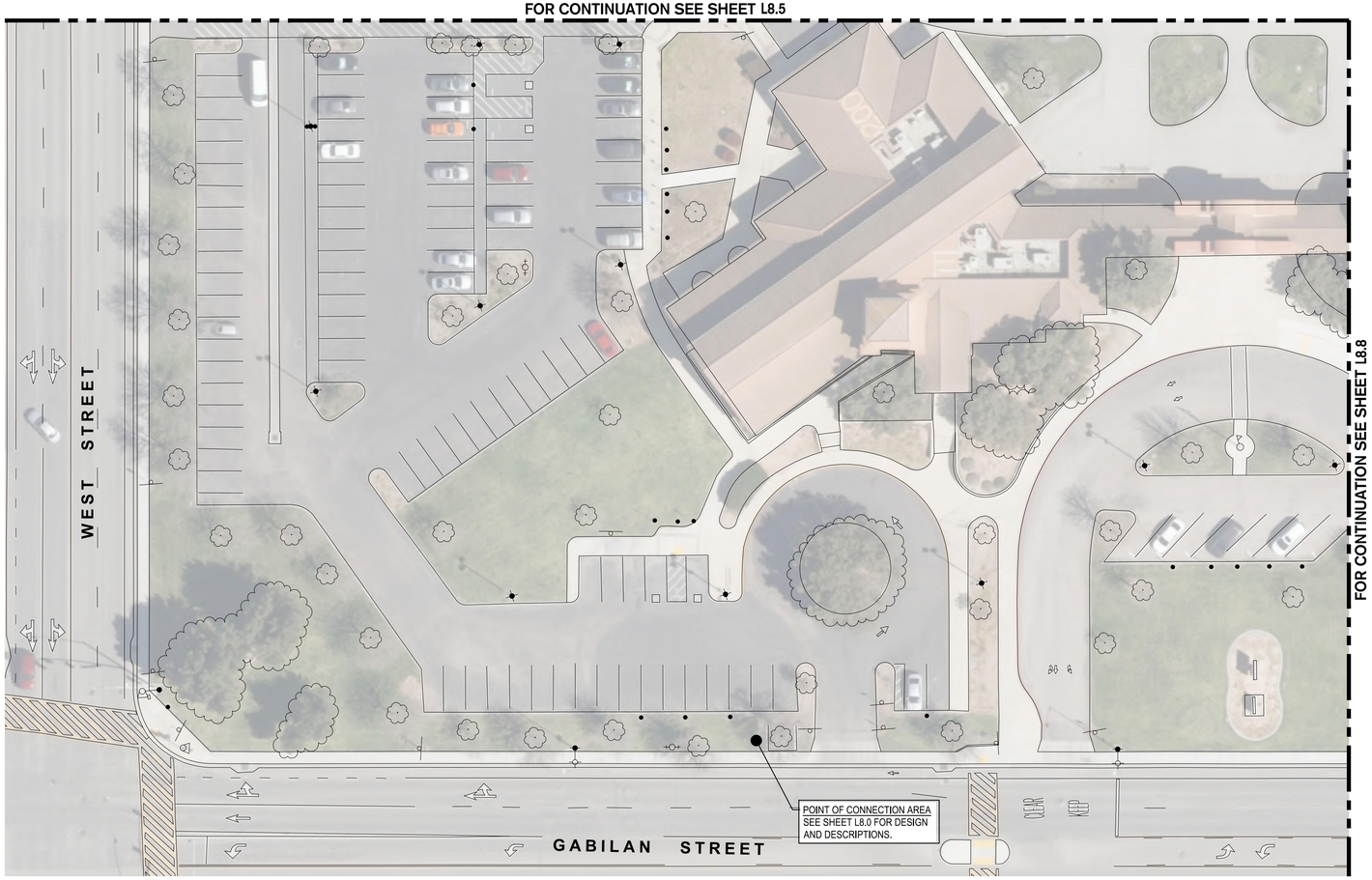

FOR CONTINUATION SEE SHEET L8.8

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SOLEDAD HIGH SCHOOL - INVENTORY VII

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L8.7 OF XX

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FOR CONTINUATION SEE SHEET L8.6

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L8.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

SOLEDAD HIGH SCHOOL - INVENTORY VIII

VERIFY SCALES
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0 1"
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JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L8.8 OF XX

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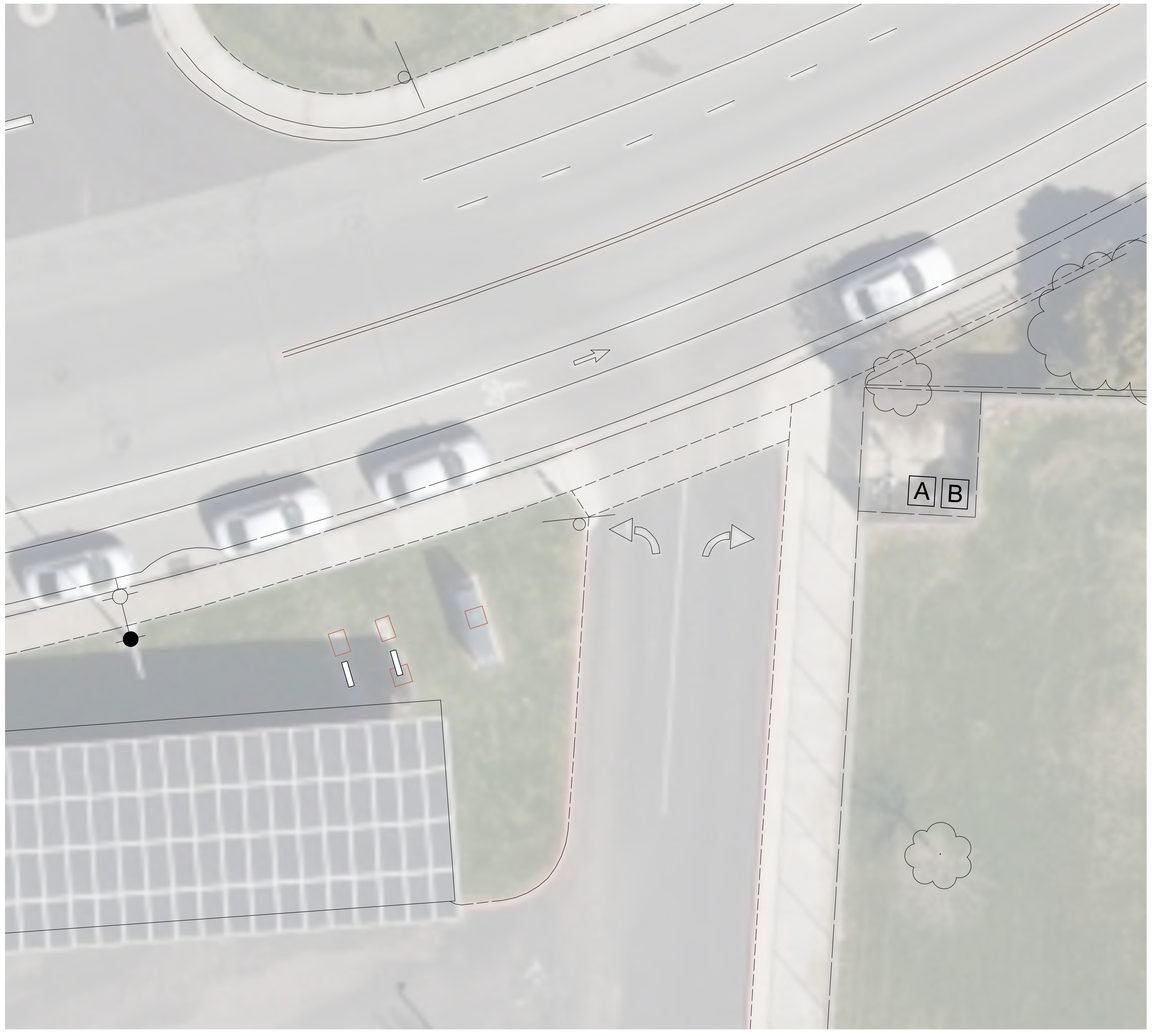

POINT OF CONNECTION

CONTROLLER

WATER METER

BACKFLOW PREVENTER

DRINKING FOUNTAIN

RESTROOM

2 EXISTING EQUIPMENT

NO SCALE

LEGEND

- EXISTING CONTROLLER
- EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- EXISTING WATER MONITORING STATION
- NEW WATER METER
- NEW BACKFLOW PREVENTER
- NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

GENERAL NOTES

1. IF A DISCREPANCY BETWEEN THESE PLANS AND ACTUAL ON-SITE CONDITIONS OCCURS, THE CONTRACTOR IS TO NOTIFY THE OWNER IMMEDIATELY, BEFORE PROCEEDING WITH WORK, FOR A DECISION.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH LOCAL AND STATE STANDARDS AND CODES.
3. ALL PLANTS BROUGHT ONTO THE SITE SHALL BE WATERED AND PROTECTED FROM EXCESSIVE WIND, SUN, FROST, PHYSICAL DAMAGE AND THEFT UNTIL PLANTED.
4. ALL ASPHALT, BASE COURSE AND OTHER DEBRIS ARE TO BE REMOVED COMPLETELY BELOW PLANTING AREAS TO NATIVE SOIL LEVEL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE SURFACE DRAINAGE AT 2% MINIMUM IN PLANTING AREAS EXCEPT WHERE SHOWN.
6. THE CONTRACTOR SHALL FURNISH AND APPLY THE APPROPRIATE PRE-EMERGENT HERBICIDE AT RATES PRESCRIBED BY LAW AND THE MANUFACTURER'S RECOMMENDATIONS. 'SURFLAN 75W' IS RECOMMENDED FOR GROUND COVER AND SHRUB AREAS. ALL PRE-EMERGENT HERBICIDES SHALL BE APPLIED BY LICENSED OPERATORS UNDER FAVORABLE WEATHER CONDITIONS.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
9	ROSE FERRERO ELEMENTARY	SCHOOL	400 EMTRADA DRIVE, SOLEDAD, CA 93960	9.86	NEPTUNE 3"	FEBCO 860 3"		(2) WEATHERMATIC SL4800 SMART LINE	NO	NO	NO	80	70	X	X	X	

REV	DATE	BY	DESCRIPTION

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

ROSE FERRERO ELEMENTARY - POINT OF CONNECTION

VERIFY SCALES
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0 1"
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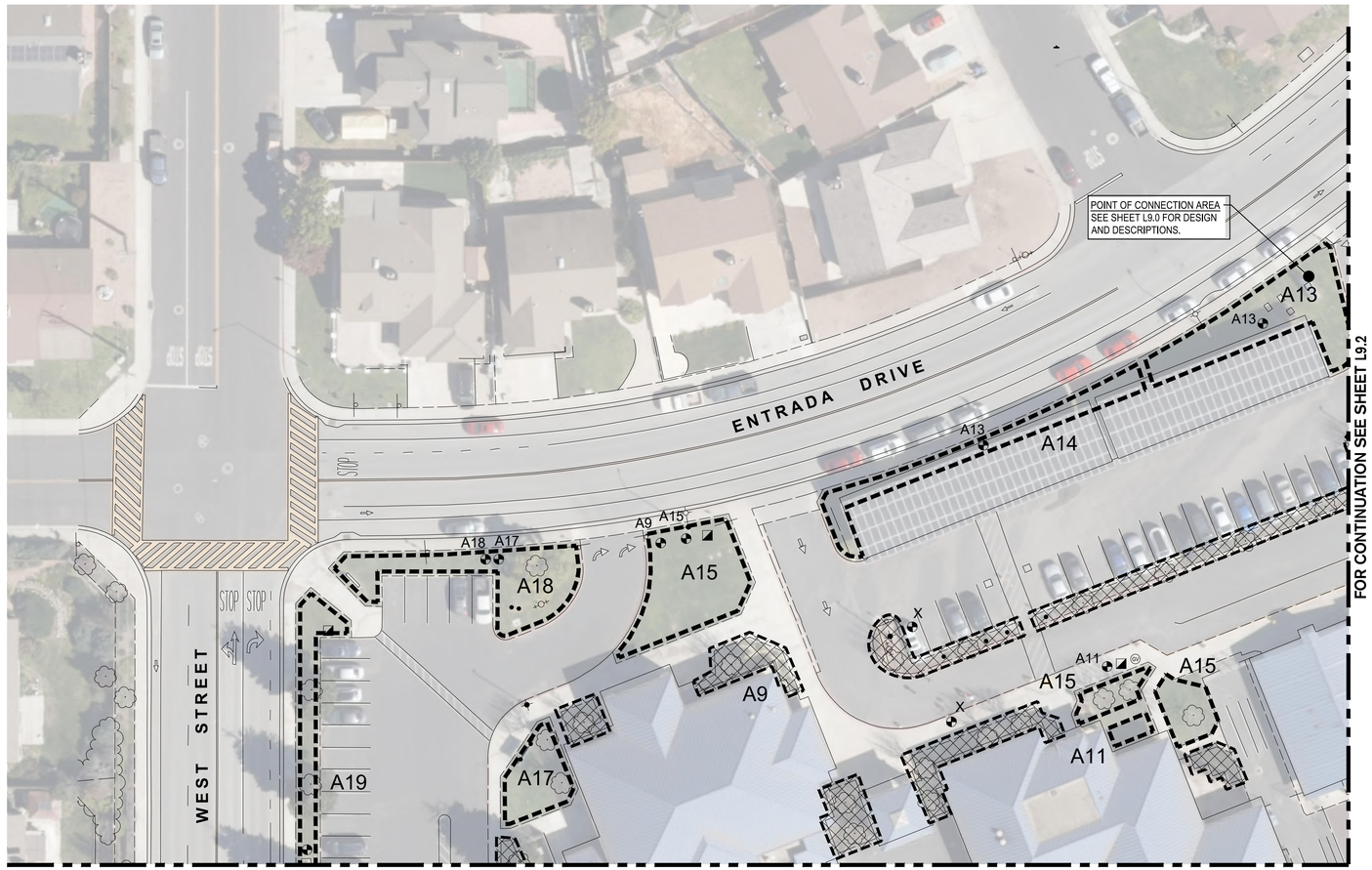
JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L9.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L9-ROSE FERRERO ELEMENTARY.dwg --- 06/18/24



FOR CONTINUATION SEE SHEET L9.3

0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

ROSE FERRERO ELEMENTARY SCHOOL
9.86 ACRE SOLEDAD UNIFIED SCHOOL DISTRICT
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, BENCHES, PLAYGROUND STRUCTURES AND OPEN ASPHALT ACTIVITY AREAS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED NATURAL TURFGRASS SPORTS PLAY FIELDS, COURTYARD AND FRONT STREET FRONTAGE LAWN AREAS.
  - SHADE TREES IN LAWN, SHRUB AND BARK MULCH AREAS.
  - IRRIGATED AND MAINTAINED SHRUB AREAS.
  - SITE HAS ISOLATED AND SEPARATE POTABLE WATER POINTS OF CONNECTION FOR FIRE SERVICE, BUILDING SERVICE AND ONE FOR LANDSCAPE IRRIGATION.
- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL LANDSCAPE IRRIGATION EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - TREE/SHRUB VALVE ZONES:
    - EXISTING TREE, SHRUB AND GROUNDCOVER VALVES TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

EXISTING SHRUB IRRIGATION NOTES

EXISTING IRRIGATED SHRUB AREA

1. FIELD INVENTORY AND QUANTITY OF DRIP EMITTERS IS BASED ON FIELD REVIEW OF PLANTS.
2. DRIPLINE AND EMITTERS WERE NOT PHYSICALLY VISIBLE AND BELOW GRADE OR UNDER MATURE PLANTS.
3. QUANTITY FOR BIDDING PURPOSES IS BASED ON THE FOLLOWING
   - 3.1. (2) TWO 2.0 GPH DRIP EMITTERS PER TREE/ LARGE SHRUBS
   - 3.2. (1) ONE 2.0 GPH DRIP EMITTERS PER SMALL PLANTS/ GROUNDCOVERS.
4. EXISTING DRIPLINE WAS FOUND EXPOSED IN CERTAIN LOCATIONS.
5. SHRUB DRIPLINE AREAS WERE OPERATIONAL AND MAINTAINED.
6. SHRUB AREAS WITH SPRAY WERE INVENTORIED WITH THE FOLLOWING ASSUMPTIONS :
   - 6.1. PRODUCT WAS BASED ON IMPROVEMENT PLANS, DATED 2000, WITH TORO 570 SPRAY POP-UP.
   - 6.2. QUANTITY IS BASED ON IMPROVEMENT PLANS PROVIDED.
   - 6.3. REPLACEMENT AND QUANTITY ARE SHOWN ON EXISTING PRODUCT SCHEDULE SHOWN BELOW.

TREE/ SHRUB ZONES

VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES. WITHOUT STATION REFERENCE.

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY																																		TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	A11	A12	A13	A14	A15	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	
VALVES																																					
WEATHERMATIC MAX-DW BLACK BULLET	1 1/2"-3" REMOTE CONTROL VALVE	MAX-DW PURPLE HANDLE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		33
RAIN BIRD 44 LRC	1"-2" REMOTE CONTROL VALVE	44 LRC-R																																			1
HEADS																																					
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R					8				21	6		13	8	13	7																		1		77
HUNTER I-25-04	4" POP-UP ROTOR	I-25-04-R																5	6	6	6	6	4	4	5	7	4	10	6	6	5	6		6			92
HUNTER PRO SPRAY NOZZLE W/IRRITROL I-PRO BOD	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP	5	17	30	30	1	14	29	55			9																			9		6		205
DRIP																																					
HUNTER HE-20-B	2.0 GPH SELF-PIERCING BARD EMITTERS																																				0
1/2" BLANK DISTRIBUTION TUBING	BLACK DRIP TUBING																																				0
MISCELLANEOUS																																					
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR																																			1
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		33
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		33
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		33
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL																																			1
RW WARNING SIGNS	WARNING SIGNS																																				10

REV	DATE	BY	DESCRIPTION
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DRAWN RPM
CHECKED PJS
DATE JUNE 2024

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carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
ROSE FERRERO ELEMENTARY - INVENTORY I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWING NO.
SHEET NO. L9.1 OF XX

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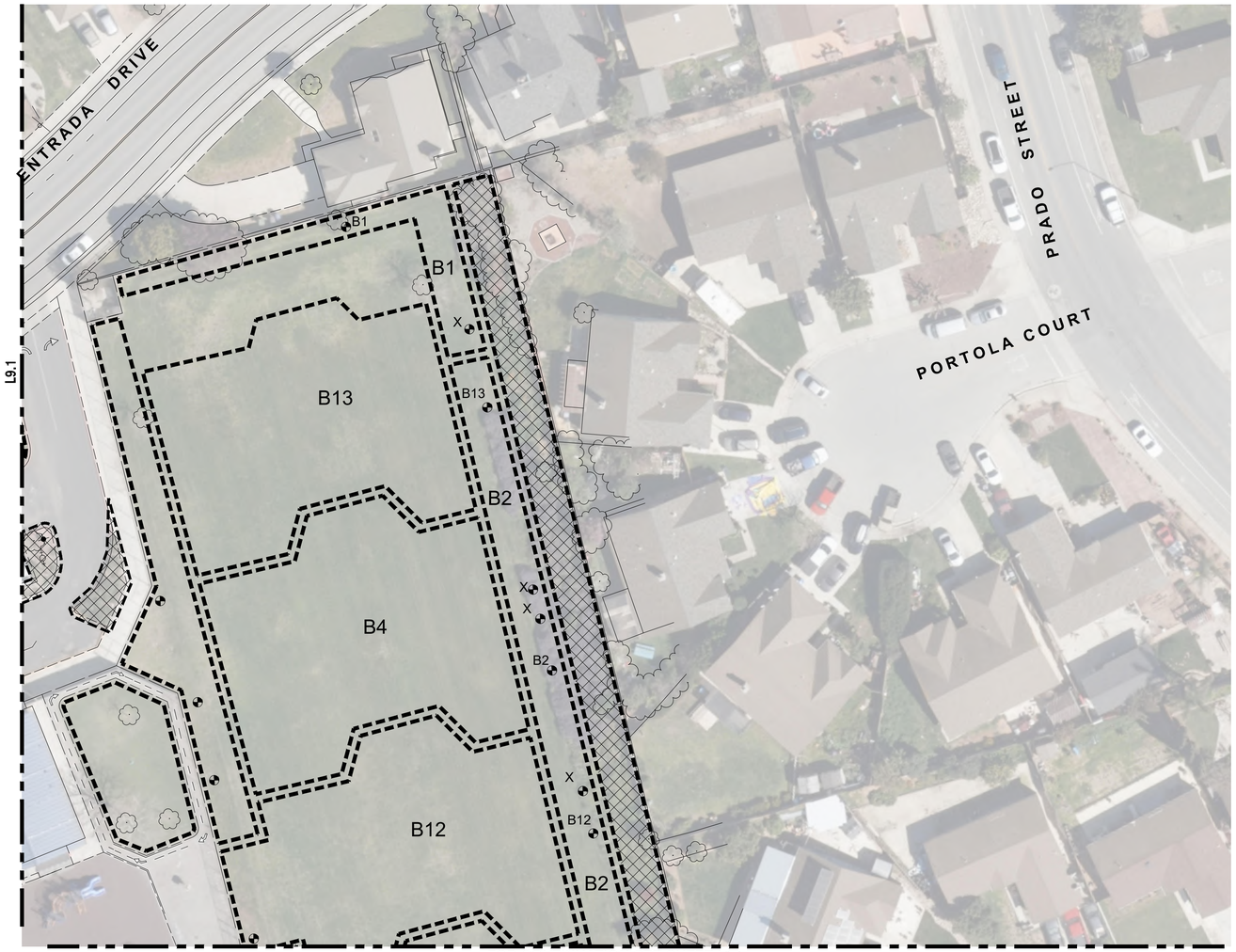

FOR CONTINUATION SEE SHEET L9.4

0' 15' 30' 60'

SCALE: 1"=30'

SEE SHEET L9.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
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DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

ROSE FERRERO ELEMENTARY - INVENTORY II

VERIFY SCALES
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0 1"
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DRAWING NO.
SHEET NO. L9.2 OF XX

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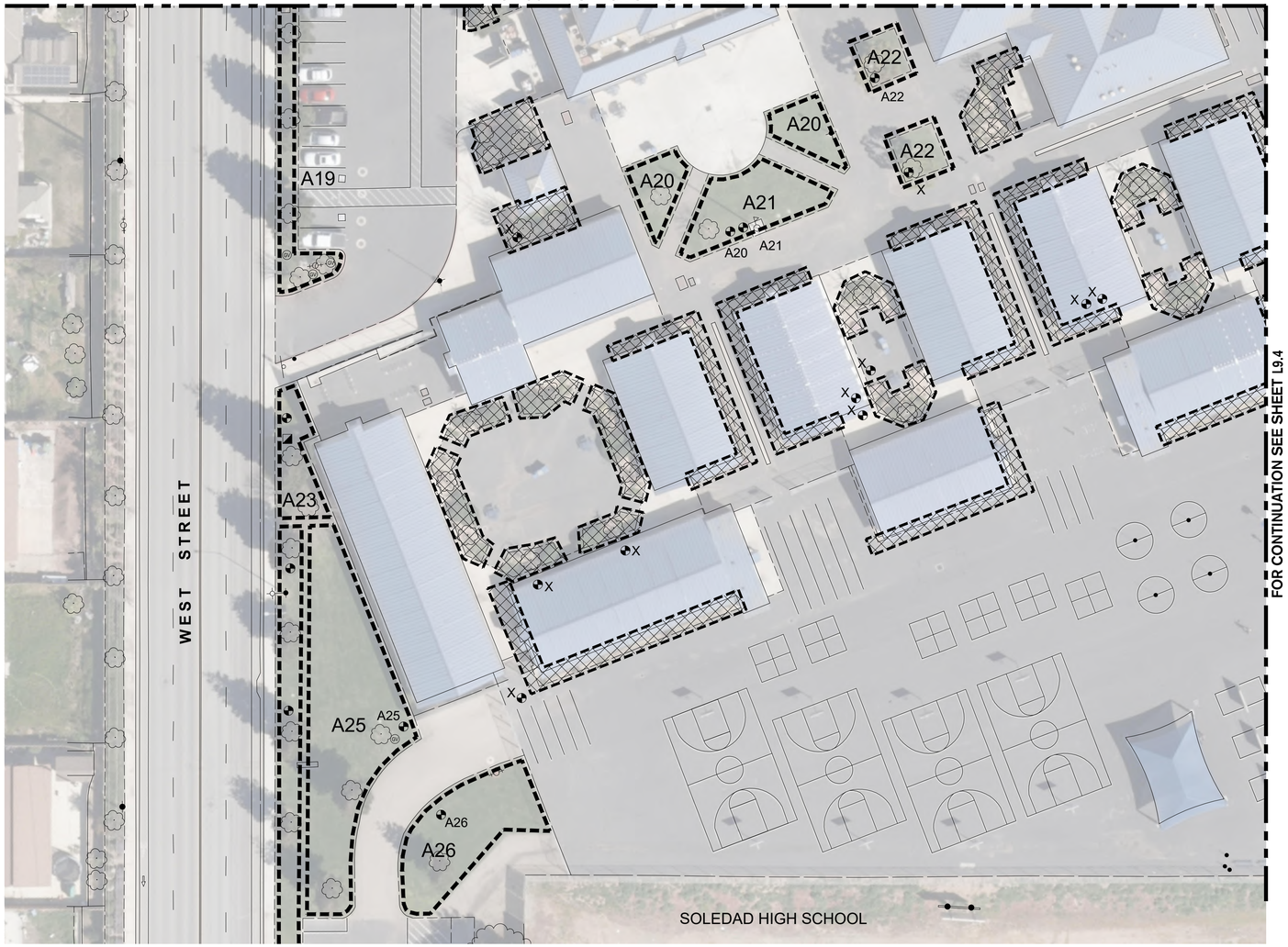
FOR CONTINUATION SEE SHEET L9.1



FOR CONTINUATION SEE SHEET L9.4

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L9.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
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CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
ROSE FERRERO ELEMENTARY - INVENTORY III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SHEET NO. L9.3 OF XX

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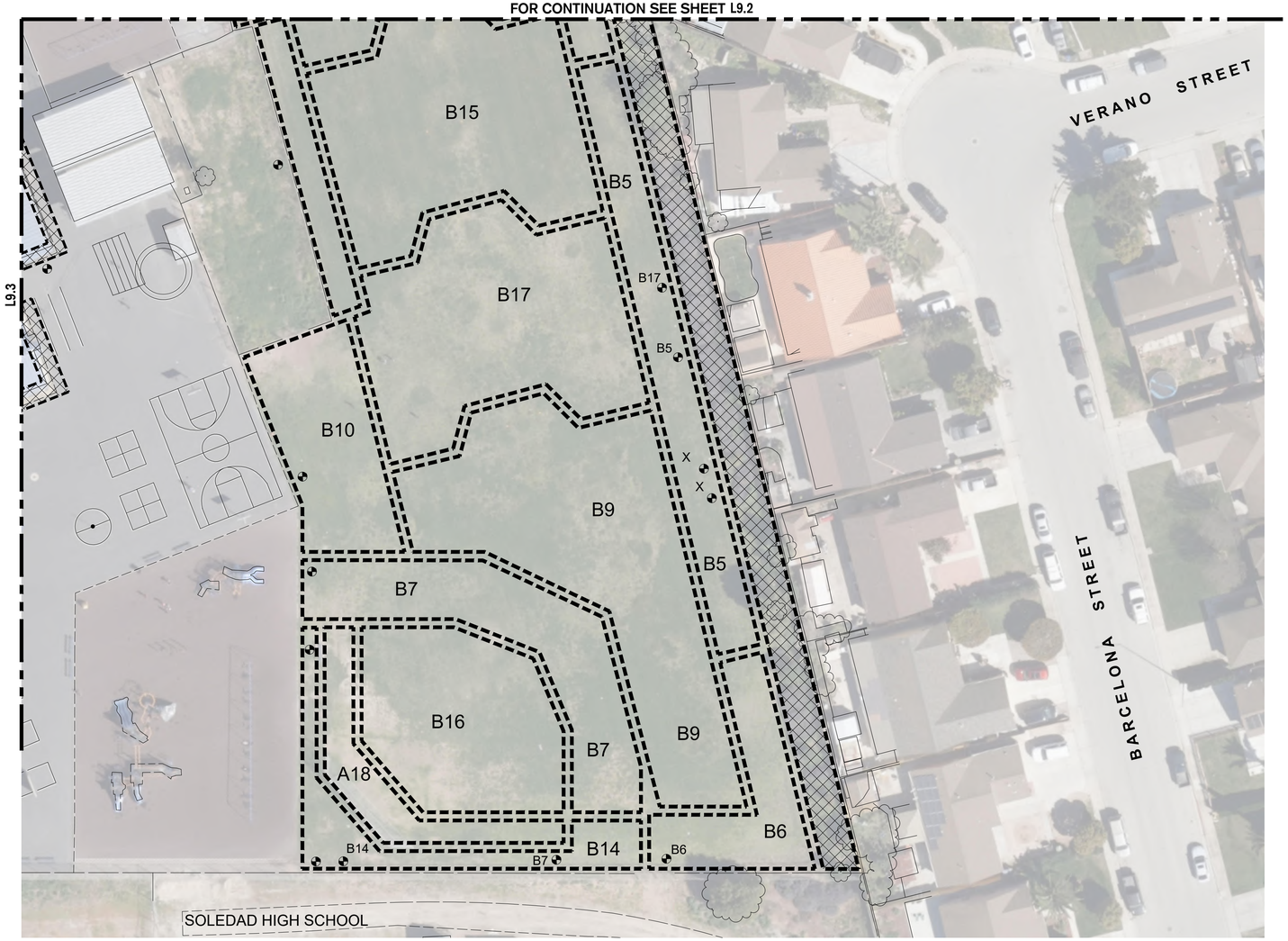
FOR CONTINUATION SEE SHEET L9.2



0' 15' 30' 60'

SCALE: 1"=30'

SEE SHEET L9.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
ROSE FERRERO ELEMENTARY - INVENTORY IV

VERIFY SCALES
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0 1"
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JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L9.4 OF XX

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POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
10	FRANK LEDESMA ELEMENTARY	SCHOOL	973 VISTA DE SOLEDAD, SOLEDAD, CA 93960	10.16								100	95				

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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DATE JUNE 2024

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CITY OF SOLEDAD — CALIFORNIA — EST. 1921

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
FRANK LEDESMA ELEMENTARY - POINT OF CONNECTION

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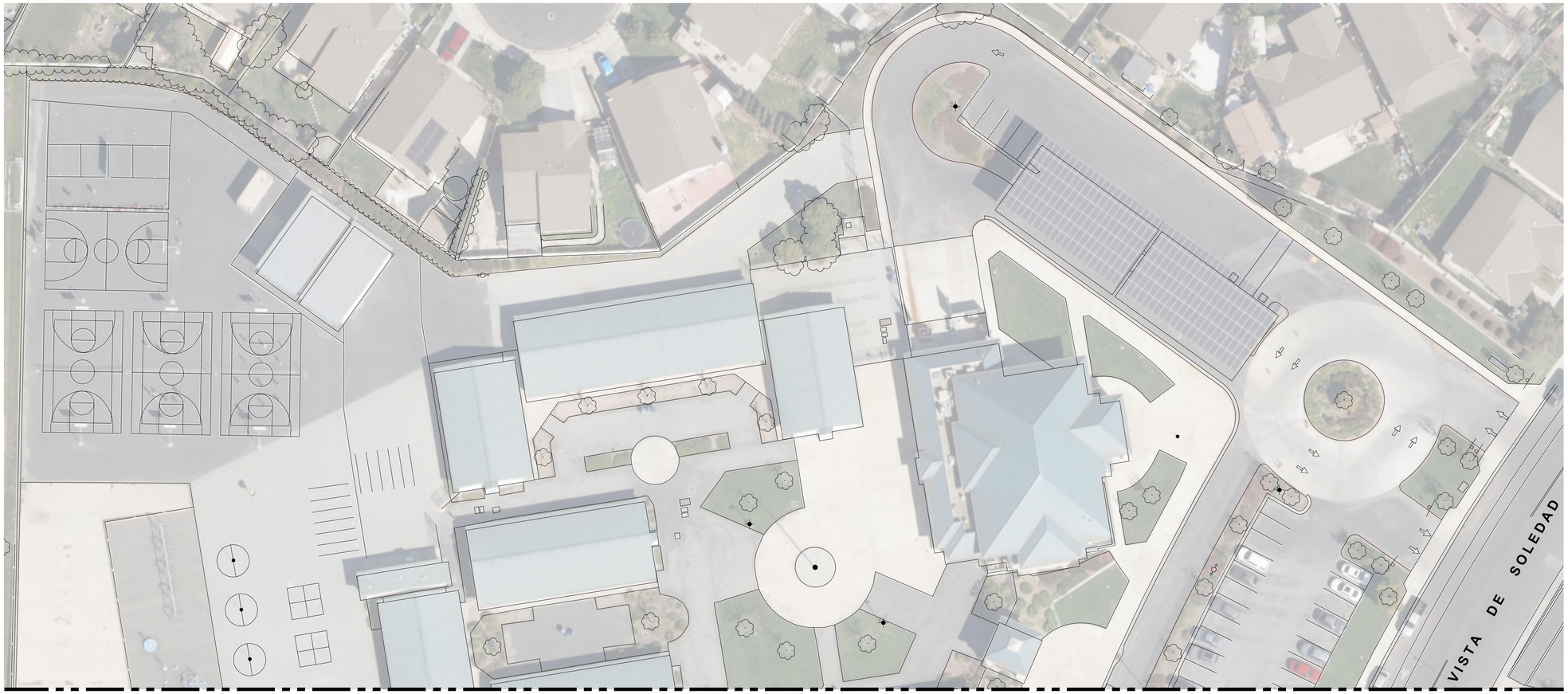

FOR CONTINUATION SEE SHEET L10.2

0' 15' 30' 60'

SCALE: 1"=30'

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING PRODUCT	DESCRIPTION	REPLACEMENT PRODUCT	ZONE / QUANTITY 1	2	3	4	5	6	7	8	9	10	TOTAL QUANTITY
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

FRANK LEDESMA ELEMENTARY - INVENTORY I

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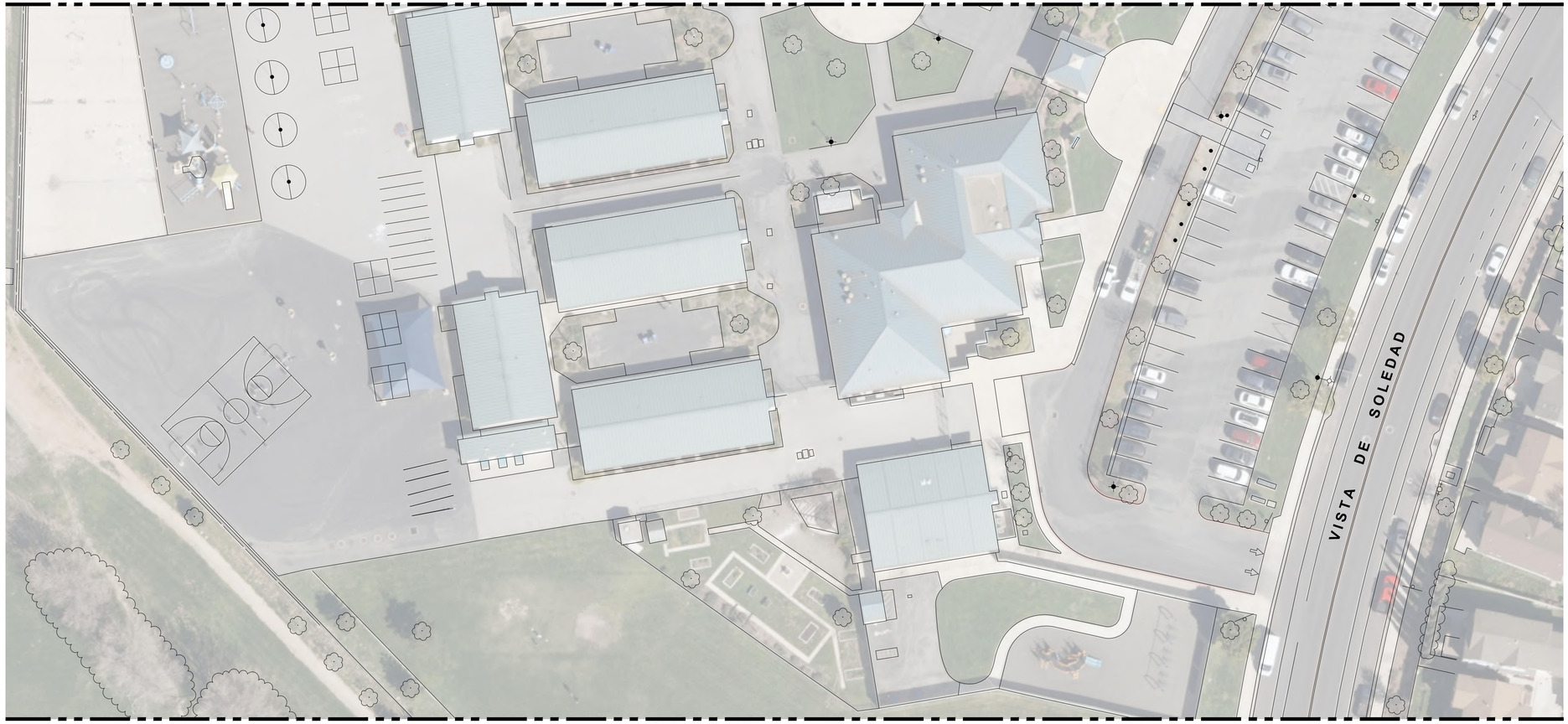

FOR CONTINUATION SEE SHEET L10.3

SEE SHEET L10.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
FRANK LEDESMA ELEMENTARY - INVENTORY II

VERIFY SCALES
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JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L10.2 OF XX

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FOR CONTINUATION SEE SHEET L10.2

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L10.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

FRANK LEDESMA ELEMENTARY - INVENTORY III

VERIFY SCALES
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JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L10.3 OF XX

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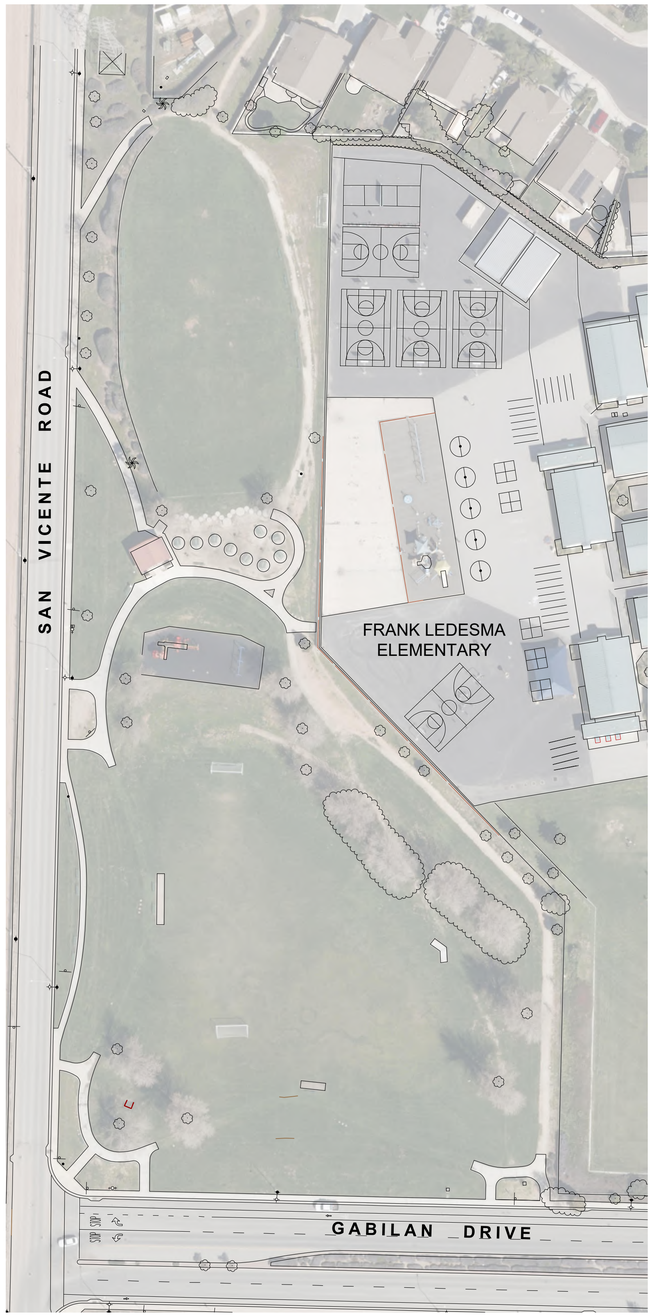

0' 30' 60' 120'
SCALE: 1"=60'

SITE NOTES

1. PROJECT IS COMPLETED BY OTHERS, AND NOT PART OF INVENTORY.
2. SEE ATTACHMENT FOR VETERANS PARK IMPROVEMENT PLANS.
3. EQUIPMENT LIST IS RETROFITTING SITE AND SERVICE OF RECYCLED WATER.

RECYCLED WATER PRODUCT SCHEDULE

PRODUCT	DESCRIPTION	RW PART
VALVES		
HEADS		
DRIP		
MISCELLANEOUS		
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	
VALVE RW TAGS	ID VALVE TAGS	
VALVE RW STATION TAG	ID VALVE TAGS	
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	
RW WARNING SIGNS	WARNING SIGNS	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
VETERANS PARK - INVENTORY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L11.1 OF XX

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POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
12	JOE O. LEDESMA PARK	PARK	125 MARKET STREET, SOLEDAD, CA 93960	0.62								53	45				

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
JOE O. LEDESMA - POINT OF CONNECTION

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SITE SUMMARY

JOE O. LEDESMA PARK
0.62 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO (1) DRINKING FOUNTAINS.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING PRODUCT	DESCRIPTION	REPLACEMENT PRODUCT	ZONE / QUANTITY 1	2	3	4	5	6	7	8	9	10	TOTAL QUANTITY
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

TAL ON

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

JOE O. LEDESMA - INVENTORY

VERIFY SCALES
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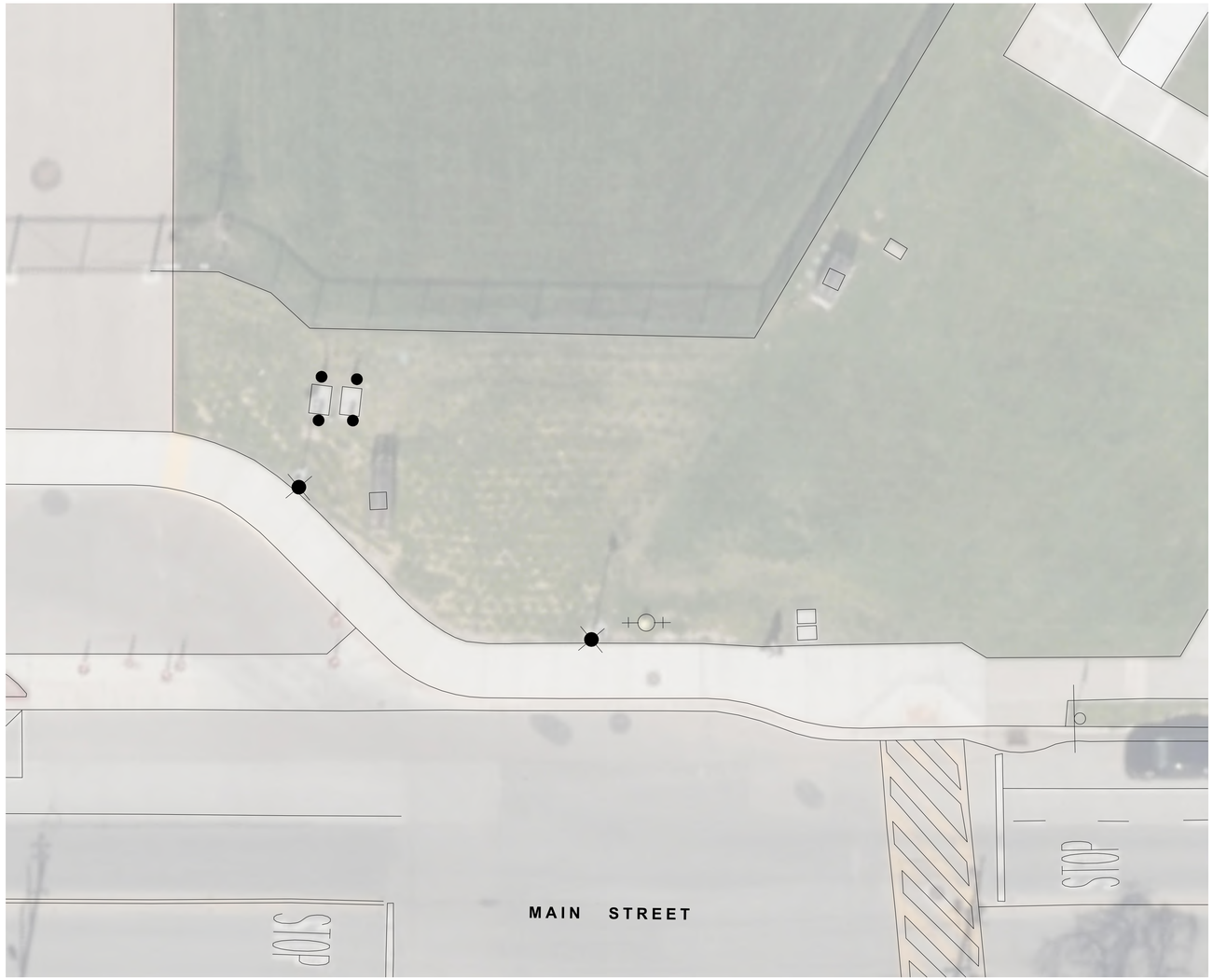
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L12.1 OF XX



POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
13	MAIN STREET MIDDLE SCHOOL	SCHOOL	441 MAIN STREET, SOLEDAD, CA 93960	14.42								52	40				

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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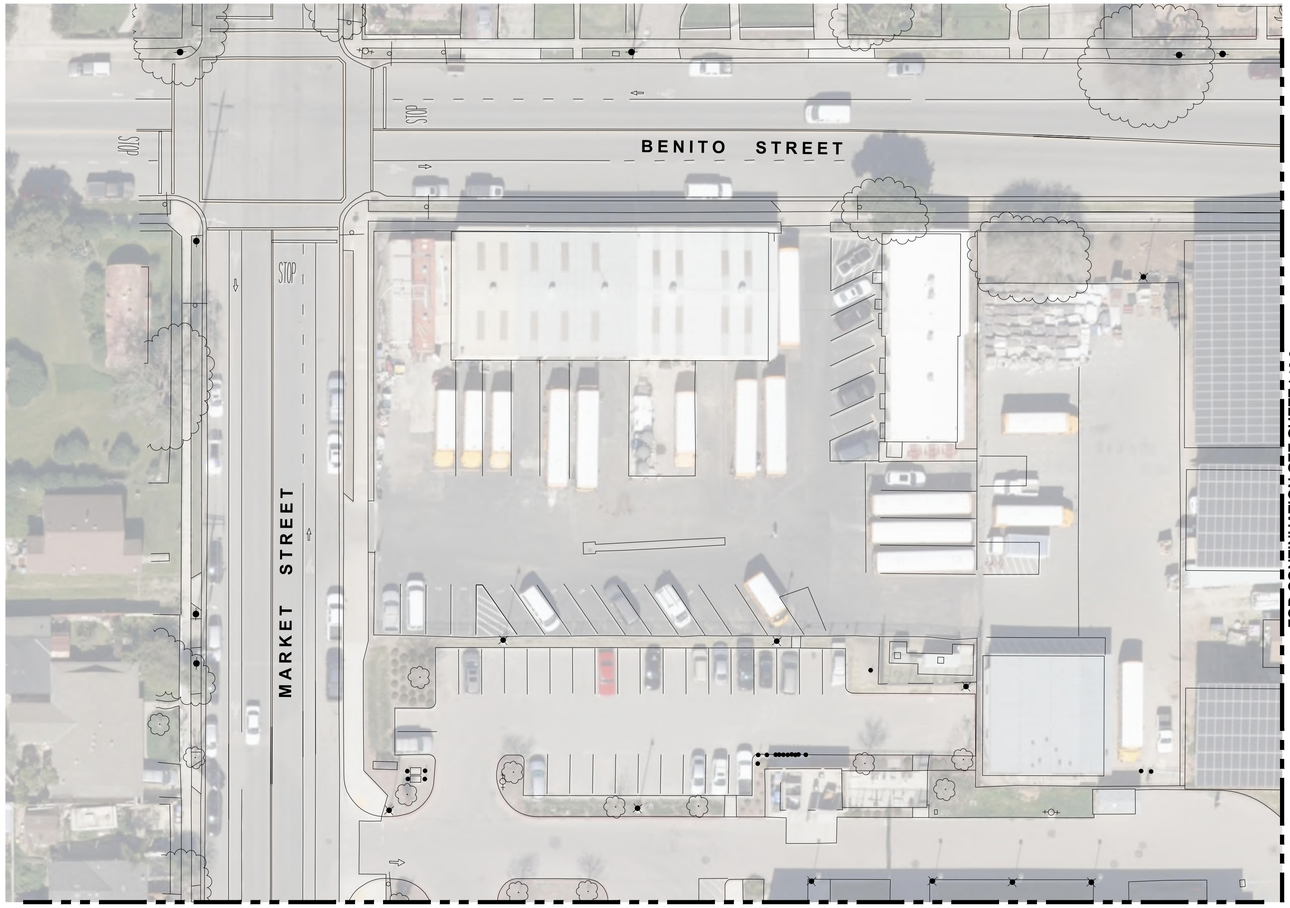
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
MAIN STREET MIDDLE SCHOOL - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L13.0 OF XX

F:\2projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264--L13--MAIN STREET MIDDLE SCHOOL.dwg -- 06/18/24



0' 15' 30' 60'
SCALE: 1"=30'

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY										TOTAL
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	9	10	QUANTITY
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

MAIN STREET MIDDLE SCHOOL - INVENTORY I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L13.1 OF XX

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L13.1

FOR CONTINUATION SEE SHEET L13.4

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L13.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
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CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
MAIN STREET MIDDLE SCHOOL - INVENTORY II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L13.2 OF XX

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FOR CONTINUATION SEE SHEET L13.1

FOR CONTINUATION SEE SHEET L13.4

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L13.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

MAIN STREET MIDDLE SCHOOL - INVENTORY III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L13.3 OF XX

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FOR CONTINUATION SEE SHEET L13.2

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L13.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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CHECKED PJS
DATE JUNE 2024

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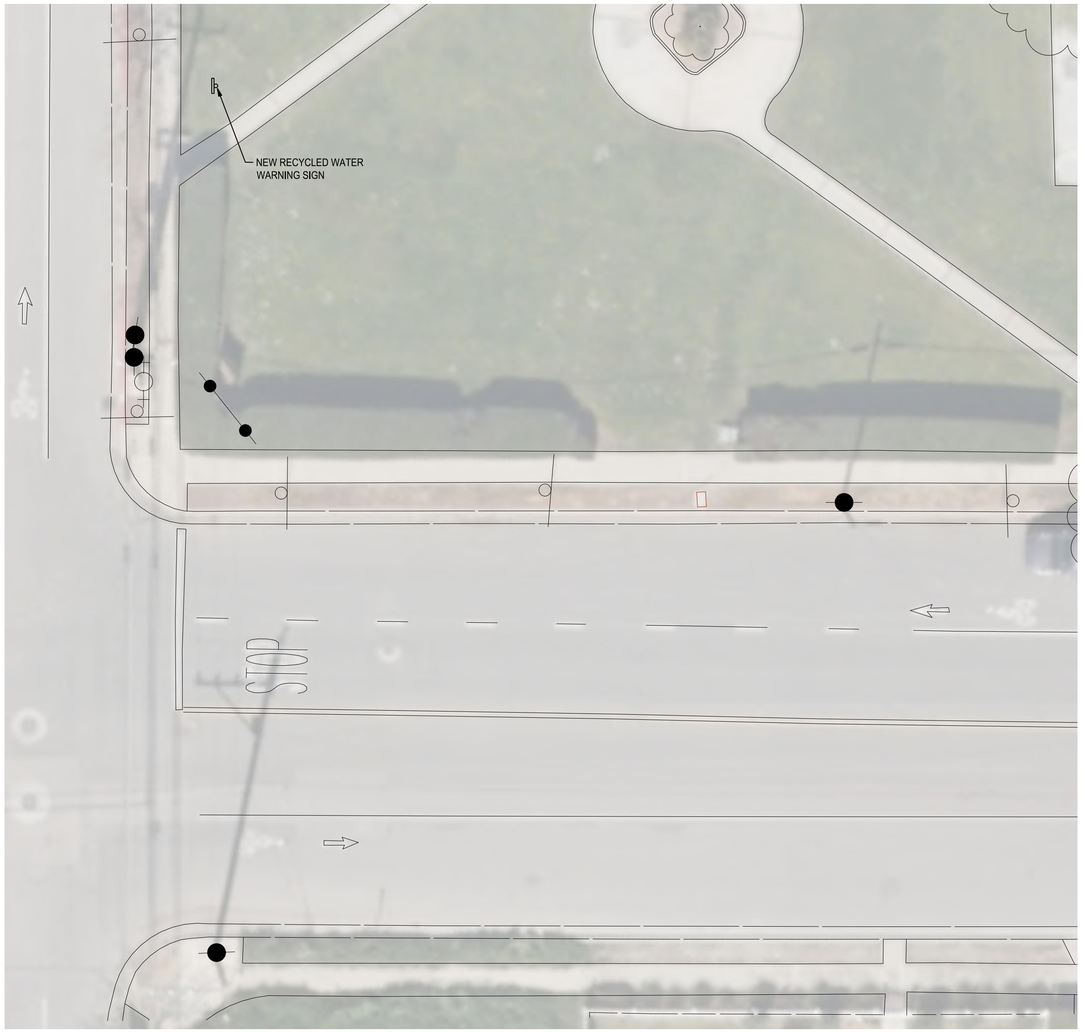
CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
MAIN STREET MIDDLE SCHOOL - INVENTORY IV

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L13.4 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L13--MAIN STREET MIDDLE SCHOOL.dwg --- 06/18/24



IRRIGATION POINT OF CONNECTION

POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
14	ALBERT BILL RAMUS PARK	PARK	SOLEDAD STREET, SOLEDAD, CA 93960	0.41	NEPTUNE 1"	NO BLACKFLOW READING	1" GALVANIZED	(3) HUNTER NODE-100 BATTERY	NO	NO	NO			NO	NO	NO	NO QUICK COUPLERS, ONE HOSE BIB

REV	DATE	BY	DESCRIPTION
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LICENSED LANDSCAPE ARCHITECT — ROBERT J. NORBUT JR. — No.5595 — Signature — Exp. 11/30/24 — STATE OF CALIFORNIA

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CITY OF SOLEDAD — CALIFORNIA

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
ALBERT BILL RAMUS - POINT OF CONNECTION

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L14.0 OF XX

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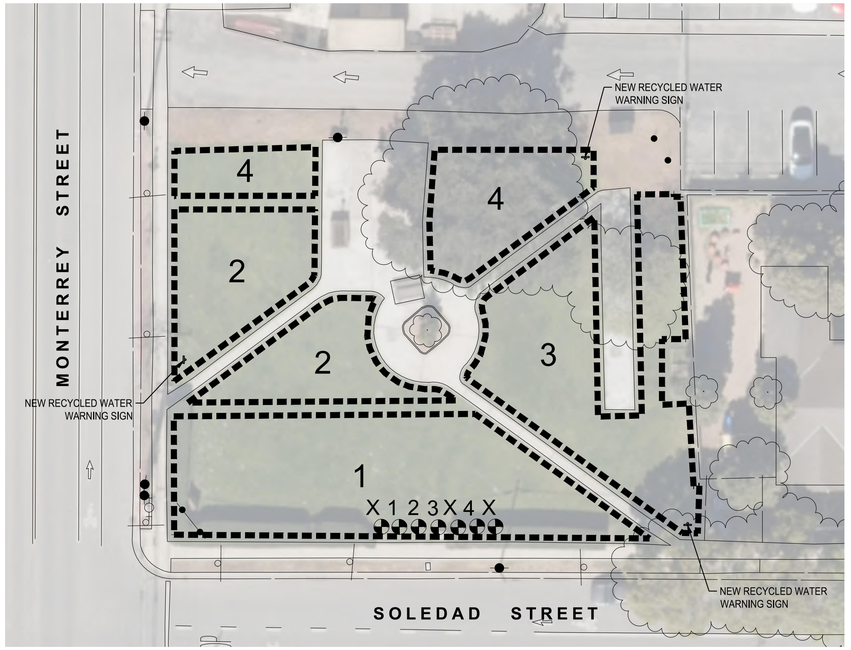

0' 10' 20' 40'

SCALE: 1"=20'

SITE SUMMARY

ALBERT BILL RAMUS PARK
0.41 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - NO PUBLIC BATHROOMS, AND DRINKING FOUNTAIN.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING BRASS ANTI-SIPHON TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF BRASS ANTI-SIPHON VALVES TO BE DISCONNECTED AND CAPPED - (3) THREE

EXISTING IRRIGATION PRODUCT LIST

EXISTING		REPLACEMENT	ZONE / QUANTITY				TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	
VALVES							
RAIN BIRD JTV/AS-100	ANTI-SIPHON VALVE	JTV/AS-100 PURPLE HANDLE	1	1	1	1	**4**
HEADS							
HUNTER I-25-04	4" POP-UP ROTOR	I-25-04-R	1				**1**
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R	3	4	3	1	**11**
MISCELLANEOUS							
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR					**1**
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1				**1**
CARSON 1419 RECTANGLE GREEN ICV BOX AND LID	VALVE BOX BOX AND LID	NDS318PBCR	3				**3**
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	**4**
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	**4**
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL					
RW WARNING SIGNS	WARNING SIGNS						**3**

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CITY OF SOLEDAD

CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

ALBERT BILL RAMUS - INVENTORY

VERIFY SCALES
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DRAWING NO.
SHEET NO. L14.1 OF XX

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POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
15	CHESTER AAROE PARK (LITTLE LEAGUE)	PARK	401-457 ANDALUCIA DRIVE, SOLEDAD, CA 93960	3.19								46	35		X		

REV	DATE	BY	DESCRIPTION
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LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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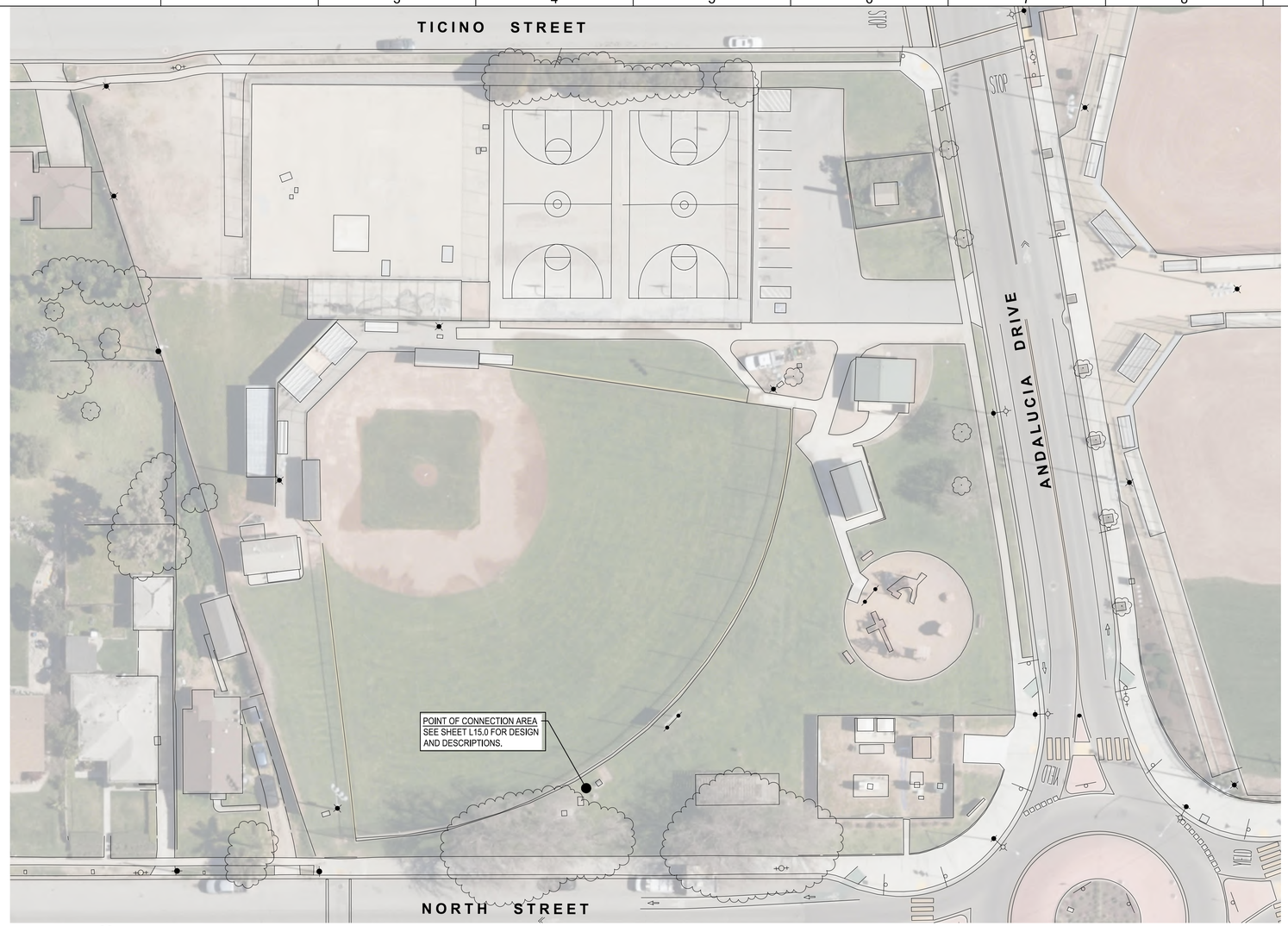
CITY OF SOLEDAD

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
CHESTER AAROE PARK (LITTLE LEAGUE) - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L15.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L15-CHESTER AAROE PARK (LITTLE LEAGUE).dwg -- 06/18/24



0' 10' 20' 40'

SCALE: 1"=20'

SITE SUMMARY

CHESTER AAROE PARK (LITTLE LEAGUE) PARK
3.19 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO (X) DRINKING FOUNTAINS.
  - PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY										TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	9	10	
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

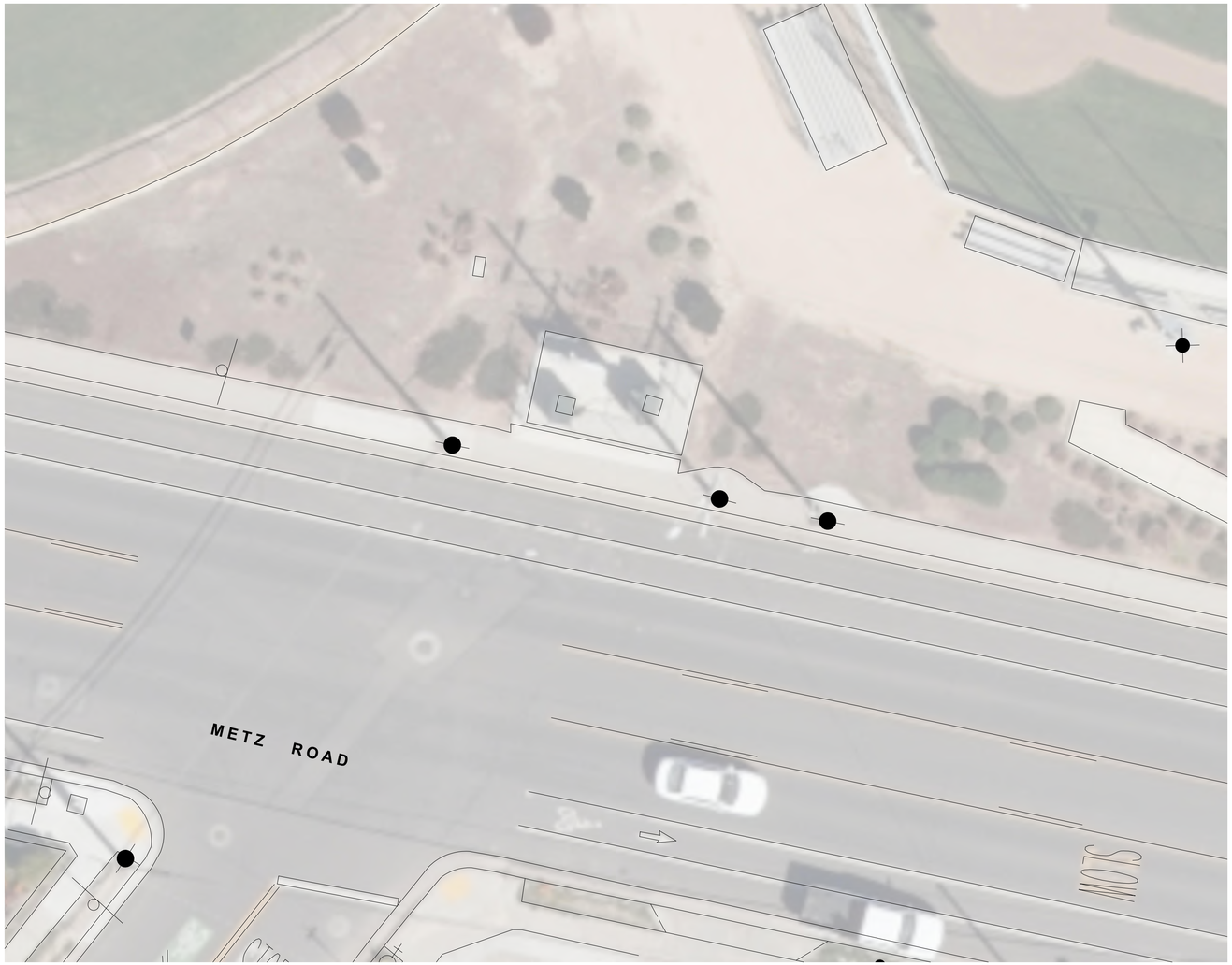
LANDSCAPE

CHESTER AAROE PARK (LITTLE LEAGUE) - INVENTORY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L15.1 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L15-CHESTER AAROE PARK (LITTLE LEAGUE).dwg -- 06/18/24



POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
16	JESSE GALLARDO PARK	PARK	SOLEDAD, CA 93960	4.46					X			44	34				

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

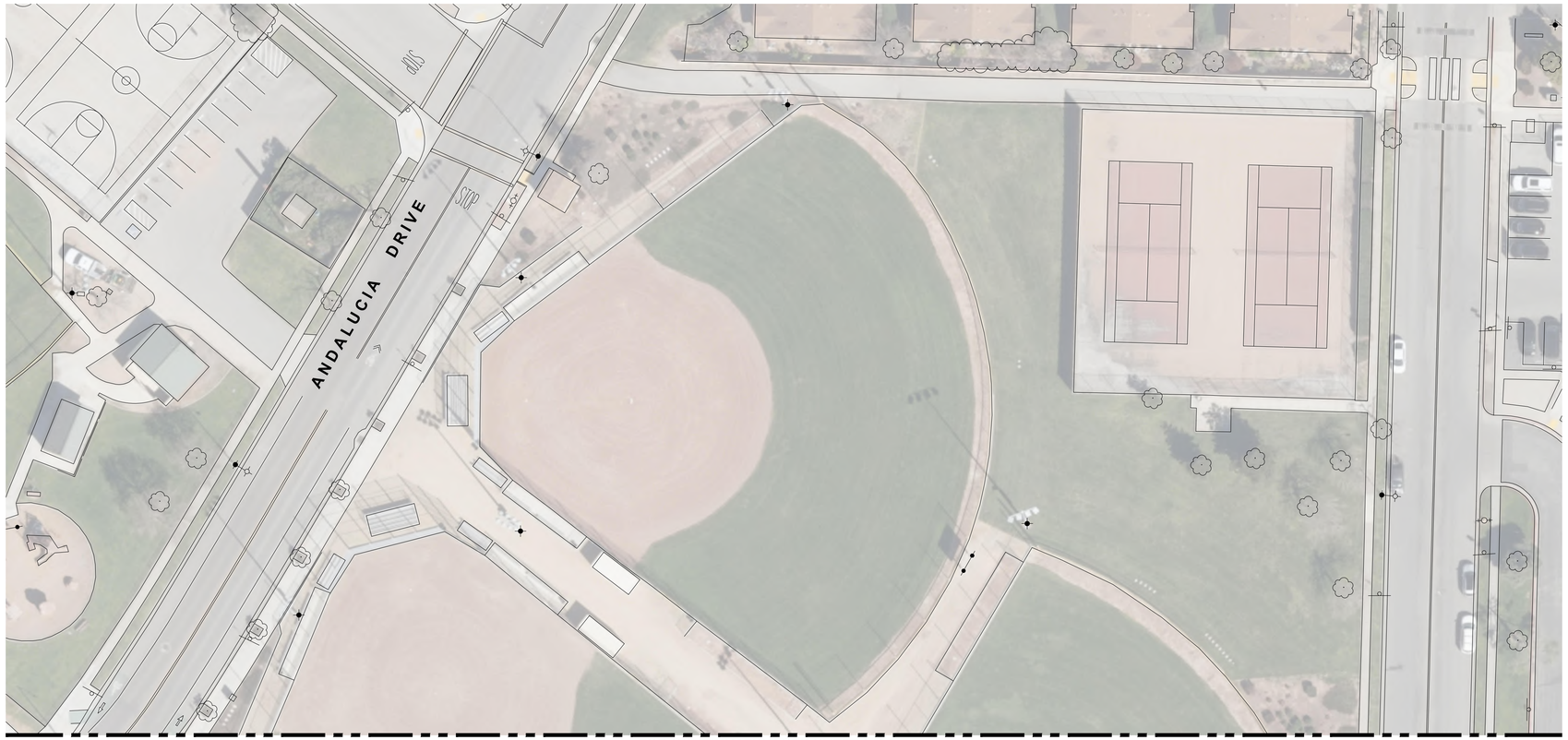
LANDSCAPE

JESSE GALLARDO PARK - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L16.0 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L16-JESSE GALLARDO PARK.dwg -- 06/18/24



FOR CONTINUATION SEE SHEET L16.2

0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

JESSE GALLARDO PARK
4.46 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO (X) DRINKING FOUNTAINS.
  - PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.
  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.
  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING		REPLACEMENT	ZONE / QUANTITY										TOTAL QUANTITY
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	9	10	
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

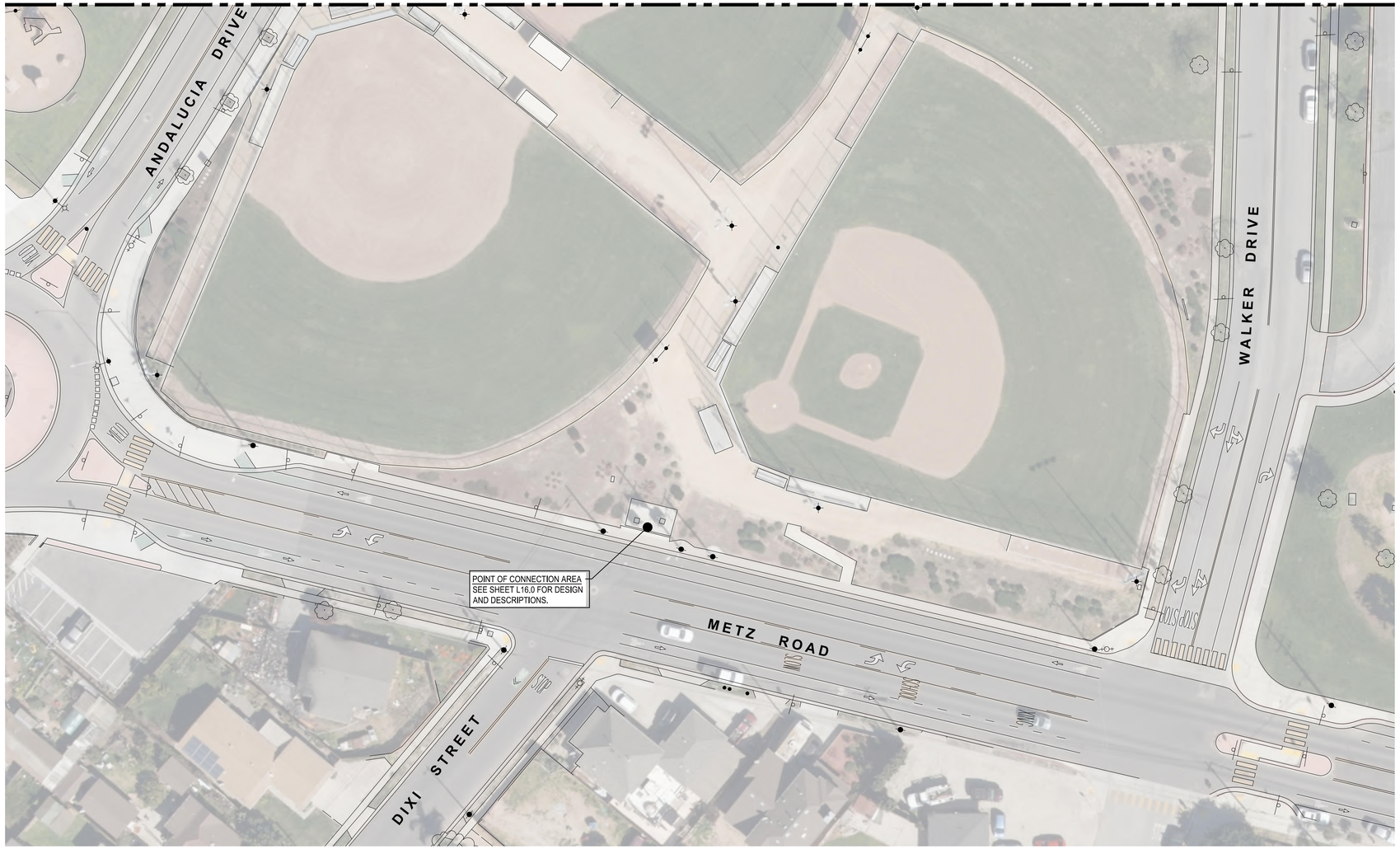
JESSE GALLARDO PARK - INVENTORY I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L16.1 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L16-JESSE GALLARDO PARK.dwg -- 06/18/24

FOR CONTINUATION SEE SHEET L16.1



0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L16.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

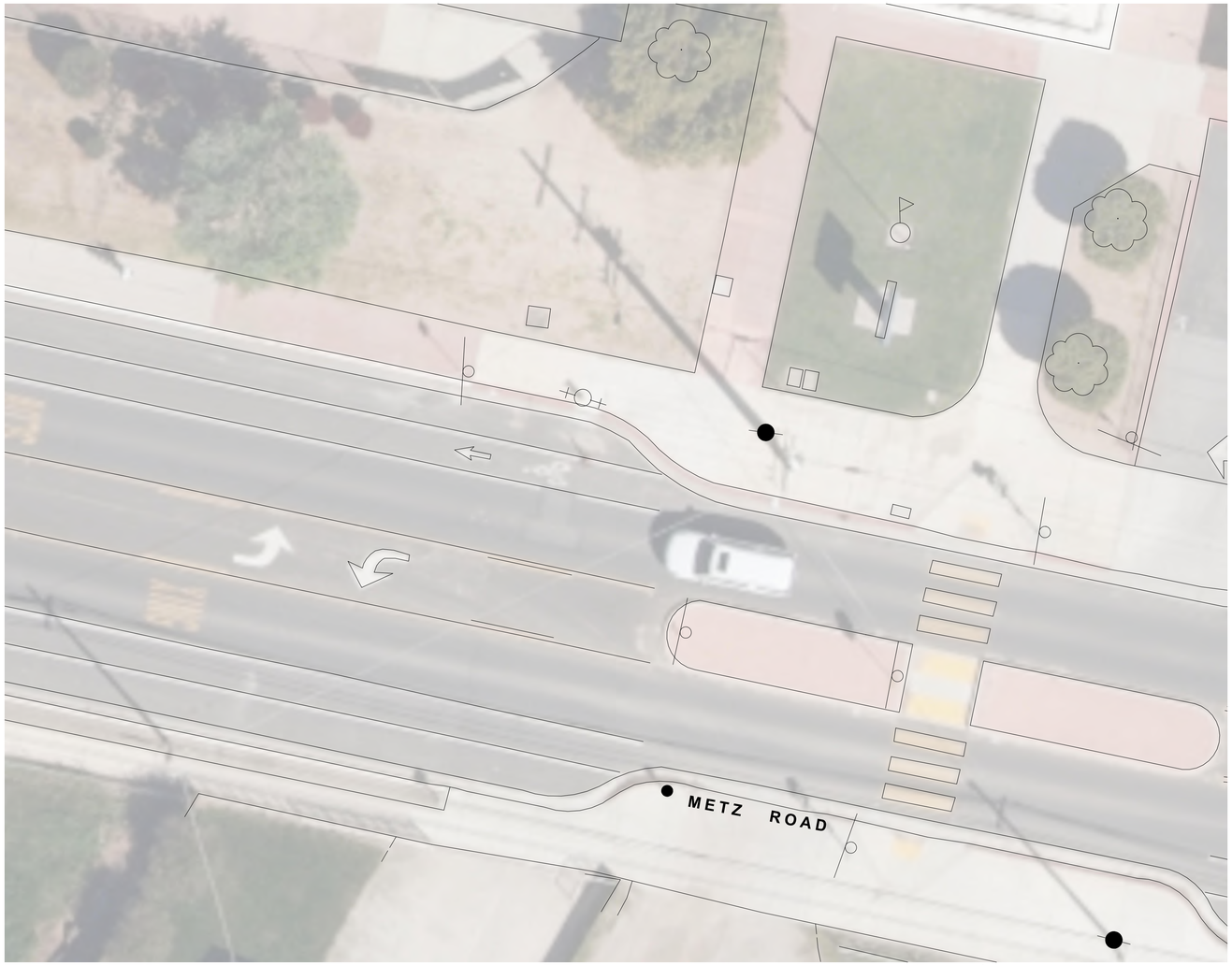
LANDSCAPE

JESSE GALLARDO PARK - INVENTORY II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L16.2 OF XX

F:\2projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L16-JESSE GALLARDO PARK.dwg -- 06/18/24



POINT OF CONNECTION | CONTROLLER | WATER METER

BACKFLOW PREVENTER | DRINKING FOUNTAIN | DRINKING FOUNTAIN | RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
17	SAN VICENTE ELEMENTARY	SCHOOL	1300 METZ ROAD, SOLEDAD,CA 93960	14.14								55	45				

TAL ON

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT, JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

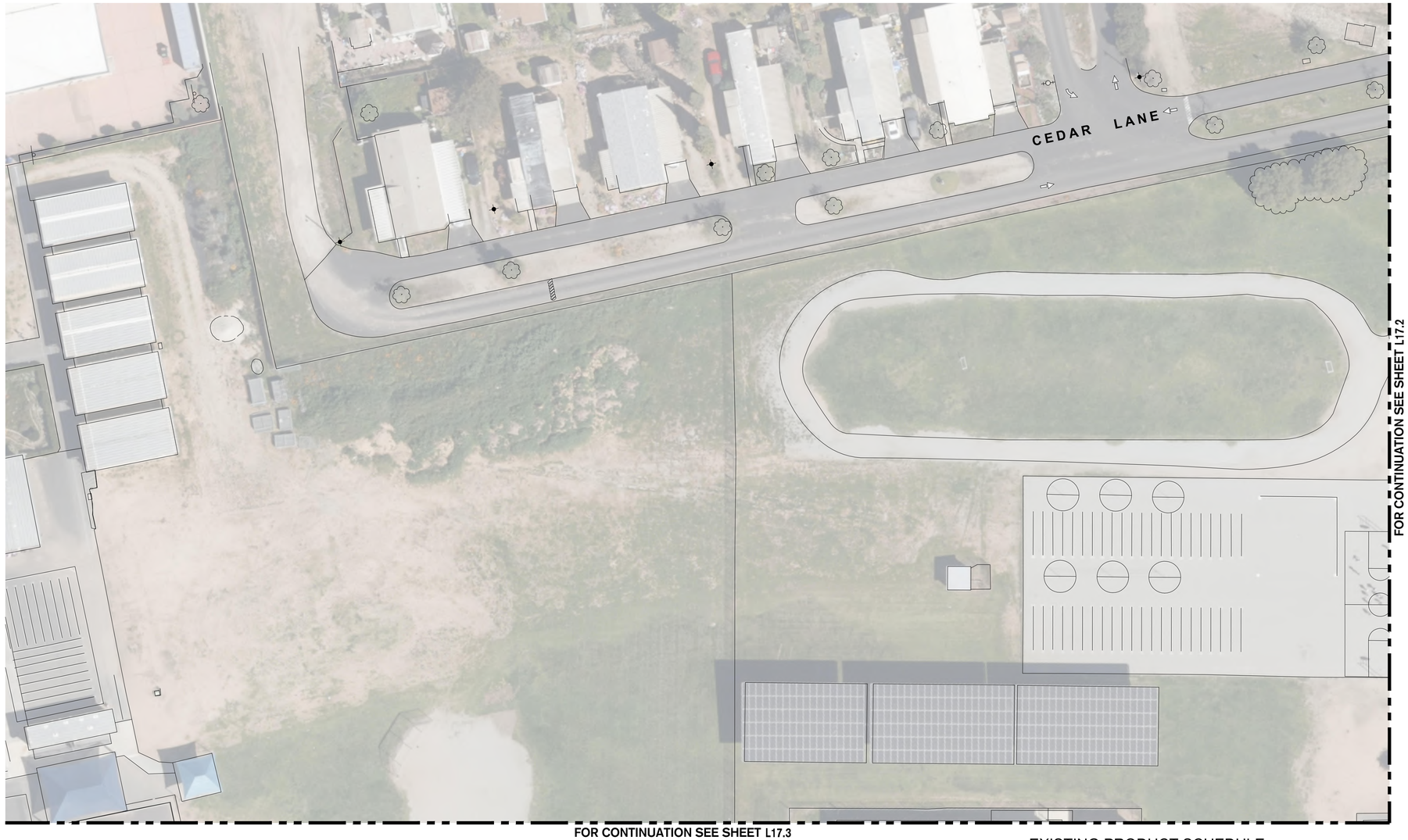
RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

SAN VICENTE ELEMENTARY - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L17.0 OF XX



FOR CONTINUATION SEE SHEET L17.2

FOR CONTINUATION SEE SHEET L17.3

0' 15' 30' 60'

SCALE: 1"=30'

TREE/ SHRUB ZONES

1. VALVES WITH (X) REPRESENT EXISTING TREE AND SHRUB VALVES.
2. CONTRACTOR SHALL CUT AND CAP THE MAINLINE BEFORE THE VALVE AND ELIMINATE FROM SERVICE.
3. DISCONNECT CONTROLLER WIRES AT CONTROLLER.
4. NUMBER OF VALVES TO BE DISCONNECTED AND CAPPED - (X) TBD

EXISTING PRODUCT SCHEDULE

EXISTING PRODUCT	DESCRIPTION	REPLACEMENT PRODUCT	ZONE / QUANTITY 1	2	3	4	5	6	7	8	9	10	TOTAL QUANTITY
VALVES													
													0
													0
HEADS													
													0
													0
													0
DRIP													
													0
													0
MISCELLANEOUS													
													0
													0
													0
													0
													0
													0

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

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CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

SAN VICENTE ELEMENTARY - INVENTORY I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L17.1 OF XX

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FOR CONTINUATION SEE SHEET L17.4

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L17.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SAN VICENTE ELEMENTARY - INVENTORY II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L17.2 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L17-SAN VICENTE ELEMENTARY.dwg -- 06/18/24

FOR CONTINUATION SEE SHEET L17.1

FOR CONTINUATION SEE SHEET L17.4

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L17.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUT JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

SAN VICENTE ELEMENTARY - INVENTORY III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L17.3 OF XX

F:\2projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L17-SAN VICENTE ELEMENTARY.dwg -- 06/18/24

FOR CONTINUATION SEE SHEET L17.2

L17.3

0' 15' 30' 60'
SCALE: 1"=30'

SEE SHEET L17.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
SAN VICENTE ELEMENTARY - INVENTORY I V

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L17.4 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L17-SAN VICENTE ELEMENTARY.dwg -- 06/18/24

SITE SUMMARY

ORCHARD LANE PARK
1.3 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PICNIC TABLES, AND BENCHES.
  - TWO (2) DRINKING FOUNTAINS.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.

  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

  - SHRUB VALVE ZONES:
    - EXISTING SHRUB AND GROUNDCOVER VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND REMOVED FROM SERVICE AND PERMANENTLY NON-OPERATIONAL. NO RECYCLED WATER EQUIPMENT TO BE INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.

  - TREE VALVE ZONES:
    - EXISTING TREE VALVES TO BE CUT AND CAPPED BEFORE THE VALVE, AND ELIMINATED FROM SERVICE. NO RECYCLED WATER EQUIPMENT INSTALLED. LATERALS AND HEADS TO BE ABANDONED IN PLACE.

  - CONTROLLER:
    - ANY VALVES TAKEN OUT OF SERVICE AND CAPPED WILL ALSO HAVE THE CONTROLLER WIRES DISCONNECTED AT CONTROLLER.
    - CONTROLLER CLOCKS AND OPERATION SHALL BE RESCHEDULED BY CITY REPRESENTATIVE AND COORDINATED WITH CONTRACTOR.

SITE NOTES

1. PROJECT IS COMPLETED BY OTHERS, AND NOT PART OF INVENTORY.
2. SEE ATTACHMENT FOR ORCHARD LANE PARK IMPROVEMENT PLANS.
3. EQUIPMENT LIST IS RETROFITTING SITE AND SERVICE OF RECYCLED WATER.

0' 15' 30' 60'
SCALE: 1"=30'

RECYCLED WATER PRODUCT SCHEDULE

PRODUCT	DESCRIPTION	RW PART
VALVES		
HEADS		
DRIP		
MISCELLANEOUS		
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	
VALVE RW TAGS	ID VALVE TAGS	
VALVE RW STATION TAG	ID VALVE TAGS	
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	
RW WARNING SIGNS	WARNING SIGNS	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

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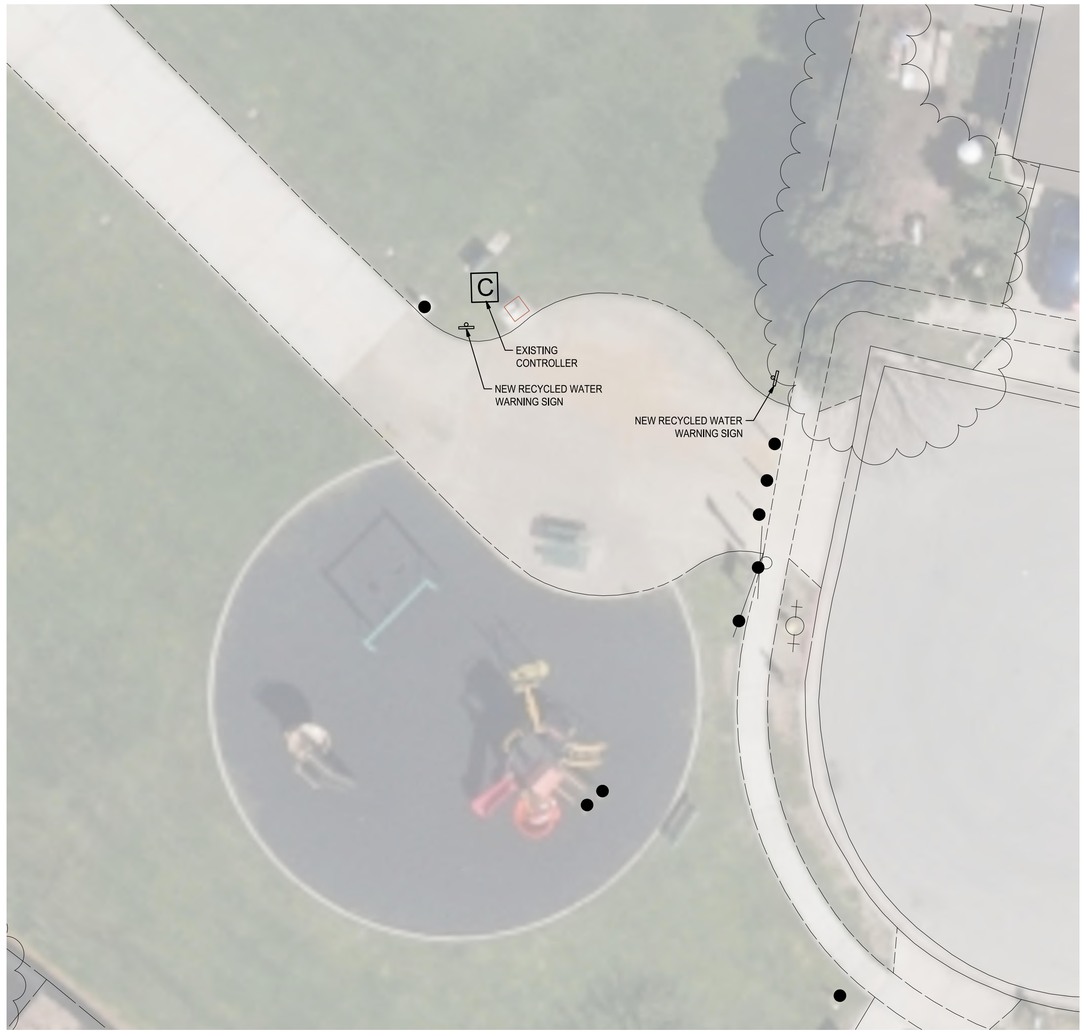
CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
ORCHARD LANE PARK - INVENTORY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L18.1 OF XX

F:\23projects\23264 Soledad Recycled Water System\Plans and Graphics\Improvement Plans\23264-L18-ORCHARD LANE PARK.dwg -- 06/18/24



IRRIGATION POINT OF CONNECTION

POINT OF CONNECTION

CONTROLLER

WATER METER

BACKFLOW PREVENTER

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
19	AURELIO N. RAMIREZ PARK	PARK	1500 MUNRAS STREET, SOLEDAD, CA 93960	1.22		ZURN 975XL2 2"		ORBIT B-HYVE	NO	NO	NO	51	41	NO	NO	NO	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT — ROBERT J. NORBUTAS JR. — No.5595 — Signature — Exp. 11/30/24 — STATE OF CALIFORNIA

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carollo

CITY OF SOLEDAD — EST. 1921 — CALIFORNIA

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
AURELIO N. RAMIREZ PARK - POINT OF CONNECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. XXXXX (CAROLLO) 23264 (SEI)
DRAWING NO.
SHEET NO. L19.0 OF XX

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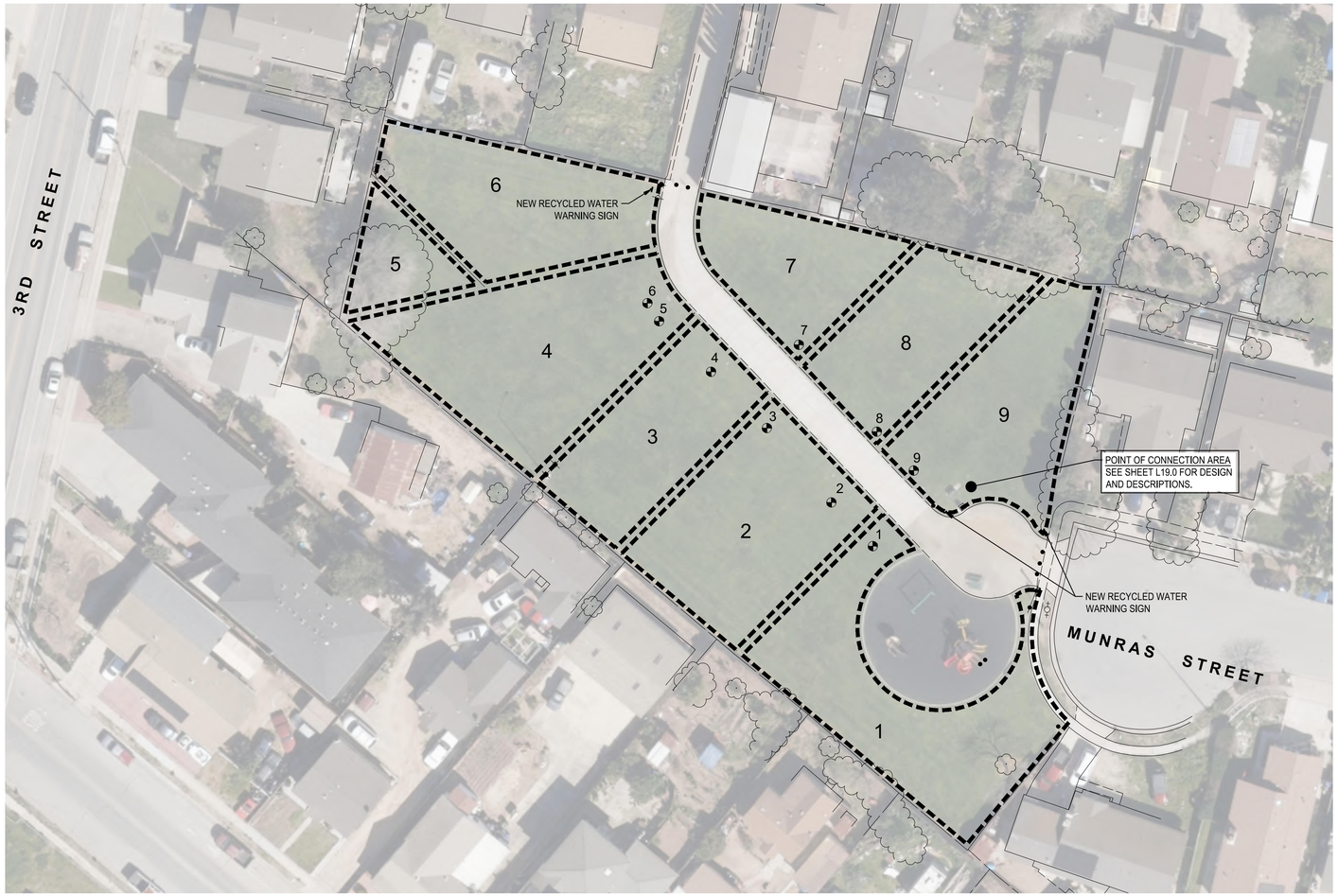

0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

AURELIO N. RAMIREZ PARK
1.22 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PLAYGROUND, PICNIC TABLES, AND BENCHES.
  - NO PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.

  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

EXISTING IRRIGATION PRODUCT LIST

EXISTING		REPLACEMENT	ZONE / QUANTITY								TOTAL
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	9	QUANTITY
VALVES												
RAIN BIRD PEB	1"-2" REMOTE CONTROL VALVE	PEBNPHAN 1 NON POTABLE HANDLE	1	1	1	1	1	1	1	1	1	**9**
HEADS												
HUNTER I-20-04-R	4" POP-UP ROTOR PUPLE RECLAIMED WATER	*(NOT TO BE REPLACED)*					4	1		1		**6**
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R	14	12	4	7	3	8	8	8	9	**73**
HUNTER PRO SPRAY NOZZLE W/IRRITROL I-PRO BOD	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP	1									**1**
MISCELLANEOUS												
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR										**1**
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	1	1	1	1	**9**
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	**9**
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	**9**
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL										**1**
RW WARNING SIGNS	WARNING SIGNS											**3**

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

LICENSED LANDSCAPE ARCHITECT ROBERT J. NORBUTAS JR. No.5595 Signature Exp. 11/30/24 STATE OF CALIFORNIA

SIEGFRIED

carollo

CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

AURELIO N. RAMIREZ PARK - INVENTORY

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POINT OF CONNECTION

CONTROLLER

WATER METER

BACKFLOW PREVENTER

DRINKING FOUNTAIN

RESTROOM

2 EXISTING EQUIPMENT
NO SCALE

LEGEND

- C — EXISTING CONTROLLER
- WM — EXISTING WATER METER
- EXISTING BACKFLOW PREVENTER
- GV — EXISTING GATE VALVE
- EXISTING REMOTE CONTROL VALVE
- EXISTING QUICK COUPLER
- EXISTING DRINKING FOUNTAIN
- M — EXISTING WATER MONITORING STATION
- WM — NEW WATER METER
- NEW BACKFLOW PREVENTER
- GV — NEW GATE VALVE
- NEW WARNING SIGN
- EXISTING POTABLE WATER MAINLINE
- EXISTING IRRIGATION MAINLINE
- NEW RECYCLED WATER MAINLINE
- NEW POTABLE WATER MAINLINE
- PIPE TO BE REMOVED

POINT OF CONNECTION DESIGN SUMMARY

INFORMATION AND LAYOUT OF EXISTING IRRIGATION IS BASED ON FIELD INVENTORY SITE VISITS COORDINATED WITH CITY REPRESENTATIVES AND CONDUCTED BY SIEGFRIED.
AS-BUILTS PROVIDED BY THE CITY, AND USED AS ADDITIONAL INFORMATION.
CONTRACTOR SHALL FIELD CONFIRM ALL INFORMATION PRIOR TO CONSTRUCTION.

EXISTING POINT OF CONNECTION SCHEDULE

#	SITE NAME	TYPE	ADDRESS	OVERALL SITE (AC)	WATER METER	BACKFLOW PREVENTER	MAINLINE SIZE	CONTROLLER TYPE	BOOSTER PUMP	MASTER VALVE SIZE	FLOW SENSOR SIZE	CITY PSI TEST BEFORE BACKFLOW	CITY PSI TEST AFTER BACKFLOW	WELLS SOURCE	RESTROOM	DRINKING FOUNTAIN	NOTES
20	VOSTI PARK	PARK	PARK STREET, SOLEDAD, CA 93960	6.55				IRRITROL MC-36E	X			50	38		1	1	

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

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DRAWN RPM
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DATE JUNE 2024

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RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
VOSTI PARK- POINT OF CONNECTION

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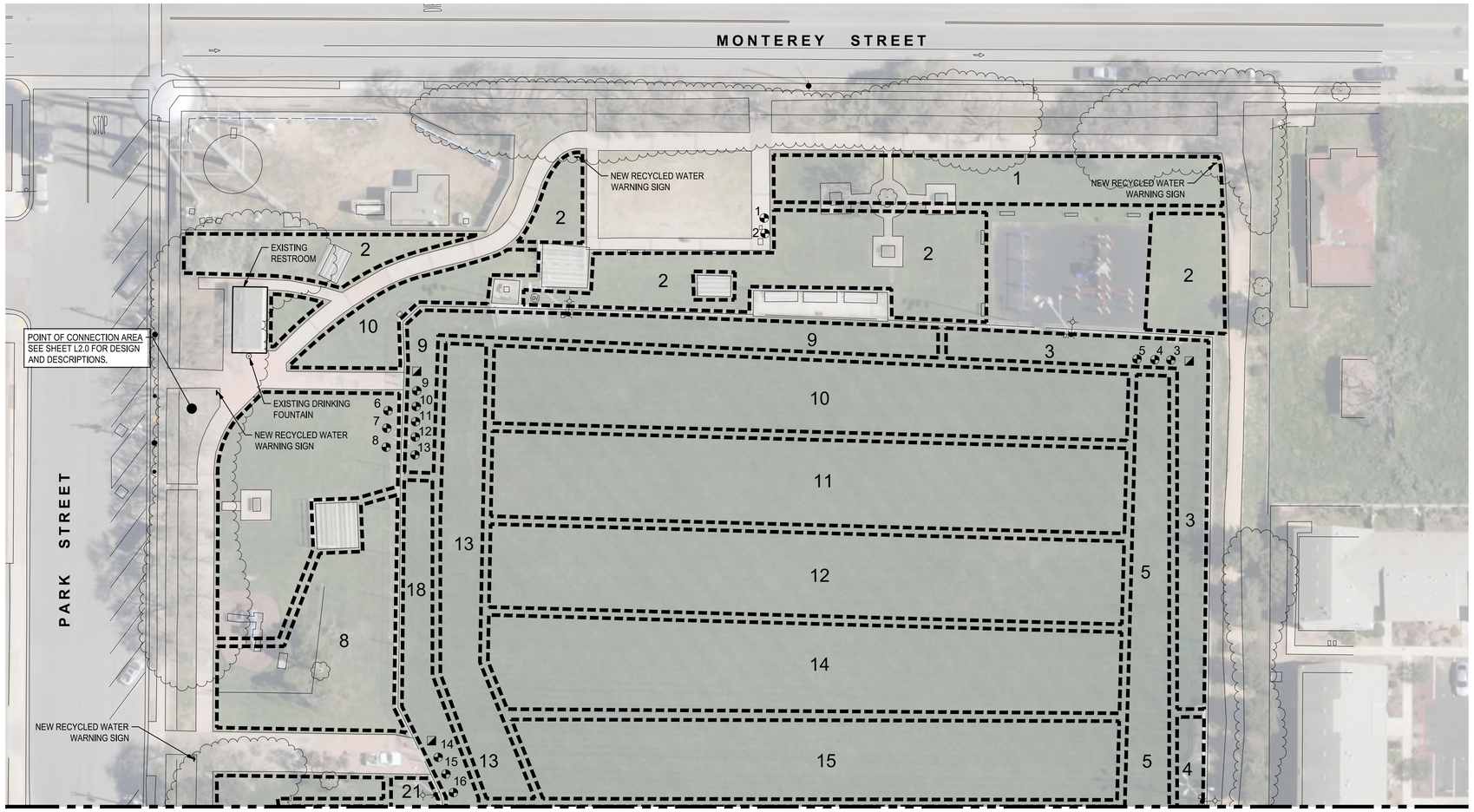

FOR CONTINUATION SEE SHEET L20.2

0' 15' 30' 60'

SCALE: 1"=30'

SITE SUMMARY

VOSTI PARK
6.55 ACRE CITY PARK
CONSISTS OF:

- **AMENITIES:**
  - CONCRETE AND DG WALKWAYS, PLAYGROUND, SAND VOLLEYBALL, PICNIC TABLES, AND BENCHES.
  - ONE DRINKING FOUNTAIN.
  - PUBLIC BATHROOMS.
- **LANDSCAPE:**
  - IRRIGATED AND MAINTAINED SOCCER FIELDS, AND OPEN SPACE NATURAL TURFGRASS LAWN.
  - SHADE TREES IN LAWN AND BARK MULCH AREAS.
  - NO SHRUB AREAS.
  - SITE HAS ONE WATER POINT OF CONNECTION WHICH SERVICES BOTH THE LANDSCAPE IRRIGATION AND THE DRINKING FOUNTAINS, AND RESTROOM.

- **GENERAL MODIFICATIONS TO BE DONE FOR RECYCLED WATER CONNECTION AND OPERATION.**
  - ALL EQUIPMENT LABELING AND/OR INSTALLATION NECESSARY TO COMPLY WITH STATE AGENCY RECYCLED WATER STANDARDS.
  - TURF VALVE ZONES:
    - TURF VALVES AND HEADS TO REMAIN OPERATIONAL AND ALL EQUIPMENT MODIFIED ACCORDINGLY.

EXISTING IRRIGATION PRODUCT LIST

EXISTING		REPLACEMENT	ZONE / QUANTITY																														TOTAL
PRODUCT	DESCRIPTION	PRODUCT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	QUANTITY
VALVES																																	
WEATHERMATIC MAX-DW BLACK BULLET	1 1/2"-3" REMOTE CONTROL VALVE	MAX-DW PURPLE HANDLE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30
RAIN BIRD 44 LRC	1" LOCKING QUICK COUPLER	44 LRC-R																															5
HEADS																																	
HUNTER I-20-04	4" POP-UP ROTOR	I-20-04-R	1																														1
HUNTER I-25-04	4" POP-UP ROTOR	I-25-04-R	4	8																													12
HUNTER PGP-ADJ	4" POP-UP ROTOR	PGP-ADJ-R	1																														1
HUNTER 3504	4" POP-UP ROTOR	3504-NP							4	4																							8
RAIN BIRD FALCON 6504-PC-NP	4" POP-UP ROTOR PURPLE RECLAIM WATER	*(NOT TO BE REPLACED)*	1																														1
RAIN BIRD FALCON 6504-PC/FC-SS	4" POP-UP ROTOR WITH STAIN STEEL BODY	RAIN BIRD FALCON 6504-PC/FC-SS-NP			6	6	3				7	6	7	6	3	7	6	6	6	7	5	7	5	3	6	6	6	7	5	7	3		136
RAIN BIRD 5004-+-SS	4" POP-UP ROTOR WITH STAIN STEEL BODY	5004-+-SS-NP																														9	9
HUNTERMP 1000/2000 NOZZLE W/PRO SPRAY PRS-40 BODY	6" SPRAY POP-UP ROTATOR W/ CHECK VALVE	458520SP RW BODY CAP						24	6	10																							40
HUNTER PRO SPRAY NOZZLE W/IRRITROL I-PRO BODY	6" POP-UP SPRAY ROTATOR W/ CHECK VALVE	IRRITROL I-PRO-NPC CAP								4																							4
TORO 570 MPR PLUS SPRAY NOZZLE W/IRRITROL I-PRO BODY	SPRAY BODY	IRRITROL I-PRO-NPC CAP								4																							4
MISCELLANEOUS																																	
CARSON 10" ROUND GREEN ICV LID	VALVE BOX LID	NDS 111CR																															3
CARSON 1419 RECTANGLE GREEN ICV LID	VALVE BOX LID	NDS113CR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30
VALVE RW TAGS	ID VALVE TAGS	3" X 4" PURPLE DO NOT DRINK ID TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30
VALVE RW STATION TAG	ID VALVE TAGS	3" X 4" PURPLE VALVE NUMBER TAG ID.STD.P2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30
BACKFLOW PREVENTER CAGE	LOCKING BACKFLOW CAGE	STRONGBOX PURPLE CAGE-RAL4008 OR EQUAL																															1
RW WARNING SIGNS	WARNING SIGNS																																4

REV	DATE	BY	DESCRIPTION

30% DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

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carollo

CITY OF SOLEDAD

RECYCLED WATER CONVEYANCE PROJECT

LANDSCAPE

VOSTI PARK - INVENTORY I

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DRAWING NO.
SHEET NO. L20.1 OF XX

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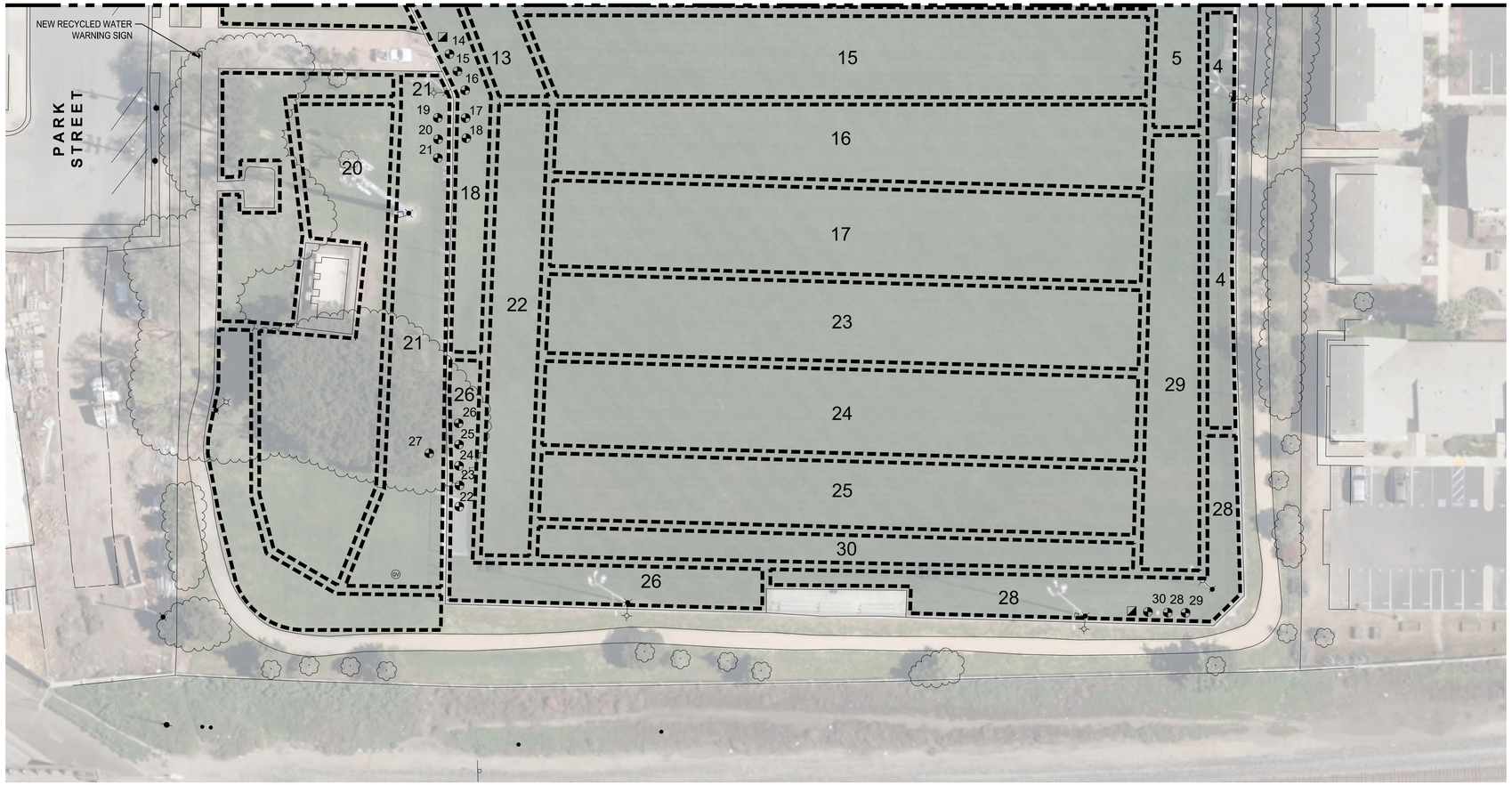
FOR CONTINUATION SEE SHEET L20.1



0' 15' 30' 60'

SCALE: 1"=30'

SEE SHEET L20.1 FOR IRRIGATION PRODUCT LIST AND NOTES.

REV	DATE	BY	DESCRIPTION
			30% DESIGN SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RJN
DRAWN RPM
CHECKED PJS
DATE JUNE 2024

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CITY OF SOLEDAD CALIFORNIA

CITY OF SOLEDAD
RECYCLED WATER CONVEYANCE PROJECT
LANDSCAPE
VOSTI PARK - INVENTORY II

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SHEET NO. L20.2 OF XX

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Appendix C. Air Quality and Greenhouse Gas Impact Assessment

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AIR QUALITY & GREENHOUSE GAS IMPACT ASSESSMENT

FOR

RECYCLED WATER CONVEYANCE PROJECT

SOLEDAD, CA

AUGUST 2024

PREPARED BY:

AMBIENT
AIR QUALITY & NOISE CONSULTING

75 HIGUERA STREET, SUITE 105
SAN LUIS OBISPO, CA 93401

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APPENDICES

LIST OF COMMON TERMS & ACRONYMS

AAM	*Annual Arithmetic Mean*
AAQS	*Ambient air quality standards*
ACM	*Asbestos containing material*
AHERA	*Asbestos Hazard Emergency Response Act*
AMBAG	*Association of Monterey Bay Area Governments*
APNs	*Assessor's Parcel Numbers*
APS	*alternative planning strategy*
AQI	*Air Quality Index*
AQMP	*Air Quality Management Plan*
ARB	*California Air Resources Board*
BAAQMD	*Bay Area Air Quality Management District*
BODR	*Basis of Design Report*
BSC	*Building Standards Code*
CAAQS	*California Ambient Air Quality Standards*
CalEEMod	*California Emissions Estimator Model*
CalEPA	*California Environmental Protection Agency*
Carollo	*Carollo Engineers, Inc.*
CBC	*California building code*
CBSC	*California Building Standards Code*
CCAA	*California Clean Air Act*
CCAAP	*Community Climate Action and Adaptation Plan*
CCR	*California Code of Regulations*
CDCR	*California Department of Corrections and Rehabilitation*
CEQA	*California Environmental Quality Act*
CEQA	*California Environmental Quality Act*
CH_4	*Methane*
City	*City of Soledad*
CO	*Carbon Monoxide*
CO_2	*Carbon Dioxide*
CO_2e	*Carbon Dioxide Equivalent*
CO_2e	*Carbon dioxide equivalent*
CY	*cubic yards*
DPM	*Diesel-Exhaust Particulate Matter or Diesel-Exhaust PM*
DRRP	*Diesel Risk Reduction Plan*
DWR	*Department of Water Resources*
EV	*electric vehicle*
FCAA	*Federal Clean Air Act*
FIP	*Federal Implementation Plan*
GHG	*Greenhouse Gases*
GWP	*Global warming potential*
H_2S	*Hydrogen Sulfide*
HAP	*Hazardous Air Pollutant*
HFCs	*Hydrofluorocarbons*
HI	*Hazard index*
Highway 101	*U.S. 101*
hp	*horsepower*
kW	*kilowatts*
LEA	*Local Education Agencies*
LF	*linear feet*
MBARD	*Monterey Bay Air Resources District*

MBUAPCD	*Monterey Bay Unified Air Pollution Control District*
MGD	*million gallons per day*
MMT	*Million metric tons*
MPOs	*Metropolitan Planning Organizations*
MT	*Metric tons*
N_2O	*Nitrous Oxide*
NAAQS	*National Ambient Air Quality Standards*
NCCAB	*North Central Coast Air Basin*
NESHAPs	*National Emission Standards for Hazardous Air Pollutants*
NHTSA	*National Highway Traffic Safety Administration*
NO_2	*Nitrogen Dioxide*
NOA	*Naturally-occurring asbestos*
NO_x	*Oxides of Nitrogen*
O_3	*Ozone*
OS	*Open Space Element*
Pb	*Lead*
PFCs	*Perfluorocarbons*
PM	*Particulate Matter*
PM_{10}	*Particulate Matter (10 µm or less)*
$PM_{2.5}$	*Particulate Matter (2.5 µm or less)*
ppb	*Parts per Billion*
ppm	*Parts per Million*
Project	*Recycled Water Conveyance Project*
PVC	*Polyvinyl Chloride*
ROG	*Reactive Organic Gases*
ROW	*rights of way*
SB 32	*Senate Bill 32*
SB 97	*Senate Bill 97*
SCS	*sustainable communities strategy*
SF_6	*Sulfur hexafluoride*
SIP	*State Implementation Plan*
SLCPs	*Short-lived climate pollutants*
SMAQMD	*Sacramento Metropolitan Air Quality Management District*
SO_2	*Sulfur Dioxide*
SO_4^{2-}	*Sulfates*
SR 146	*State Route 146*
State	*California*
SUSD	*Soledad Unified School District*
TAC	*Toxic Air Contaminant*
TCE	*temporary construction easements*
TCSA	*Toxic Substances Control Act*
TOG	*Total Organic Gases*
U.S. EPA	*United States Environmental Protection Agency*
UCDR	*Urban Community Drought Relief*
UFP	*Ultrafine particles*
VCM	*Vinyl Chloride*
VMT	*vehicle miles traveled*
VOC	*Volatile Organic Gases*
WRF	*Water Reclamation Facility*
µg/m^3	*Micrograms per cubic meter*

INTRODUCTION

This report provides an evaluation of potential air quality and greenhouse gas (GHG) impacts associated with the proposed Recycled Water Conveyance Project (Project). An overview of the existing environmental setting related to air quality and GHGs, including a summary of the existing regulatory framework has also been included. The analysis was prepared in accordance with the Monterey Bay Air Resources District (MBARD)-recommended guidance.

BACKGROUND

The City of Soledad (City) retained Carollo Engineers, Inc. (Carollo) to develop preliminary and final design documents for the Project. The Project is being funded by the Department of Water Resources (DWR) under the Urban Community Drought Relief (UCDR) Grant and is subjected to the terms and conditions set forth in the Grant Agreement between the State of California (State) DWR and the City (Agreement No. 4600015016, UCDR Grant). A Basis of Design Report (BODR) prepared by Carollo (May 2024) described existing site conditions, existing and proposed system components, design criteria, and technical and engineering decisions to be used for the preparation of the final design documents for the Project. The Project is intended to provide Title 22 recycled water from the City's Water Reclamation Facility (WRF) to 20 schools and parks throughout the City and is part of a larger multi-phase City water conveyance project, consisting of the following phases:

- Phase 1 (completed in 2010): Design and construction of a new 5.5 million gallons per day (MGD) water reclamation facility and approximately 10,200 linear feet (LF) of 8-inch diameter recycled water transmission pipeline.

- Phase 2 (completed in 2018): Design and construction of approximately 3,800 LF of 12-inch diameter recycled water transmission pipeline to connect all the existing Phase 1 8-inch pipeline.

- Phase 3 (Project): Design and construction of a city-wide distribution system to irrigated landscaped areas within twenty City's parks and schools. Details of the required facilities are provided below in Project description.

- Phase 4 (Future): New transmission pipeline to provide recycled water to the California Department of Corrections and Rehabilitation (CDCR) facilities within an Incorporated City "Island" three (3) miles north of the City.

The existing facilities are shown in Figure 1. The pipeline constructed during Phases 1 and 2 is referred to as the transmission pipeline. The pipelines to be constructed within the City during Phase 3 are referred to as the distribution system.

The WRF is owned and operated by the City and treats wastewater from the City and CDCR facilities. It produces disinfected, tertiary treated effluent that meets Title 22, Division 4, Chapter 3, California Code of Regulations (CCR) for recycled water. It is operating around 2.45 MGD average daily flow and the effluent is currently being discharged to rapid infiltration basins adjacent to the WRF for aquifer recharge. The current discharge permit limits recharge to 4.3 MGD with the remaining 1.2 MGD of peak flow capacity designated for non-potable reuse.

PROJECT DESCRIPTION

PROJECT LOCATION

The Project is located within the City in Monterey County, as shown in Figure 2, and is subject to the requirements contained in the City's 2005 General Plan. The City is in the process of updating the General Plan, anticipated for adoption in 2025, but the Project will comply with the adopted 2005

Figure 1. Existing Facilities

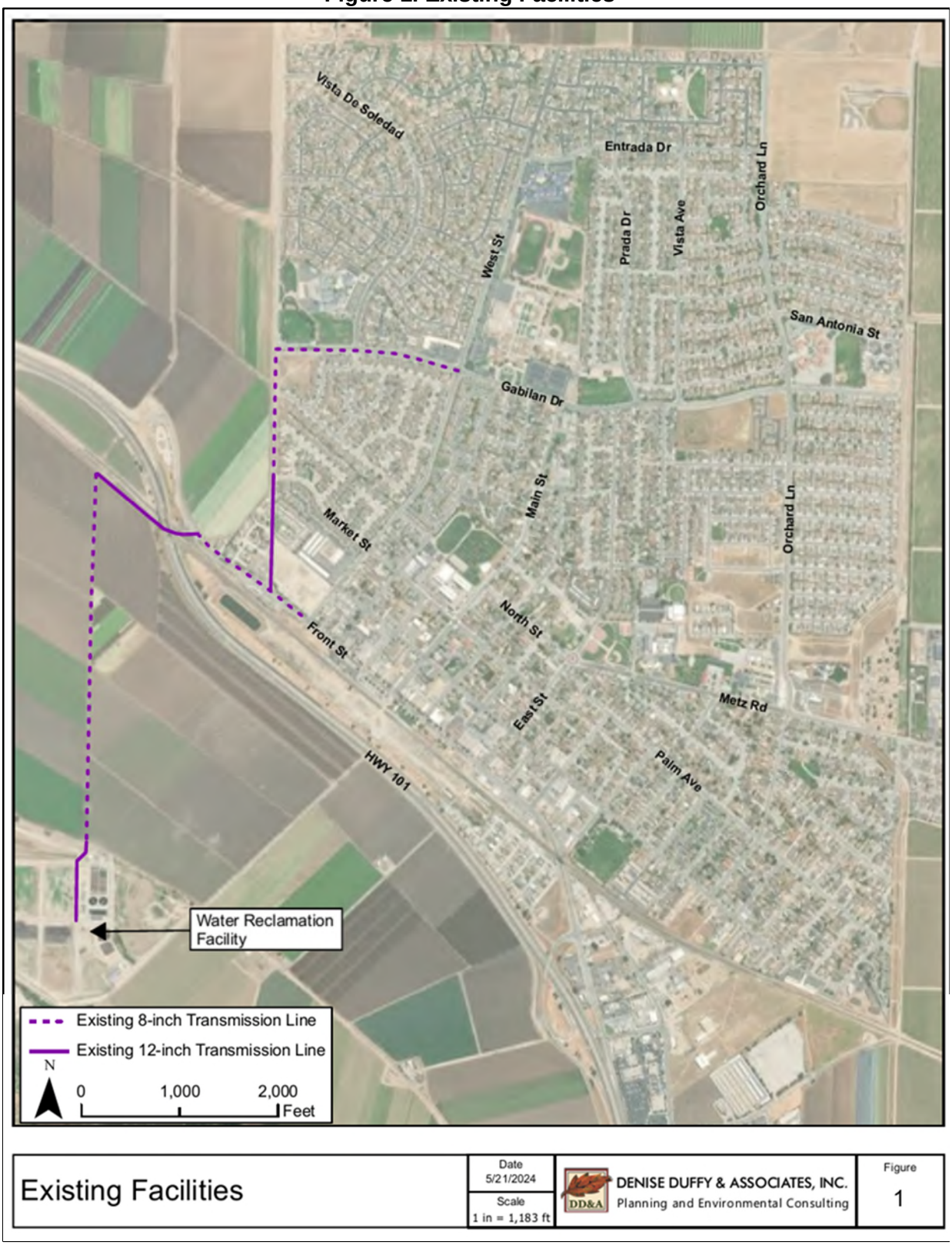


Figure 2. Project Location

Project Location	Date 5/21/2024	DENISE DUFFY & ASSOCIATES, INC. Planning and Environmental Consulting	Figure 2
	Scale 1 in = 17 ft		

General Plan that is currently in effect. The Project would provide recycled water from the City's WRF, located at 34520 Morisoli Road (Assessor's Parcel Numbers [APNs] 257-082-018, 257-082-020, and 257-082-021) to schools and parks throughout the City. The majority of proposed facilities are located within the City's WRF property and in City rights of way (ROW) and would not require additional property. The City has a 20-foot-wide easement for the existing transmission main running from the WRF to Front Street, which is located within farmland. The existing easement would be reviewed during final design to determine if additional permanent and temporary easements are required. Regional access to the Project area is provided from U.S. 101 (Highway 101) and State Route 146 (SR 146). Local access to the Project area is provided by roadways throughout the City. Access to the WRF is provided via Morisoli Road to a one-half mile driveway connecting Morisoli Road to the WRF main gate.

The Project location is depicted in Figure 1. The Project site plan is depicted in Figure 2.

PROJECT

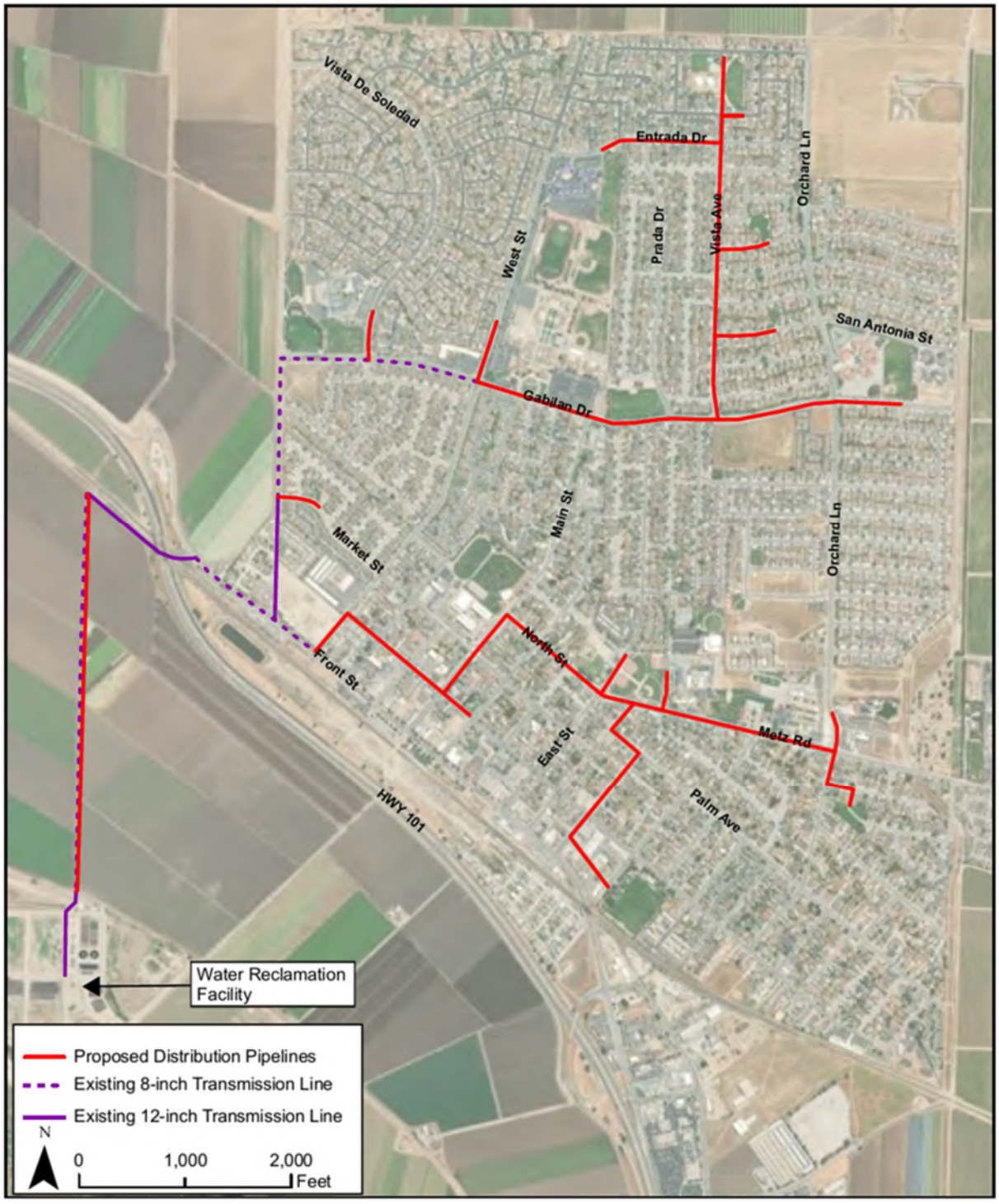
The Project consists of installing and operating infrastructure necessary to convey Title 22 recycled water from the City's WRF to up to 20 parks and schools throughout the City. The Project includes construction of a pump station facility at the WRF, distribution piping system and appurtenances, new or converted irrigation systems, and cross connection prevention assemblies as well as construction management, environmental work, planning and design. The expansion would replace a minimum of 165 acre-feet (54 million gallons) per year of groundwater pumping with recycled water to offset the use of potable water to irrigate sports fields and reduce groundwater use.

The Project would provide recycled water to the following parks and schools in the City, which are currently irrigated with potable water and/or non-potable well water:

- Lum Memorial Park
- Peverini Park
- Santa Barbara Park
- San Antonio Park
- Jack Franscioni Elementary
- Toledo Park (under development)
- Blas Santana Park
- Soledad High School
- Rose Ferrero Elementary
- Frank Ledesma Elementary
- Veterans Park
- Joe O. Ledesma Park
- Main Street Middle School
- Albert Bill Ramus Park
- Little League Park
- Jesse Gallardo Park
- San Vicente/Gabilan Elementary (one service connection)
- Orchard Lane Park
- Aurelio N. Ramirez Park
- Vosti Park

Key components of the Project are described in further detail below and are shown in Figure 3.

Figure 3. Project Components



Proposed Project Components	Date 5/21/2024	DENISE DUFFY & ASSOCIATES, INC. Planning and Environmental Consulting	Figure 3
	Scale 1 in = 1,183 ft		

- Recycled water pump station at the City's WRF.
- Approximately 3,800 feet of a 12-inch diameter recycled water transmission pipeline from the WRF to Front Street. The pipeline diameter may be upsized to approximately 16 inches in diameter during final design.
- Approximately 22,700 feet of recycled water distribution pipelines ranging from 4 to 8 inches in diameter.
- Conversion or replacement of existing on-site irrigation systems to meet recycled water standards.

Recycled Water Pump Station
The pump station would be located at the City's WRF, as shown in Figure 3. The pump station would draw recycled water from existing WRF facilities to supply the recycled water to the City's parks and schools. The new pump station is proposed at the southeast corner of the sludge drying pond area west of the flocculation tanks. The pump station includes a below-ground wet well structure with vertical turbine pumps. The wet well feed pipe crosses several existing utilities and penetrates through one earthen berm. The discharge header penetrates one earthen berm, extends north at the access road, and continues toward a connection to the existing 12-inch recycled water transmission main. Pipe penetrations through earthen berms would be watertight and designed to maintain structural integrity of the berm.

Recycled Water Transmission Pipeline - WRF to Front Street
The existing transmission pipeline is composed of 8-inch and 12-inch diameter pipes, as shown on Figure 3. The existing 8-inch transmission pipeline from the WRF to Front Street, which runs through farmland, is undersized for the overall Project. A new 12-inch pipeline would be constructed parallel to the existing 8-inch pipeline as part of the Project. This would tie into the existing 12-inch transmission pipeline at the WRF on the south end and the existing 12-inch transmission pipeline on the north end before the railroad crossing. Additional easements may be required for the transmission pipeline through farmland, which will be confirmed during final design. In addition, construction work restrictions may include a work window that reduces any impacts to farming operations.

Recycled Water Distribution Pipelines
The distribution system would be divided into two pipeline systems – to the northern and southern parts of the City. At the intersection of San Vicente Road and Front Street, the existing transmission main bifurcates with a pipeline continuing east along Front Street until it intersects West Street and terminates. At this location the distribution pipeline would connect to the existing transmission main to serve the City parks and schools located in the southern half of the City. The second segment of the existing transmission pipeline continues north along San Vicente Road then east and along Gabilan Drive until it intersects West Street and terminates. At this location, the distribution pipeline would tie into the existing transmission mains to serve the City parks and schools located in the northern half of the City.

PROJECT CONSTRUCTION

Project construction is proposed primarily on existing roadway ROWs and the WRF property. The proposed pipeline segment running from the WRF to Front Street would be constructed within an easement on existing farmland. Additional construction is proposed within temporary construction easements (TCEs) and on Soledad Unified School District (SUSD) properties.

Site Preparation
Site preparation would primarily involve initial grading and trenching for pipeline installation. Construction would involve open-trenching, which typically includes clearing and grading the ground surface along the pipeline alignments; excavating the trench; preparing and installing pipeline sections; installing vaults, air valves, blowoffs, and other pipeline components; backfilling the trench with non-expansive fills; restoring preconstruction contours; and revegetating or paving the pipeline alignments, as appropriate. Site preparation activities are anticipated to be completed within approximately 18 to 24 months.

Grading
The Project would disturb a total of approximately 189,320 square feet (4.35 acres) of previously disturbed land. A total of approximately 3,800 LF of 12-inch pipeline, 6,200 LF of 8-inch pipe, 5,620 of 6-inch pipe, and

10,850 LF of 4-inch pipe would be constructed. Project construction would require approximately 31,400 cubic yards (CY) of cut and 31,100 CY of fill.

Schedule
Project construction is expected to last approximately 18-24 months. Construction would occur between the hours of 8:00 AM and 5:00 PM, Monday through Friday. No nighttime construction is proposed.

Equipment and Personnel
To complete Project construction, approximately 10 construction personnel would be present onsite at any given time. Additionally, the types of equipment that would be used during construction may include, but not be limited to, the following:

- Excavator
- Backhoe
- Dump Truck
- Delivery Truck
- Water Truck
- Crane

Access and Circulation
The Project site is within the City. Highway 101 and SR 146 provide regional access to the Project site, and local access is provided via local roadways throughout the City. Access to the WRF is provided via Morisoli Road. Daily lay-down areas would be located along pipeline alignments within existing roadway ROWs. Longer-term equipment staging would be located at the WRF, off of Morisoli Road. Vehicle trips generated by construction of the Project have not yet been determined.

Tree Removal
Construction of the Project is not expected to require removal of any trees.

OPERATIONS AND MAINTENANCE

The City manages the current water system and would be responsible for operating and maintaining the new infrastructure for the recycled water system as part of ongoing operations and maintenance activities. The Project would serve the identified existing parks and schools, and operation would not result in increased water use or changes in existing land use.

AIR QUALITY

EXISTING SETTING

The Project is located within the North Central Coast Air Basin (NCCAB) and within the jurisdiction of the MBARD. Air quality in a region is affected by its topography, meteorology, and climate. These factors are discussed in more detail in the following sections:

TOPOGRAPHY

The NCCAB encompasses Santa Cruz, San Benito, and Monterey counties. The NCCAB is generally bounded by the Diablo Range to the northeast, which together with the southern portion of the Santa Cruz Mountains forms the Santa Clara Valley which extends into the northeastern tip of the NCCAB. Further south, the Santa Clara Valley transitions into the San Benito Valley, which runs northwest-southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley which extends from Salinas at the northwest end to King City at the southeast end. The northwest portion of the NCCAB is dominated by the Santa Cruz Mountain.

METEOROLOGY AND CLIMATE

The climate of the NCCAB is dominated by a semi-permanent high-pressure cell over the Pacific Ocean. In the summer, the dominant high-pressure cell results in persistent west and northwest winds across the majority of coastal California. As air descends in the Pacific high-pressure cell, a stable temperature inversion is formed. As temperatures increase, the warmer air aloft expands, forcing the coastal layer of air to move onshore producing a moderate sea breeze over the coastal plains and valleys. Temperature inversions inhibit vertical air movement and often result in increased transport of air pollutants to inland receptor areas. Predominant wind flow during most times of the year is typically from the west to the east.

In the winter, when the high-pressure cell is weakest and farthest south, the inversion associated with the Pacific high-pressure cell is typically absent in the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys in the NCCAB. The predominant offshore flow during this time of year tends to aid in pollutant dispersal producing relatively healthy to moderate air quality throughout the majority of the region. Conditions during this time are often characterized by afternoon and evening land breezes and occasional rainstorms. However, local inversions caused by the cooling of air close to the ground can form in some areas during the evening and early morning hours.

Winter daytime temperatures in the NCCAB typically average in the mid-50s during the day, with nighttime temperatures averaging in the low 40s. Summer daytime temperatures typically average in the 60s during the day, with nighttime temperatures averaging in the 50s. Precipitation varies within the region, but in general, annual rainfall is lowest in the coastal plains and inland valleys, higher in the foothills, and highest in the mountains.

CRITERIA AIR POLLUTANTS

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) required that the United States Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of air pollutants that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas standards established for the prevention of environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The air quality regulatory framework and ambient air quality standards are discussed in greater detail later in this report.

The following provides a summary discussion of the primary and secondary criteria air pollutants of primary concern. In general, primary pollutants are directly emitted into the atmosphere, and secondary pollutants are formed by chemical reactions in the atmosphere. The health effects of common criteria air pollutants are also summarized in Table 1.

Ozone (O_3) is a reactive gas consisting of three atoms of oxygen. In the troposphere, it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when NO_X and volatile organic compounds (VOCs), also referred to as reactive organic gases (ROGs), react in the presence of sunlight. O_3 at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere, O_3 exists naturally and shields Earth from harmful incoming ultraviolet radiation.

High concentrations of ground-level O_3 can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. O_3 also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials, such as rubber, paint, and plastics.

Table 1. Summary of Criteria Air Pollutants and Health Effects

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Ozone (O_3)	Formed by a chemical reaction between volatile organic compounds (VOCs) and nitrous oxides (NOx) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM_{10} & $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Can get deep into your lungs or even enter your blood stream and cause serious health problems; Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Carbon Monoxide (CO)	Formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	Fuel combustion in motor vehicles and industrial sources. Motor vehicles; electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Sulfur Dioxide (SO_2)	Formed when fuel containing sulfur, such as coal and oil, is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, large ships, and fuel combustion in diesel engines.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron, and steel; damage crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Source: ARB 2024a		

Reactive Organic Gas (ROG) is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. No separate health standards exist for ROG as a group. Because some compounds that make up ROG are also toxic, like the carcinogen benzene, they are often evaluated as part of a toxic risk assessment. Total Organic Gases (TOGs) include all of the ROGs, in addition to low reactivity organic compounds like methane and acetone. ROGs and VOCs are subsets of TOGs.

Volatile Organic Compounds (VOCs) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and may also be toxic. VOC emissions are a major precursor to the formation of ozone. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.

Oxides of Nitrogen (NO_X) are a family of gaseous nitrogen compounds and are a precursor to the formation of ozone and particulate matter. The major component of NO_X, nitrogen dioxide (NO_2), is a reddish-brown

gas that is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperatures and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

Particulate Matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. U.S. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. U.S. EPA groups particle pollution into three categories based on their size and where they are deposited:

- Inhalable coarse particulate matter (PM_{10}), such as those found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. PM_{10} are deposited in the thoracic region of the lungs.
- Fine particulate matter ($PM_{2.5}$), such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- Ultrafine particles (UFP) are very small particles less than 0.1 micrometers in diameter largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, its high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to their mass.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Numerous scientific studies have linked both long- and short-term particle pollution exposure to a variety of health problems. Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis, and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and also acute (short-term) bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone). The main source of CO is on-road motor vehicles. Other CO sources include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of the local nature of CO problems, the California Air Resources Board (ARB) and U.S. EPA designate urban areas as CO nonattainment areas instead of the entire basin as with ozone and PM_{10}. Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NO_X, suspended sulfur oxides (SO_X) particles contribute to poor visibility. These SO_X particles can also combine with other pollutants to form $PM_{2.5}$. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically.

Hydrogen Sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S is extremely hazardous in high concentrations; especially in enclosed spaces (800 ppm can cause death). OSHA regulates workplace exposure to H_2S.

Other Pollutants

The State has established air quality standards for some pollutants not addressed by Federal standards. The ARB has established State standards for hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. The following section summarizes these pollutants and provides a description of the pollutants' physical properties, health, and other effects, sources, and the extent of the problems.

Sulfates (SO_4^{2-}) are the fully oxidized ionic form of sulfur. SO_4^{2-} occurs in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to SO_4^{2-} takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The ARB sulfate standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardiopulmonary disease. Sulfates are particularly effective in degrading visibility, and, since they are usually acidic, can harm ecosystems and damage materials and property.

Visibility Reducing Particles are a mixture of suspended PM consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Vinyl Chloride (VCM) is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. VCM is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

ODORS

Typically, odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (i.e. irritation, anger, or anxiety) to physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact, an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor, and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use

the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Neither the state nor the federal governments have adopted rules or regulations for the control of odor sources. The MBARD does not have an individual rule or regulation that specifically addresses odors; however, odors would be subject to MBARD *Rule 402, Nuisance*. Any actions related to odors would be based on citizen complaints to local governments and the MBARD.

TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the FCAA or the California Clean Air Act (CCAA) and are thus not subject to NAAQS or California ambient air quality standards (CAAQS), respectively. Instead, the U.S. EPA and the ARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with MBARD rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. The following provides a summary of the primary TACs of concern within the State of California and related health effects:

Diesel Particulate Matter (DPM) was identified as a TAC by the ARB in August 1998. DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40 percent of the statewide total, with an additional 57 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3 percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities (ARB 2024b).

In October 2000, the ARB issued a report entitled: "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles", which is commonly referred to as the Diesel Risk Reduction Plan (DRRP). The DRRP provides a mechanism for combating the DPM problem. The goal of the DRRP is to reduce concentrations of DPM by 85 percent by the year 2020, in comparison to the year 2000 baseline emissions. The key elements of the DRRP are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, and to lower the sulfur content of diesel fuel to protect new, and very effective, advanced technology emission control devices on diesel engines. When fully implemented, the DRRP will significantly reduce emissions from both old and new diesel-fueled motor vehicles and from stationary sources that burn diesel fuel. In addition to these strategies, the ARB continues to promote the use of alternative fuels and electrification. As a result of these actions, DPM concentrations and associated health risks in future years are projected to decline (ARB 2024b, ARB 2000).

Exposure to DPM can have immediate health effects. DPM can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. In California, DPM has been identified as a carcinogen.

Acetaldehyde is a federal hazardous air pollutant. The ARB identified acetaldehyde as a TAC in April 1993. Acetaldehyde is both directly emitted into the atmosphere and formed in the atmosphere as a result of photochemical oxidation. Sources of acetaldehyde include emissions from combustion processes such as exhaust from mobile sources and fuel combustion from stationary internal combustion engines, boilers, and process heaters. A majority of the statewide acetaldehyde emissions can be attributed to mobile sources, including on-road motor vehicles, construction and mining equipment, aircraft, recreational boats, and agricultural equipment. Area sources of emissions include the burning of wood in residential fireplaces and wood stoves. The primary stationary sources of acetaldehyde are from fuel combustion from the petroleum industry (ARB 2024b).

Acute exposure to acetaldehyde results in effects including irritation of the eyes, skin, and respiratory tract. Symptoms of chronic intoxication of acetaldehyde resemble those of alcoholism. The U.S. EPA has classified acetaldehyde as a probable human carcinogen. In California, acetaldehyde was classified on April 1, 1988, as a chemical known to the State to cause cancer (U.S. EPA 2024a; ARB 2024b).

Benzene is highly carcinogenic and occurs throughout California. The ARB identified benzene as a TAC in January 1985. A majority of benzene emitted in California (roughly 88 percent) comes from motor vehicles, including evaporative leakage and unburned fuel exhaust. These sources include on-road motor vehicles, recreational boats, off-road recreational vehicles, and lawn and garden equipment. Benzene is also formed as a partial combustion product of larger aromatic fuel components. To a lesser extent, industry-related stationary sources are also sources of benzene emissions. The primary stationary sources of reported benzene emissions are crude petroleum and natural gas mining, petroleum refining, and electric generation that involves the use of petroleum products. The primary area sources include residential combustion of various types such as cooking and water heating (ARB 2024b).

Acute inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on developing fetuses have been observed in animal tests. Increased incidences of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. The U.S. EPA has classified benzene as a known human carcinogen for all routes of exposure (U.S. EPA 2018a).

1,3-butadiene was identified by the ARB as a TAC in 1992. Most of the emissions of 1,3-butadiene are from incomplete combustion of gasoline and diesel fuels. Mobile sources account for the majority of the total statewide emissions. Additional sources include agricultural waste burning, open burning associated with forest management, petroleum refining, manufacturing of synthetics and man-made materials, and oil and gas extraction. The primary natural sources of 1,3-butadiene emissions are wildfires (ARB 2024b).

Acute exposure to 1,3-butadiene by inhalation in humans results in irritation of the eyes, nasal passages, throat, and lungs. Epidemiological studies have reported a possible association between 1,3-butadiene exposure and cardiovascular diseases. Epidemiological studies of workers in rubber plants have shown an association between 1,3-butadiene exposure and increased incidence of leukemia. Animal studies have reported tumors at various sites from 1,3-butadiene exposure. In California, 1,3-butadiene has been identified as a carcinogen.

Carbon Tetrachloride was identified by the ARB as a TAC in 1987 under California's TAC program . The primary stationary sources reporting emissions of carbon tetrachloride include chemical and allied product manufacturers and petroleum refineries. In the past, carbon tetrachloride was used for dry cleaning and as a grain-fumigant. Usage for these purposes is no longer allowed in the United States. Carbon tetrachloride has not been registered for pesticidal use in California since 1987. Also, the use of carbon tetrachloride in products to be used indoors has been discontinued in the United States. The statewide emissions of carbon tetrachloride are small (about 1.96 tons per year), and background concentrations account for most of the health risks (ARB 2024b).

The primary effects of carbon tetrachloride in humans are on the liver, kidneys, and central nervous system. Human symptoms of acute inhalation and oral exposures to carbon tetrachloride include headache, weakness, lethargy, nausea, and vomiting. Acute exposures to higher levels and chronic (long-term) inhalation or oral exposure to carbon tetrachloride produce liver and kidney damage in humans. Human data on the carcinogenic effects of carbon tetrachloride is limited. Studies in animals have shown that the ingestion of carbon tetrachloride increases the risk of liver cancer. In California, carbon tetrachloride has been identified as a carcinogen.

Hexavalent Chromium was identified as a TAC in 1986. Sources of hexavalent chromium include industrial metal finishing processes, such as chrome plating and chromic acid anodizing, and firebrick lining of glass furnaces. Other sources include mobile sources, including gasoline motor vehicles, trains, and ships (ARB 2024b).

The respiratory tract is the major target organ for hexavalent chromium toxicity, for acute and chronic inhalation exposures. Shortness of breath, coughing, and wheezing were reported from a case of acute exposure to hexavalent chromium, while perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic exposure. Human studies have clearly established that inhaled hexavalent chromium is a human carcinogen, resulting in an increased risk of lung cancer. In California, hexavalent chromium has been identified as a carcinogen.

Para-Dichlorobenzene was identified by the ARB as a TAC in April 1993. The primary area-wide sources that have reported emissions of para-dichlorobenzene include consumer products such as non-aerosol insect repellants and solid/gel air fresheners. These sources contribute nearly all of the statewide para-dichlorobenzene emissions (U.S. EPA 2024a).

Acute exposure to para-dichlorobenzene via inhalation results in irritation to the eyes, skin, and throat in humans. In addition, long-term inhalation exposure may affect the liver, skin, and central nervous system in humans. The U.S. EPA has classified para-dichlorobenzene as a possible human carcinogen.

Formaldehyde was identified by the ARB as a TAC in 1992. Formaldehyde is both directly emitted into the atmosphere and formed in the atmosphere as a result of photochemical oxidation. Photochemical oxidation is the largest source of formaldehyde concentrations in California ambient air. Directly emitted formaldehyde is a product of incomplete combustion. One of the primary sources of directly emitted formaldehyde is vehicular exhaust. Formaldehyde is also used in resins, can be found in many consumer products as an antimicrobial agent, and is also used in fumigants and soil disinfectants. The primary area sources of formaldehyde emissions include wood burning in residential fireplaces and wood stoves (ARB 2024b).

Exposure to formaldehyde may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air. Acute and chronic inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. Formaldehyde is classified as a probable human carcinogen.

Methylene Chloride was identified by the ARB as a TAC in 1987. Methylene chloride is used as a solvent, a blowing and cleaning agent in the manufacture of polyurethane foam and plastic fabrication, and as a solvent in paint stripping operations. Paint removers account for the largest use of methylene chloride in California, where methylene chloride is the main ingredient in many paint stripping formulations. Plastic

product manufacturers, manufacturers of synthetics, and aircraft and parts manufacturers are stationary sources reporting emissions of methylene chloride (ARB 2024b).

The acute effects of methylene chloride inhalation in humans consist mainly of nervous system effects including decreased visual, auditory, and motor functions, but these effects are reversible once exposure ceases. The effects of chronic exposure to methylene chloride suggest that the central nervous system is a potential target in humans and animals. Human data is inconclusive regarding methylene chloride and cancer. Animal studies have shown increases in liver and lung cancer and benign mammary gland tumors following the inhalation of methylene chloride. In California, methylene chloride has been identified as a carcinogen.

Perchloroethylene was identified by the ARB as a TAC in 1991. Perchloroethylene is used as a solvent, primarily in dry cleaning operations. Perchloroethylene is also used in degreasing operations, paints and coatings, adhesives, aerosols, specialty chemical production, printing inks, silicones, rug shampoos, and laboratory solvents. In California, the stationary sources that have reported emissions of perchloroethylene are dry cleaning plants, aircraft parts, equipment manufacturers, and fabricated metal product manufacturers. The primary area sources include consumer products such as automotive brake cleaners, tire sealants, and inflators (ARB 2024b).

Acute inhalation exposure to perchloroethylene vapors can result in irritation of the upper respiratory tract and eyes, kidney dysfunction, and at lower concentrations, neurological effects, such as reversible mood and behavioral changes, impairment of coordination, dizziness, headaches sleepiness, and unconsciousness. Chronic inhalation exposure can result in neurological effects, including sensory symptoms such as headaches, impairments in cognitive and motor neurobehavioral functioning, and color vision decrements. Cardiac arrhythmia, liver damage, and possible kidney damage may also occur. In California, perchloroethylene has been identified as a carcinogen.

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Serpentine rock often contains chrysotile asbestos. Serpentine rock, and its parent material, ultramafic rock, are abundant in the Sierra foothills, the Klamath Mountains, and Coast Ranges. The Project site, however, is not located in an area of known ultramafic rock (DOC 2000).

Asbestos is commonly found in ultramafic rock, including serpentine, and near fault zones. The amount of asbestos that is typically present in these rocks ranges from less than 1 percent up to about 25 percent, and sometimes more. Asbestos is released from ultramafic and serpentine rocks when they are broken or crushed. This can happen when cars drive over unpaved roads or driveways which are surfaced with these rocks when land is graded for building purposes, or at quarrying operations. It is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time.

Additional sources of asbestos include building materials and other manmade materials. The most common sources are heat-resistant insulators, cement, furnace or pipe coverings, inert filler material, fireproof gloves and clothing, and brake linings. Asbestos has been used in the United States since the early 1900s; however, asbestos is no longer allowed as a constituent in most home products and materials. Many older buildings, schools, and homes still have asbestos-containing products.

Naturally-occurring asbestos (NOA) was identified by ARB as a TAC in 1986. The ARB has adopted two statewide control measures that prohibit the use of serpentine or ultramafic rock for unpaved surfacing and control dust emissions from construction, grading, and surface mining in areas with these rocks. Various other laws have also been adopted, including laws related to the control of asbestos-containing materials during the renovation and demolition of buildings.

All types of asbestos are hazardous and may cause lung disease and cancer. Health risks to people are dependent upon their exposure to asbestos. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem. Asbestos-related diseases, such as

lung cancer, may not occur for decades after breathing asbestos fibers. Cigarette smoking increases the risk of lung cancer from asbestos exposure.

REGULATORY FRAMEWORK

Air quality within the NCCAB is regulated by several jurisdictions including the U.S. EPA, ARB, and the MBARD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent.

FEDERAL

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the U.S. EPA to establish NAAQS and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS are summarized in Table 2.

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The U.S. EPA has the responsibility to review all state SIPs to determine conformance with the mandates of the FCAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) first authorized the U.S. EPA to regulate asbestos in schools and Public and Commercial buildings under Title II of the law, which is also known as the Asbestos Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies (LEAs) to inspect their schools for ACBM and prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the U.S. EPA established the NESHAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Table 2. Summary of National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards*	National Standards* (Primary)
Ozone (O_3)	1-hour	0.09 ppm	–
	8-hour	0.070 ppm	0.070 ppm
Particulate Matter (PM_{10})	AAM	20 µg/m^3	–
	24-hour	50 µg/m^3	150 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	12 µg/m^3
	24-hour	No Standard	35 µg/m^3
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9 ppm	9 ppm
	8-hour (Lake Tahoe)	6 ppm	–
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppb
Sulfur Dioxide (SO_2)	AAM	–	0.03 ppm
	24-hour	0.04 ppm	0.14 ppm
	3-hour	–	0.5 ppm (1300 µg/m^3)**
	1-hour	0.25 ppm	75 ppb
Lead	30-day Average	1.5 µg/m^3	–
	Calendar Quarter	–	1.5 µg/m^3
	Rolling 3-Month Average	–	0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	No Federal Standards
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent.	

ppm=parts per million; ppb=parts per billion; AAM=Annual Arithmetic Mean; µg/m^3=micrograms per cubic meter
** For more information on standards visit: http//www.arb.ca.gov.research/aaqs/aaqs2.pdf*
***Secondary Standard*
Source: ARB 2024c

STATE

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO_2, and NO_2 by the earliest practicable date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

California Building Standards Code

The California Building Standards Code (CBSC), commonly referred to as Title 24, contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. Included in the CBSC are energy efficiency standards, which are commonly referred to as green building standards or CalGreen standards. The CBSC is adopted every three years by the Building Standards Commission (BSC). In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBSC was most recently updated in 2022.

California Air Resources Board

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA of 1988. Other ARB duties include monitoring air quality in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing CAAQS, which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The CAAQS are summarized in Table 2. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel, and engine used.

REGIONAL

Monterey Bay Air Resources District

The MBARD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the NCCAB, within which the Project is located. Responsibilities of the MBARD include but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting, and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution, and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA. In an attempt to achieve NAAQS and CAAQS and maintain air quality, the MBARD has completed several air quality plans including the 2014 *Plug-In Electric Vehicle Readiness Plan*, the *2012-2015 Air Quality Management Plan (AQMP)* for achieving the state ozone standards and the *2007 Federal Maintenance Plan* for maintaining federal ozone standards.

To achieve and maintain ambient air quality standards, the MBARD has adopted various rules and regulations for the control of airborne pollutants. The MBARD Rules and Regulations that apply to the Project include, but are not limited to, the following:

- **Rule 400 (Visible Emissions).** The purpose of this rule is to provide limits for visible emissions from sources within the district.
- **Rule 402 (Nuisances).** The purpose of this rule is to prohibit emissions that may create a public nuisance. Applies to any source operation that emits or may emit air contaminants or other materials.
- **Rule 425 (Use of Cutback Asphalt).** The purpose of this rule is to limit the emissions of vapors of organic compounds from the use of cutback and emulsified asphalt. This rule applies to the manufacture and use of cutback, slow cure, and emulsified asphalt during paving and maintenance operations.

Monterey County General Plan

The Conservation and Open Space Element (OS) contained within the County of Monterey's General Plan aims to guide the County of Monterey toward long-term conservation and preservation of open space lands and natural resources. These elements includes numerous policies related to air quality to help provide for the protection and enhancement of Monterey County's Air quality. Relevant policies relating to the Project include, but are not limited to, the following (County of Monterey 2010):

- **OS-10.6** The Monterey Bay Unified Air Pollution Control District's air pollution control strategies, air quality monitoring, and enforcement activities shall be supported.
- **OS-10.7** Use of the best available technology for reducing air pollution emissions shall be encouraged.
- **OS-10.8** Air quality shall be protected from naturally occurring asbestos by requiring mitigation measures to control dust and emissions during construction, grading, quarrying, or surface mining operations. This policy shall not apply to Routine and Ongoing Agricultural Activities except as required by state and federal law.
- **OS-10.9** The County of Monterey shall require that future development implement applicable Monterey Bay Unified Air Pollution Control District (MBUAPCD) control measures. Applicants for discretionary projects shall work with the MBUAPCD to incorporate feasible measures that assure that health-based standards for diesel particulate emissions are met. The County of Monterey will require that future construction operate and implement MBUAPCD PM_{10} control measures to ensure that construction related PM_{10} emissions do not exceed the MBUAPCD's daily threshold for PM_{10}. The County of Monterey shall implement MBUAPCD measures to address off-road mobile source and heavy-duty equipment emissions as conditions of approval for future development to ensure that construction-related NO_X emissions from non-typical construction equipment do not exceed the MBUAPCD's daily threshold for NO_X.

REGULATORY ATTAINMENT DESIGNATIONS

An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria. Unclassified designations indicate insufficient data is available to determine attainment status.

The attainment status of the NCCAB is summarized in Table 3. Under the CCAA, the basin is designated as a nonattainment transitional area for the ozone CAAQS and nonattainment for the PM_{10} CAAQS. The basin is designated attainment or unclassified for the remaining CAAQS and NAAQS.

Table 3. NCCAB Attainment Status Designations

Pollutant	State Designation	National Designation
Ozone (O_3)	Nonattainment-Transitional[1]	Attainment/Unclassified[2]
Inhalable Particulate Matter (PM_{10})	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Attainment/Unclassified[3]
Carbon Monoxide (CO)	Monterey County-Attainment	Attainment/Unclassified
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Unclassified[4]
Sulfur Dioxide (SO_2)	Attainment	Attainment/Unclassified[5]
Lead (Pb)	Attainment	Attainment/Unclassified[6]

Notes
1) Effective July 26, 2007, the ARB designated the NCCAB a nonattainment area for the State ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.
2) In 2015, EPA adopted a new 8-hour ozone standard of 0.070 ppm.
3) This includes the 2006 24-hour standard of 35 µg/m3 and the 2012 annual standard of 12 µg/m3.
4) In 2012, EPA designated the entire state as attainment/unclassified for the 2010 NO_2 standard.
5) In June 2011, the ARB recommended to EPA that the entire state be designated as attainment for the 2010 primary SO_2 standard. Final designations to be addressed in future EPA actions.
6) On October 15, 2008, EPA lowered the NAAQS for lead to 0.15 µg/m^3. Final designations were made by EPA in November 2011.
Source: ARB 2024d, MBARD 2018a.

AMBIENT AIR QUALITY

Air pollutant concentrations are measured at several monitoring stations in Monterey County. The "King City-415 Pearl Street" station is the closest representative monitoring site to the Project site with sufficient data to meet U.S. EPA and/or ARB criteria for quality assurance. This monitoring station monitors ambient concentrations of O_3, PM_{10}, and $PM_{2.5}$. Ambient monitoring data for NO_2 was obtained from the "Salinas #3 Monitoring Station." CO standards have not been exceeded in years and, as a result, are no longer monitored in Monterey County. Ambient monitoring data for the last three years of available measurement data (i.e., 2021 through 2023) are summarized in Table 4. As depicted, state and federal standards for O_3, NO_2, and $PM_{2.5}$ have not exceeded ambient air quality standards during the last three years of available data. The NAAQS for PM_{10} has not been exceeded during the last three years. However, PM_{10} concentrations have exceeded the CAAQS 13, 16, and 7 times in 2021, 2022, and 2023, respectively.

Table 4. Summary of Ambient Air Quality Monitoring Data[1]

	2021	2022	2023
Ozone (O_3)[1]			
Maximum concentration, ppm (1-hour/8-hour average)	0.078 / 0.064	0.070 / 0.057	0.063 / 0.057
Number of days state/national 1-hour standard exceeded	0 / 0	0 / 0	0 / 0
Number of days state/national 8-hour standard exceeded	0 / 0	0 / 0	0 / 0
Nitrogen Dioxide (NO_2)[2]			
Maximum concentration, ppb (1-hour average)	27.0	30.0	31.0
Annual average	3	NA	3
Number of days state/national standard exceeded	0 / 0	0 / 0	0 / 0
Suspended Particulate Matter (PM_{10})[1]			
Maximum concentration, µg/m^3 (state/national)	94.9 / 77.2	64.5 / 64.4	84.7 / 81.8
Annual Average	24.0	23.1	18.4
Number of days state/national standard exceeded	13 / 0	16 / 0	7 / 0
Suspended Particulate Matter ($PM_{2.5}$)[1]			
Maximum concentration, µg/m^3 (state/national)	19.3 / 19.3	24.4 / 24.4	35.4 / 35.4
Annual Average	6.6	5.1	4.5
Number of days national standard exceeded (measured/calculated[3])	0 / 0	0 / 0	0 / 0

ppm = parts per million by volume, ppb = parts per billion by volume, µg/m^3 = micrograms per cubic meter, NA = not available
1. Data obtained from the King City-415 Pearl Street Station.
2. Data obtained from the Salinas-#3 Station.
3. Measured days are those days that an actual measurement was greater than the standard. Calculated days are the estimated number of days that measurement would have been greater than the level of the standard had measurements been collected every day.
** = Insufficient data available to determine the value.*
Source: ARB 2024e

AIR QUALITY INDEX

The health effects of ambient air pollutant concentrations can be evaluated and presented in various ways. The most common method is the use of the Air Quality Index (AQI). The U.S. EPA developed the AQI as an easy-to-understand measure of health impacts based on measured ambient air quality in comparison to established ambient air quality standards. Tables 5 and 6 present a summary of the health impacts for O_3 and $PM_{2.5}$, respectively, based on the U.S. EPA's AQI.

Table 5. Air Quality Index Summary for Ozone & Related Health Effects

Air Quality Index / 8-hour Ozone Concentration	Health Effects Description
AQI 51-100: Moderate Ambient Ozone Concentrations: 55-70 ppb	Sensitive Groups: Children and people with asthma are the groups at most risk. Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms. Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI 101-150: Unhealthy for Sensitive Groups Ambient Ozone Concentrations: 71-85 ppb	Sensitive Groups: Children and people with asthma are the groups at most risk. Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma. Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200: Unhealthy Ambient Ozone Concentrations: 86-105 ppb	Sensitive Groups: Children and people with asthma are the groups at most risk. Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population. Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201-300: Very Unhealthy Ambient Ozone Concentrations: 106-200 ppb	Sensitive Groups: Children and people with asthma are the groups at most risk. Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population. Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid outdoor exertion; everyone else, especially children, should limit outdoor exertion.
An AQI of 50 and below is categorized as "Good" and air quality is satisfactory and poses little or no risk. An AQI of 301 or higher is categorized as "Hazardous" having a health warning of emergency conditions: everyone is more likely to be affected. Outdoor activities should be avoided for all individuals. *AQI = Air quality index, ppb = parts per billion* *Source: U.S. EPA 2024c*	

Table 6. Air Quality Index Summary for Fine Particulate Matter & Related Health Effects

Air Quality Index / 8-hour Ozone Concentration	Health Effects Description
AQI 51-100: Moderate Ambient Concentrations: 12.1-35.4 µg/m^3	Sensitive Groups: Some people who may be unusually sensitive to particulate. Health Effects Statements: Unusually sensitive people should consider reducing prolonged or heavy exertion. Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
AQI 101-150: Unhealthy for Sensitive Groups Ambient Concentrations: 35.5-55.4 µg/m^3	Sensitive Groups: People with heart or lung disease, older adults, children, and teenagers. Health Effects Statements: Increasing likelihood of respiratory symptoms for sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly. Cautionary Statements: If you have heart disease: Symptoms such as palpations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact a health care provider.
AQI 151–200: Unhealthy Ambient Concentrations: 55.5-150.4 µg/m^3	Sensitive Groups: Everyone. Health Effects Statements: Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly; increased respiratory effects in general population. Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201-300: Very Unhealthy Ambient Concentrations: 150.5-250.4 µg/m^3	Sensitive Groups: Everyone. Health Effects Statements: Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly; significant increase in respiratory effects in general population. Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or reschedule to a time when air quality is better.
An AQI of 50 and below is categorized as "Good" and air quality is satisfactory and poses little or no risk. An AQI of 301 or higher is categorized as "Hazardous" having a health warning of emergency conditions: everyone is more likely to be affected. Outdoor activities should be avoided for all individuals. *AQI = Air quality index, µg/m3 = micrograms per cubic meter* *Source: U.S. EPA 2024c*	

A summary of the annual AQI for the Project area, based on monitoring data obtained from the Monterey County monitoring area for the last three years of available data, is provided in Table 7. As depicted in Table 7, the Project area typically experiences "Good" air quality with the total number of days ranging from 274 to 299 days per year. Days classified as "Moderate" AQI ranged from 66 to 105 days per year. Information for the "Unhealthy for Sensitive Groups", "Unhealthy", "Very Unhealthy", and "Hazardous" classifications was generally not available (U.S. EPA 2024d).

Table 7. Air Quality Index Annual Historical Summary for Monterey County

Year	Air Quality Index (AQI) - Number of Days					
	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Hazardous
2023	274	90	1	NA	NA	NA
2022	299	66	NA	NA	NA	NA
2021	261	105	NA	NA	NA	NA

Represents overall air quality taking into account all criteria pollutants measured.
Source: U.S. EPA 2024d

SENSITIVE RECEPTORS

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses.

The Project site is surrounded by residential, commercial, public facilities (i.e., parks and schools), and agricultural land uses. Residential uses surrounding the Project primarily consist of single-family residences. Commercial use surrounding the Project primarily comprises retail businesses and a segment of general commercial area along Front Street and Highway 101. Sensitive receptors located near the Project site consist predominantly of schools and residential land uses. The nearest schools and residential land uses are located adjacent the Project.

PROJECT IMPACTS

THRESHOLDS OF SIGNIFICANCE

Criteria for determining the significance of air quality impacts were developed based on information contained in the California Environmental Quality Act (CEQA) Guidelines (Appendix G). According to those guidelines, a project may have a significant effect on the environment if it would result in the following conditions:

1. Conflict with or obstruct implementation of any applicable air quality plan.
2. 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.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

To assist local jurisdictions in the evaluation of air quality impacts, the MBARD has published the *CEQA Air Quality Guidelines* (MBARD 2008). This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, TAC, and cumulative air quality impacts. These thresholds were developed taking into consideration potential impacts on regional and local air quality and related public-health concerns. The following MBARD-recommended thresholds of significance were relied upon for the determination of impact significance:

- **Short-term Emissions of Criteria Air Pollutants**. Construction impacts would be significant if the project would emit greater than 82 pounds per day of PM_{10} or would cause a violation of PM_{10} National or State AAQS at nearby receptors. Construction-generated emissions of ozone precursors (i.e., ROG or

NO_X) are accommodated in the emission inventories of State and federally-required air plans. For this reason, the MBARD has not identified recommended thresholds of significance for construction-generated ozone precursors (i.e., ROG and NO_X).

- **Long-Term Emissions of Criteria Air Pollutants**. Emissions of 137 pounds per day or more of direct and indirect VOC emissions would have a significant impact on regional air quality by emitting substantial amounts of ozone precursors (i.e., ROG and NO_x) (MBARD 2008). Such projects would significantly impact attainment and maintenance of O_3 AAQS. In addition, operational impacts would be significant if the project would emit greater than 82 lbs/day of PM_{10}, or if the project would contribute to local PM_{10} concentrations that exceed AAQS. Emissions of SO_X would be significant if the project generates direct emissions greater than 150 lbs/day.
- **Local Mobile-Source CO Concentrations**. Local mobile-source impacts would be significant if the project generates direct emissions of greater than 550 lbs/day of CO or if the project would contribute to local CO concentrations that exceed the CAAQS of 9.0 parts per million (ppm) for 8 hours or 20 ppm for 1 hour. Indirect emissions are typically considered to include mobile sources that access the project site but generally emit off-site; direct emissions typically include sources that are emitted on-site (e.g., stationary sources, on-site mobile equipment).
- **Toxic Air Contaminants**. TAC impacts would be significant if the project would expose the public to substantial levels of TACs so that the probability of contracting cancer for the Maximally Exposed Individual would exceed 10 in 1 million and/or so that ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index (HI) greater than 1 for the Maximally Exposed Individual.
- **Odorous Emissions**. Odor impacts would be significant if the project has the potential to frequently expose members of the public to objectionable odors.

METHODOLOGY

Short-term Construction

Short-term construction emissions associated with the Project were quantified using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.26. Emissions modeling included the analysis of the distribution system pipelines. Emissions associated with the Project were quantified based on project-specific data provided and default modeling parameters contained in the model for Monterey County. Construction emissions modeling assumes that approximately 100 percent of travel would occur predominantly on paved roads. Onsite travel for construction vehicles was assumed to be on unpaved surfaces. Refer to Appendix A for emissions modeling assumptions and results. Construction projects using typical construction equipment such as dump trucks, scrapers, bulldozers, compactors, and front-end loaders that temporarily emit precursors of ozone [i.e., VOCs or NO_x], are accommodated in the emission inventories of state- and federally-required air plans and would not have a significant impact on the attainment and maintenance of O_3 AAQS (MBARD 2008). As a result, construction-generated emissions of other criteria air pollutants, including ROG and NOx, are presented for informational purposes only.

Long-term Operation

Long-term operation of the Project would require the use of two below ground electric powered vertical turbine water pumps. Operational emissions associated with electricity use would occur off-site and largely outside of Monterey County, criteria pollutants were not calculated for long-term operation.

PROJECT IMPACTS

Impact AQ-1: Conflict with or obstruct implementation of any applicable air quality plan.

The NCCAB is currently classified as nonattainment for the state's PM_{10} standard and nonattainment transitional for the state's 8-hour and 1-hour O_3 standards. MBARD has adopted the 2012-2015 Air Quality Management Plan for the purpose of enforcing state and federal air quality standards (MBARD 2018b). Consistency with the AQMP is assessed by comparing the proposed growth associated with a project with the population and dwelling unit forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG). These projections are used to generate emission forecasts upon which the AQMP is based. Projects that are consistent with AMBAG's regional forecasts would be considered consistent with the AQMP. In addition, projects that would result in a significant increase in emissions, in excess of MBARD significance thresholds, would also be considered to potentially conflict with or obstruct implementation of the AQMP.

The Project is not expected to result in a substantial increase in population growth. In addition, as noted in Impact AQ-2, the Project would not result in a change in regional vehicle miles traveled (VMT) and associated long-term operational emissions. PM_{10} emissions associated with multiple overlapping construction activities would not exceed MBARD's significance threshold of 82 lbs/day. For these reasons, implementation of the Project could result in a substantial increase in either direct or indirect emissions that could conflict with or obstruct implementation of the AQMP. This impact would be considered **less than significant**.

Impact AQ-2: 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.

Construction Emissions

Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction of the Project would result in the temporary generation of emissions resulting from site preparation, grading, foundation/concrete, pump station installation, asphalt paving, trenching, and motor vehicle exhaust associated with construction equipment and on-road vehicle trips. Emissions of PM are largely associated with ground disturbance and the movement of construction vehicles and equipment on unpaved surfaces.

Construction-generated emissions associated with the Project are summarized in Table 8. As depicted in Table 8, short-term construction associated with the Project could generate up to approximately 9 lbs/day of PM_{10}, which would not exceed MBARD's significance threshold of 82 lbs/day. As a result, this impact would be considered **less than significant.** Furthermore, compliance with existing MBARD rules and regulations, such as Rule 400 (Visible Emissions), Rule 402 (Nuisances), and Rule 400 (Visible Emissions) would further minimize emissions of PM_{10} during construction.

Table 8. Construction Emissions of Criteria Air Pollutants

Facilities	Emissions (lbs/day)[1]				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Foundation/Concrete - Unmitigated	0.57	0.43	4.99	0.37	0.1
Grading - Unmitigated	1.46	1.16	12.33	7.05	3.5
Pump Station Install - Unmitigated	0.47	0.4	3.75	0.08	0.01
Asphalt Paving - Unmitigated	0.38	0.24	3.84	0.51	0.13
Trenching - Unmitigated	0.46	0.31	4.4	0.5	0.13
Total All Facilities	3.34	2.54	29.31	8.51	3.87
MBARD Significance Threshold[2]:	--	--	--	82	--
Exceeds Threshold/Significant Impact?	--	--	--	No	--

1. Based on the highest daily emissions during summer or winter conditions without the implementation of fugitive dust control measures. Assumes foundation/concrete, pump station install, trenching (2025) and asphalt paving could potentially occur simultaneously.

2. The MBARD has not identified significance thresholds for ROG, NO_X, CO or $PM_{2.5}$. Emissions of ROG and NO_X are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS. Emissions of $PM_{2.5}$ are a component of PM_{10}.

Refer to Appendix A for emissions modeling assumptions and results.

Operational Emissions

Daily activities associated with long-term operations of the Project would not generate emissions of criteria air pollutants and precursors from mobile, energy use, and area sources. Daily operational emissions of criteria pollutants would not exceed any MBARD emissions thresholds and would not have a significant impact on regional air quality or attainment and maintenance of O_3 ambient air quality standards (AAQS). For these reasons, operational emissions would not be anticipated to result in a significant adverse impact on public health. As a result, long-term operational activities would be considered to have a **less-than-significant** air quality impact.

Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations.

Short-term and long-term pollutants of primary concern with regard to potential health-related impacts include construction-generated emissions of TACs, NOA, PM, and CO. Short-term and long-term localized air quality impacts are discussed in greater detail, as follows:

Short-term Construction

Naturally-Occurring Asbestos

The ARB identifies NOA as a TAC. In accordance with ARB Air Toxics Control Measure, prior to any grading activities, a geologic evaluation should be conducted to determine if NOA is present within the area that would be disturbed. If NOA is not present, an exemption request form, along with a copy of the geologic report, must be filed with the local air district. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos Air Toxics Control Measure. The Project site is not located within an area identified as having a potential for naturally-occurring ultramafic rock and serpentine soils. As a result, this impact would be considered **less than significant**.

Asbestos-Containing Materials

Demolition activities can have potential negative air quality impacts, including issues surrounding the proper handling, demolition, and disposal of asbestos-containing material (ACM). ACM could be encountered during the demolition of existing buildings, particularly older structures constructed prior to 1970. Asbestos

can also be found in various building products, including (but not limited to) utility pipes/pipelines (transit pipes or insulation on pipes). If a project involves the disturbance or potential disturbance of ACM, various regulatory requirements may apply, including the requirements stipulated in the NESHAP (40CFR61, Subpart M-Asbestos). The Project would not include the demolition of existing on-site structures. As a result, this impact would be considered **less than significant.**

TACs (DPM Emissions)

The primary TAC of concern associated with short-term construction activities is DPM. Implementation of the Project would result in the generation of DPM emissions during construction associated with the use of off-road diesel equipment for site grading, paving, and other construction activities. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and the associated risk of contracting cancer. For off-site work and residential land uses, the calculation of cancer risk associated with exposure to TACs is typically calculated based on a 25-year and 30-year period of exposure, respectively. The use of diesel-powered construction equipment would be temporary and episodic, typically only occurring over a short period (i.e., weeks or months). For this reason and given the highly dispersive nature of DPM, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million or a HI greater than 1). As a result, this impact would be considered **less than significant.**

Fugitive Dust Emissions

Implementation of the Project would result in short-term emissions of fugitive PM associated with ground disturbance. However, compliance with applicable MBARD rules and regulations, including but not limited to Rule 402 for the control of nuisance–related emissions would minimize potential impacts to occupants of nearby land uses. Furthermore, as noted in Impact AQ-2, construction-generated PM_{10} would be significantly less than MBARD's daily significance threshold of 82 lbs/day. As previously noted, MBARD has determined that emissions below 82 lbs/day would not be expected to exceed AAQS.
As a result, this impact would be considered **less than significant.**

Mitigation Measure

Implement Mitigation Measure AQ-1.

Significance After Mitigation

Mitigation Measure AQ-1 would include measures to reduce air pollutant emissions from construction activities. With mitigation, emissions of fugitive dust would be reduced by approximately 50 percent or more. With mitigation, emissions associated with construction would not exceed the air district's significance threshold of 82 lbs/day for PM_{10}. With mitigation, this impact would be considered **less than significant**.

Long-term Operation

The Project would not result in the installation or operation of any major stationary sources of emissions. As a result, this impact would be considered **less than significant**.

Impact AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Other emissions potentially associated with the Project would be predominantly associated with the generation of odors during Project construction. The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Construction of the Project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel-

exhaust, may be considered objectionable by some people. In addition, pavement coatings used during Project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. In addition, no major sources of odors have been identified in the Project area. This impact would be considered **less than significant**.

GREENHOUSE GASES AND CLIMATE CHANGE

EXISTING SETTING

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters the Earth's atmosphere from space and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Primary GHGs attributed to global climate change, are discussed, as follows:

- **Carbon Dioxide**. Carbon dioxide (CO_2) is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere (U.S. EPA 2024a).

- **Methane**. Methane (CH_4) is a colorless, odorless gas that is not flammable under most circumstances. CH_4 is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. CH_4 is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 into the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. Methane's atmospheric lifetime is about 12 years (U.S. EPA 2024a).

- **Nitrous Oxide**. Nitrous oxide (N_2O) is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years (U.S. EPA 2024a).

- **Hydrofluorocarbons.** Hydrofluorocarbons (HFCs) are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 270 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years) (U.S. EPA 2024a).

- **Perfluorocarbons.** Perfluorocarbons (PFCs) are colorless, highly dense, chemically inert, and non-toxic. There are seven PFC gases: perfluoromethane (CF_4), perfluoroethane (C_2F_6), perfluoropropane (C_3F_8), perfluorobutane (C_4F_{10}), perfluorocyclobutane (C_4F_8), perfluoropentane (C_5F_{12}), and perfluorohexane (C_6F1_4). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum production, which

releases CF_4 and C_2F_6 as byproducts. The estimated atmospheric lifetimes for PFCs ranges from 2,600 to 50,000 years (U.S. EPA 2024a).

- **Nitrogen Trifluoride**. Nitrogen trifluoride (NF_3) is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. NF_3 is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin-film solar cells. It has a global warming potential of 16,100 carbon dioxide equivalents (CO_2e). While NF_3 may have a lower global warming potential than other chemical etchants, it is still a potent GHG. In 2009, NF_3 was listed by California as a high global warming potential GHG to be listed and regulated under AB 32 (Section 38505 Health and Safety Code).

- **Sulfur Hexafluoride**. Sulfur hexafluoride (SF_6) is an inorganic compound that is colorless, odorless, non-toxic, and generally non-flammable. SF_6 is primarily used as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80 percent of all SF_6 produced worldwide. Leaks of SF_6 occur from aging equipment and during equipment maintenance and servicing. SF_6 has an atmospheric life of 3,200 years (U.S. EPA 2024a).

- **Black Carbon**. Black carbon is the strongest light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Black carbon contributes to climate change both directly by absorbing sunlight and indirectly by depositing on snow and by interacting with clouds and affecting cloud formation. Black carbon is considered a short-lived species, which can vary spatially and, consequently, it is very difficult to quantify associated global-warming potentials. The main sources of black carbon in California are wildfires, off-road vehicles (locomotives, marine vessels, tractors, excavators, dozers, etc.), on-road vehicles (cars, trucks, and buses), fireplaces, agricultural waste burning, and prescribed burning (planned burns of forest or wildlands) (CCAC 2018, U.S. EPA 2024b).

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Often, estimates of GHG emissions are presented in CO_2e, which weighs each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Table 11 provides a summary of the GWP for GHG emissions of typical concern with regard to community development projects, based on a 100-year time horizon. As indicated, CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs roughly 298 times more heat per molecule than CO_2. Additional GHGs with high GWP include NF_3, SF_6, PFCs, and black carbon.

Table 9. Global Warming Potential for GHGs

Greenhouse Gas	Global Warming Potential (100-year)
Carbon Dioxide (CO_2)	1
Methane (CH_4)	25
Nitrous Dioxide (N_2O)	298
Based on IPCC GWP values for a 100-year time horizon *Source: IPCC 2007*	

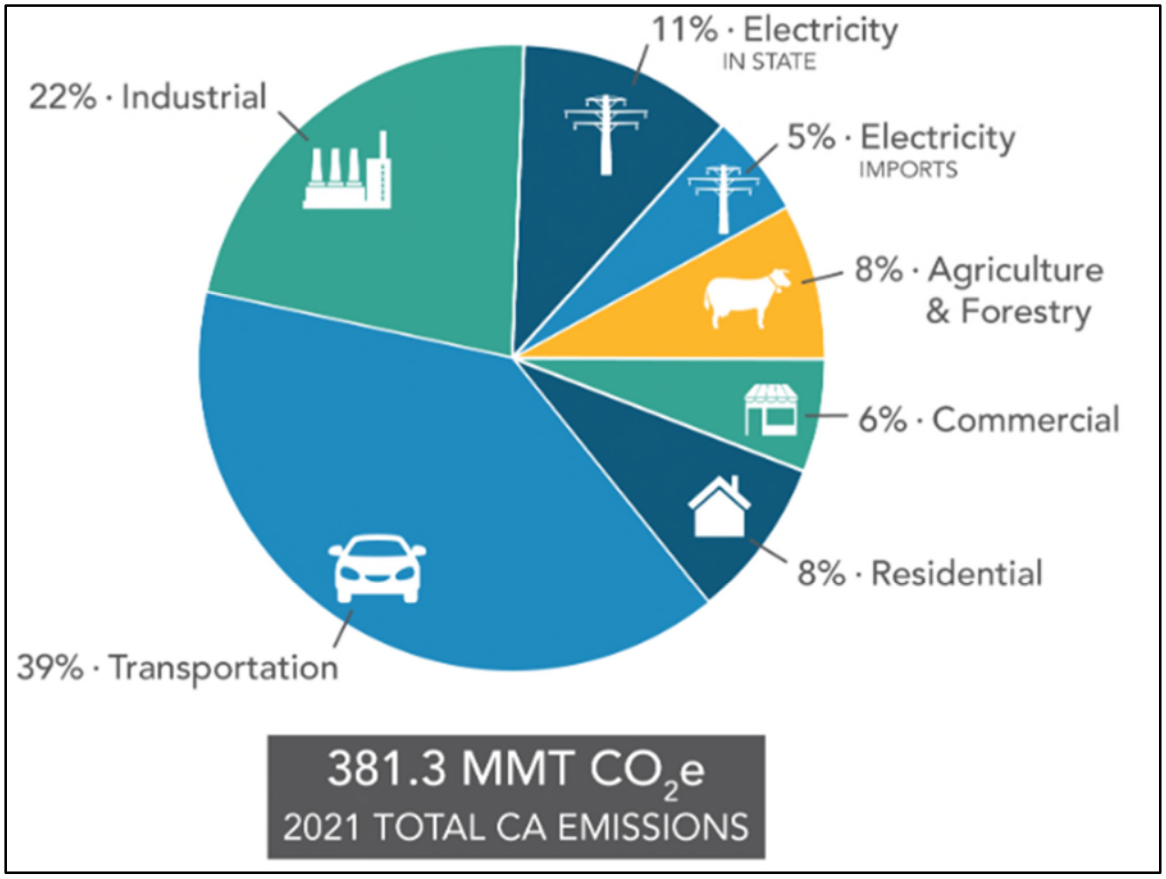
SOURCES OF GHG EMISSIONS

REGIONAL

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. Worldwide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions (U.S. EPA 2024b).

In 2021, GHG emissions within California totaled 381.3 million metric tons (MMT) of CO_2e. GHG emissions, by sector, are summarized in Figure 4. In California, the transportation sector is the largest contributor, accounting for approximately 39 percent of the total state-wide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 22 percent. Electricity generation totaled roughly 11 percent (ARB 2024f).

Figure 4. California 2000-2021 GHG Inventory (2023 Edition)



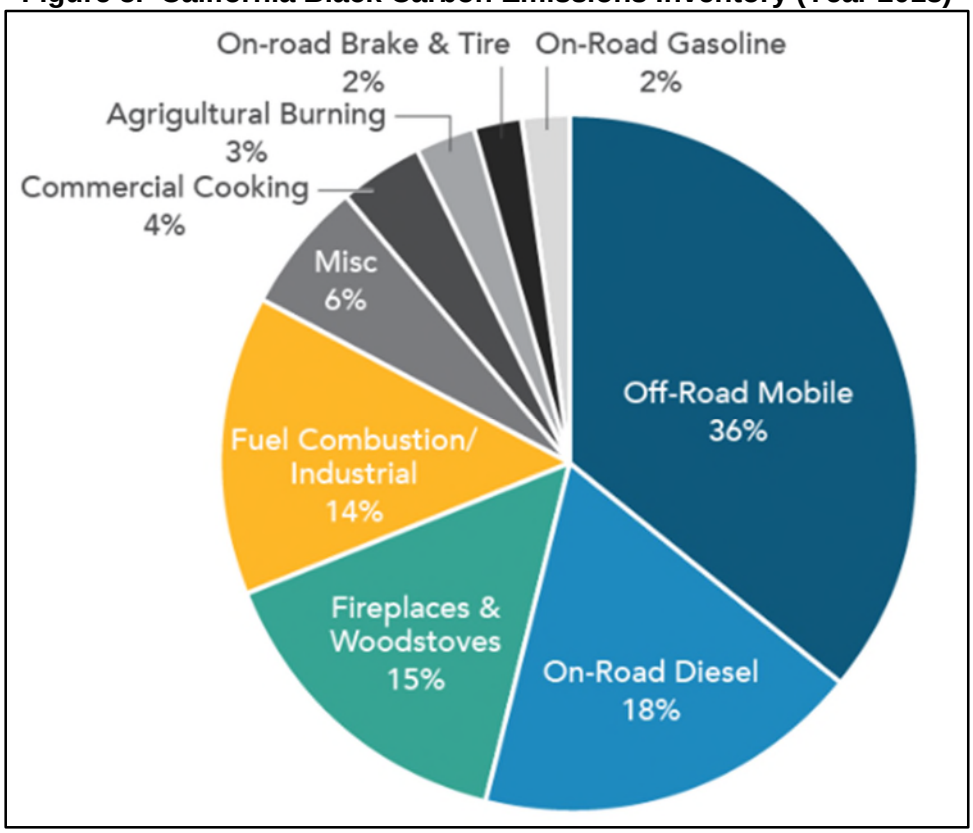
Source: ARB 2024f

Short-Lived Climate Pollutants

Short-lived climate pollutants (SLCPs), such as black carbon, fluorinated gases, and CH_4 also have a dramatic effect on climate change. Though short-lived, these pollutants create a warming influence on the climate that is many times more potent than that of carbon dioxide.

As part of the ARB's efforts to address SLCPs, the ARB has developed a statewide emission inventory for black carbon. The black carbon inventory will help support the implementation of the SLCP Strategy, but it is not part of the State's GHG Inventory that tracks progress towards the State's climate targets. The most recent inventory for year 2013 conditions is depicted in Figure 5. As depicted, off-road mobile sources account for a majority of black carbon emissions totaling roughly 36 percent of the inventory. Other major anthropogenic sources of black carbon include on-road transportation, residential wood burning, fuel combustion, and industrial processes (ARB 2024f).

Figure 5. California Black Carbon Emissions Inventory (Year 2013)



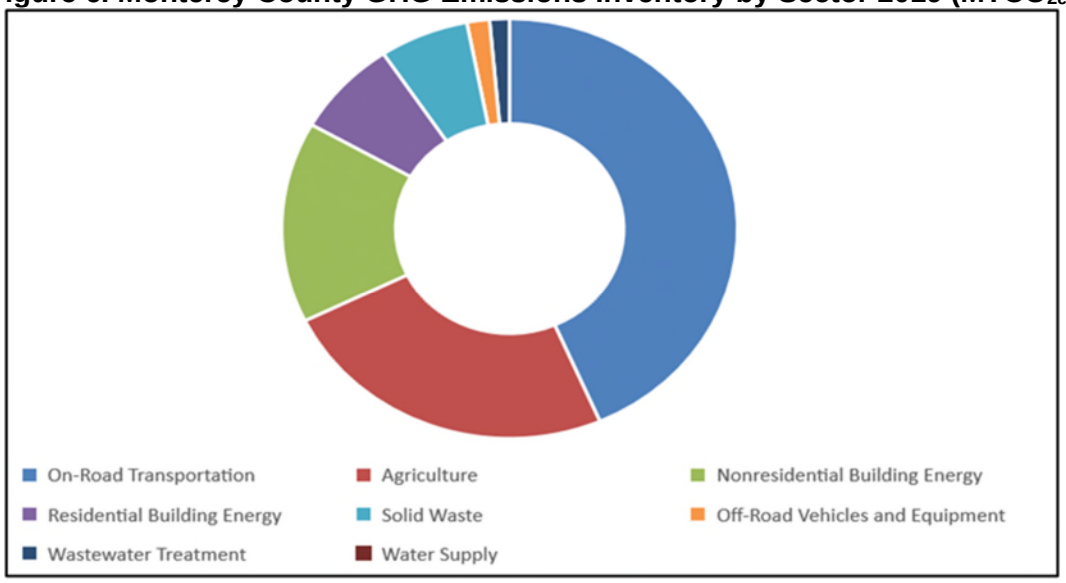
Source: ARB 2024g

LOCAL

COUNTY OF MONTEREY

Within the County of Monterey, GHG emissions are predominantly associated with transportation, agriculture, and building energy. In 2019, GHG emissions within Monterey County totaled 1,101,405 metric tons (MT) of CO_2e. GHG emissions, by sector, are summarized in Figure 6. Within Monterey County, the transportation sector is the largest contributor, accounting for approximately 43 percent of the total county-wide GHG emissions. Emissions associated with agriculture uses are the second largest contributor, totaling roughly 24 percent. Building energy generation both non-residential and residential totaled roughly 23 percent (MCHD 2024).

Figure 6. Monterey County GHG Emissions Inventory by Sector 2019 ($MTCO_{2e}$)



Source: MCHDC 2024

EFFECTS OF GLOBAL CLIMATE CHANGE

There are uncertainties as to exactly what climate changes would occur in various local areas of Earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea-level rise, the spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records depict an increasing trend toward earlier snowmelt in the Sierra Nevada. This snowpack is a principal supply of water for the state, providing roughly 50 percent of the State's annual runoff. If this trend continues, some areas of the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during the spring and summer months. An earlier snowmelt would also impact the State's energy resources. Currently, approximately 20 percent of California's electricity comes from hydropower. An early exhaustion of the Sierra snowpack may force electricity producers to switch to more costly or non-renewable forms of electricity generation during the spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, resultant changes in climate would likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry (ARB 2017).

REGULATORY FRAMEWORK

FEDERAL

Executive Order 13514

Executive Order 13514 is focused on reducing GHGs internally in federal agency missions, programs, and operations. In addition, the executive order directs federal agencies to participate in the Interagency

Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

On April 2, 2007, in Massachusetts v. U.S. EPA, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the FCAA and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator found that the current and projected concentrations of the six key well-mixed GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's "Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles", which was published on September 15, 2009. On May 7, 2010, the final "Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards" was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010.

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile (the equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements). Together, these standards would cut GHG emissions by an estimated 960 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). On August 28, 2012, U.S. EPA and NHTSA issued their joint rule to extend this national program of coordinated GHG and fuel economy standards to model years 2017 through 2025 passenger vehicles.

STATE

Assembly Bill 1493

AB 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the ARB to develop and adopt the nation's first GHG emission standards for automobiles. These standards are also known as Pavley I. The California Legislature declared in AB 1493 that global warming is a matter of increasing concern for public health and the environment. It cites several risks that California faces from climate change, including a reduction in the state's water supply; an increase in air pollution caused by higher temperatures; harm to agriculture; an increase in wildfires; damage to the coastline; and economic losses caused by higher food, water, energy, and insurance prices. The bill also states that technological solutions to reduce GHG emissions would stimulate California's economy and provide jobs. In 2004, the State of California submitted a request for a waiver from federal clean air regulations, as the State is authorized to do under the FCAA, to allow the State to require reduced tailpipe emissions of CO_2. In late 2007, the U.S. EPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the State brought suit against the U.S. EPA related to this denial.

In January 2009, President Obama instructed the U.S. EPA to reconsider the Bush Administration's denial of California's and 13 other states' requests to implement global warming pollution standards for cars and trucks. In June 2009, the U.S. EPA granted California's waiver request, enabling the State to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

In 2009, President Obama announced a national policy aimed at both increasing fuel economy and reducing GHG pollution for all new cars and trucks sold in the US. The new standards would cover model years 2012 to 2016 and would raise passenger vehicle fuel economy to a fleet average of 35.5 miles per gallon by 2016. When the national program takes effect, California has committed to allowing automakers who show compliance with the national program to also be deemed in compliance with state requirements. California is committed to further strengthening these standards beginning in 2017 to obtain a 45 percent GHG reduction from the 2020 model year vehicles.

Executive Order No. S-3-05

Executive Order S-3-05 (State of California) proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, to the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and state legislature describing (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the secretary of CalEPA created a Climate Action Team made up of members from various state agencies and commissions. The Climate Action Team released its first report in March 2006 and continues to release periodic reports on progress. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government, and community actions, as well as through state incentive and regulatory programs.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

AB 32 (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599) requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, NF_3, and SF_6. The reduction to 1990 levels will be accomplished through an enforceable statewide cap on GHG emissions that were phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions (ARB 2018).

Climate Change Scoping Plan

In October 2008, ARB published its *Climate Change Proposed Scoping Plan*, which is the State's plan to achieve GHG reductions in California required by AB 32. This initial Scoping Plan contained the main strategies to be implemented in order to achieve the target emission levels identified in AB 32. The Scoping Plan included ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory.

The largest proposed GHG reduction recommendations were associated with improving emissions standards for light-duty vehicles, implementing the Low Carbon Fuel Standard program, implementing energy efficiency measures in buildings and appliances, the widespread development of combined heat and power systems, and developing a renewable portfolio standard for electricity production.

The Scoping Plan states that land use planning and urban growth decisions will play important roles in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors. With regard to land use planning, the Scoping Plan expects approximately 5.0 MMT CO_2e will be achieved associated with the implementation of Senate Bill (SB) 375, which is discussed further below.

The initial Scoping Plan was first approved by ARB on December 11, 2008, and is updated every five years. The first update of the Scoping Plan was approved by the ARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals., The *2017 Climate Change Scoping Plan*, was released in November 2017. The *2017 Climate Change Scoping Plan* incorporates strategies for achieving the 2030 GHG-reduction target established in Senate Bill 32 (SB 32) and EO B-30-15. Most notably, the *2017 Climate Change Scoping Plan* encourages zero net increases in GHG emissions. However, the *2017 Climate Change Scoping Plan* recognizes that achieving net zero increases in GHG emissions may not be possible or appropriate for all projects and that the inability of a project to mitigate its GHG emissions to zero would not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA.

On November 16, 2022, the ARB approved the *2022 Scoping Plan for Achieving Carbon Neutrality*. The 2022 Scoping Plan continues the path to achieve the SB 32 2030 target and expands upon earlier plans by targeting an 85 percent reduction in GHG below 1990 levels by 2045 (ARB 2022).

Senate Bill 1078 and Governor's Order S-14-08 (California Renewables Portfolio Standards)

SB 1078 (Public Utilities Code Sections 387, 390.1, 399.25, and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum of 20 percent of their supply from renewable sources by 2017. This SB will affect statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order S-14-08, which set the Renewables Portfolio Standard target to 33 percent by 2020. It directed state government agencies and retail sellers of electricity to take all appropriate actions to implement this target. Executive Order S-14-08 was later superseded by Executive Order S-21-09 on September 15, 2009. Executive Order S-21-09 directed the ARB to adopt regulations requiring 33 percent of electricity sold in the State to come from renewable energy by 2020. Statute SB X1-2 superseded this Executive Order in 2011, which obligated all California electricity providers, including investor-owned utilities and publicly owned utilities, to obtain at least 33 percent of their energy from renewable electrical generation facilities by 2020.

ARB is required by current law, AB 32 of 2006, to regulate sources of GHGs to meet a state goal of reducing GHG emissions to 1990 levels by 2020 and an 80 percent reduction of 1990 levels by 2050. The California Energy Commission and California Public Utilities Commission serve in advisory roles to help ARB develop the regulations to administer the 33 percent by 2020 requirement. ARB is also authorized to increase the target and accelerate and expand the time frame.

Mandatory Reporting of GHG Emissions

The California Global Warming Solutions Act (AB 32, 2006) requires the reporting of GHGs by major sources to the ARB. Major sources required to report GHG emissions include industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers.

Cap-and-Trade Regulation

The cap-and-trade regulation is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85 percent of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013, and apply to large electric power plants and large industrial plants. In 2015, fuel distributors, including distributors of heating and transportation fuels, also became subject to the cap-and-trade rules. At that stage, the program will encompass around 360 businesses throughout California and nearly 85 percent of the State's total GHG emissions.

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions and are free to buy and sell allowances on the open market. California held its first auction of GHG allowances on November 14, 2012. California's GHG cap-and-trade system is projected to reduce GHG emissions to 1990 levels by the year 2020 and would achieve an approximate 80 percent reduction from 1990 levels by 2050.

Senate Bill 32

SB 32 was signed by Governor Brown on September 8, 2016. SB 32 effectively extends California's GHG emission-reduction goals from the year 2020 to year 2030. This new emission-reduction target of 40 percent below 1990 levels by 2030 is intended to promote further GHG-reductions in support of the State's ultimate goal of reducing GHG emissions by 80 percent below 1990 levels by 2050. SB 32 also directs the ARB to update the Climate Change Scoping Plan to address this interim 2030 emission-reduction target.

Senate Bill 375

SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will address land-use allocation in that MPOs regional transportation plan. ARB, in consultation with MPOs, establishes regional reduction targets for GHGs emitted by passenger cars and light trucks for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, funding for transportation projects may be withheld.

California Building Code

The California Building Code (CBC) contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvements to real property. The CBC is adopted every three years by the BSC. In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBC standards apply statewide; however, a local jurisdiction may amend a CBC standard if it makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

Green Building Standards

In essence, green building standards are indistinguishable from any other building standards. Both standards are contained in the CBC and regulate the construction of new buildings and improvements. The only practical distinction between the two is that whereas the focus of traditional building standards has been protecting public health and safety, the focus of green building standards is to improve environmental performance. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods.

The 2019 Building Energy Efficiency Standards (2019 Standards), which were adopted in May 2018, address several important areas including smart residential photovoltaic systems, updated thermal envelope standards to prevent heat transfer, residential and nonresidential ventilation requirements, and non-residential lighting requirements. While the 2019 standards led to notable energy reductions, homes may still utilize other energy sources like natural gas. Actual energy savings depend on various factors such as building

orientation and sun exposure. Non-residential buildings can expect around 30 percent energy reduction primarily due to lighting upgrades.

More recently, the 2022 Building Energy Efficiency Standards (2022 Standards) were approved in December 2021 to further enhance energy efficiency in buildings. These standards promote efficient electric heat pumps, establish electric-ready requirements when installing natural gas, support future battery storage installation, and expand solar photovoltaic and battery storage standards. Notably, the 2022 standards extend solar PV system requirements and battery storage capabilities to various land uses, including high-rise multi-family and non-residential structures like office buildings, schools, restaurants, warehouses, theaters, and grocery stores. The sizing of solar systems for these structures should aim to meet targets of up to 60 percent of the building's loads. These new solar requirements came into effect on January 1, 2023, aligning with California's goal of achieving a net-zero carbon footprint by 2045 (CEC 2021).

Senate Bill 97

SB 97 was enacted in 2007. SB 97 required OPR to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of GHG emissions. Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions.
- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions.
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change.
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria.
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives.

As part of the administrative rulemaking process, the California Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010.

Short-Lived Climate Pollutant Reduction Strategy

In March 2017, the ARB adopted the "Short-Lived Climate Pollutant Reduction Strategy" (*SLCP Strategy*) establishing a path to decrease GHG emissions and displace fossil-based natural gas use. Strategies include avoiding landfill methane emissions by reducing the disposal of organics through edible food recovery, composting, in-vessel digestion, and other processes; and recovering methane from wastewater treatment facilities, and manure methane at dairies, and using the methane as a renewable source of natural gas to fuel vehicles or generate electricity. The *SLCP Strategy* also identifies steps to reduce natural gas leaks from oil and gas wells, pipelines, valves, and pumps to improve safety, avoid energy losses, and reduce methane emissions associated with natural gas use. Lastly, the *SLCP Strategy* also identifies measures that can reduce HFC emissions at national and international levels, in addition to State-level action that includes an incentive program to encourage the use of low-GWP refrigerants, and limitations on the use of high-GWP refrigerants in new refrigeration and air-conditioning equipment (ARB 2017).

Association of Monterey Bay Area Governments 2022-2045 MTP/SCS

The AMBAG 2022-2045 MTP/SCS seeks to ensure that transportation within the County of Monterey operates and will continue to operate efficiently. The metropolitan transportation plan focuses on regional transportation infrastructure needs while the SCS addresses planned growth patterns. Linking MTP and SCS ensures that future changes to the regional transportation network will address both existing and future needs. Key State goals, policies, and Executive Orders considered in the 2045 MTP/SCS include but are not limited to the following:

- SB 375 and SCS Program and Evaluation Guidelines
- 2017 Regional Transportation Plan Guidelines for Metropolitan Planning Organizations
- California Transportation Plan 2050
- California SB 32 (Pavley, 2016): Reduce GHG emissions 40% below 1990 levels by 2030
- EO B-55-18: Carbon Neutrality by 2045
- EO S-3-05: Reduce GHG emissions 80% below 1990 levels by 2050
- EO N-19-19: empowers the California State Transportation Agency to leverage discretionary state transportation funds to help meet the state's climate goals.
- EO N-79-20: 100% zero-emission vehicle sales by 2035

PROJECT IMPACTS

THRESHOLDS OF SIGNIFICANCE

In accordance with CEQA Guidelines, a project would be considered to have a significant impact on climate change if it would:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or,

b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

As of August 2024, the County of Monterey Community Climate Action and Adaptation Plan (CCAAP) was still being developed and has not yet been adopted. The proposed CCAAP establishes strategies and provides guidance on reducing GHG emissions but does not provide a recommended significance threshold or offer a method of analysis for projects subject to CEQA review.

MBARD has not adopted a CEQA-compliant GHG reduction plan. In addition, MBARD has not issued recommended guidance for the evaluation of GHG impacts associated with projects subject to CEQA review. However, other air districts in the State have recently released guidance for the evaluation of GHG impacts. For instance, the Bay Area Air Quality Management District (BAAQMD) has recently released recommended GHG significance thresholds that are based on a "fair share" approach for achieving carbon neutrality goals and to ensure consistency with the State's GHG-reduction efforts, including the State's Climate Change Scoping Plan. Consistent with this approach, new land use development projects would be considered to be consistent with the State's carbon neutrality goals and would be considered to have a less than significant impact if: 1) the project is deemed consistent with regional VMT-reduction targets; 2) the project reduces the need for natural gas infrastructure; and 3) the project would not result in a wasteful, inefficient, or unnecessary energy use as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. Similarly, the Sacramento Metropolitan Air Quality Management District (SMAQMD) has also recently released Best Management Practices (BMPs), which also include the prohibited installation of natural gas infrastructure for development projects as well as a requirement that projects meet current CalGreen Tier 2 standards for electric-vehicle (EV) spaces, except that EV-capable spaces shall instead be electric vehicle (EV) ready. This additional requirement requires the installation of electrical infrastructure sufficient to service the future installation of EV chargers. The BAAQMD and SMAQMD thresholds are based on an approach endorsed by the Supreme Court in *Center for Biological Diversity v. Department of Fish & Wildlife* (2015). Although not located within these jurisdictions, development in Monterey County and associated GHG emissions are comparable to those generated by developments within other areas of the state, including the BAAQMD and SMAQMD jurisdictions. Given that climate change is inherently a cumulative impact that occurs on a global scale, these BMPs would, likewise, be considered representative of the project's "fair share" of what would be required to meet the State's long-term climate goals, including achieving carbon neutrality by 2045, and ensuring consistency with the State's Climate Change Scoping Plan. It is also important to note that the ARB 2022 Scoping Plan states that under the Lead Agencies discretion with supporting evidence projects that incorporate some but not all

applicable key attributes could be found by the lead agency as being consistent with the State's Scoping Plan. Project related operational GHG impacts were assessed based on consistency with the State's 2022 Climate Scoping Plan and contributing its fair share of meeting the State's long-term climate goals.

METHODOLOGY

Short-term Construction

Short-term construction emissions associated with the Project were quantified using the CalEEMod, version 2022.1.1.26. Emissions modeling included the analysis of proposed foundation/concrete, grading, pump station installation, asphalt paving, and trenching. Emissions were quantified based on project-specific data provided, and default modeling parameters contained in the model for Monterey County. Since equipment may not be used everyday of the construction phase, phase durations in CalEEMod were based on the number of days of equipment use. CalEEMod offsite worker emissions were scaled based on the number of working days in the phase. Emissions calculations are included in Appendix A of this report. Construction-generated GHG emissions were amortized over an approximate 30-year project life and included with operational emissions estimates. Construction-generated GHG emissions attributable to the Project are presented for informational purposes. Refer to Appendix A for emissions modeling assumptions and results.

Long-term Operation

Long-term operational emissions of the Project were quantified using energy intensity factors for Monterey County from CalEEMod, version 2022.1.1.26. CalEEMod does not provide adjusted energy intensity factors to account for anticipated reductions in energy use in future years. Therefore, year 2027 energy intensity factors were conservatively used for turbine pump emission calculations. Two turbine water pumps would be in use during standard operation and the third used as a back-up. Based on information provided by the Project proponent, the water pumps would operate at 150 horsepower (hp) each. This is the equivalent of approximately 112 kW (kilowatts) per pump. Each of the two primary pumps were estimated to operate approximately 1,664 hours annually. Refer to Appendix A for turbine pump operation schedule, emissions modeling assumptions and results.

PROJECT IMPACTS

Impact GHG-A	***Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? or Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?***

Implementation of the Project would contribute to increases in GHG emissions that are associated with global climate change. Short-term and long-term GHG emissions associated with the development of the Project are discussed in greater detail, as follows:

Short-term Greenhouse Gas Emissions

Short-term annual GHG emissions are summarized in Table 10. Based on the modeling conducted, emissions of GHGs associated with the construction of the Project would total approximately 396 $MTCO_2e$. There would also be a small amount of GHG emissions from waste generated during construction; however, this amount is speculative. Actual emissions would vary, depending on various factors including construction schedules, equipment required, and activities conducted. Assuming an average project life of 30 years, amortized construction-generated GHG emissions would total approximately 13 $MTCO_2e$/yr.

Table 10. Amortized Construction GHG Emissions

Construction	GHG Emissions ($MTCO_2e$)
Foundation/Concrete	5.73
Grading	62.15
Pump Station Install	2.01
Asphalt Paving	70.03
Trenching	256.48
Total:	396.39
Amortized Construction Emissions:	13.21
Based on CalEEMod computer modeling. Amortized construction-generated GHG emissions assume a 30-year project life. Refer to Appendix A for modeling results and assumptions.	

Long-term Greenhouse Gas Emissions

Estimated long-term increases in GHG emissions for future target years 2027 and year 2045 were calculated to ensure consistency with SB 32 and are depicted in Tables 11. As depicted in Table 11, annual operational GHG emissions associated with the Project would total approximately 35 $MTCO_2e$/year. With the inclusion of amortized construction emissions, operational GHG emissions would total approximately 48 $MTCO_2e$/year.

Table 11. Annual Operational GHG Emissions - Unmitigated

Emissions Source	GHG Emissions ($MTCO_2e$/year) [1]
Turbine Water Pumps[2]	34.8
Total Project Operational Emissions:	34.8
Amortized Construction Emissions:	13.2
Total with Amortized Construction Emissions:	48.0
1. Project-generated emissions were quantified using intensity factors from the CalEEMod computer program. *2. Includes operation of two electrified 150 hp (112 kW) turbine water pumps for an annual total of 3,328 hours.* *Refer to Appendix A for modeling results and assumptions.*	

As mentioned above quantified emissions are provided for informational purposes only. Project impacts relating to GHG emissions are discussed below and assessed by determining consistency with the State's 2022 Climate Scoping Plan and contributing its fair share of what would be required to meet the State's long-term climate goals, including achieving carbon neutrality by 2045.

Consistency with Applicable Plans

Applicable GHG-reduction plans include the AMBAG 2022-245 MTP/SCS and ARB's Climate Change Scoping Plan. Project consistency with these plans is discussed in greater detail, as follows:

AMBAG 2022-2045 MTP/SCS Consistency

To support the State's GHG-reduction goals, including the goals mandated by SB 32, California established the Sustainable Communities and Climate Protection Act (SB 375). SB 375 requires regional metropolitan planning organizations, such as AMBAG, to develop SCSs that align transportation, housing, and land use decisions toward achieving the State's GHG emissions-reduction targets. Under SB 375, the development and implementation of SCSs, which link transportation, land use, housing, and climate policy at the regional level, are designed to reduce per capita mobile-source GHG emissions, which is accomplished through the implementation of measures that would result in reductions in per capita VMT.

As previously noted, the AMBAG 2022-2045 MTP/SCS was developed in accordance with state and federal requirements including SB 375 which aims to reduce GHG emissions related to mobile sources. Based on AMBAG guidelines, the Project would not have an impact on regional VMT. As a result, the Project would not conflict with any goals or objectives identified in the AMBAG 2022-2045 MTP/SCS.

Climate Change Scoping Plan

The previously adopted 2017 Climate Change Scoping Plan incorporated the State's GHG emissions reduction target of 40 percent below 1990 emissions levels by 2030, as mandated by SB 32. On November 16, 2022, the ARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality. The recently adopted 2022 Scoping Plan continues the path to achieve the SB 32 2030 target and expands upon earlier Scoping Plans by targeting an 85 percent reduction in GHG below 1990 levels by 2045. A significant part of achieving the SB 32 goals are strategies to promote sustainable communities, such as the promotion of zero net energy buildings, and improved transportation choices that result in reducing VMT. Other measures include the increased use of low-carbon fuels and cleaner vehicles, as well as, measures that promote the conservation of energy and water use.

California has started to implement major policies to build resilience to combat the effects of climate change, including droughts. Such policies include the Sustainable Groundwater Management Act of 2014, the governor's Water Resilience Portfolio (2020), the governor's Water and Supply Strategy (August 2022), and new standards for indoor, outdoor, and industrial water use. In addition, Executive Order B-55-18 establishes a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. As part of this effort, policies and programs undertaken to achieve this goal include the protection of the state's water supply through, in part, the promotion of efforts to build a climate-resilient water infrastructure to insulate our communities from increasing and more intense drought conditions. The increased use of recycled water promotes a long-term reliable water supply sources and is an important water resource strategy for increasing drought resiliency in regions throughout California. Water recycling is also a critically important environmental and water use efficient strategy for the state. By effectively reusing water for potable and/or non-potable purposes, many areas of the state are able to reduce existing and future reliance on environmentally stressed imported water sources. The State Water Resources Control Board (Water Board) recently updated California's Recycled Water Policy and added new ambitious recycled water goals for the state (ARB 2022, WateReuse 2019). Implementation of the proposed Project would help to support the state's energy and water-conservation efforts. As a result, this impact would be considered ***less than significant***.

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APPENDIX A

Emissions Modeling

CalEEMod Output

Soledad Recycled Water Facility (Construction and Opening Intensity Factors) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Soledad Recycled Water Facility (Construction and Opening Intensity Factors)
Construction Start Date	5/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	5.00
Location	36.42096987505816, -121.34023647608893
County	Monterey
City	Soledad
Air District	Monterey Bay ARD
Air Basin	North Central Coast
TAZ	3211
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Linear	5.01	Mile	4.32	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.47	1.16	13.2	12.9	0.05	0.48	7.05	7.53	0.44	3.50	3.94	—	6,449	6,449	0.34	0.69	9.91	6,674
Mit.	0.84	0.56	14.8	15.1	0.05	0.45	2.19	2.52	0.42	1.01	1.31	—	6,449	6,449	0.34	0.69	9.91	6,674
% Reduced	43%	52%	-12%	-17%	—	5%	69%	66%	6%	71%	67%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.45	0.31	4.53	5.19	0.02	0.12	0.50	0.62	0.12	0.13	0.25	—	2,263	2,263	0.12	0.25	0.09	2,342
Mit.	0.30	0.19	5.33	5.43	0.02	0.16	0.49	0.65	0.15	0.13	0.28	—	2,263	2,263	0.12	0.25	0.09	2,342
% Reduced	35%	38%	-18%	-5%	—	-29%	2%	-4%	-27%	1%	-12%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.29	3.71	3.68	0.01	0.12	1.04	1.16	0.11	0.46	0.57	—	1,550	1,550	0.08	0.16	1.02	1,602
Mit.	0.21	0.14	3.73	3.76	0.01	0.11	0.50	0.62	0.11	0.18	0.29	—	1,550	1,550	0.08	0.16	1.02	1,602

% Reduced	48%	52%	> -0.5%	-2%	—	5%	52%	47%	6%	60%	49%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.05	0.68	0.67	< 0.005	0.02	0.19	0.21	0.02	0.08	0.10	—	257	257	0.01	0.03	0.17	265
Mit.	0.04	0.03	0.68	0.69	< 0.005	0.02	0.09	0.11	0.02	0.03	0.05	—	257	257	0.01	0.03	0.17	265
% Reduced	48%	52%	> -0.5%	-2%	—	5%	52%	47%	6%	60%	49%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.47	1.16	13.2	12.9	0.05	0.48	7.05	7.53	0.44	3.50	3.94	—	6,449	6,449	0.34	0.69	9.91	6,674
2026	0.43	0.29	4.20	5.19	0.02	0.11	0.50	0.61	0.10	0.13	0.24	—	2,235	2,235	0.11	0.25	3.40	2,317
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.45	0.31	4.53	5.19	0.02	0.12	0.50	0.62	0.12	0.13	0.25	—	2,263	2,263	0.12	0.25	0.09	2,342
2026	0.43	0.29	4.31	5.12	0.02	0.11	0.50	0.61	0.10	0.13	0.24	—	2,230	2,230	0.11	0.25	0.09	2,309
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.40	0.29	3.71	3.68	0.01	0.12	1.04	1.16	0.11	0.46	0.57	—	1,550	1,550	0.08	0.16	1.02	1,602
2026	0.13	0.09	1.27	1.52	< 0.005	0.03	0.15	0.18	0.03	0.04	0.07	—	663	663	0.03	0.08	0.44	687
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.07	0.05	0.68	0.67	< 0.005	0.02	0.19	0.21	0.02	0.08	0.10	—	257	257	0.01	0.03	0.17	265
2026	0.02	0.02	0.23	0.28	< 0.005	0.01	0.03	0.03	0.01	0.01	0.01	—	110	110	0.01	0.01	0.07	114

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.84	0.56	14.8	15.1	0.05	0.45	2.19	2.52	0.42	1.01	1.31	—	6,449	6,449	0.34	0.69	9.91	6,674
2026	0.29	0.19	5.14	5.43	0.02	0.16	0.49	0.65	0.15	0.13	0.28	—	2,235	2,235	0.11	0.25	3.40	2,317
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.30	0.19	5.33	5.43	0.02	0.16	0.49	0.65	0.15	0.13	0.28	—	2,263	2,263	0.12	0.25	0.09	2,342
2026	0.28	0.19	5.25	5.36	0.02	0.16	0.49	0.65	0.15	0.13	0.28	—	2,230	2,230	0.11	0.25	0.09	2,309
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.21	0.14	3.73	3.76	0.01	0.11	0.50	0.62	0.11	0.18	0.29	—	1,550	1,550	0.08	0.16	1.02	1,602
2026	0.08	0.06	1.55	1.59	< 0.005	0.05	0.15	0.19	0.04	0.04	0.08	—	663	663	0.03	0.08	0.44	687
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.03	0.68	0.69	< 0.005	0.02	0.09	0.11	0.02	0.03	0.05	—	257	257	0.01	0.03	0.17	265
2026	0.02	0.01	0.28	0.29	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	110	110	0.01	0.01	0.07	114

3. Construction Emissions Details

3.1. Foundation/Concrete (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.45	0.38	3.66	3.12	0.01	0.15	—	0.15	0.14	—	0.14	—	990	990	0.04	0.01	—	994
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.25	2.25	< 0.005	< 0.005	—	2.25
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.02	1.29	0.47	0.01	0.02	0.27	0.29	0.02	0.08	0.09	—	1,054	1,054	0.06	0.17	2.18	1,107
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.4	14.4	< 0.005	< 0.005	0.01	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.39	2.39	< 0.005	< 0.005	< 0.005	2.51

3.2. Foundation/Concrete (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	4.35	4.88	0.01	0.17	—	0.17	0.15	—	0.15	—	990	990	0.04	0.01	—	994

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.6
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.25	2.25	< 0.005	< 0.005	—	2.25
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.02	1.29	0.47	0.01	0.02	0.27	0.29	0.02	0.08	0.09	—	1,054	1,054	0.06	0.17	2.18	1,107
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.4	14.4	< 0.005	< 0.005	0.01	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.39	2.39	< 0.005	< 0.005	< 0.005	2.51

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.31	1.10	10.4	9.63	0.02	0.45	—	0.45	0.41	—	0.41	—	1,703	1,703	0.07	0.01	—	1,709
Dust From Material Movement	—	—	—	—	—	—	6.56	6.56	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.14	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	187	187	0.01	< 0.005	—	187
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.37	0.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.0	61.0	< 0.005	0.01	0.17	63.9
Hauling	0.12	0.03	1.82	0.66	0.01	0.03	0.38	0.40	0.03	0.11	0.13	—	1,479	1,479	0.09	0.23	3.06	1,554
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.01	< 0.005	0.21	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	162	162	0.01	0.03	0.15	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.70
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.16
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.8	26.8	< 0.005	< 0.005	0.02	28.2

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.32	7.76	8.97	0.02	0.30	—	0.30	0.27	—	0.27	—	1,703	1,703	0.07	0.01	—	1,709
Dust From Material Movement	—	—	—	—	—	—	1.71	1.71	—	0.88	0.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.04	0.03	0.85	0.98	< 0.005	0.03	—	0.03	0.03	—	0.03	—	187	187	0.01	< 0.005	—	187
Dust From Material Movement	—	—	—	—	—	—	0.19	0.19	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.0	61.0	< 0.005	0.01	0.17	63.9
Hauling	0.12	0.03	1.82	0.66	0.01	0.03	0.38	0.40	0.03	0.11	0.13	—	1,479	1,479	0.09	0.23	3.06	1,554
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.69	6.69	< 0.005	< 0.005	0.01	6.99
Hauling	0.01	< 0.005	0.21	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	162	162	0.01	0.03	0.15	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.70
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.16
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.8	26.8	< 0.005	< 0.005	0.02	28.2

3.5. Pump Station Install (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.66	3.12	0.01	0.15	—	0.15	0.14	—	0.14	—	990	990	0.04	0.01	—	994
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.43	5.43	< 0.005	< 0.005	—	5.45
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.90	0.90	< 0.005	< 0.005	—	0.90
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.32	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.6	58.6	< 0.005	< 0.005	0.25	59.5
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.0	61.0	< 0.005	0.01	0.17	63.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Pump Station Install (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	4.35	4.88	0.01	0.17	—	0.17	0.15	—	0.15	—	990	990	0.04	0.01	—	994
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.43	5.43	< 0.005	< 0.005	—	5.45
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.90	0.90	< 0.005	< 0.005	—	0.90
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.32	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.6	58.6	< 0.005	< 0.005	0.25	59.5
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.0	61.0	< 0.005	0.01	0.17	63.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.35
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Asphalt Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.84	2.28	< 0.005	0.09	—	0.09	0.09	—	0.09	—	350	350	0.01	< 0.005	—	352
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.37	< 0.005	0.02	—	0.02	0.01	—	0.01	—	57.6	57.6	< 0.005	< 0.005	—	57.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.54	9.54	< 0.005	< 0.005	—	9.57

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.03	1.96	0.71	0.01	0.03	0.41	0.43	0.03	0.11	0.14	—	1,591	1,591	0.10	0.25	3.29	1,672
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.03	15.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.33	0.12	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	262	262	0.02	0.04	0.23	275
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.3	43.3	< 0.005	0.01	0.04	45.5

3.8. Asphalt Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	1.90	2.43	< 0.005	0.08	—	0.08	0.07	—	0.07	—	350	350	0.01	< 0.005	—	352
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.31	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.6	57.6	< 0.005	< 0.005	—	57.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.54	9.54	< 0.005	< 0.005	—	9.57
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.03	1.96	0.71	0.01	0.03	0.41	0.43	0.03	0.11	0.14	—	1,591	1,591	0.10	0.25	3.29	1,672
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.03	15.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.33	0.12	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	262	262	0.02	0.04	0.23	275
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.3	43.3	< 0.005	0.01	0.04	45.5

3.9. Trenching (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.30	0.25	2.45	4.03	0.01	0.09	—	0.09	0.09	—	0.09	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.25	2.45	4.03	0.01	0.09	—	0.09	0.09	—	0.09	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.88	1.45	< 0.005	0.03	—	0.03	0.03	—	0.03	—	222	222	0.01	< 0.005	—	222
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.02	0.02	0.16	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.7	36.7	< 0.005	< 0.005	—	36.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.03	1.91	0.69	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,555	1,555	0.09	0.25	3.21	1,634
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.05	0.46	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.9	91.9	< 0.005	< 0.005	0.01	93.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.12	0.03	2.02	0.70	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,556	1,556	0.09	0.25	0.08	1,632
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.2	33.2	< 0.005	< 0.005	0.06	33.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	0.01	0.71	0.25	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	560	560	0.03	0.09	0.50	588
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.50	5.50	< 0.005	< 0.005	0.01	5.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	92.7	92.7	0.01	0.01	0.08	97.3

3.10. Trenching (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.13	3.26	4.27	0.01	0.13	—	0.13	0.12	—	0.12	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.13	3.26	4.27	0.01	0.13	—	0.13	0.12	—	0.12	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.17	1.54	< 0.005	0.05	—	0.05	0.04	—	0.04	—	222	222	0.01	< 0.005	—	222

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.7	36.7	< 0.005	< 0.005	—	36.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	0.41	99.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.03	1.91	0.69	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,555	1,555	0.09	0.25	3.21	1,634
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.05	0.46	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.9	91.9	< 0.005	< 0.005	0.01	93.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.12	0.03	2.02	0.70	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,556	1,556	0.09	0.25	0.08	1,632
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.2	33.2	< 0.005	< 0.005	0.06	33.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.05	0.01	0.71	0.25	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	560	560	0.03	0.09	0.50	588
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.50	5.50	< 0.005	< 0.005	0.01	5.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	92.7	92.7	0.01	0.01	0.08	97.3

3.11. Trenching (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.32	4.03	0.01	0.08	—	0.08	0.07	—	0.07	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.32	4.03	0.01	0.08	—	0.08	0.07	—	0.07	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.69	1.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	183	183	0.01	< 0.005	—	184
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.3	30.3	< 0.005	< 0.005	—	30.4
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.50	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.38	97.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.12	0.03	1.85	0.66	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,524	1,524	0.08	0.25	3.02	1,603
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	90.1	90.1	< 0.005	< 0.005	0.01	91.2

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.03	1.95	0.67	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,525	1,525	0.08	0.25	0.08	1,600
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.9	26.9	< 0.005	< 0.005	0.05	27.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.57	0.20	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	453	453	0.02	0.07	0.39	476
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	0.01	4.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.1	75.1	< 0.005	0.01	0.06	78.9

3.12. Trenching (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.13	3.26	4.27	0.01	0.13	—	0.13	0.12	—	0.12	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.14	0.13	3.26	4.27	0.01	0.13	—	0.13	0.12	—	0.12	—	615	615	0.02	< 0.005	—	617
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.97	1.27	< 0.005	0.04	—	0.04	0.04	—	0.04	—	183	183	0.01	< 0.005	—	184
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.3	30.3	< 0.005	< 0.005	—	30.4
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.50	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.38	97.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.12	0.03	1.85	0.66	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,524	1,524	0.08	0.25	3.02	1,603
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	90.1	90.1	< 0.005	< 0.005	0.01	91.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.03	1.95	0.67	0.01	0.03	0.40	0.42	0.03	0.11	0.14	—	1,525	1,525	0.08	0.25	0.08	1,600
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.9	26.9	< 0.005	< 0.005	0.05	27.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.57	0.20	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	453	453	0.02	0.07	0.39	476
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	0.01	4.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	75.1	75.1	< 0.005	0.01	0.06	78.9

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Foundation/Concrete	Linear, Grubbing & Land Clearing	7/1/2025	7/7/2025	5.00	5.00	Crane
Grading	Linear, Grading & Excavation	5/1/2025	6/25/2025	5.00	40.0	—
Pump Station Install	Linear, Drainage, Utilities, & Sub-Grade	8/1/2025	8/4/2025	5.00	2.00	Crane
Asphalt Paving	Linear, Paving	7/1/2025	9/22/2025	5.00	60.0	—
Trenching	Linear, Trenching	7/1/2025	6/1/2026	5.00	240	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Foundation/Concrete	Cranes	Diesel	Average	1.00	8.00	367	0.29
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Pump Station Install	Cranes	Diesel	Average	1.00	8.00	367	0.29
Asphalt Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Asphalt Paving	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Trenching	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

Trenching	Tractors/Loaders/Back	Diesel	Average	1.00	8.00	84.0	0.37
Trenching	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Foundation/Concrete	Cranes	Diesel	Tier 3	1.00	8.00	367	0.29
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	1.00	8.00	84.0	0.37
Pump Station Install	Cranes	Diesel	Tier 3	1.00	8.00	367	0.29
Asphalt Paving	Pavers	Diesel	Tier 3	1.00	8.00	81.0	0.42
Asphalt Paving	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 3	1.00	8.00	84.0	0.37
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 3	1.00	8.00	84.0	0.37
Trenching	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	5.00	26.0	LDA,LDT1,LDT2
Grading	Vendor	0.75	26.0	HHDT,MHDT
Grading	Hauling	16.0	26.0	HHDT
Grading	Onsite truck	—	—	HHDT
Foundation/Concrete	—	—	—	—

Foundation/Concrete	Worker	5.00	26.0	LDA,LDT1,LDT2
Foundation/Concrete	Vendor	0.00	6.03	HHDT,MHDT
Foundation/Concrete	Hauling	11.4	26.0	HHDT
Foundation/Concrete	Onsite truck	—	—	HHDT
Pump Station Install	—	—	—	—
Pump Station Install	Worker	3.00	26.0	LDA,LDT1,LDT2
Pump Station Install	Vendor	0.75	26.0	HHDT,MHDT
Pump Station Install	Hauling	0.00	20.0	HHDT
Pump Station Install	Onsite truck	—	—	HHDT
Asphalt Paving	—	—	—	—
Asphalt Paving	Worker	5.00	26.0	LDA,LDT1,LDT2
Asphalt Paving	Vendor	0.00	6.03	HHDT,MHDT
Asphalt Paving	Hauling	17.2	26.0	HHDT
Asphalt Paving	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	26.0	LDA,LDT1,LDT2
Trenching	Vendor	—	6.03	HHDT,MHDT
Trenching	Hauling	16.8	26.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	5.00	26.0	LDA,LDT1,LDT2
Grading	Vendor	0.75	26.0	HHDT,MHDT
Grading	Hauling	16.0	26.0	HHDT
Grading	Onsite truck	—	—	HHDT
Foundation/Concrete	—	—	—	—

Foundation/Concrete	Worker	5.00	26.0	LDA,LDT1,LDT2
Foundation/Concrete	Vendor	0.00	6.03	HHDT,MHDT
Foundation/Concrete	Hauling	11.4	26.0	HHDT
Foundation/Concrete	Onsite truck	—	—	HHDT
Pump Station Install	—	—	—	—
Pump Station Install	Worker	3.00	26.0	LDA,LDT1,LDT2
Pump Station Install	Vendor	0.75	26.0	HHDT,MHDT
Pump Station Install	Hauling	0.00	20.0	HHDT
Pump Station Install	Onsite truck	—	—	HHDT
Asphalt Paving	—	—	—	—
Asphalt Paving	Worker	5.00	26.0	LDA,LDT1,LDT2
Asphalt Paving	Vendor	0.00	6.03	HHDT,MHDT
Asphalt Paving	Hauling	17.2	26.0	HHDT
Asphalt Paving	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	26.0	LDA,LDT1,LDT2
Trenching	Vendor	—	6.03	HHDT,MHDT
Trenching	Hauling	16.8	26.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Foundation/Concrete	238	211	0.00	0.00	—
Grading	2,585	2,530	4.32	0.00	—
Pump Station Install	0.00	0.00	0.00	0.00	—
Asphalt Paving	4,378	3,879	0.00	0.00	—
Trenching	17,130	15,180	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Linear	3.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.7	annual days of extreme heat
Extreme Precipitation	1.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	27.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	24.9
AQ-PM	0.83
AQ-DPM	2.64
Drinking Water	56.3
Lead Risk Housing	79.4

Pesticides	82.0
Toxic Releases	0.21
Traffic	4.83
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	14.3
Haz Waste Facilities/Generators	39.8
Impaired Water Bodies	58.7
Solid Waste	63.7
Sensitive Population	—
Asthma	38.0
Cardio-vascular	54.9
Low Birth Weights	74.2
Socioeconomic Factor Indicators	—
Education	99.0
Housing	45.0
Linguistic	90.7
Poverty	97.2
Unemployment	10.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	12.06210702
Employed	19.33786732
Median HI	19.44052355
Education	—

Bachelor's or higher	11.58732196
High school enrollment	100
Preschool enrollment	33.99204414
Transportation	—
Auto Access	26.42114718
Active commuting	34.99294238
Social	—
2-parent households	27.37071731
Voting	20.96753497
Neighborhood	—
Alcohol availability	29.84729886
Park access	46.19530348
Retail density	2.027460542
Supermarket access	52.86795842
Tree canopy	11.4718337
Housing	—
Homeownership	30.27075581
Housing habitability	33.94071603
Low-inc homeowner severe housing cost burden	55.24188374
Low-inc renter severe housing cost burden	59.54061337
Uncrowded housing	9.90632619
Health Outcomes	—
Insured adults	15.69357115
Arthritis	0.0
Asthma ER Admissions	70.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	28.4
Cognitively Disabled	91.4
Physically Disabled	49.3
Heart Attack ER Admissions	55.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	2.5
SLR Inundation Area	0.0
Children	1.9
Elderly	82.5
English Speaking	2.1
Foreign-born	89.9
Outdoor Workers	0.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	69.6
Traffic Density	5.7

Traffic Access	0.0
Other Indices	—
Hardship	91.5
Other Decision Support	—
2016 Voting	27.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	50.0
Healthy Places Index Score for Project Location (b)	17.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on provided construction phase schedule.
Construction: Off-Road Equipment	Equipment based on provided equipment use for each phase

Construction: Dust From Material Movement	import/export material based on total import/export multiplied by phase's percent of total truck trips.
Construction: Paving	Based on provided total area of asphalt paving (acres)
Construction: On-Road Fugitive Dust	travel will be on paved roads
Construction: Trips and VMT	worker, vendor trips based on provided information. all trip lengths based on provided information.

Offsite Worker Calculations

Phase	Annual $MTCO_2e$						Days		Offsite Scalar (worker)
	CalEEMod Emissions[1]	Offsite Emissions (vendor and haul)	Offsite Emissions (worker)	Scaled Offsite Emissions (worker)	Scaled Offsite Emissions (vendor, haul, and worker)	Scaled Emissions	Phase Duration	Equipment Duration	
Foundation/Concrete (2025) - Unmitigated	**4.97**					**5.73**			
onsite	2.25					2.25			
offsite	2.72	2.51	0.21	0.97	3.48	3.48	23	5	4.60
Grading (2025) - Unmitigated	**62.06**					**62.15**			
onsite	31.00					31.00			
offsite	31.06	29.36	1.70	1.79	31.15	31.15	42	40	1.05
Pump Station Install (2025) - Unmitigated	**1.01**					**2.01**			
onsite	0.90					0.90			
offsite	0.11	0.06	0.05	1.05	1.11	1.11	42	2	21.00
Asphalt Paving (2025) - Unmitigated	**57.62**					**70.03**			
onsite	9.57					9.57			
offsite	48.05	45.50	2.55	14.96	60.46	60.46	352	60	5.87
Trenching (2025) - Unmitigated	**139.68**					**141.31**			
onsite	36.80					36.80			
offsite	102.88	97.30	5.58	7.21	104.51	104.51	124	96	1.29
Trenching (2026) - Unmitigated	**113.82**					**115.17**			
onsite	30.40					30.40			
offsite	83.42	78.90	4.52	5.87	84.77	84.77	187	144	1.30

1. CalEEMod Emissions for offsite include vendor, haul and worker tips.

Turbine Pump

Provided Operational Pump Use

Month	Total Days / Month	Days / Month Pumps Run	Hours / Day When the Pumps Run	Total Operating Hours
Jan	31	5	8	40
Feb	28	9	8	72
Mar	31	10	8	80
Apr	30	15	8	120
May	31	16	8	128
Jun	30	30	8	240
Jul	31	31	8	248
Aug	31	31	8	248
Sep	30	30	8	240
Oct	31	16	8	128
Nov	30	10	8	80
Dec	31	5	8	40
Annual				1664

Pump Energy Use

Pumps	Mechanical Horsepower (HP)	Kilowatts (kW)	Pump Operational Hours (annual)	Kilowatt-Hours (kWh)	Megawatt-Hours (MWh)
Pump 1	150	111.85	1,664	186,126.69	186.13
Pump 2	150	111.85	1,664	186,126.69	186.13
Pump 3 (backup)	150	111.85	0	0	0.00
Annual				372,253.38	372.25

Pump Emissions

GHG Pollutant	CalEEMod Intensity Factor (lb/MWh)	Annual Operational (MWh)	GWP	Annual Emissions (lb)	Annual Emissions (MT)
CO_2	203.983	372.25	1	75,933.36	34.44
CH_4	0.033	372.25	25	12.28	5.57E-03
N_2O	0.004	372.25	298	1.49	6.75E-04
CO_2e	NA	NA	NA	76,684.20	34.78

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Appendix D. Biological Resources Report

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Soledad Recycled Water Conveyance Project
Biological Resources Report

November 2024

Prepared for

Jon Marshall, PE
Carollo Engineers, Inc.
2795 Mitchell Drive
Walnut Creek, California 94598

Prepared by

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1. INTRODUCTION

Denise Duffy & Associates, Inc. (DD&A) was contracted by Carollo Engineers, Inc. ("Carollo") to prepare this Biological Resources Report for the City of Soledad ("City") Recycled Water Conveyance Project ("Project"), located within the City and surrounding lands of unincorporated Monterey County ("County"), California (**Figures 1** and **2**). The Project is intended to provide Title 22 recycled water from the City's Water Reclamation Facility ("WRF") to 20 schools and parks throughout the City and is part of a larger multi-phase City water conveyance project (**Figure 2**). To satisfy the reporting criteria of the County and other regulatory agencies, Denise Duffy & Associates, Inc. ("DD&A") completed a biological evaluation of the project area to determine if sensitive biological resources are present or have the potential to occur within and in the vicinity of the area.

The Project would disturb a total of approximately 189,320 square feet (4.35 acres) of previously developed or disturbed land; however, portions of the project (e.g., lateral connections, which would be unique to each park and school) have yet to be designed. Therefore, this report analyzes a larger Evaluation Area that includes all areas that could potentially be impacted by the Project (**Figure 2**). The Evaluation Area for this report includes:

- a 20 ft buffer around the new transmission pipeline locations,
- the staging area,
- new pump station, and
- a 50 ft buffer (approximately 2.7 additional acres total) at the terminal end of each new transmission line to account for any possible locations for supply line connections.

This report describes the existing biological resources within the Evaluation Area, including any special-status species or sensitive habitats which occur or have the potential to occur in the area. This report also assesses the potential impacts to biological resources that may result from the Project, and recommends appropriate avoidance, minimization, and mitigation measures, if necessary, to reduce those impacts to a less than significant level in accordance with the California Environmental Quality Act (CEQA).

1.1 Project Description

The Project consists of installing and operating the infrastructure necessary to convey Title 22 recycled water from the City's WRF to up to 20 parks and schools throughout the City. The Project includes construction of a booster pump facility at the existing WRF, a transmission main pipeline connecting the WRF to the existing transmission pipeline along Front Street, and distribution systems from existing transmission lines to schools and parks throughout the City (**Figure 2**)

No increases in impervious surfaces are anticipated as a result of the Project. All surface conditions would be restored to pre-Project conditions following the completion of construction. Staging areas for the Project would be located at the existing WRF located on Morisoli Road. During construction, the Project area would be generally accessed by Morisoli Road, HWY 101 and SR 146, as well as local roadways where needed. Key components of the Project are described in further detail below:

- Recycled water pump station at the City's WRF.

- Approximately 3,800 feet of 12-inch diameter recycled water transmission pipeline from the WRF to Front Street. The pipeline diameter may be upsized to approximately 16 inches in diameter during final design.
- Approximately 22,700 feet of recycled water distribution pipelines ranging from 4 to 8 inches in diameter.
- Conversion or replacement of existing on-site irrigation systems to meet recycled water standards.

Recycled Water Pump Station

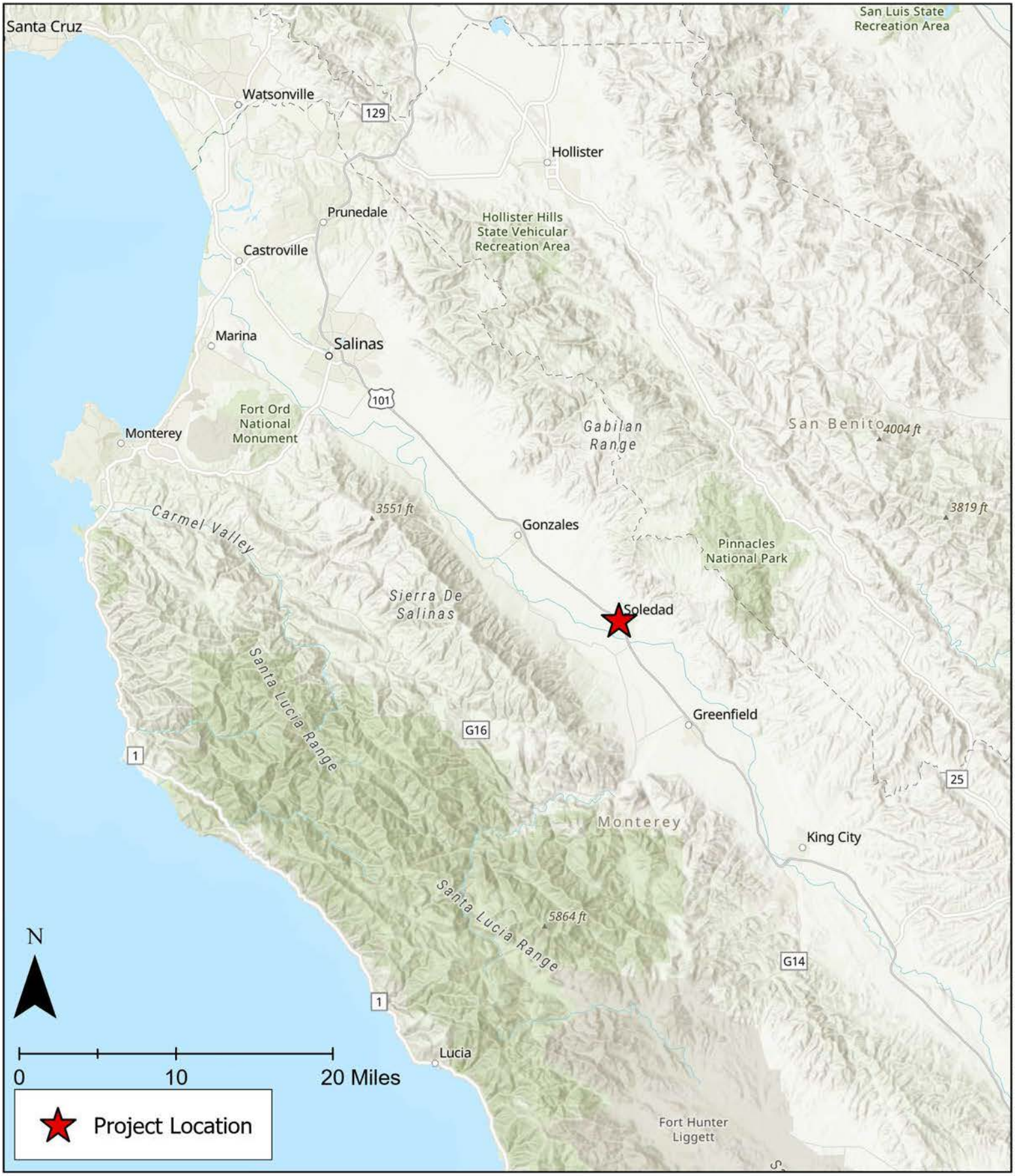
The pump station would be located at the City's WRF, as shown in **Figure 2**. The pump station would draw recycled water from existing WRF facilities to supply the recycled water to the City's parks and schools. The new pump station is proposed at the southeast corner of the sludge drying pond area west of the flocculation tanks. The pump station includes a below-ground wet well structure with vertical turbine pumps. The wet well feed pipe crosses several existing utilities and penetrates through two earthen berms. The discharge header penetrates one earthen berm, extends north at the access road, and continues toward a connection to the existing 12-inch recycled water transmission main.

Recycled Water Transmission Pipeline - WRF to Front Street

The existing transmission pipeline is composed of 8-inch and 12-inch diameter pipes, as shown in **Figure 2**. The existing 8-inch transmission pipeline from the WRF to Front Street, which runs through farmland, is undersized. A new 12-inch pipeline would be constructed parallel to the existing 8-inch pipeline as part of the Project. This would be tied into the existing 12-inch transmission pipeline at the WRF on the south end and the existing 12-inch transmission pipeline on the north end before the railroad crossing. Additional easements may be required for the transmission pipeline through farmland.

Recycled Water Distribution Pipelines

The distribution system would be divided into two pipeline systems – to the northern and southern parts of the City. At the intersection of San Vicente Road and Front Street, the existing transmission main bifurcates with a pipeline continuing east along Front Street until it intersects West Street and terminates. At this location the distribution pipeline would connect to the existing transmission main to serve the City's parks and schools located in the southern half of the City. The second segment of the existing transmission pipeline continues north along San Vicente Road then east and along Gabilan Drive until it intersects West Street and terminates. At this point, the distribution pipeline would tie into the existing transmission main to serve the City parks and schools located in the northern half of the City.



Soledad Recycled Water Conveyance Project Vicinity	Date 8/29/2024 Scale 1 IN =8 MI	DD&A	**Denise Duffy & Associates, Inc.** Planning and Environmental Consulting	Figure 1

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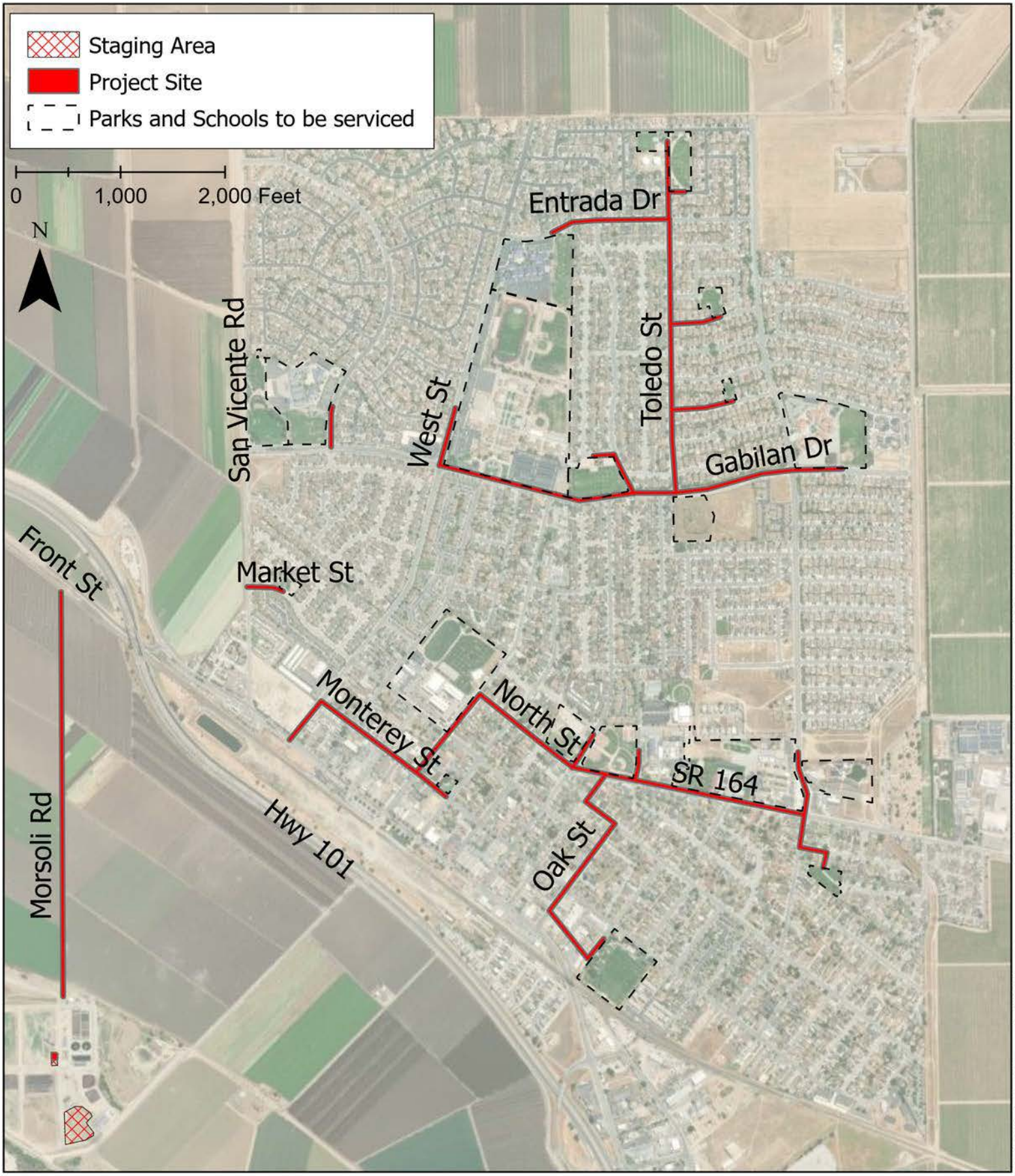

Soledad Recycled Water Conveyance Project Location	Date 8/29/2024 Scale 1 IN =1,200 FT	**Denise Duffy & Associates, Inc.** Planning and Environmental Consulting	Figure 2

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2. METHODS

2.1 Personnel and Survey Dates

DD&A Senior Environmental Scientist Matthew Johnson conducted surveys of the Evaluation Area on August 22, 2024. The surveys consisted of walking the Evaluation Area to identify general and sensitive habitat types and conducting a reconnaissance-level habitat survey to identify suitable habitat for or presence of any special-status plant or wildlife species. Data collected during the surveys were used to assess the environmental conditions of the Evaluation Area and its surroundings, evaluate environmental constraints at the site and within the local vicinity, and provide a basis for recommendations to minimize and avoid impacts.

2.2 Data Sources

Prior to the survey, DD&A conducted a desktop literature review to determine the occurrence or potential for occurrence of sensitive biological resources within the Evaluation Area. The primary literature and data sources reviewed are as follows:

- Current agency status information from the Service and CDFW for species listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA), and those considered CDFW "species of special concern," including:
  - CNDDB occurrences reports from the Gonzales, Mount Johnson, Bickmore Canyon, Palo Escrito, Soledad, North Chalone Peak, Sycamore Flat, Paraiso Springs, and Greenfield, Quadrangles (CDFW, 2024a; **Appendix A**); and
  - Service IPaC Resource List (Service, 2024a; **Appendix B**).
- The CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2024);
- The National Wetlands Inventory Wetlands Mapper (Service, 2024b), and
- The National Hydrographic Dataset (U.S. Geological Survey [USGS], 2024).

From these resources, a list of special-status plant and wildlife species known or with the potential to occur within or adjacent to the Evaluation Area was created (**Appendix C**). This list presents these species along with their legal status, habitat requirements, and a brief statement of their likelihood of occurring in the area.

2.2.1 Botany

Vegetation types identified in *A Manual of California Vegetation* (Sawyer et al., 2009) were utilized to determine if vegetation types identified as sensitive on CDFW's *California Natural Communities List* (CDFW, 2024b) are present within the Evaluation Area. Information regarding the distribution and habitats of local and state vascular plants was also reviewed (Howitt and Howell, 1964 and 1973; Munz and Keck, 1973; Baldwin et al., 2012; Matthews and Mitchell, 2015; Jepson Flora Project, 2024). Plants observed within the Evaluation Area were identified to species or intraspecific taxon when possible given the timing of the survey effort using keys and descriptions in *The Jepson Manual: Vascular Plants of California, Edition 2* (Baldwin et al., 2012) and *The Plants of Monterey County an Illustrated Field Key* (Matthews and Mitchell, 2015). Scientific nomenclature for plant species identified within this document follows

Baldwin, et. Al, (2012); common names follow Matthews and Mitchell (2015). A full botanical inventory was not recorded for the Evaluation Area but the dominant species within each habitat were noted. Dominant plant species are those which are more numerous than their competitors in an ecological community or make up more of the biomass; generally, the species that are most abundant. Most ecological communities are defined by their dominant species.

2.2.2 Wildlife

The following literature and data sources were reviewed to determine potential presence of special-status wildlife within the Evaluation Area: CDFW reports on special-status wildlife (Remsen, 1978; Williams, 1986; Thelander, 1994;) and California Wildlife Habitat Relationships Program species-habitat models (Zeiner et al., 1990).

2.3 Definitions

2.3.1 Special-Status Species

Special-status species are those plants and animals that have been formally listed or proposed for listing as endangered or threatened or are candidates for such listing under the ESA or CESA. Listed species are afforded legal protection under the ESA and CESA. Species that meet the definition of rare or endangered under the CEQA Section 15380 are also considered special-status species. Animals on the CDFW's list of "species of special concern" (most of which are species whose breeding populations in California may face extirpation if current population trends continue) meet this definition and are typically provided management consideration through the CEQA process, although they are not legally protected under the ESA or CESA. Additionally, the CDFW also includes some animal species that are not assigned any of the other status designations on their "Special Animals" list; however, these species have no legal or protection status.

Plants listed as rare under the California Native Plant Protection Act (CNPPA) or included in CNPS California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B are also treated as special-status species as they meet the definitions of Sections 2062 and 2067 of the CESA and in accordance with CEQA Guidelines Section 15380. In general, the CDFW requires that plant species on CRPR 1A (Plants presumed extirpated in California and Either Rare or Extinct Elsewhere), CRPR 1B (Plants rare, threatened, or endangered in California and elsewhere), CRPR 2A (Plants presumed extirpated in California, but more common elsewhere); and CRPR 2B (Plants rare, threatened, or endangered in California, but more common elsewhere) of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2024) be fully considered during the preparation of environmental documents relating to CEQA. CRPR 3 (plants about which more information is needed) and CRPR 4 species (plants of limited distribution) may, but generally do not, meet the definitions of Sections 2062 and 2067 of the CESA, and are not typically considered in environmental documents relating to CEQA. While other species (i.e., CRPR 3 or 4 species) are sometimes found in database searches or within the literature, these were not included within the analysis as they did not meet the definitions of Section 2062 and 2067 of the CESA.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected in California under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto." In addition, fully protected species under

the Fish and Game Code Section 3511 (birds), Section 4700 (mammals), Section 5515 (fish), and Section 5050 (reptiles and amphibians) are also considered special-status animal species. Species with no formal special-status designation but thought by experts to be rare or in serious decline may also be considered special-status animal species in some cases, depending on project-specific analysis and relevant, localized conservation needs or precedence.

2.3.2 Sensitive Habitats

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted vegetation types. Vegetation types considered sensitive include those listed on CDFW's *California Natural Communities List* (i.e., those habitats that are rare or endangered within the borders of California) (CDFW, 2024), those that are occupied by species listed under the ESA or are critical habitat in accordance with the ESA, and those that are defined as Environmentally Sensitive Habitat Areas under the California Coastal Act. Specific habitats may also be identified as sensitive in city or county general plans or ordinances. Sensitive habitats are regulated under federal regulations (such as the Clean Water Act and Executive Order 11990 – Protection of Wetlands), state regulations (such as CEQA and the CDFW Streambed Alteration Program), or local ordinances or policies (such as city or county tree ordinances and general plan policies).

2.4 Regulatory Setting

2.4.1 Federal Regulations

Migratory Bird Treaty Act

The MBTA of 1918 prohibits killing, possessing, or trading migratory birds except in accordance with regulation prescribed by the Secretary of the Interior. Most actions that result in permanent or temporary possession of a protected species constitute violations of the MBTA. The Service is responsible for overseeing compliance with the MBTA and implements Conventions (treaties) between the United States and four countries—Canada, Mexico, Japan, and Russia—for the protection of migratory birds. The Service maintains a list of migratory bird species that are protected under the MBTA.

2.4.2 State Regulations

California Native Plant Protection Act

The CNPPA of 1977 directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and Endangered plants in the State." The CNPPA prohibits importing rare and Endangered plants into California, taking rare and Endangered plants, and selling rare and Endangered plants. The CESA and CNPPA authorized the Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). Plants listed as rare under the CNPPA are not protected under CESA; however, these plants may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research.

California Fish and Game Code

Birds. Section 3503 of the Fish and Game Code states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal MBTA. Section 3800 prohibits the take of nongame birds.

Fully Protected Species. The classification of fully protected was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (§5515), mammals (§4700), amphibians and reptiles (§5050), and birds (§3511). Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of the bird species for the protection of livestock, and for certain renewable energy and infrastructure projects.

Species of Special Concern. As noted above, the CDFW also maintains a list of wildlife "species of special concern." Although these species have no legal status, the CDFW recommends considering these species during analysis of Project impacts to protect declining populations and avoid the need to list them as endangered in the future.

3. RESULTS

3.1 Habitats

Approximately 23.4 acres of the Evaluation Area are developed consisting of paved roads, graded dirt lots, or landscaped properties (locations for new transmission and service lines throughout the City, and the WRF new pump station and staging ground) and approximately 3.6 acres of the Evaluation Area is ruderal or agricultural habitat (the segments of the Evaluation Area along Morisoli Road) which consist of actively cultivated agricultural fields (**Figures 3 & 4**). Access to the agricultural easement and WRF was limited during the August 22, 2024 biological survey. Most of the land surrounding the Evaluation Area is developed with single-family residences with the schools and city parks to be serviced by the new pipelines spread throughout. Due to the disturbed (mowed, sprayed, landscaped) nature of the Evaluation Area, no vegetation associations identified in *A Manual of California Vegetation* (Sawyer et al., 2009) are present, and these areas are not considered sensitive by any regulatory agency. A description of each community is provided below.

3.1.1 Ruderal

Ruderal areas are those areas which have been developed or have been subject to historic and ongoing disturbance by human activities and are devoid of vegetation or dominated by non-native and/or invasive weed species. Within the Evaluation Area, ruderal land consisted primarily of mowed or graded dirt roads and access areas within the WRF. Ruderal habitat within the excavated drainage ponds (**Figure 3**) was dominated by invasive annuals and contained no emergent or riparian vegetation.

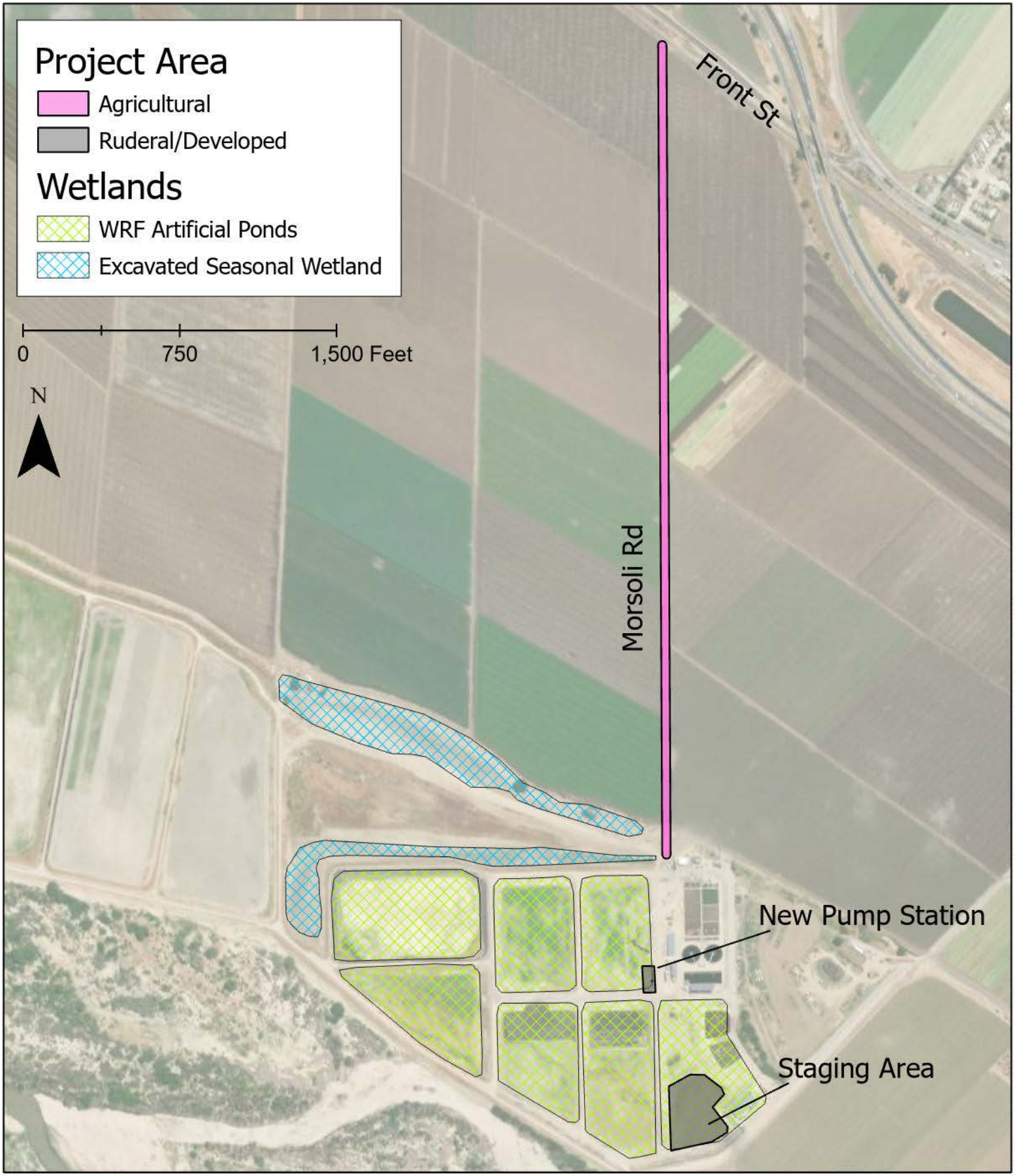
Ruderal areas are considered to have low biological value as they are generally denuded of vegetation or are dominated by non-native plant species and consist of relatively low-quality habitat from a wildlife perspective. However, some common wildlife species that do well in urbanized areas, including European starling (*Sturnus vulgaris*), western fence lizard (*Sceloporus occidentalis*), ground squirrel (*Otospermophilus beecheyi*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), American crow (*Corvus brachyrhynchos*), California scrub jay (*Aphelocoma californica*), and rock pigeon (*Columba livia*), may be found foraging within these areas.

3.1.2 Agricultural

Approximately 1.8 acres of the survey area are active agricultural consisting of the current location of the service pipeline connecting the WRF to the City (**Figure 3**). This area is continuously managed and cultivated for food crops, and is likely subject to frequent soil tilling, weeding, and treatment with insecticides and herbicides. As such, it provides poor habitat for most plant and wildlife species of concern; however, some special-status plants, including Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), have been known to occur in ditches and unmaintained edges of agricultural fields and roadways.

3.1.3 Developed

As identified above, developed areas within the Evaluation Area consist of paved roads, dirt roads, landscaped parks, and the WRF (**Figure 3 and 4**). Developed areas are considered to have low biological value as they are generally denuded of vegetation and consist of relatively low-quality habitat from a wildlife perspective. However, the common wildlife species identified above for ruderal communities may be found foraging within these areas. Landscaped plants within the park of the Evaluation Area lack the continuous flowers necessary to support insect species of concern, however they may provide nesting habitat for raptor and other avian species.



Soledad Recycled Water Conveyance Habitat Map - Agricultural	Date 11/15/2024 Scale 1 IN =600 FT	DD&A	**Denise Duffy & Associates, Inc.** Planning and Environmental Consulting	Figure 3

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Soledad Recycled Water Conveyance Habitat Map - Developed	Date 9/12/2024 Scale 1 IN =1,000 FT	**Denise Duffy & Associates, Inc.** Planning and Environmental Consulting	Figure 4

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3.2 Sensitive Habitats

A historic seasonal wetland feature is present approximately 20 ft south of the survey area located at the intersection of Gabilan Drive and Toledo St (**Figure 4**). The location is identified as a seasonal wetland feature on the Service's National Wetlands Mapper, but it is noted as "excavated by humans" (Service, 2024b). The site also contains multiple drainage culverts and is unlikely to contain water outside of active rain storm events. Additionally, several excavated drainage ponds are located adjacent to the survey area as well as within the proposed location of the new storage reservoir and pump station at the WRF (**Figure 3**). These locations are identified by the Service as temporary wetlands that are artificially filled by pumps. This habitat is not suitable breeding habitat for any wildlife species of concern.

No emergent hydrophytic vegetation or other wetland indicators were observed within any of these locations during the August 22, 2024 biological survey. None of the ponds show up in the USGS Hydrographic Dataset (USGS, 2024) nor do they meet the definition of waters of the U.S. as identified in CFR 328.3(a)(8), and, therefore, are not subject to the jurisdiction of the Army Corps of Engineers under the Clean Water Act.

3.3 Special-Status Species

Published occurrence data within the Project area and surrounding USGS quadrangles were evaluated to compile a table of special-status species known to occur in the vicinity of the Evaluation Area (see *Section 2. Methods*). Each of these species was evaluated for their likelihood to occur within and immediately adjacent to the Evaluation Area. No special-status plant species were observed within the Evaluation Area during biological surveys; however, based on the species-specific reasons presented in **Appendix C**, Congdon's tarplant may occur within the survey area. Two special-status wildlife species have the potential to occur within the Evaluation Area: Salinas pocket mouse (*Perognathus inornatus psammophilus*), San Joaquin whipsnake (*Masticophis flagellum ruddocki*) and white-tailed kite (*Elanus leucurus*). In addition to the white-tailed kite, raptors and other nesting birds have the potential to occur in the area. These species are discussed below. All other species are assumed unlikely to occur or have a low potential to occur based on the species-specific reasons presented in **Appendix C**, are therefore unlikely to be impacted by the Project, and are not discussed further.

Congdon's Tarplant

Congdon's tarplant is an annual herb in the Asteraceae family that has a variable blooming period from May through November. It is found in valley and foothill grassland on heavy clay, saline or alkaline soils in low-lying disturbed areas that collect water. It is often found in disturbed areas with non-native annuals and grassland species, as well as ditches and vegetated spaces alongside roads and farmland. No individuals of this species were observed during the August 22, 2024 survey; however, the majority of the survey area that would be the most likely to have suitable habitat for Congdon's tarplant was inaccessible for the survey, therefore its presence within the Evaluation Area cannot be entirely ruled out.

Salinas Pocket Mouse

Salinas pocket mouse is a CDFW Species of Concern. This sub-species of the San Joaquin pocket mouse (*Perognathus inornatus*) is found within chaparral, shrubland, blue oak woodland, and annual grassland

habitats of the Salinas Valley. They are most abundant in uncultivated areas and often live in areas with sandy washes and finely textured soils. They are nocturnal, foraging in the night and spending most of the day in their burrows, which are typically dug at the base of shrubs. *(*Hafner et al., 1998*)* Burrows are additionally utilized for hibernating, which occurs 2-3 times a year, and rearing young during the breeding season (March – July). Within the Evaluation Area, Salinas pocket mouse are the most likely to occur within the agricultural easement along Morisoli Road and near the new service line hookups at Toledo Park *(***Figure 4***)*. The nearest CNDDB occurrence of the species is from 2006 located 1.6 km north of the Evaluation Area. Therefore, Salinas pocket mouse has a moderate potential to be found within the Evaluation Area.

San Joaquin Whipsnake

The San Joaquin whipsnake is a CDFW species of special concern. Whipsnakes seek cover in rodent burrows, bushes, trees, and rock piles. This species hibernates in soil or sand approximately 0.3 m below the surface, sometimes at the bases of plants. Little is known about nest sites. In desert regions, whipsnakes may be attracted to water to drink or ambush prey. Open terrestrial habitats are preferred, but whipsnakes will occasionally climb trees and bushes to bask, seek prey, or take cover. Diet consists of rodents, lizards and their eggs, snakes (including rattlesnakes), birds and their eggs, young turtles, insects, and carrion. Whipsnakes, a diurnal species, search actively for prey, with their heads elevated. This species inserts its head in burrows or climbs trees, using both vision and olfaction to detect prey (Stebbins 1985). Mating occurs in April and May, eggs are laid in June and July, and the first young appear in late August to early September.

The CNDDB reports 3 occurrences of San Joaquin whipsnake within the quadrangles evaluated. The nearest occurrence is 9.8 km miles from the survey area from 1987. Habitat quality for San Joaquin whipsnake within the survey area is relatively low. The entire site is ruderal, agriculture, or developed habitat that does not provide appropriate cover or habitat conditions for San Joaquin whipsnake; however, the staging area is approximately 100 m from the Salinas River floodplain and may provide dispersal habitat for San Joaquin whipsnake (**Figure 3**).

White-Tailed Kite

White-tailed kite is a California fully-protected species and is protected by the MBTA and Fish and Game code. This raptor species is a common to uncommon, year-long resident in coastal and valley lowlands. WTK generally utilizes herbaceous lowlands with variable tree growth and an associated high population density of voles (*Microtus californicus*). Nests are made of loosely piled sticks and twigs and lined with grass, straw, or rootlets. Nests are generally placed near the top of dense oak (*Quercus* sp.), willow, or other tree stands (usually 6-20 meters above ground) and are often located near an open foraging area. Breeding occurs from February to October with peak activity occurring from May to August. This species preys predominantly on voles and other small mammals, but also takes birds, insects, reptiles, and amphibians. Foraging occurs in undisturbed open grasslands, meadows, farmlands, and emergent wetlands. Suitable nesting habitat is present within the trees directly adjacent to the Evaluation Area. Suitable hunting and foraging habitat are not present within the site; however, the nearby agricultural lands, vacant lots, and parks may provide suitable foraging habitat for this species. Man-made structures have been observed being utilized for nesting white-tailed kite as well. The Evaluation Area is within the known breeding range of

the white-tailed kite and the CNDDB reports 6 occurrences of the species within the quadrangles reviewed. The nearest CNDDB occurrence is from 2006 located approximately 9.3 km northeast from the Evaluation Area. Therefore, WTK has moderate potential to nest directly adjacent to the Evaluation Area.

Protected Avian Species

Raptors and other nesting birds are protected under the California Fish and Game Code and the MBTA. While the life histories of these species vary, overlapping nesting and foraging similarities allow for their concurrent discussion. Most raptors are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Smaller avian species may also nest in scrub habitats and urban areas. Breeding occurs February through September, with peak activity May through July. Various raptors and avian species, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), California scrub jay (*Aphelocoma californica)*, dark-eyed junco (*Junco hyemalis*), mourning dove (*Zenaida macroura*), and sparrows (*Zonotrichia* sp.), have the potential to nest within the trees present within and directly adjacent to the Evaluation Area.

4. IMPACTS AND MITIGATION

The following section describes potential impacts that may result from the Project. For the purposes of this analysis, an impact is significant and requires mitigation if it would result in any of the following:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the Service;
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or the Service;
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling hydrological interruption, or other means;
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites;
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
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.

Criteria "b" and "c" were not evaluated for impacts to sensitive habitats or impacts to protected wetlands because these resources are not present within the Evaluation Area. Criterion "e" was not evaluated for conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance because the project will not require tree removal. Criterion "f" was not evaluated for conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, because the Evaluation Area is not located within any such plan area.

Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the Service.

Congdon's tarplant has the potential to occur within suitable habitat within the Evaluation Area. (**Appendix C**). Excavation and trenching activities associated with the Project along Morisoli Road and within the WRF and Toledo Park may result in damage or loss of any individuals growing within the Evaluation Area at the time of construction. This is a potentially significant impact that can be minimized to less-than-significant with implementation of **Mitigation Measures BIO-1** and **BIO-2**.

Salinas pocket mouse, a CDFW species of special concern, has the potential to occur within or adjacent to the Evaluation Area. Shrubs within the parks that will receive new service lines and updated irrigation may be utilized by burrowing Salinas pocket mouse. Direct impacts such as excavation and shrub removal, as well as indirect impacts from construction activities (e.g., noise, vibrations) could result in injury, den abandonment, and/or mortality of Salinas pocket mouse if burrowing within or directly adjacent to the

Evaluation Area during construction activities. This is a potentially significant impact that can be minimized to less-than-significant with implementation of **Mitigation Measure BIO-1**.

San Joaquin whipsnake have the potential to occur adjacent to the Evaluation Area. Construction activities associated with the staging area could result in direct mortality of this species if they were to disperse from the adjacent habitat. This would be a potentially significant impact that can be reduced to a less-than-significant level with implementation of **Mitigation Measures BIO-1** and **BIO-3**.

The Project is not expected to result in tree removal or direct impacts to raptors or other nesting birds, including WTK. However, it is possible that the final Project design may require tree removal. In addition, indirect impacts from construction activities (e.g., noise, vibrations) could result in injury, nest abandonment, and/or mortality of raptors and other nesting birds, if nesting within or directly adjacent to the Evaluation Area during construction activities. This is a potentially significant impact that can be minimized to less-than-significant with implementation of **Mitigation Measures BIO-1** and **BIO-4**.

> ***Mitigation Measure BIO-1:*** A qualified biologist will conduct an Employee Education Program for the construction crew prior to any construction activities. The qualified biologist will meet with the construction crew at the onset of construction at the Evaluation Area to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review Project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the identification of special status species that may be present; 4) the specific mitigation measures that will be incorporated into the construction effort; 5) the general provisions and protections afforded; and 6) the proper procedures if a special status species is encountered within the Evaluation Area to avoid impacts.
>
> ***Mitigation Measure BIO-2:*** A qualified biologist will conduct protocol-level surveys for Congdon's tarplant within the Project boundaries within the WRF and agricultural/ruderal habitat prior to construction. Protocol-level surveys shall be conducted by a qualified biologist at the appropriate time of year for species with the potential to occur within the site. A report describing the results of the surveys shall be provided to the project proponents prior to any ground disturbing activities. The report shall include but is not limited to 1) a description of the species observed, if any; 2) map of the location, if observed; and 3) recommended avoidance and minimization measures, if applicable.
>
> ***Mitigation Measure BIO-3:*** Prior to construction activities in the staging area, a qualified biologist will conduct a clearance survey in suitable habitat within the Survey Area for San Joaquin whipsnake. If San Joaquin whipsnake is observed during construction, measures will be taken to avoid the individual(s) and the species will be allowed to leave on its own volition or will be relocated outside of the survey area by the qualified biologist.
>
> ***Mitigation Measure BIO-4:*** Project activities that may affect protected nesting avian species (e.g., tree removal, noise, vibrations) shall be scheduled after September 15 and before February 1 to avoid the avian breeding and nesting season. Alternatively, a qualified biologist shall be retained by the Project applicant to conduct pre-construction surveys for nesting raptors and other protected

avian species within 300 feet of proposed Project activities if work occurs between February 1 and September 15. Pre-construction surveys shall be conducted no more than 14 days prior to the start of Project activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through September). Because some bird species nest early in spring and others nest later in summer, and because some species breed multiple times in a season, surveys for nesting birds may be required to continue during Project activities to address new arrivals. If Project activities are halted for more than 14 days during the avian nesting season, additional surveys shall be conducted. The necessity and timing of these continued surveys shall be determined by the qualified biologist.

If raptors or other protected avian species nests are identified during the pre-construction surveys, the qualified biologist shall notify the Project applicant and an appropriate no-disturbance buffer shall be imposed within which no disturbance should take place (generally 300 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

Impact BIO-2: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites.

The Evaluation Area lies within an existing residential community and active agricultural land and is not located within a migratory wildlife corridor. The Project consists of the replacement of existing infrastructure and alterations to already developed land and would not result in the construction of any new development or impervious surfaces. Therefore, the proposed Project would not interfere with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites. This impact is less than significant, and no mitigation is required.

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APPENDIX A

California Natural Diversity Database Report

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Gonzales (3612154) OR Mount Johnson (3612153) OR Bickmore Canyon (3612152) OR Palo Escrito Peak (3612144) OR Soledad (3612143) OR North Chalone Peak (3612142) OR Sycamore Flat (3612134) OR Paraiso Springs (3612133) OR Greenfield (3612132))
 AND Taxonomic Group IS (Dune OR Scrub OR Herbaceous OR Marsh OR Riparian OR Woodland OR Forest OR Alpine OR Inland Waters OR Marine OR Estuarine OR Riverine OR Palustrine OR Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abies bracteata bristlecone fir	PGPIN01030	None	None	G2G3	S2S3	1B.3
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Accipiter striatus sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Actinemys pallida southwestern pond turtle	ARAAD02032	Proposed Threatened	None	G2G3	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos gabilanensis Gabilan Mountains manzanita	PDERI042X0	None	None	G1	S1	1B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Asio otus long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Chorizanthe pungens var. pungens Monterey spineflower	PDPGN040M2	Threatened	None	G2T2	S2	1B.2
Clarkia jolonensis Jolon clarkia	PDONA050L0	None	None	G2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Dipodomys venustus elephantinus big-eared kangaroo rat	AMAFD03041	None	None	G4T2	S3	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Eriogonum heermannii var. occidentale western Heermann's buckwheat	PDPGN082P6	None	None	G5T2	S2	1B.2
Eriogonum nortonii Pinnacles buckwheat	PDPGN08470	None	None	G2	S2	1B.3
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
Gymnogyps californianus California condor	ABNKA03010	Endangered	Endangered	G1	S2	FP
Idiostatus kathleenae Pinnacles shieldback katydid	IIORT31020	None	None	G1G2	S1S2	
Juncus luciensis Santa Lucia dwarf rush	PMJUN013J0	None	None	G3	S3	1B.2
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Lavinia exilicauda harengus Monterey hitch	AFCJB19013	None	None	G4T3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Layia heterotricha pale-yellow layia	PDAST5N070	None	None	G2	S2	1B.1
Malacothamnus aboriginum Indian Valley bushmallow	PDMAL0Q020	None	None	G3	S3	1B.2
Malacothamnus davidsonii Davidson's bushmallow	PDMAL0Q040	None	None	G2	S2	1B.2
Malacothrix saxatilis var. arachnoidea Carmel Valley malacothrix	PDAST660C2	None	None	G5T2	S2	1B.2
Masticophis flagellum ruddocki San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S3	SSC
Myotis ciliolabrum western small-footed myotis	AMACC01230	None	None	G5	S3	
Myotis evotis long-eared myotis	AMACC01070	None	None	G5	S3	
Myotis thysanodes fringed myotis	AMACC01090	None	None	G4	S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2T3	S2S3	1B.2
Nemacladus secundiflorus var. robbinsii Robbins' nemacladus	PDCAM0F0B2	None	None	G3T2	S2	1B.2
North Central Coast Drainage Sacramento Sucker/Roach River North Central Coast Drainage Sacramento Sucker/Roach River	CARA2623CA	None	None	GNR	SNR	
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	SSC
Optioservus canus Pinnacles optioservus riffle beetle	IICOL5E020	None	None	G2	S1	
Perognathus inornatus psammophilus Salinas pocket mouse	AMAFD01062	None	None	G2G3T2?	S1	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Plagiobothrys uncinatus hooked popcornflower	PDBOR0V170	None	None	G2	S2	1B.2
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	
Rana boylii pop. 6 foothill yellow-legged frog - south coast DPS	AAABH01056	Endangered	Endangered	G3T1	S1	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Taricha torosa Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Texosporium sancti-jacobi woven-spored lichen	NLTEST7980	None	None	G3	S2	3
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S3	

Record Count: 65

APPENDIX B

IPaC Resource List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly a ected by activities in the project area. However, determining the likelihood and extent of e ects a project may have on trust resources typically requires gathering additional site-speci c (e.g., vegetation/species surveys) and project-speci c (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS o ce(s) with jurisdiction in the de ned project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Monterey County, California

Local office

Ventura Fish And Wildlife O ce

(805) 644-1766
(805) 644-3958
FW8VenturaSection7@FWS.Gov

2493 Portola Road, Suite B
Ventura, CA 93003-7726

https://www.fws.gov/Ventura

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of in uence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly a ected by activities in that area (e.g., placing a dam upstream of a sh population even if that sh does not occur at the dam site, may indirectly impact the species by reducing or eliminating water ow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential e ects to species, additional site-speci c and project-speci c information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local o ce and a species list which ful lls this requirement can **only** be obtained by requesting an o cial species list from either the Regulatory Review section in IPaC (see directions below) or from the local eld o ce directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an o cial species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the sheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

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

The following species are potentially a ected by activities in this location:

Mammals

NAME	STATUS
San Joaquin Kit Fox Vulpes macrotis mutica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is **nal** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **nal** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Yellow-billed Cuckoo Coccyzus americanus There is **nal** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Northwestern Pond Turtle Actinemys marmorata Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Southwestern Pond Turtle Actinemys pallida — Proposed Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4768

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **nal** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **nal** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2076

Western Spadefoot Spea hammondii — Proposed Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5425

Insects

NAME	STATUS

Monarch Butter y Danaus plexippus — Candidate
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Crustaceans

NAME	STATUS

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened
Wherever found
There is **nal** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/498

Flowering Plants

NAME	STATUS
Marsh Sandwort Arenaria paludicola Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered
Monterey Spine ower Chorizanthe pungens var. pungens Wherever found There is **nal** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/396	Threatened

Critical habitats

Potential e ects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have e ects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Speci cally, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide conservation measures for birds https://www.fws.gov/sites/default/ les/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o shore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o shore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", speci cally the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey

e ort (see below) can be used to establish a level of con dence in the presence score. One can have higher con dence in the presence score if the corresponding survey e ort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

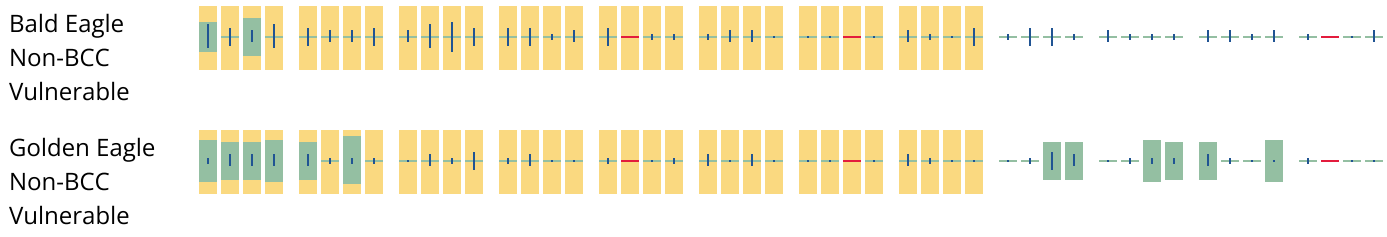
To see a bar's survey e ort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas o the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

probability of presence breeding season survey e ort no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC



What does IPaC use to generate the potential presence of bald and golden eagles in my speci ed location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and ltered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identi ed as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my speci ed location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and ltered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identi ed as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to o shore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field O ce if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Speci cally, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/ les/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may nd in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur o the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o shore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31

Belding's Savannah Sparrow Passerculus sandwichensis beldingi — Breeds Apr 1 to Aug 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o shore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Gold nch Spinus lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Nuttall's Woodpecker Dryobates nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Santa Barbara Song Sparrow Melospiza melodia graminea — Breeds Mar 1 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5513

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Screech-owl Megascops kennicottii cardonensis — Breeds Mar 1 to Jun 30
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", speci cally the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey e ort (see below) can be used to establish a level of con dence in the presence score. One can have higher con dence in the presence score if the corresponding survey e ort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

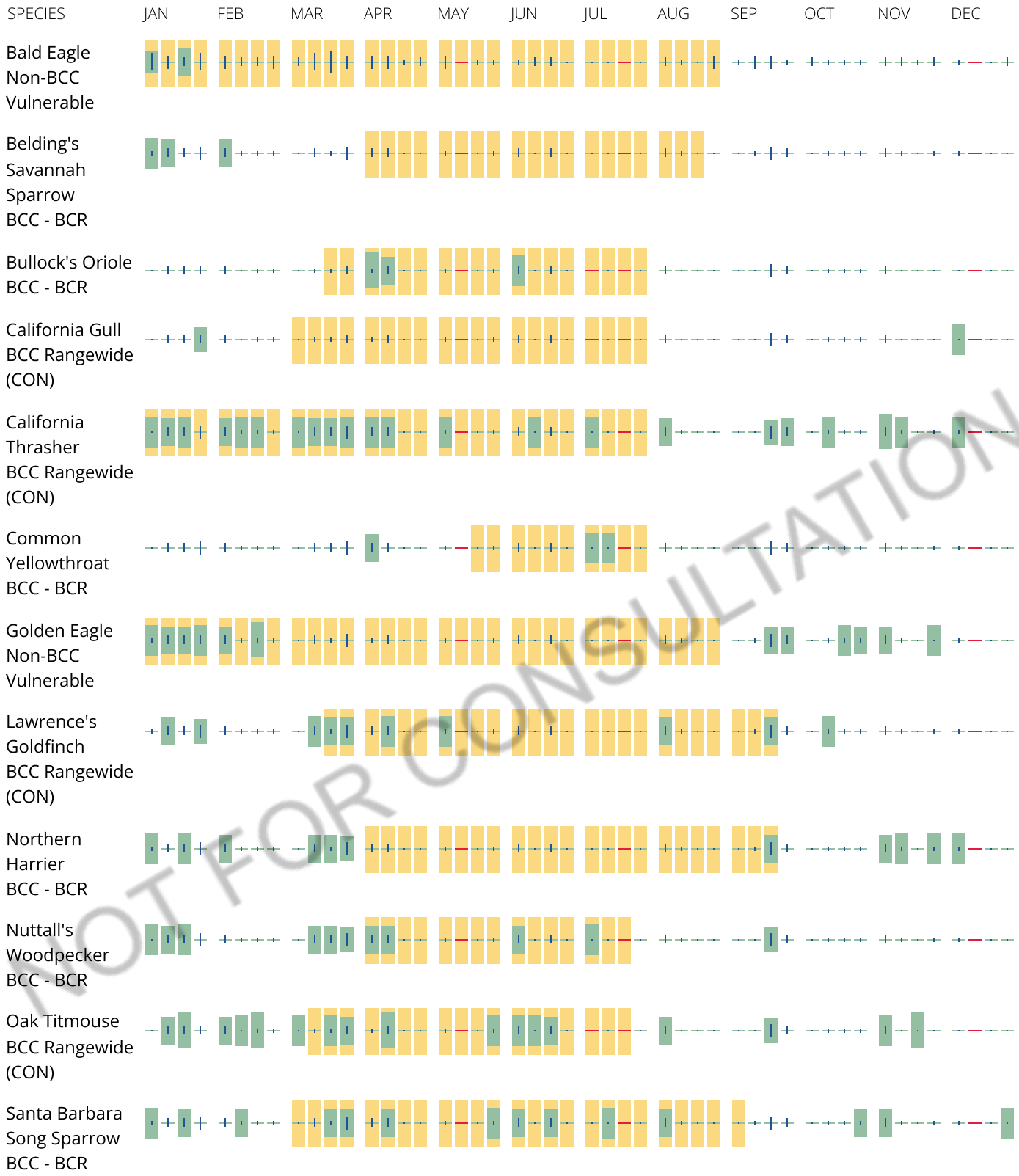
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

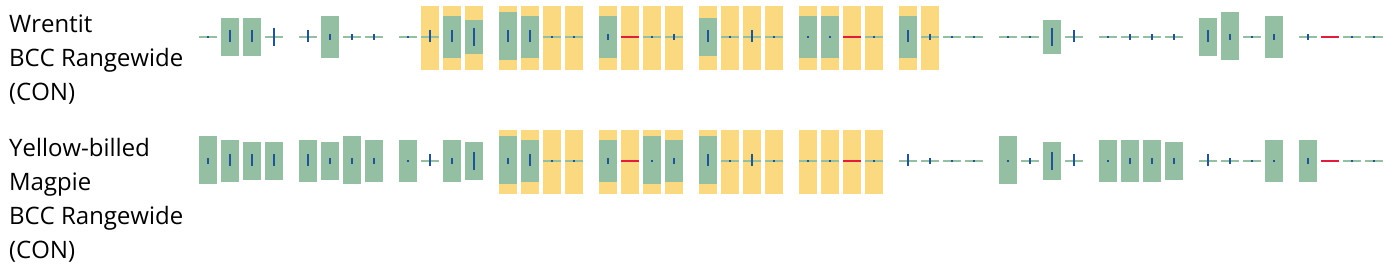
To see a bar's survey e ort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas o the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

▪ probability of presence ▪ breeding season | survey e ort – no data





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my speci ed location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and ltered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identi ed as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to o shore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my speci ed location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the pro les provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe speci ed. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Paci c Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in o shore areas from certain types of development or activities (e.g. o shore energy development or longline shing).

Although it is important to try to avoid and minimize impacts to all birds, e orts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially a ected by o shore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area o the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also o ers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results les underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my speci ed location". Please be aware this report provides the "probability of

presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey e ort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey e ort is the key component. If the survey e ort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey e ort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to con rm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be con rmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no sh hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identi ed based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classi cation established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth veri cation work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or eld work. There may be occasional di erences in polygon boundaries or classi cations between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuber cid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may de ne and describe wetlands in a di erent manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to de ne the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modi cations within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning speci ed agency regulatory programs and proprietary jurisdictions that may a ect such activities.

APPENDIX C

Special-Status Species Table

Special-Status Species Database

(*Gonzales, Mount Johnson, Bickmmore Canyon, Palo Escrito Peak, Soledad, North Chalone Peak, Sycamore Flat, Paraiso Springs, Greenfield Quadrangles*)

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
MAMMALS			
Antrozous pallidus Pallid bat	-- / CSC / --	Occurs in a wide variety of habitats including grasslands, shrublands, arid desert areas, oak savanna, coastal forested areas, and coniferous forests of the mountain regions of California. Most common in open, dry habitats with rocky areas for roosting. Day roosts include caves, crevices, mines, and occasionally hollow trees and buildings. Seems to prefer rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Similar structures are used for night roosting and will also use more open sites such as eaves, awnings, and open areas under bridges for feeding roosts.	**Low** No suitable roost habitat is present within the Evaluation Area. CNDDB reports 2 occurrences within the reviewed quadrangles, with the closest located 5 km south from the Evaluation Area from 1936.
Corynorhinus townsendii Townsend's big-eared bat	-- / CSC / --	Found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	**Low** No suitable roost habitat is present within the Evaluation Area. CNDDB reports 2 occurrences within the reviewed quadrangles, with the closest located 500 m south from the Evaluation Area from 1937.
Eumops perotis californicus Western mastiff bat	-- / CSC / --	Many open habitats including conifer and deciduous woodlands, coastal scrub, grassland, and chaparral. Roost in crevices in cliff faces, high buildings, trees, and tunnels.	**Low** No suitable roost habitat is present within the Evaluation Area. The CNDDB reports 4 occurrences within the reviewed quadrangles, with the closest located 2.5 km northeast of the Evaluation Area from 1938.
Lasiurus frantzii Western red bat	-- / CSC / --	Roosting habitat includes trees and sometimes shrubs in forests and woodlands from sea level up through mixed conifer forests. Roost sites are often in edge habitats adjacent to streams, fields, or urban areas. Feeds over a wide variety of habitats, including grasslands, shrublands, open woodlands and forests, and croplands.	**Low** No suitable roost habitat is present within the Evaluation Area. The CNDDB reports 1 occurrence from 2002 located 13 km northeast from the Evaluation Area.
Perognathus inornatus psammophilus Salinas pocket mouse	-- / CSC / --	Typically found in grasslands and blue oak savanna, needs friable soils.	**Moderate** Suitable habitat is present within the Evaluation Area. The CNDDB reports 2 occurrences within the reviewed quadrangles, with the closest located 1.5 km north from the Evaluation Area.

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Taxidea taxus American badger	-- / CSC / --	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	**Unlikely** No suitable habitat is present within the Evaluation Area. The CNDDB reports 2 occurrences within the reviewed quadrangles, with the closest located 1 km north from the Evaluation Area.
Vulpes macrotis mutica San Joaquin Kit fox	FE / ST / --	Open, level areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance. Live in annual grasslands or grassy open stages dominated by scattered brush, shrubs, and scrub.	**Low** The survey area is within the known range of this species. Marginally suitable dispersal habitat may be present within the WRF and staging area; however, most documented occurrences within the quadrangles evaluated are from between 1972 and 1975 and are located within the foothills east of the Salinas River, including the two occurrences within 5km of the survey area.
BIRDS			
Agelaius tricolor Tricolored blackbird (nesting colony)	-- / ST / --	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	**Low** No suitable nesting habitat is present within the Evaluation Area. The CNDDB reports only one occurrence within the reviewed quadrangles, located 400 m east of the Evaluation Area.
Aquila chrysaetos Golden eagle (nesting & wintering)	-- / CFP / --	Use rolling foot-hills, mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, and rocky outcrops. Nest in secluded cliffs with overhanging ledges as well as large trees.	**Low** No suitable nesting habitat is present within the Evaluation Area. The CNDDB reports 5 occurrences within the reviewed quadrangles, with the closest located 4 km east of the Evaluation Area.
Asio otus Long-eared owl (nesting)	-- / CSC / --	Frequents dense, riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats. Also found in dense conifer stands at higher elevations.	**Unlikely** No suitable nesting habitat is present within the Evaluation Area. The CNDDB reports 8 occurrences within the reviewed quadrangles, with the closes located 11 km northeast of the Evaluation Area.
Athene cunicularia Burrowing owl (burrow sites & some wintering sites)	-- / CSC / --	Year round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	**Not Present** No suitable nesting or foraging habitat is present within the Evaluation Area. The CNDDB reports 4 occurrences within the reviewed quadrangles, with the closest located 480 m northeast of the Evaluation Area.

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT / SE / --	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, slow-moving watercourses, backwaters, or seeps. Willow almost always a dominant component of the vegetation.	**Not Present** No suitable habitat is present within the Evaluation Area. No occurrences were of this species were recorded for the reviewed quadrangles in the CNDDB.
Elanus leucurus White-tailed kite	-- / CFP / --	Open groves, river valleys, marshes, and grasslands. Prefer such area with low roosts (fences etc.). Nest in shrubs and trees adjacent to grasslands.	**Moderate** Suitable nesting habitat may be present within several of the parks and schools within the Evaluation Area. The CNDDB reports 6 occurrences within the reviewed quadrangles, with the closest located 9.3 km northeast from the Evaluation Area.
Gymnogyps californianus California condor	FE / SE / --	Roosting sites in isolated rocky cliffs, rugged chaparral, and pine covered mountains 2000-6000 feet above sea level. Foraging area removed from nesting/roosting site (includes rangeland and coastal area - up to 19 mile commute one way). Nest sites in cliffs, crevices, potholes.	**Unlikely** No nesting habitat is present within the Evaluation Area. The CNDDB reports one occurrence within the reviewed quadrangles within Pinnacles National Park east of the project site.
Riparia riparia Bank swallow (nesting)	-- / ST / --	Nest colonially in sand banks. Found near water; fields, marshes, streams, and lakes.	**Unlikely** No suitable nesting habitat is present within the Evaluation Area. The CNDDB reports two occurrences within the reviewed quadrangles, with the closest located approximately 6 km south from the Evaluation Area.
Vireo bellii pusillus Least Bell's vireo (nesting)	FE / SE / --	Riparian areas and drainages. Breed in willow riparian forest supporting a dense, shrubby understory. Oak woodland with a willow riparian understory is also used in some areas, and individuals sometimes enter adjacent chaparral, coastal sage scrub, or desert scrub habitats to forage.	**Not Present** No suitable habitat is present within the Evaluation Area. The CNDDB reports one occurrence within the reviewed quadrangles located 15 km east of the Evaluation Area.
REPTILES AND AMPHIBIANS			
Actinemys marmorata Northwestern pond turtle	FC / CSC / --	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks. The range for this species is from Washington south to approximately Castroville, the foothills of the Salinas Valley from Salinas to Soledad, and into the central valley and eastern foothills to Lancaster, California.	**Not Present** No suitable habitat is present within the Evaluation Area. The CNDDB reports two occurrences within the reviewed quadrangles, with the closest located 16 km northeast of the Evaluation Area.

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Actinemys pallida Southwestern pond turtle	FC / CSC / --	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks. The range for this species is along the coast from Castroville to Baja California in Mexico, including the Salinas Valley to Soledad, the foothills west of the Central Valley to Lancaster, and the southern California mountain ranges.	**Not Present** No suitable habitat is present within the Evaluation Area. The CNDDB reports two occurrences within the reviewed quadrangles, with the closest located 15.4 km south of the Evaluation Area.
Ambystoma californiense California tiger salamander	FT / ST / --	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	**Low** No suitable breeding habitat is present within the Evaluation Area. The CNDDB reports a breeding location 1.4 km north of the Evaluation Area, which is within the known dispersal distance of the species; however, the land between the breeding location and evaluation area is developed and therefore unlikely to allow for dispersal.
Anniella pulchra Northern California legless lizard	-- / CSC /--	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover, often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	**Low** Suitable habitat may be present in the Salinas River floodplain adjacent to the project staging area; however no suitable dispersal habitat is present within the Evaluation Area. The CNDDB reports 16 occurrences within the reviewed quadrangles, with the closest located 9.5 km east from the Evaluation Area.
Masticophis flagellum ruddocki San Joaquin whipsnake	-- / CSC / --	Variety of habitats-deserts, scrub land, juniper-grassland, woodland, thorn forest, and farmland. Generally avoids dense vegetation. Ranges from Arbuckle in the Sacramento southward to the Grapevine in the Kern County portion of the San Joaquin Valley and westward into the inner South Coast Ranges. An isolated population also occurs in the Sutter Buttes.	**Moderate** Marginally suitable dispersal habitat is present within the Evaluation Area. The Salinas River floodplain is adjacent to the Evaluation Area and provides high quality habitat. The CNDDB reports 7 occurrences within the reviewed quadrangles, with the closest located 9.8 km south from the Evaluation Area.
Phrynosoma blainvillii Coast horned lizard	-- / CSC / --	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	**Low** Marginally suitable habitat may be present in the Salinas River floodplain adjacent to the project staging area; however no suitable dispersal habitat is present within the Evaluation Area. The CNDDB reports 5 occurrences within the reviewed quadrangles, with the closest located 4.5 km east from the Evaluation Area.

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Rana boylii Foothill yellow-legged frog	FE / SE / --	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including hardwood, pine, and riparian forests, scrub, chaparral, and wet meadows. Rarely encountered far from permanent water.	**Not Present** No suitable habitat is present within the Evaluation Area. The CNDDB reports 68 occurrences within the reviewed quadrangles, with the closest located 12 km east of the Evaluation Area.
Rana draytonii California red-legged frog	FT / CSC / --	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.	**Unlikely** No suitable habitat is present within the Evaluation Area. The CNDDB reports 8 occurrences within the reviewed quadrangles, with the closest located 14.5 km east of the Evaluation Area.
Spea hammondii Western spadefoot	FT / CSC / --	Grasslands with shallow temporary pools are optimal habitats for the western spadefoot. Occur primarily in grassland habitats, but can be found in valley and foothill woodlands. Vernal pools are essential for breeding and egg laying.	**Low** No suitable breeding habitat is present within the Evaluation Area, and dispersal from nearby breeding areas is heavily restricted by active agricultural fields and urban development. The CNDDB reports 8 occurrences within the reviewed quadrangles, with the closest located about 2 km south from the Evaluation Area.
Taricha torosa torosa Coast Range newt	--/ CSC / --	Occurs mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoirs.	**Unlikely** No suitable habitat is present within the Evaluation Area. The CNDDB reports 1 occurrence within the reviewed quadrangles, located 17 km west from the Evaluation Area.
FISH			
Lavinia exilicauda harengus Monterey hitch (Pajaro/Salinas hitch)	-- / CSC / --	Found only within the Pajaro and Salinas River systems. Can occupy a wide variety of habitats, however, they are most abundant in lowland areas with large pools or small reservoirs that mimic such conditions. May be found in brackish water conditions within the Salinas River lagoon during the early summer months when the sandbar forms at the mouth of the river.	**Not Present** No suitable habitat is located within the Evaluation Area.
Oncorhynchus mykiss irideus Steelhead (south/central California coast DPS)	FT / -- / --	Cold headwaters, creeks, and small to large rivers and lakes; anadromous in coastal streams. Found in streams and rivers from the Pajaro River in Santa Cruz County to (but not including) the Santa Maria River in San Luis Obispo County.	**Not Present** No suitable habitat is located within the Evaluation Area.
INVERTEBRATES			

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Bombus crotchii Crotch bumble bee	-- / SC / --	Occurs in open grassland and scrub at relatively warm and dry sites. Requires plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early February to late October. Generally nests underground, often in abandoned mammal burrows. Within California this species is known to occur in the Mediterranean, Pacific Coast, Western Desert, as well as Great Valley and adjacent foothill regions.	**Unlikely** The Evaluation Area is within the historic range of this species; however, it is outside of the currently known range as shown on CDFW's Biogeographic Information and Observation System. The majority of the Evaluation Area is developed and/or subject to frequent human disturbance that precludes vegetation. Park and school properties within the Evaluation Area are dominated by large expanses of turf bordered by scattered trees. The very limited number of flowering plants that may occur within the Evaluation Area are unlikely to provide sufficient nectar/pollen resources for this species.
Bombus occidentalis Western bumble bee	-- / SC / --	Occurs in open grassy areas, urban parks, urban gardens, chaparral, and meadows. Requires plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early February to late November. Generally nests underground, often in abandoned mammal burrows. Populations are currently largely restricted to high elevation sites in the Sierra Nevada; however, the historic range includes the northern California coast.	**Unlikely** The Evaluation Area is within the historic range of this species; however, it is outside of the currently known range as shown on CDFW's Biogeographic Information and Observation System. The majority of the Evaluation Area is developed and/or subject to frequent human disturbance that precludes vegetation. Park and school properties within the Evaluation Area are dominated by large expanses of turf bordered by scattered trees. The very limited number of flowering plants that may occur within the Evaluation Area are unlikely to provide sufficient nectar/pollen resources for this species.
Branchinecta lynchi Vernal pool fairy shrimp	FE / -- / --	Associated with vernal pool/grasslands from near Red Bluff (Shasta County), through the central valley, and into the South Coast Mountains Region. Require ephemeral pools with no flow.	**Not Present** No suitable habitat is present within the Evaluation Area.
PLANTS			
Abies bracteata Bristlecone fir	-- / -- / 1B	Endemic to Santa Lucia Mountains. Broadleaved upland forest, chaparral, and lower montane coniferous forest on rocky soils at elevations of 183-1600 meters. Evergreen tree in the Pinaceae family.	**Not Present** Evaluation Area is located outside of the known range of this species.

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Arctostaphylos gabilanensis Gabilan Mountains manzanita	-- / -- / 1B	Endemic to chaparral and chaparral/pine cismontane woodland habitats of the Gabilan Mountains of California, along the borders of San Benito and Monterey counties at elevations of 300-700 meters. Evergreen shrub in the Ericaceae family; blooms in January.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Caulanthus lemmonii Lemmon's jewel flower	-- / -- / 1B	Open, grassy areas on hillside slopes and in fields, canyons, and arroyos. Soils include alkaline soils, shaley clay, sandstone talus, and decomposed serpentine. Predominantly found within valley and foothill grassland and occasionally in pinyon and juniper woodland at elevations of 80 - 12200 meters. Annual herb in the Brassicaceae family; blooms March-May.	**Unlikely** No suitable habitat is present within the Evaluation Area. The nearest CNDDB occurrence is 14 km southeast from the Evaluation Area.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	-- / -- / 1B	Valley and foothill grassland on heavy clay, saline, or alkaline soils at elevations of 0-230 meters. Annual herb in the Asteraceae family; blooms May-November.	**Moderate** Suitable habitat is present within the Evaluation Area. The nearest CNDDB occurrence is located about 6 km northwest from the Evaluation Area along Highway 101.
Chorizanthe pungens var. *pungens* Monterey spineflower	FT / -- / 1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; blooms April-July.	**Unlikely** Suitable habitat may be present within the Evaluation Area. The nearest CNDDB occurrence is located 800 m south from the Evaluation Area.
Clarkia jolonensis Jolon clarkia	-- / -- / 1B	Cismontane woodland, chaparral, riparian woodland, and coastal scrub at elevations of 20-660 meters. Annual herb in the Onagraceae family; blooms April-June.	**Low** No suitable habitat is present within the Evaluation Area. The nearest CNDDB occurrence is located 2 km east from the Evaluation Area.
Delphinium californicum ssp. interius Hospital Canyon California larkspur	-- / -- / 1B	Openings in chaparral, coastal scrub, and mesic areas of cismontane woodland at elevations of 230-1095 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Eriogonum heermannii var. occidentale Western Heermann's buckwheat	-- / -- / 1B	Often serpentinite; usually roadsides or alluvium floodplains, rarely clay or shale slopes. Cismontane woodland (openings). 102-986 meters, blooms July-October.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Eriogonum nortonii Pinnacles buckwheat	-- / -- / 1B	Chaparral and valley and foothill grassland on sandy soils, often on recent burns, at elevations of 300-975 meters. Annual herb in the Polygonaceae family; blooms May-September.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Juncus luciensis Santa Lucia dwarf rush	-- / -- / 1B	Chaparral, Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools at elevations of 300-2040 meters. Annual herb in the Juncaceae family; blooms April-July.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.

Species	Status (USFWS/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
Layia heterotricha Pale-yellow layia	-- / -- / 1B	Cismontane woodlands, coastal scrub, pinyon and juniper woodlands, and valley and foothill grasslands on alkaline or clay soils at elevations of 300-1705 meters. Annual herb in the Asteraceae family blooms March-June.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Malacothamnus aboriginum Indian Valley bush-mallow	-- / -- / 1B	Chaparral and cismontane woodland on rocky or granitic soils, often in burned areas, at elevations of 150-1700. Deciduous shrub in the Malvaceae family; blooms April-October.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Malacothamnus davidsonii Davidson's bush-mallow	-- / -- / 1B	Chaparral, coastal scrub, riparian woodland; 185-855 meters. Deciduous shrub. Blooms: June-January.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	-- / -- / 1B	Chaparral and coastal scrub on rocky soils at elevations of 25-1036 meters. Perennial rhizomatous herb in the Asteraceae family; blooms June-December.	**Unlikely** No suitable habitat is present within the Evaluation Area. The nearest CNDDB occurrence is located 20 km southwest from the Evaluation Area.
Navarretia nigelliformis ssp. *radians* Shining navarretia	-- / -- / 1B	Cismontane woodland, valley and foothill grasslands, and vernal pools at elevations of 76-1000 meters. Annual herb in the Polemoniaceae family; blooms April-July.	**Unlikely** No suitable habitat is present within the Evaluation Area. The nearest CNDDB occurrence is located 20 km northeast from the Evaluation Area.
Nemacladus secundiflorus var. robbinsii Robbins' nemacladus	-- / -- / 1B	Openings in chaparral and valley and foothill grasslands at elevations of 350-1700 meters. Annual herb in the Campanulaceae family; blooms April- June.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Plagiobothrys uncinatus Hooked popcorn-flower	-- / -- / 1B	Chaparral, cismontane woodlands, and valley and foothill grasslands on sandy soils at elevations of 300-760 meters. Annual herb in the Boraginaceae family; blooms April-May.	**Unlikely** Evaluation Area is located outside of the known elevation range of this species.
Senecio aphanactis Chaparral ragwort	-- / -- / 2B	Chaparral, cismontane woodland, and coastal scrub, sometimes on alkaline soils, at elevations of 15-800 meters. Annual herb in the Asteraceae family; blooms January-April.	**Unlikely** No suitable habitat is present within the Evaluation Area. The nearest CNDDB occurrence is located 10 km east from the Evaluation Area.

STATUS DEFINITIONS

Federal

FE = listed as Endangered under the federal Endangered Species Act
FT = listed as Threatened under the federal Endangered Species Act
FC = Candidate for listing under the federal Endangered Species Act
-- = no listing

State

SE = listed as Endangered under the California Endangered Species Act
ST = listed as Threatened under the California Endangered Species Act
SR = listed as Rare under the California Native Plant Protection Act
SC = Candidate for listing under the California Endangered Species Act
CSC = California Department of Fish and Wildlife Species of Concern
CFP = California Fully Protected Animal
WL = CDFW Watch List
CNDDB = This designation is being assigned to animal species with no other status designation defined in this table. These animal species are included in the Department's CNDDB "Special Animals" list (2018), which includes all taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." The Department considers the taxa on this list to be those of the greatest conservation need.
-- = no listing

California Native Plant Society

1B = California Rare Plant Rank 1B species; rare, threatened, or endangered in California and elsewhere
2B = California Rare Plant Rank 2B species; rare, threatened, or endangered in California, but more common elsewhere
3 = California Rare Plant Rank 3species; CNPS review list
4 = California Rare Plant Rank 4 Limited distribution (CNPS Watch List)
-- = no listing

POTENTIAL TO OCCUR

Present = known occurrence of species within the site and presence of suitable habitat conditions; or observed during field surveys
High = known occurrence of species in the immediate vicinity; presence of suitable habitat conditions
Moderate = known occurrence of species in the vicinity; presence of suitable habitat conditions within the site
Low = species known to occur in the vicinity; presence of marginal habitat conditions
Unlikely = species not known to occur in the vicinity; no suitable habitat conditions
Not Present = species was not observed during surveys; or site lacks specialize habitat features to support the species

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Appendix E Geotechnical Report

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DRAFT GEOTECHNICAL REPORT

Recycle Water Conveyance Project
City of Soledad, California

Prepared by:

Crawford & Associates, Inc.
4701 Freeport Boulevard
Sacramento, CA 95822

July 26, 2024

Prepared for:

Carollo Engineers, Inc.
2795 Mitchell Drive
Walnut Creek, CA 94598

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Sacramento
Eureka
Modesto
Pleasanton
Santa Rosa
Seattle
Ukiah

July 26, 2024
Crawford File No. 24-1057.1

Jonathan Marshall, PE
Chief of Infrastructure Design / Vice President
Carollo Engineers Inc.
2795 Mitchell Drive
Walnut Creek, CA 94598

Subject: **DRAFT GEOTECHNICAL REPORT**
Recycled Water Conveyance Project
City of Soledad, California

Dear Mr. Marshall,

Attached is our draft Geotechnical Report for the Recycled Water Conveyance Project in Soledad, California. We prepared this report to provide geotechnical data, conclusions, and recommendations for use in the design. Crawford & Associates, Inc. (Crawford) completed this report in accordance with our Master Agreement and Task Order #1, dated November 4, 2019 and March 6, 2024, respectively.

This report provides geotechnical and geologic data for the new distribution pipeline and provides conclusions and recommendations to support the new pump station, wetwell, and hydropneumatics tanks. We will issue a final report after receiving your comments on this draft.

Please call if you have questions or require additional information.

Sincerely,

Crawford & Associates, Inc.,

Reviewed By,

Ellen Tiedemann, PE
Project Manager

Benjamin D. Crawford, PE, GE
Principal

Maria Ayala, EIT
Project Engineer II

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1 INTRODUCTION

1.1 PURPOSE

Crawford & Associates, Inc. (Crawford) prepared this draft Geotechnical Report for Phase III of the Soledad Water Recycling/Reclamation Project in Soledad, California. Based on our discussions with Carollo Engineers Inc. (Carollo), we prepared this report to provide geotechnical data, conclusions, and recommendations based on the current understanding of the proposed project elements.

This report provides geotechnical and geologic data for the new distribution pipeline and provides conclusions and recommendations to support the new pump station, wetwell, and hydropneumatics tanks. We will issue a final report after receiving your comments on this draft.

1.2 SCOPE OF SERVICES

To prepare this report, Crawford:

- Reviewed geologic, soils, and seismic maps pertaining to the site;
- Discussed the project with Mr. Jonathan Marshall and Ms. Susan Fox with Carollo;
- Reviewed As-built sheets for "Reclaimed Wastewater Transmission Pipeline Project" prepared by Harris & Associates dated September 30, 2016;
- Reviewed the "Geotechnical Engineering Report Soledad Water Reclamation Facility Wind Turbine" prepared by Earth Systems Pacific dated October 17, 2013;
- Reviewed Appendix B from "Soledad WWTP Upgrade and Expansion" by Black & Veatch dated October 2007;
- Reviewed the 30% design submittal plan sheets 'Recycled Water Conveyance Project' (PP-S00 to PP-S13) by Carollo dated June 2024;
- Drilled, logged, and sampled four exploratory borings along the proposed distributing piping system and two borings at the Water Reclamation Facility (WRF) between May 13th and 15th, 2024;
- Performed laboratory testing on soil samples recovered from the test borings; and
- Developed conclusions and recommendations based on the data and test results.

2 PROJECT AND SITE DESCRIPTION

The project is located in various areas of Soledad, CA. As part of Phase III of the Soledad Water Recycling/Reclamation Project, the City of Soledad (City) is planning to construct a new pump station, hydropneumatics tanks, and distribution piping system to provide recycled water to about 20 parks and schools within the City. The WRF site is located within a floodplain immediately north of the convergence of the Salinas River and Arroyo Seco River. The approximate site coordinates of the pump station are 36.4205°, -121.3402°.

The new pump station will be located at the Soledad WRF, south of the wind turbine at the abandoned aerated pond No.2. The pump station will have an at-grade skid pad (about 16 ft by 7 ft by 1 ft) above a 11ft outer diameter circular wetwell. The wetwell will be about 16 ft deep with the bottom invert around elevation 156.5 ft. Two, 5 ft diameter at-grade hydropneumatics tanks

will be located about 3 ft west of the skid pad. The hydropneumatics and skid pad will be support by new fill; the wetwell will extend into native soils.

Based on conversations with Carollo, we understand the southeast corner of the pond berm (about 40 ft by 50 ft) will be raised to elev. 173 ft and require about 4 to 13 ft of fill. The south and east sections of the fill will grade at a 3:1 toward the access road (elev. 169 to 170 ft). The west section of the fill will grade to the pond at a 2:1 slope. New access ramps will be located at the north and south sections of the fill limits.

New distribution piping is planned from the WRF site to Front Street, and then to 20 parks and schools. The new distribution piping is generally within the City streets, extending north to Terraza Street, slightly east of Orchard Lane, and south to State St. The piping will include about 29,500 linear ft of 4 to 8-inch pipe, all located about 6 ft below ground surface. We understand the pipe will be installed in an open trench. A trenchless crossing may be required at the Union Pacific Railroad by Front Street. If required, the trenchless crossing would parallel an existing jack and bore trenchless crossing about 8 to 10 ft below ground surface. The project also includes replacing about 1,000 linear ft of sewer pipe via pipe bursting on Main Street.

Elevations are based on the project datum provided by Carollo. The project vicinity is shown in Figure 1 in Appendix I.

3 SITE GEOLOGY

The site is located within the Coastal Ranges geomorphic province of California, which is characterized by a series of discontinuous northwest-trending mountain ranges extending from the Klamath Mountains on the north coast of California to the Transverse Ranges to the south. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata with a complex structure due to intense folding and faulting. Our site is located in the Salinas Valley between the Klamath Mountains and the Transverse Ranges.

Regional geologic mapping shows the project site underlain by Holocene to Pleistocene aged, alluvium deposits. At the WRF, the site is underlain by Holocene aged young alluvium (Qya), consisting of unconsolidated gravel, silt, and sand deposited by active or recently active floodplains. The trenchless crossing is underlain by Holocene aged young alluvium (Qya1s), consisting of pebbly, medium to fine grained sand and silt deposited from standing to slow moving water in extreme flood events such as 1968 to 1969. The distribution pipeline is mapped within multiple alluvial deposits including Qya, Qya1s, older alluvial fan deposits (Qof4), and very old alluvial fan deposits (Qvof). Qof4 consists of Pleistocene aged, weakly consolidated moderately to poorly-graded gravel, sand, and silt alluvial fans deposits from the Salinas Valley and along Arroyo Seco. Qvof consists of moderately to poorly-graded gravel, sand, and silt from alluvial fans along the sides of the Salinas Valley north of the town of Greenfield.

The geologic map and legend are shown in Figures 3a and 3b in Appendix I.

4 FIELD EXPLORATION

Crawford completed six borings in May 2024. Additionally, Earth Systems Pacific performed one boring in October 2013, and Black & Veatch hired Fugro to perform five boring and eight cone penetration tests (CPTs) at the WRF. Details for each exploration program are provided below.

4.1 PREVOUS EXPLORATIONS

Black & Veatch hired Fugro to complete five borings and eight CPTs in the Soledad wastewater treatment facility in November 2006 for the planned facility expansion. Explorations B-3, B-4, and CPT-2 are located on the access road adjacent to the aeration pond and secondary pond, near the proposed pump station and hydropneumatics tanks. These borings were drilled using a truck-mounted drill rig equipped with rotary wash drill equipment. The CPT was advanced with a 20-ton truck-mounted rig with a 15 cm^2 tip.

Earth Systems Pacific completed one boring (Boring 1) to 61.5 ft below ground surface (bgs) in 2013 to address the wind turbine. The boring was drilled using a truck-mounted Mobile B-53 drill rig with an automatic hammer and 6-inch hollow stem auger. Boring 1 was completed at the bottom of the abandoned aerated pond No.2.

Table 1 provides a subsurface exploration summary of the previous relevant nearby explorations. The details of the borings are shown in Appendix III. Figure 2a shows the approximate boring locations of B-3, B-4, CPT-2, and Boring 1.

Table 1: Previous Boring Subsurface Exploration Summary

Boring Number	Completion Date	Approx. Ground Surface Elev. (ft)	Boring Depth (ft)
B-3	11/17/06	168.9	40.5
B-4	11/8/06	169.0	40.5
CPT-2	11/21/06	169.3	40.3
Boring 1	8/13/13	967[1]	61.5

1. Elevation noted on Boring 1 used a different datum than the 2006 and 2024 borings. The boring was completed at the bottom of the pond and the top of boring elevation is estimated as elev. 160 ft based on current topography.

4.2 CRAWFORD EXPLORATIONS

Crawford completed six explorations in May 2024. Crawford retained Geo-Ex Subsurface Exploration (GeoEx) to drill and sample the borings to a maximum depth of about 61.5 ft bgs. GeoEx used a D70 Track mounted drill rig to complete the borings with 4-inch solid-stem auger. Mud-rotary drilling equipment was utilized at borings A-24-001 and R-24-002. At the time of the 2024 explorations, GeoEx reported the last energy calibration performed on the hammer used in the field for this project has an average efficiency of 92.2%

Table 2 provides a subsurface exploration summary of the Crawford explorations.

Table 2: Crawford Subsurface Exploration Summary

Project Feature	Boring Number	Completion Date	Approx. Ground Surface Elev. (ft)	Boring Depth (ft)
WRF – Pump Station	A-24-001	5/13/24	167	36.5
	R-24-002	5/14/24	162	61.5
Trenchless Crossing	A-24-003	5/14/24	182	36.5
Distribution Pipeline	A-24-004	5/15/24	190	16.5
	A-24-005	5/14/24	258	16.5
	A-24-006	5/15/24	224	18

Soil samples were recovered by means of a 2.0-inch O.D. Standard Penetration Test (SPT) split-spoon sampler without liners and a 3.0-inch O.D. "Modified California" split-spoon sampler with liners. Both samplers were advanced with standard 350 ft-lb striking force using an auto-hammer. Sampler penetration resistance was recorded to provide a field measure of relative densities and can be correlated to a soil's strength and bearing characteristics. Consistency of cohesive soils were obtained in the field by means of pocket penetrometer. The boring logs attached in Appendix II show the field-recorded (uncorrected) blow counts.

Crawford's project engineer logged the test borings consistent with the Unified Soil Classification System (USCS) and the Caltrans Logging Manual[1]. Selected portions of recovered soil drive samples were retained in sealed containers for laboratory testing and reference. Bulk soil samples were retained in sealed bags for laboratory testing and reference. Groundwater observations were recorded during drilling operations when encountered. At completion, the test borings were backfilled with cement grout at the completion of the field study and capped with cement and dyed black in asphalt areas.

The boring locations were measured in the field with respect to existing site features. The boring elevations were estimated based on the 30% plans provided by Carollo. The boring locations are shown in Figures 2 through 2c in Appendix I. Boring details are shown on the boring logs in Appendix II.

5 SURFACE AND SUBSURFACE CONDITIONS

5.1 EXISTING PAVEMENT THICKNESSES

Crawford measured the pavement sections along the distribution pipeline alignment at three boring locations. We present existing pavement section thickness data in Table 3 below.

[1] Caltrans, Soil and Rock Logging, Classification, and Presentation Manual, 2022 Edition

Table 3: Existing Pavement Section Thicknesses

Boring Number	Street Name	Asphalt Concrete Thickness (in)	Aggregate Base Thickness (in)
A-24-003	Front Street	4.0	6.0
A-24-004	Main Street	5.0	5.0
A-24-006	3rd Street	4.5	4.0

5.2 SOIL CONDITIONS

Soil descriptions for the trenchless crossing, distribution piping system, and new pump and tank are summarized below. Refer to the boring logs in Appendix II for more detailed soil conditions.

5.2.1 PUMP STATION, WETWELL, AND TANKS

Crawford borings A-24-001 and R-24-002 were drilled at the WRF. Based on our subsurface exploration, they are consistent with published geologic maps with near surface materials consisting of loose, alluvial fan deposits. In general, the soils at the WRF site consist of very loose to medium dense silty sand to poorly-graded sand to elev. 140 ft. The sand layer was underlain by 20 ft of stiff fat clay to about elev. 120 ft and then stiff lean clay and medium plastic silt to about elev. 108 ft. Below the clay and silt, we encountered dense to very dense silty to poorly-graded sand until boring termination (61.5 ft bgs; elev. 100.5 ft).

5.2.2 TRENCHLESS CROSSING BORING

Crawford borings A-24-003 was drilled along the potential trenchless crossing. Based on our subsurface explorations, the soils were generally more clayey than published geologic maps.
In general, the soils consist of hard, lean clay to about 11 ft bgs (elev. 171 ft), underlain by interchanging layers of dense to very dense silty sand, poorly-graded sand with silt, and poorly-graded sand to a depth of about 36.5 ft bgs (elev. 145.5 ft).

5.2.3 DISTRIBUTION PIPING SYSTEM BORINGS

Crawford borings A-24-004 through A-24-006 were drilled along the proposed distribution piping system. Based on our subsurface explorations, the soils were generally more clayey than published geologic maps. In these borings, the soils consist of very stiff to hard lean clay and loose to medium dense clayey sand in the upper 8 to 13 ft bgs. Below the lean clay to clayey sand layer, we encountered interchanging layers of medium dense to very dense poorly-graded sand, poorly-graded sand with silt, silty sand, and clayey sand to about 16.5 ft bgs. In boring A-24-006, we encountered stiff sandy clay to very stiff lean clay with sand until the terminal depth of 18 ft bgs.

5.3 GROUNDWATER

Groundwater was encountered in borings A-24-001, R-24-002, and A-24-003 at about 9.5 ft, 4.0 ft, and 27.0 ft bgs, respectively. The borings were backfilled before reliable “static” groundwater level measurements could be taken (24 hours or more is commonly needed to define “static” groundwater level).

Crawford also reviewed the Department of Water Resources Sustainable Groundwater Management Act Data Viewer[2] for nearby well groundwater levels. The recent groundwater levels encountered/recorded in the nearby well, previous boring, and our 2024 borings are shown in Table 4.

Table 4: Groundwater Data

Consultant/ Source	Boring/ Well Number	Date Measured	Groundwater Depth (ft)	Groundwater Elevation (ft)
Crawford	A-24-001	5/13/24	9.5	157.5
Crawford	R-24-002	5/13/24	4.0	158.0
Crawford	A-24-003	5/14/24	27.0	155.0
Earth System Pacific	Boring No.1	8/13/13	4.5	155.5[1]
DWR	364306N1213457W001	11/21/23	29.40	150.9

[1] Based on an estimated top of boring elevation of 160 ft.

DWR well 364306N1213457W001 is located about 0.75 mi northwest of the WRF site. Groundwater levels can fluctuate due to changes in precipitation, river levels, seasonal variations, local irrigation, and possibly other factors.

6 LABORATORY TESTING

We completed the following laboratory tests on representative soil samples obtained from the exploratory borings:

- Atterberg Limits (ASTM D4318);
- Chloride Content (CTM 422);
- Consolidation Test (ASTM D2435);
- Hydrometer (ASTM D422);
  - Moisture Content (ASTM D2216);
  - No. 200 Sieve Wash (ASTM D1140);
  - pH/Minimum Resistivity (CTM 643);
  - Particle Size Analysis (ASTM D6913);
  - Redox Potential (ASTM G200-m);
  - Sulfate Content (CTM 417);
  - Unit Weight (ASTM D7263).

Refer to Appendix IV for the laboratory results.

[2] https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels (Date accessed June 18, 2024)

7 CORROSION EVALUATION

A soils corrosivity analysis is important for estimating and mitigating the deterioration of buried ferrous metals and concrete. Mapping from the United States Department of Agriculture (USDA) Web Soil Survey[3] indicates the project site is low to moderately corrosive to cementitious elements and low to highly corrosive to ferrous elements.

The results of corrosivity tests on a soil samples obtained from the borings completed for this project are summarized in Table 5.

Table 5: Soil Corrosivity Test Results

Boring / Sample No.	Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)	Redox Potential (mv)	Sulfides Presence
R-24-002 / 7B	15.5-16.0	7.10	540	62.5	177.5	223	Negative
A-24-003 / 3B	4.5-5.0	8.12	600	131.0	196.7	261	Negative
A-24-005 / 3B	3.5-4.0	7.61	3,750	6.2	18.9	290	Negative
A-24-006 3B	4.5-5.0	7.02	910	22.5	80.3	28	Negative

Crawford used the 10-point system in C105/A21.5 (ANSI/AWWA1999) to evaluate the potential for external correction potential on ductile-iron pipe from the soil. Results with 10 points and greater indicate the soil is corrosive to ductile-iron pipe and protection is needed (AWWA 2005). *Based on the corrosivity test results and the 10-point system, our site is considered corrosive to ferrous metals.*

According ACI 318, a sulfate concentration less than 1,000 parts per million (ppm) is considered negligible. A chloride content of less than 600 ppm is non-corrosive to reinforced concrete. *Based on the corrosivity test results and ACI, the site is non-corrosive to concrete.*

The tests results are only an indicator of soil corrosivity and the designer should consult with a corrosion engineer if these values are considered significant.

8 SITE SEISMICITY

8.1 LIQUEFACTION POTENTIAL

Soil liquefaction can occur when saturated, relatively loose sand and specific soft, fine-grained saturated soils (typically within the upper 50 feet) are subject to ground shaking strong enough to create soil particle separation that results from increased pore pressure. This separation and subsequent pore pressure dissipation can lead to decreased soil shear strength and settlement. Liquefaction is known to occur in soils ranging from low-plasticity silts to gravels. However, soil most susceptible to liquefaction are clean sands to silty sands and non-plastic silts. Granular soils with SPT blow count $(N1)_{60} \geq 30$, rock, and most clay soil are not liquefiable. Liquefaction susceptibility of a soil deposit is a function of the soil grain size, relative density, percent fines, plasticity of fines, degree of saturation, age of deposit, and earthquake ground motion.

[3] https://websoilsurvey.nrcs.usda.gov/app/, access June 6, 2024

To evaluate the potential for soil liquefaction to occur at the site, Crawford used the simplified procedure outlined by Youd et. al.[4] with exploration and lab data Borings A-24-001 and R-24-002, a design groundwater elevation 158 feet, a site-to-fault distance[5] of 9.76 miles, a Maximum Moment Magnitude of 7.6 and PGA_m of 0.83 from the site-specific hazard analysis.

Based on the analysis, potentially liquefiable granular soils are present at this site. Table 6 summarizes the potentially critical liquefiable soil zones (Factor of Safety < 1.0) based on the results of our analysis.

Table 6: Potentially Liquefiable Soil Zones/Layers

Boring ID	Potentially Liquefiable Soil Zones/Layers		Layer Thickness (ft)	Generalized Soil Description	Liquefaction Factor of Safety	Residual Soil Strength[1] (psf)	Liquefaction (Seismic) Settlement (in)
	Depth (ft)	Elevation (ft)					
A-24-001	9 to 19	158 to 148	10	Poorly-graded Sand	0.24 to 0.61	192 to 649	3
	23 to 27	144 to 140	4	Poorly-graded Sand	0.89	851	
R-24-002	4 to 13	158 to 149	9	Poorly-graded Sand	0.22 to 0.47	134 to 398	2.3

[1] Kramer, S. and Wang, C.H., (2015), *"Empirical Model for Estimation of the Residual Strength of Liquefied Soil,"* Journal of Geotechnical and Geoenvironmental Engineering, ASCE as cited in Caltrans (2017), Memo To Designers (MTD) 20-15, Lateral Spreading Analysis for New and Existing Bridges.

The potential for seismically induced settlement is identified at this site from the boring data generated for this study. The calculated settlements from the boring data indicate both variability across the site and in the magnitude of settlement.

During a seismic event, ground shaking can cause densification of granular soils that can result in settlement of the ground surface. For foundation design, we consider the potentially liquefiable soil layers identified in Table 6 to be subjected to reduction to residual shear strength values and seismically induced (vertical) settlement under conditions of strong ground shaking form a design earthquake event.

Based on our analysis, the magnitude of potential post-liquefaction ground settlement associated with the susceptible soil layers identified at this site is on the order of 2 to 3 inches (to lowest elev. 140).

[4] Youd et.al. (2001), Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshop on Evaluation of Liquefaction Resistance of Soils.
[5] United States Geologic Survey, Unified Hazard Tool, Deaggregation, https://earthquake.usgs.gov/hazards/interactive/

The methods outlined by Idriss and Boulanger (2008)[6] were used to estimate post-liquefaction settlement. The method follows the approach developed by Ishihara and Yoshimine (1992) that relates volumetric strain, SPT $(N_1)_{60cs}$ [i.e., $(N_1)_{60}$ values corrected for fines content], and the factor of safety against liquefaction (FS_L) to estimate the post-liquefaction settlement of a liquefied layer.

8.2 SEISMIC DESIGN PARAMETERS

The encountered subsurface soils during Crawford's 2024 exploration indicate a Site Class D; however, the results of our liquefaction analysis show potentially liquefiable soils layers present at the project site. Liquefiable soils are considered Site Class F per Section 20.3.1 of ASCE 7-16 and a site-specific site response is required, unless the structures have fundamental periods of vibration equal or less than 0.5s. *We assume the proposed pump station will have a fundamental period of 0.5 seconds or less.* According to the Exception in Section 20.3.1 of ASCE 7-16, "a site class is permitted to be determined in accordance with Section 20.3 and the corresponding values of Fa and Fv are determined from Table 11.4-1 and 11.4-2."; therefore, the soils are considered Site Class D for the site-specific ground motion hazard analysis.

The following site-specific seismic design parameters provided in Table 7 should be used for seismic design of the project. If the structure periods are larger than 0.5s, then the site-specific analysis will need to be revised.

Table 7: Site-Specific Seismic Design Parameters

Design Parameter	Value (g)
Design Spectral Acceleration for Short Period (S_{DS})	1.24
Design Spectral Acceleration for 1 sec Period (S_{D1})	1.67
MCE Spectral Response Acceleration for short Period (S_{MS})	1.86
MCE Spectral Response Acceleration Parameter for 1 sec Period	2.50

See Appendix V for the detailed site-specific ground motion hazard analysis.

9 CONCLUSIONS AND RECOMMENDATIONS

We conclude that the site conditions are suitable for construction of the proposed pipeline, pump station, and tanks provided the recommendations presented below are included in design and construction documents. However, the improvements at the WRF site will experience gross static and seismic settlement. Key geotechnical considerations associated with design and construction of this project include:

- the presence of a clay layer about 30 ft thick that is susceptible to consolidation settlement;
- the presence of liquefiable, loose sandy soils above and below the pump station foundation that are susceptible to seismic settlement;
- the presence of saturated, loose sandy soils at the pump station that will be unstable during excavation/construction;

[6] Idriss, I. M. and Boulanger, R. W., 2008, *"Soil Liquefaction During Earthquakes,"* Earthquake Engineering Research Institute, pages 140-142 and 152-158.

- the presence of loose to medium dense sandy soils above the planned pipe zone within the alignment which will cave during excavation (near borings A-24-005 to about 13 ft and A-24-006 to about 16 ft);
- differential settlement between the pump station and piping; and
- high groundwater at the WRF site.

We recommend the WRF improvements (pipeline connections, pump station, tanks, and wetwell excavation) be constructed after the fill is placed to reduce static settlement of the structure and pipeline.

We understand shallow/mat foundations will be utilized for the structures. If structures cannot tolerate the estimated static and seismic settlements, we recommend supporting the structures on deep foundations such as drilled piers.

9.1 WETWELL

The 11 ft outer diameter (10 ft inner diameter) wetwell will be about 16 ft deep with the bottom invert around elevation 156.5 ft. The wetwell foundation will be located within saturated, loose to medium dense poorly graded sand that is susceptible to liquefaction, therefore we have provided an overexcavation recommendation in Section 9.6.7 to both improve the foundation material and improved the constructability of the wetwell.

For a minimum 18-inches thick mat foundation founded at elev. 156 ft constructed following Section 9.6.8, provided the mat foundation is designed to evenly distribute the load across the foundation without deflection, an allowable gross bearing capacity of 1,200 psf can be used for design. The bearing capacity can be increased by 1/3 for transient loads such as wind or seismic. For the above bearing capacity, we estimated the total and differential settlement as 2.5-inches and 1-inch, respectively. Of that settlement, we estimated 0.75-inches will be immediate and will occur during construction and 1.75-inches will occur as primary consolidation settlement (occur over 2 to 3 years). An additional 1-inch of secondary settlement is estimated to occur beyond 3 years.

In addition, during a seismic event, we anticipate up to an additional 3-inches of liquefaction settlement could occur.

We recommend the use of flexible connections between the piping and wetwell to mitigate the differential settlement at the site. We estimated about 2.5-inches of settlement will occur near the pipe connection to the wetwell. Of the 2.5-inches of settlement, we estimated 1.5-inches is immediate and will occur during construction and 1-inch is primary consolidation settlement. An additional 1-inch of secondary settlement is estimated to occur at the connection to the wetwell. We anticipate minimal static settlement (< 0.25 inches) will occur at the pipe section within the existing access road.

Resistance to lateral loads (including those due to wind or seismic forces) may be determined using a coefficient of friction of 0.43 between the bottom of the precast foundation and native soils. Lateral resistance for foundations is also available from passive soil pressure acting against the vertical face of the footing, use the static passive pressure of 240 psf/ft. These two modes of

resistance can be combined; however, since horizontal movements is required to mobilize passive resistance, decrease the passive pressure by ½ if both friction and passive pressures are used. During a seismic event, reduce the passive pressure to 194 psf/ft.

9.2 SKID PAD AND TANKS

The 16 ft x 7 ft x 1 ft skid pad and 5 ft diameter hydropneumatics tanks will be founded within the new fill. For a mat foundation or a 12-inches wide square footing founded a minimum 12-inches deep into bearing material, use an allowable gross bearing capacity of 500 psf. The bearing capacity can be increased by 1/3 for transient loads such as wind or seismic. For the above bearing capacity, we estimated the total and differential settlement as 3-inches and 1-inch at the skid pad, and 2.5-inches and <0.25-inches at the tanks, respectively. Of the total static settlement, we estimated 2-inches is immediate and will occur during construction. An additional 1-inch of secondary settlement is estimated to occur. During a seismic event, we anticipate an additional 3-inches of liquefaction settlement.

Resistance to lateral loads (including those due to wind or seismic forces) may be determined using a coefficient of friction of 0.43 between the bottom of the precast foundation and native soils. Lateral resistance for foundations is also available from passive soil pressure acting against the vertical face of the footing, use the static passive pressure of 264 pcf. These two modes of resistance can be combined; however, since horizontal movements is required to mobilize passive resistance, decrease the passive pressure by ½ if both friction and passive pressures are used. During a seismic event, reduce the passive pressure to 207 pcf.

9.3 BUOYANCY FORCES

We expect buoyancy uplift to be a design consideration at the wetwell. Buoyancy forces can be counterbalanced using thickened slabs, base extensions, and skin friction. If base extensions are used, uplift resistance is provided by the effective unit weight of the soil column directly above the base extension and wedge of soil extending outward and upward at a rate of 1H:2V from the edge of the base extension. Assume an effective unit weight of 50 pcf for base extension uplift resistance below groundwater.

9.4 TRENCHLESS CROSSING

The contractor is responsible for selecting appropriate trenchless installation methods that do not cause detrimental settlement, surface heave, damage to existing facilities, and that maintain the designed horizontal and vertical pipe alignments and tolerances. Issues that may affect operations include the depth of soil cover, existing surface facilities, existing underground utilities, and dissimilar types of earth materials along the pipe alignment.

Generally, the upper 11 ft at the trenchless crossing location consisted of hard clay and was underlain by dense sands. The soil conditions at the other receiving pit are unknown but will likely consist of clays and sands.

The soil conditions encountered at the trenchless crossings appear capable of supporting various trenchless installation methods such as jack and bore, mirotunneling, and horizontal directional drilling.

A passive pressure of 240 pcf is appropriate for the walls of the trenchless shafts (includes a safety factor of 1.5). Once the trenchless portion of the pipe is installed, the launching and receiving shafts should be backfilled per Section 9.6.

9.5 LATERAL EARTH PRESSURES AT WRF SITE

Design the structures using the equivalent fluid weights (EFWs) shown on Tables 8 and 9.

Table 8: Static Equivalent Fluid Weights

	Above Groundwater (pcf)	Below Groundwater (pcf)	Below Groundwater Buoyant + Hydrostatic (pcf)
At-Rest	54	28	91
Active	35	19	82
Passive	264	96	159

Table 9: Additional Seismic Equivalent Fluid Weights

	Above Groundwater (pcf)	Below Groundwater (pcf)
At-Rest	61	28
Active	34	16

The passive fluid weight is only applicable if the retained earth is allowed to strain at least 0.02H.

For *static design*, apply the resultant of the static earth pressure at a depth of 0.33H from the base of the wall where H equals the wall height. Include full hydrostatic pressure (i.e., buoyant + hydrostatic) for walls designed to be in service below the water table. At-rest and active earth pressures do not include a factor of safety; the passive earth pressures have been reduced by a factor of safety of 1.5.

For *seismic design,* the incremental active and at-rest seismic pressure was estimated using guidance from the University of California at Berkeley[7,8] and the site PGA of 0.83g. For either case, a triangular pressure distribution should be used, and the magnitude of the controlling resultant should be applied at H/3 from the base of the wall. Add the resultant of the seismic earth pressure to the resultant of the static active or “at-rest” earth pressure.

[7] Mikola, R.G. & Sitar,N., Seismic Earth Pressures on Retaining Structures in Cohesionless Soils, March 30, 2013
[8] Agusti, G.C. & Sitar, N., Seismic Earth Pressures on Retaining Structures with Cohesive Backfills, August 14, 2013

For permanent surcharge loads, apply a uniform load to the wall equal to 0.45-times the surcharge load. Apply an additional 200 psf to accommodate transient and construction surcharge loading. Surcharge loading applies to the upper 20 ft of the retaining structure or shoring system.

9.6 GRADING

Where reference, use ASTM D1557 test methods to determine relative compaction and optimum moisture. Compacted soil should not be considered suitable (even if it meets relative compaction requirements) if it is unstable and pumps or flexes excessively under construction equipment loads, as determined by Crawford.

9.6.1 CLEARING

Prior to grading, clear to the site to remove structures, fences, vegetation, roots, debris, abandoned utilities, soft or unstable areas, and other deleterious materials. At the pond bottom, clearing should extend a minimum of 1.5 ft bgs (elev. 158.5 ft). The site clearing should extend laterally a minimum of 3 ft beyond the fill limits.

9.6.2 SCARIFICATION AND COMPACTION

Process and compact the exposed subgrade in fill areas as follows:

- Scarify the subgrade to a depth of approximately 10-inches
- Moisture condition the subgrade soil to within 2% of optimum moisture content and compact it to a minimum 90% relative compaction.

9.6.3 IMPORT MATERIAL

Import fill shall be granular soil, free of organic material and debris, have an Expansion Index (per ASTM D4829) or less than 25, and confirm to the following gradation:

Sieve Size	Percentage Passing
2-inch	100
No. 4	35-100
No. 30	20-100
No. 200	10-45

Import fill must be observed and tested prior to its approval.

9.6.4 FILL PLACEMENT

Where new fill is placed against an existing slope, bench the fill into the slope at regular vertical intervals of 2 to 3 ft to lock the materials together and reduce failure planes. The bench width should be a minimum of 3 ft wide.

Place the fill in maximum 8-inch lifts, moisture condition to within 2% of optimum moisture content and compact to a minimum of 90% relative compaction. Increase to 95% relative compaction within 18 inches of pavement, access roads, or structure foundations.

Trench backfill should meet 95% relative compaction following the City's Design Standards & Standard Specifications (2007).

9.6.5 SLOPE GEOMETRY AND STABILITY

We expect that new embankment constructed as above, and with exterior side slopes at 2:1 (horizontal:vertical), or flatter, will be stable.

9.6.6 WAITING PERIOD

The settlement of newly constructed fill is expected to occur due to compression of the underlying soils and compression of the fill itself. We anticipate about 90% of the primary consolidation settlement would occur after 18 months. An 18-month waiting period is likely not an economical alternative for this project. If the design would like to decrease the amount of primary consolidation settlement at the improvements, a 60 day waiting period would allow for about 30% of the consolidation settlement to occur (about 0.5-inches at the wetwell). The waiting period would start at the end of the fill placement prior to construction of the improvements.

If the potential consolidation settlement is determined to be excessive, then mitigation measures may be needed. Potential options for mitigating excessive long-term primary consolidation settlement may include the following:

- Establish a waiting period with or without prefabricated vertical wick drains
- Apply a surcharge fill to the site
- Utilize lightweight fill

If desired, Crawford can provide additional details on various lengths of waiting periods and expected settlement that will occur.

9.6.7 OVER-OPTIMUM SOIL MOISTURE

Excessively over-optimum (wet) soil conditions can make proper compaction difficult or impossible. In general, wet soil can be mitigated by:

- Discing the soil during prolonged periods of dry weather,
- Over-excavating and replacing with drier material,
- Stabilization using aggregate and stabilization fabric or grid.

Due to the groundwater level, wet soil conditions may be encountered during excavation within the pond.

9.6.8 OVER EXVACATION AND SUBGRADE STABILIZATION AT WETWELL

The exposed native soils at the wetwell foundation elevation consist of saturated, very loose to loose poorly graded sand. Therefore, the soils encountered at the bottom of this excavation will likely be unable to provide uniform and unyielding support for the wetwell and during construction. We recommended overexcavating 3 feet (below bottom of foundation) and backfilling with crushed rock (wrapped in fabric). Scarification and compaction will likely not improve the exposed soil condition and will be ineffective.

Controlled low-strength material (CLSM) can be placed below the wetwell foundation as an alternative to aggregate base.

9.7 CONSTRUCTION CONSIDERATIONS

9.7.1 TRENCH STABILITY AND TEMPORARY CONSTRUCTION SLOPES

Due to the presence of loose sands within the planned excavation limits of the planned project improvements, trench walls and temporary construction slopes will experience caving during construction. For preliminary design, use OSHA slopping requirements for Type A soils at the trenchless crossing (upper 11 ft) and Type C soils at the remaining locations. The contractor is responsible for the safety of all temporary excavations and must provide sloping and shoring in accordance with current Cal OSHA requirements.

9.7.2 SHORING

The shoring design should consider the chances of boiling or bottom heave during construction. Our borings encountered plastic, fine-grained soils at about elev. 140 ft that may help reduce seepage pressure and corresponding pressures on the bottom of the excavations.

Ultimately the contractor is responsible for designing the shoring and dewatering system to work in concert to allow for a stable excavation bottom.

9.7.3 SOIL EXCAVATABILITY

Based on the conditions observed in our subsurface explorations and our experience, the on-site soil should be excavatable with typical grading equipment such as scrapers, dozers, backhoes and excavators.

9.7.4 DEWATERING

In order for the excavations and foundations to be installed in the dry at the WRF site, the contractor must lower the groundwater to a minimum of 3 ft below bottom of excavation to reduce the chances of pumping-soils and unstable foundation support during construction. A well point dewatering system outside the excavations to draw down water as the excavations progress should be considered. The contractor should balance the groundwater head pressure within the excavation and outside of the shoring. A “rat slab” or seal course could be constructed at the bottom of the excavation, which may provide the contractor the ability to adjust the dewatering system. The contractor is responsible for designing the dewatering system.

Groundwater was not encountered in the pipeline borings and was encountered at a depth of 27 ft bgs at the trenchless crossing; dewatering is likely not required along the distribution pipeline.

10 RISK MANAGEMENT

Our experience and that of our profession clearly indicates that the risks of costly design, construction, and maintenance problems can be significantly lowered by retaining the geotechnical engineer of record to provide additional services. For this project, Crawford should be retained to:

- Review and provide written comments on the (civil) plans and specifications prior to construction.

- Monitor construction to check and document our report assumptions. At a minimum, Crawford should monitor trench bedding/backfill operations for the pipeline, fill placement, and underground excavations.
- Update this report if design changes occur, 2 years lapse between this report and construction, or site conditions change.

If Crawford is not retained to perform the above applicable services, we are not responsible for any other parties' interpretation of our report, and subsequent addendums, letters, and discussions.

11 LIMITATIONS

Crawford performed services in accordance with generally accepted geotechnical engineering principles and practices currently used in this area. This report is intended to assist Carollo for the Recycled Water Conveyance Project in Soledad, CA. Do not use this report for different locations and/or projects without the written consent of Crawford. Where referenced, we used ASTM and Caltrans as a general (not strict) *guideline* only.

Crawford based this report on the current site conditions. We assume the soil and groundwater conditions are representative of the subsurface conditions on the site. Actual conditions between explorations will vary along the project alignment segments.

Our scope did not include evaluation of on-site hazardous materials.

Logs of our explorations are found in Appendix II. The lines designating the interface between soil types are approximate. The transition between soil types may be abrupt or gradual. Our recommendations are based on the final logs, which represent our interpretation of the field logs and general knowledge of the site and geological conditions.

Modern design and construction are complex, with many regulatory sources/restrictions, involved parties, construction alternatives, etc. It is common to experience changes and delays. The owner should set aside a reasonable contingency fund based on complexities and cost estimates to cover changes and delays.

APPENDIX I

Figure 1: Vicinity Map

Figure 2: Exploration Map Overall Site

Figure 2a: Exploration Map

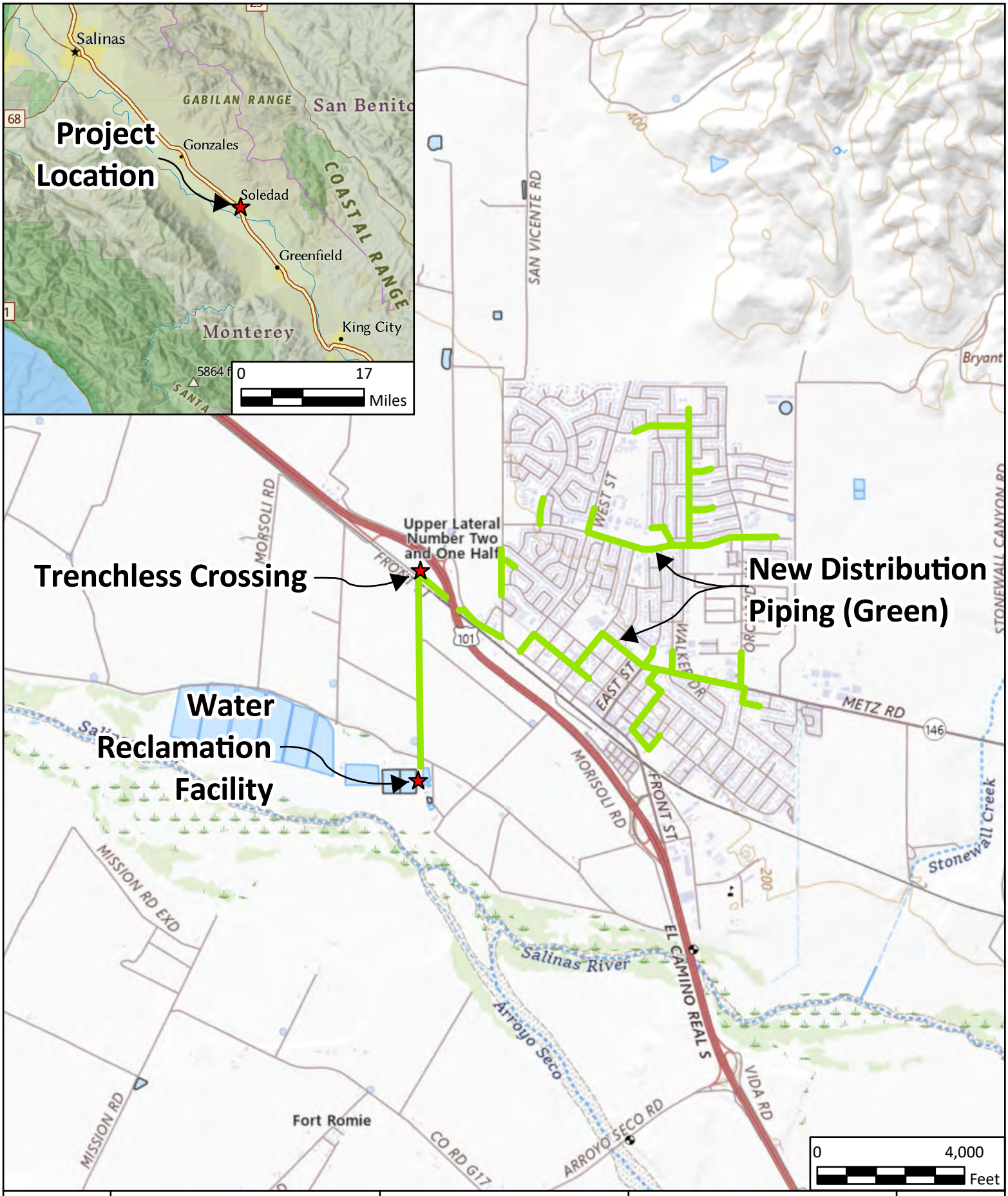
Figure 2b: Exploration Map

Figure 2c: Exploration Map

Figure 3a: Geologic Map

Figure 3b: Geologic Map Legend

Figure 4: Fault Map



NORTH

References

1. *Base Map: USGS Topographic Map Layer, ArcGIS Pro, ESRI*
2. *Insert Base Map: National Geographic Style, ArcGIS Pro, ESRI*

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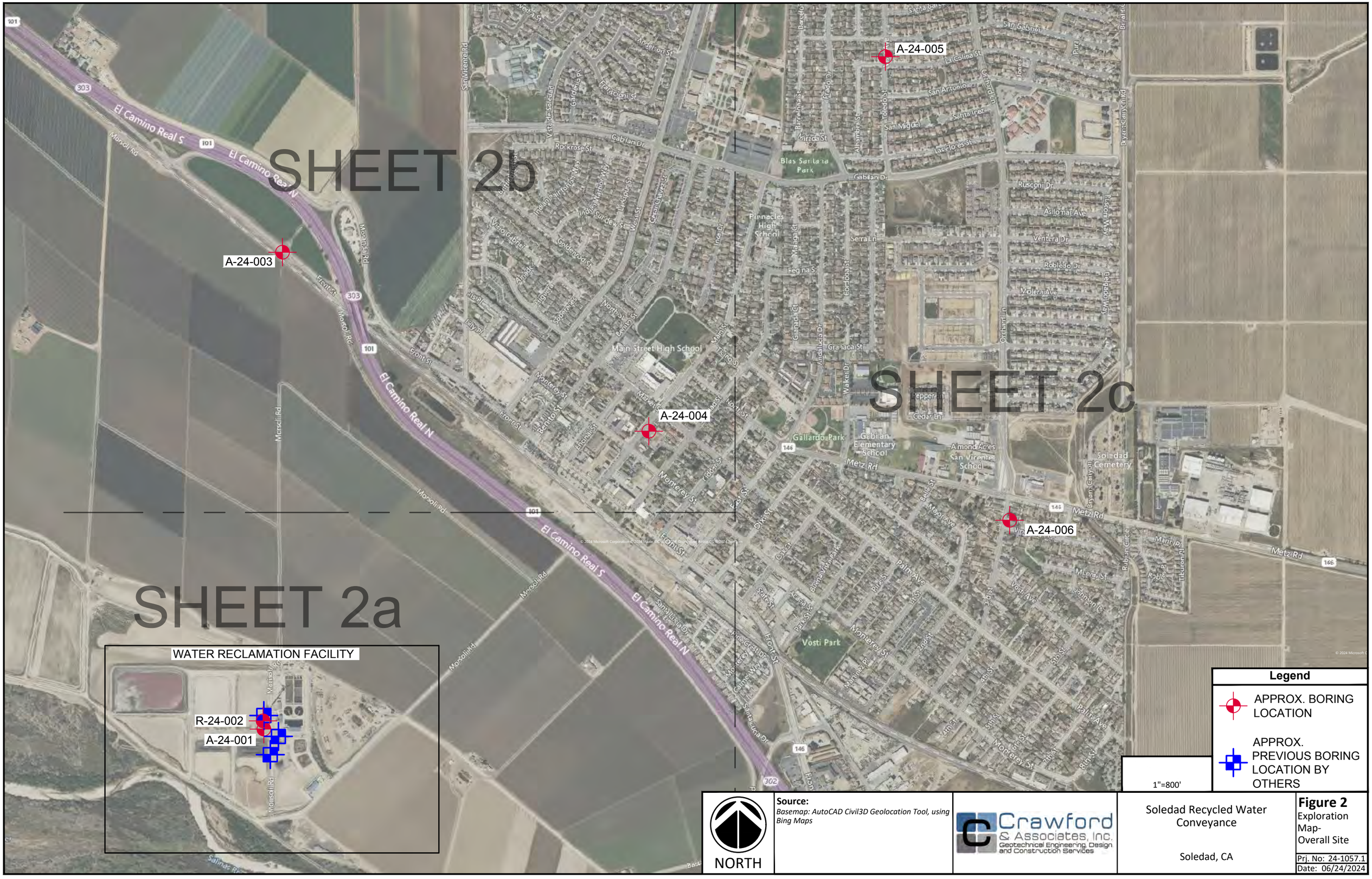
Geotechnical Engineering, Design and Construction Services

Soledad Recycled Water Conveyance

Soledad, CA

Figure 1
Vicinity Map

Prj. No: 24-1057.1
Date: 06/24/2024


SHEET 2b
SHEET 2c
SHEET 2a
A-24-003
A-24-004
A-24-005
A-24-006
R-24-002
A-24-001
WATER RECLAMATION FACILITY
El Camino Real S
El Camino Real N
Monterey St
Front St
Main Street High School
Pinnacles High School
Gabilan Elementary School
Almond Acres San Vicente School
Gallardo Park
Vosti Park
Blas Sarita Park
Soledad Cemetery
Metz Rd
Gabilan Dr
Legend
APPROX. BORING LOCATION
APPROX. PREVIOUS BORING LOCATION BY OTHERS
1"=800'
NORTH
Source:
Basemap: AutoCAD Civil3D Geolocation Tool, using Bing Maps
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Soledad Recycled Water Conveyance
Soledad, CA
Figure 2
Exploration Map- Overall Site
Prj. No: 24-1057.1
Date: 06/24/2024


SEE SHEET 2B
WATER RECLAMATION FACILITY
Morisoli Rd
BORING 1
B-4
R-24-002
A-24-001
CPT-2
B-3
Morisoli Rd
Legend
APPROX. BORING LOCATION
APPROX. PREVIOUS BORING LOCATION BY OTHERS
1"=200'
NORTH
Source:
Basemap: AutoCAD Civil3D Geolocation Tool, using Bing Maps
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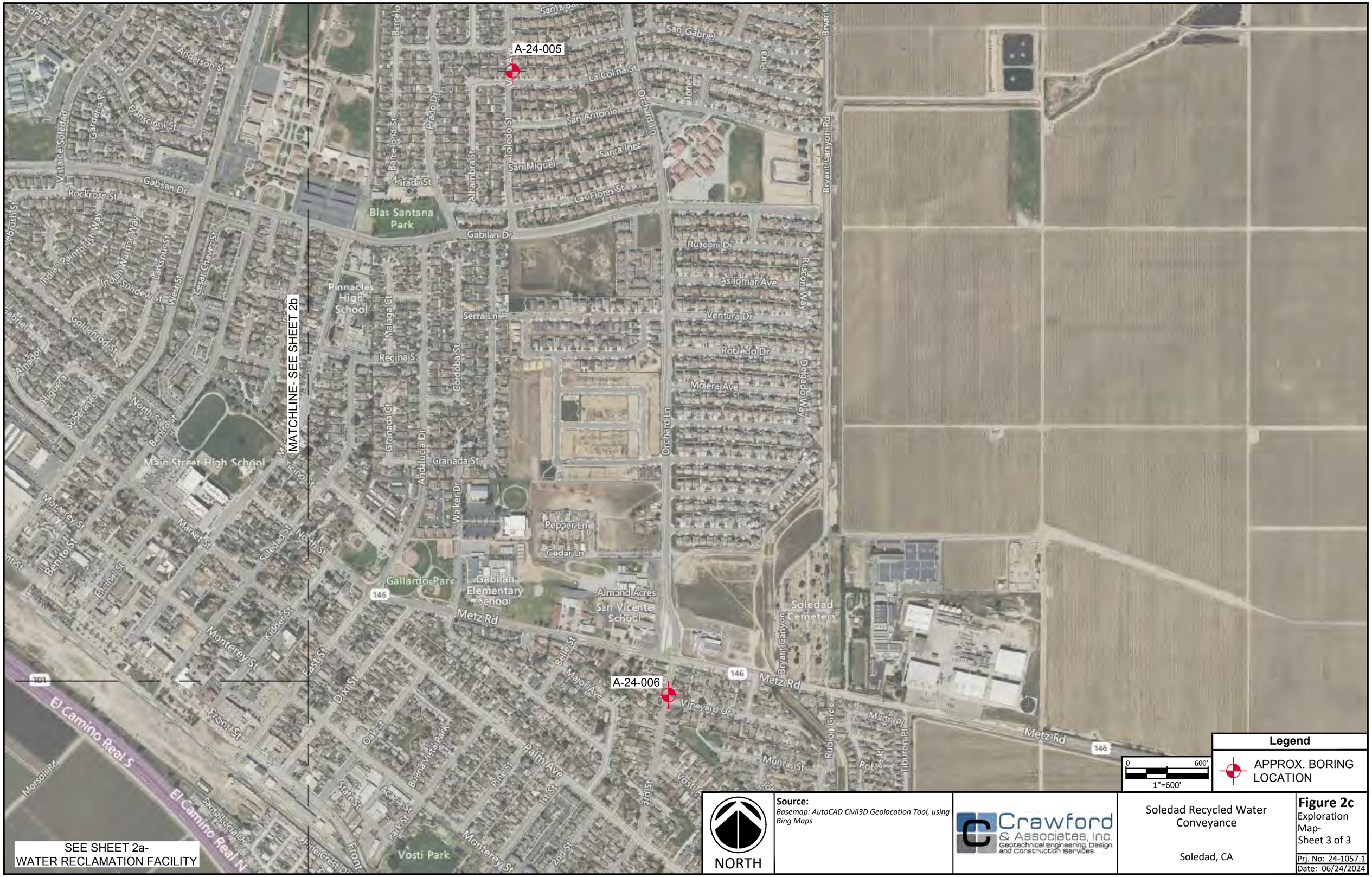
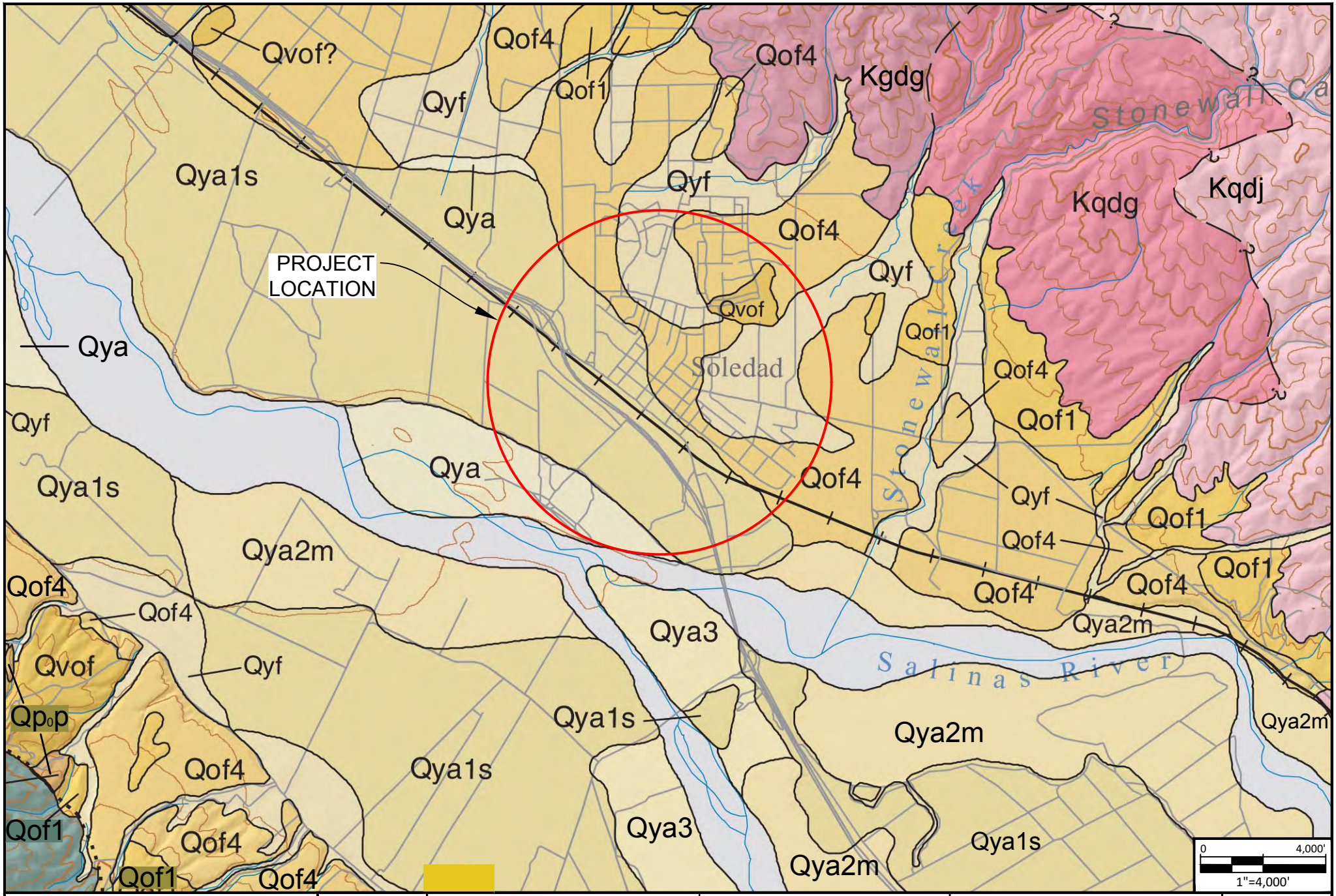
Soledad Recycled Water Conveyance
Soledad, CA
Figure 2a
Exploration Map-
Sheet 1 of 3
Prj. No: 24-1057.1
Date: 06/24/2024


El Camino Real S
101
El Camino Real N
Morsoli Rd
Morsoli Rd
Miranda Rd
A-24-003
Front St
303
Morsoli Rd
101
El Camino Real N
Morsoli Rd
Front St
Vista de
Gabilan Dr
Rockrose St
Brittlebrush St
Indian Paintbrush Way
Indian Warrior Way
Larkspur St
West St
Cesar Chavez St
Inca Dr
Pinnac
High
Schoo
Vieja Gabriel
Goldenrod St
Amado
Higuera
Soberanes
North St
Benito St
Lilly Pl
Main Street High School
Main St
Tejino St
Monterey St
Benito St
Front St
Market St
Encinal St
A-24-004
Soledad St
North St
Monte
MATCHLINE- SEE SHEET 2c
SEE SHEET 2a
0
400'
1"=400'
Legend
APPROX. BORING LOCATION
NORTH
Source:
Basemap: AutoCAD Civil3D Geolocation Tool, using Bing Maps
Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services
Soledad Recycled Water Conveyance
Soledad, CA
Figure 2b
Exploration Map-
Sheet 2 of 3
Prj. No: 24-1057.1
Date: 06/24/2024


A-24-005
A-24-006
MATCHLINE- SEE SHEET 2b
SEE SHEET 2a-
WATER RECLAMATION FACILITY
Blas Santana Park
Pinnacles High School
Main Street High School
Gallardo Park
Gabilan Elementary School
Almond Acres San Vicente School
Soledad Cemetery
Vosti Park
Buena Vista Park
Gabilan Dr
Rockrose St
Anderson St
Vista de Soledad
Gardenia Pl
Franciscan St
Mirada St
Barcelona St
Prado Dr
Alhambra St
Toledo St
La Colina St
San Antonio
San Miguel
Santa Inez
Las Flores St
Orchard Ln
Jones
Pura
San Gabriel
Bryant Canyon Rd
Rusconi Dr
Asilomar Ave
Ventura Dr
Robledo Dr
Molera Ave
Delgado Way
Rusconi Way
Serra Ln
Malaga Ct
Regina St
Cordoba St
Granada Ct
Granada St
Andalucia Dr
Walker Dr
Pepper Ln
Cedar Ln
Metz Rd
Belle St
Major Ave
Vineyard St
Rubion Circle
Munras St
Tiburon Pl
Main Pl
Roberts Rd
Bryant Canyon
Indian Paintbrush Way
Indian Warrior Way
Sundew St
Larkspur St
West St
Cesar Chavez St
Goldenrod St
Scharanes
Higuera
Amador
Benito St
Trinoli St
Monterey St
Market St
Soledad St
North St
Encinal St
Kidder St
East St
Dixi St
Oak St
Front St
Morselli Rd
El Camino Real S
El Camino Real N
Santa Lucia Dr
Pine Crest Dr
State St
Acacia St
Park St
Pine St
15th St
3rd St
2nd St
Palm Ave
146
101
0
600'
1"=600'
Legend
APPROX. BORING LOCATION
NORTH
Source:
Basemap: AutoCAD Civil3D Geolocation Tool, using Bing Maps
Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services
Soledad Recycled Water Conveyance
Soledad, CA
Figure 2c
Exploration Map-
Sheet 3 of 3
Prj. No: 24-1057.1
Date: 06/24/2024



See Geologic Map Legend Sheet 3b for Identifying Layers

NORTH

Source:
Rosenberg, L.I., Wills, C.J.; 2016, California Geological Survey, Preliminary Geologic Map of the Point Sur 30' x 60' Quadrangle, California; Version 1.0; scale 1:100,000.

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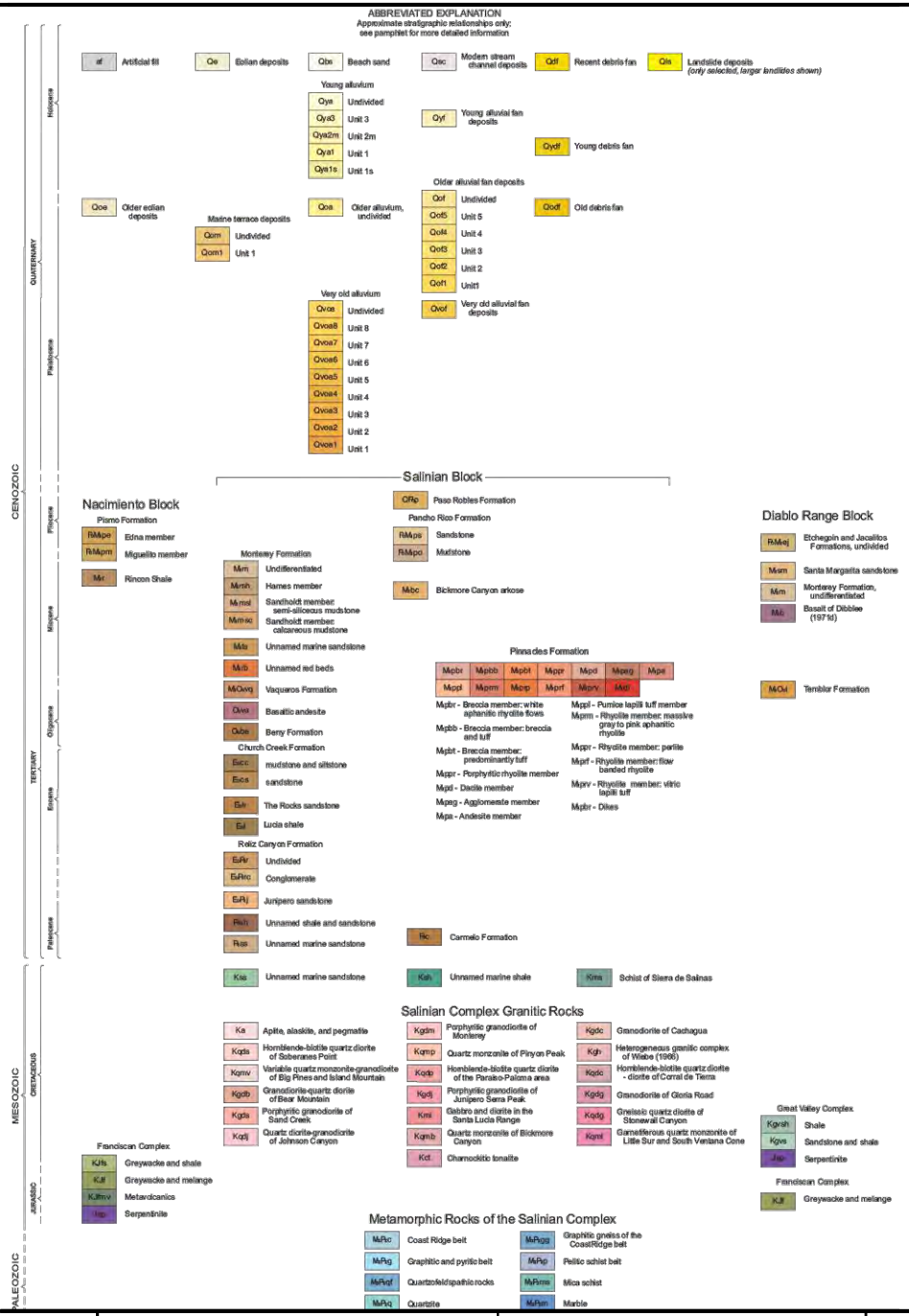
Soledad Recycled Water Conveyance

Soledad, CA

Figure 3a
Geologic Map

Prj. No: 24-1057.1
Date: 06/24/2024



NORTH

Source:
Rosenberg, L.I., Wills, C.J.; 2016, California Geological Survey, Preliminary Geologic Map of the Point Sur 30' x 60' Quadrangle, California; Version 1.0; scale 1:100,000.

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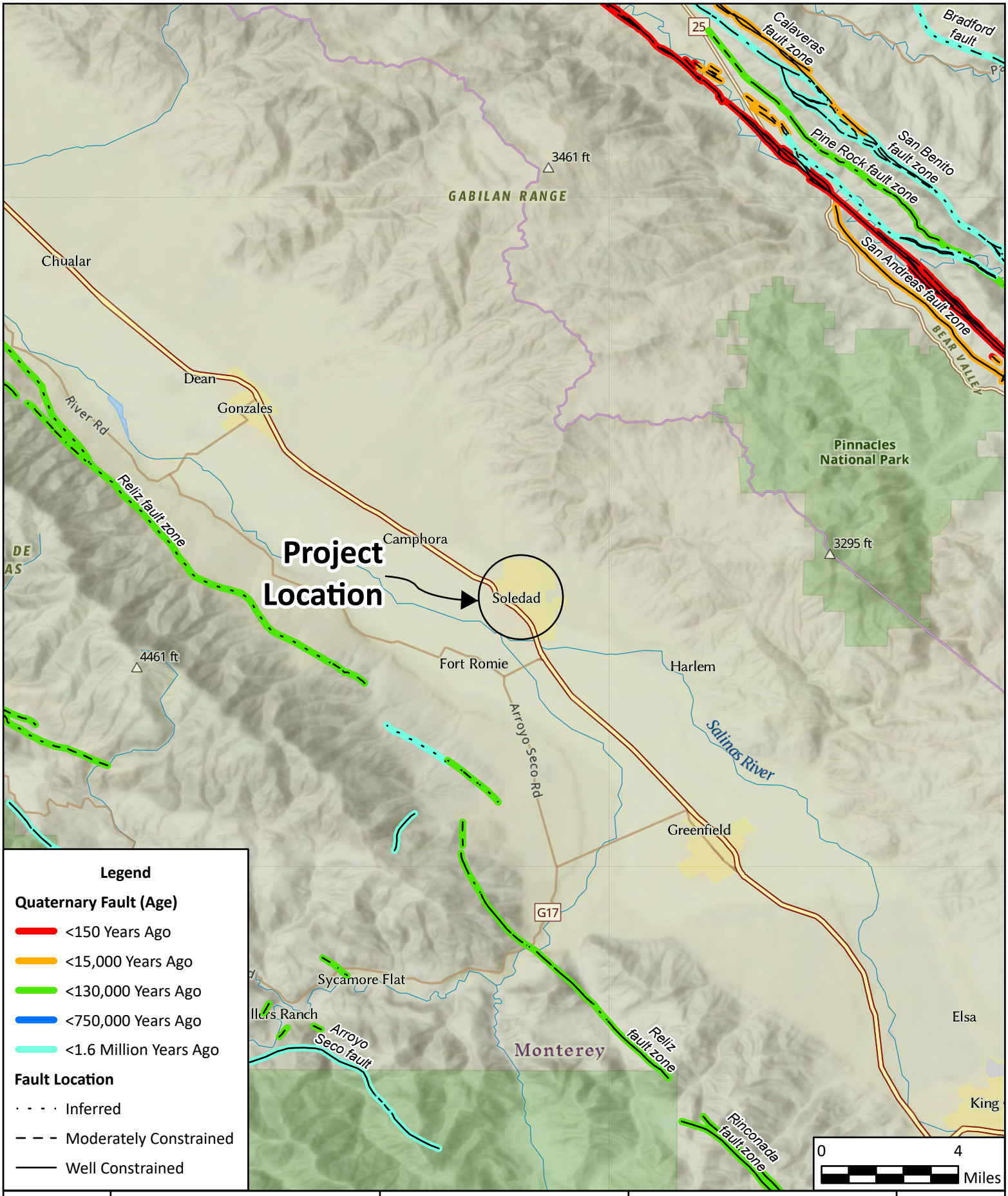
Soledad Recycled Water Conveyance

Soledad, CA

Figure 3b
Geologic Map Legend

Prj. No: 24-1057.1
Date: 06/24/2024



NORTH

References

1. Fault Data: USGS GIS Data

2. Base Map: National Geographic Style, ArcGIS Pro, ESRI

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Soledad Recycled Water Conveyance

Soledad, CA

Figure 4
Fault Map

Prj. No: 24-1057.1
Date: 06-24-2024

APPENDIX II

Boring Log Legend

2022 Crawford Boring Logs

UNIFIED SOIL CLASSIFICATION (ASTM D 2487)

MATERIAL TYPES	CRITERIA FOR ASSIGNING SOIL GROUP NAMES			GRAPHIC SYMBOL	GROUP SYMBOL	SOIL GROUP NAMES
COARSE-GRAINED SOILS >50% RETAINED ON NO. 200 SIEVE	GRAVELS >50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS <5% FINES	Cu ≥ 4 AND 1 ≤ Cc ≤ 3		GW	WELL-GRADED GRAVEL
			Cu < 4 AND/OR 1 > Cc > 3		GP	POORLY-GRADED GRAVEL
		GRAVELS WITH FINES >12% FINES	FINES CLASSIFY AS ML OR MH		GM	SILTY GRAVEL
			FINES CLASSIFY AS CL OR CH		GC	CLAYEY GRAVEL
	SANDS <50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN SANDS <5% FINES	Cu ≥ 6 AND 1 ≤ Cc ≤ 3		SW	WELL-GRADED SAND
			Cu < 6 AND/OR 1 > Cc > 3		SP	POORLY-GRADED SAND
		SANDS WITH FINES >12% FINES	FINES CLASSIFY AS ML OR MH		SM	SILTY SAND
			FINES CLASSIFY AS CL OR CH		SC	CLAYEY SAND
FINE-GRAINED SOILS >50% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT <50	INORGANIC	PI>7 AND PLOTS ON OR ABOVE "A" LINE		CL	LEAN CLAY
			PI>4 AND PLOTS BELOW "A" LINE		ML	SILT
		ORGANIC	LL (oven dried)<0.75/LL (not dried)		OL	ORGANIC CLAY OR SILT
	SILTS AND CLAYS LIQUID LIMIT >50	INORGANIC	PI PLOTS ON OR ABOVE "A" LINE		CH	FAT CLAY
			PI PLOTS BELOW "A" LINE		MH	ELASTIC SILT
		ORGANIC	LL (oven dried)<0.75/LL (not dried)		OH	ORGANIC CLAY OR SILT
HIGHLY ORGANIC SOILS		PRIMARILY ORGANIC MATTER, DARK COLOR, ORGANIC ODOR			PT	PEAT

NOTE: $Cu = D_{60}/D_{10}$

$Cc = (D_{30})^2 / D_{10} \times D_{60}$

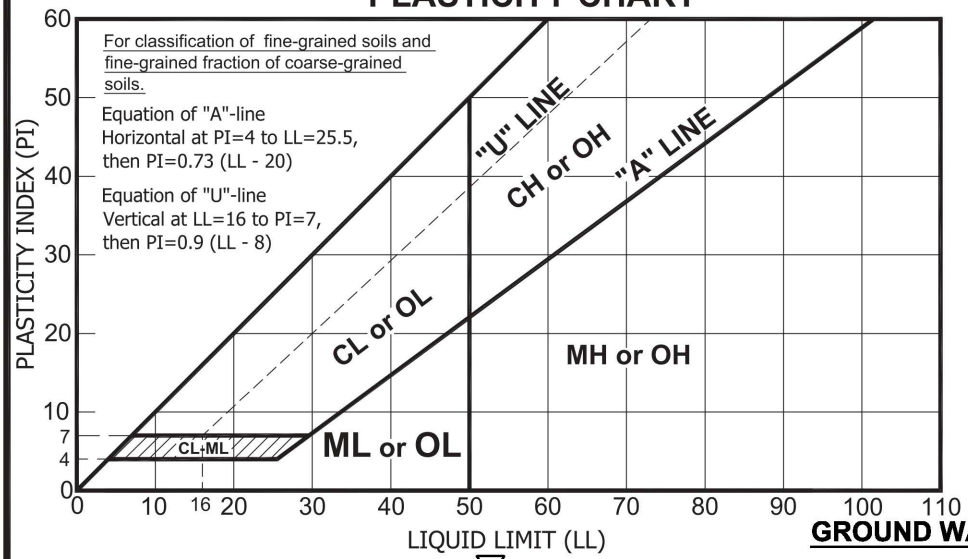
BLOW COUNT

The number of blows of a 140-lb. hammer falling 30-inches required to drive the sampler the last 12-inches of an 18-inch drive. The notation 50/4 indicates 4-inches of penetration achieved in 50 blows.

SAMPLE TYPES

- Auger or backhoe cuttings
- Shelby tube
- Standard Penetration (SPT)
- Bulk Sample
- Modified California 2.5"
- California Standard 2"
- Rock core

PLASTICITY CHART



ADDITIONAL TESTS

C	- Consolidation
CP	- Compaction Curve
CR	- Corrosivity Testing
CU	- Consolidated Undrained Triaxial
DS	- Direct Shear
EI	- Expansion Index
P	- Permeability
PA	- Partical Size Analysis
PI	- Plasticity Index
PP	- Pocket Penetrometer
R	- R-Value
SE	- Sand Equivalent
SG	- Specific Gravity
SL	- Shrinkage Limit
SW	- Swell Potential
TV	- Pocket Torvane Shear Test
UC	- Unconfined Compression
UU	- Unconsolidated Undrained Triaxial

GROUND WATER LEVELS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

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BORING LOG / TEST PIT LEGEND AND SOIL DESCRIPTIONS

LOG OF BORING A-24-001

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
LOCATION: Soledad, CA
COUNTY: Monterey
CLIENT: Carollo
LOGGED BY: EAH
DEPTH OF BORING: 36.5 (ft)

BEGIN DATE: 05/13/2024
COMPLETION DATE: 05/13/2024
SURFACE ELEVATION: 167.0 (ft)
SURFACE CONDITION: Soil
WATER DEPTH: 9.5 ft
READING TAKEN: 05/13/24
HAMMER EFFICIENCY: 92.2 (%)

DRILLING CONTRACTOR: Geo-Ex
DRILLING METHOD: 4" SS and 4" Rotary
DRILL RIG: D 70 Track
HAMMER TYPE: Automatic; 140 (lbs); 30 (in) drop
SAMPLER TYPE & SIZE: SPT (1.4" ID), MCAL (2.4" ID)
BOREHOLE DIAMETER: 4.0 (in)
BACKFILL METHOD: Neat Cement Grout

FIELD										LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD / CASING DEPTH	REMARKS
166	1		1	7 7 6	13				SILTY SAND (SM); medium dense; brown; moist; mostly fine to medium SAND; some non-plastic fines.	83								
165	2		2	5 8 9	17				Poorly-Graded SAND with SILT (SP-SM); medium dense; brown; moist; mostly fine to medium SAND; few non-plastic fines. Medium dense.	78								
164	3		3	7 10 11	21				Poorly-Graded SAND (SP); medium dense; brown; moist; mostly fine to medium SAND; trace fines.	100								
163	4								Poorly-Graded SAND with SILT (SP-SM); medium dense; brown; moist; mostly fine to medium SAND; few non-plastic fines.					7.7	102.7			
162	5		4	5 7 9	16				Poorly-Graded SAND (SP); medium dense; brown; moist; mostly fine to medium SAND; trace fines.	78								
161	6																	
160	7								SILTY SAND (SM); medium dense; brown; moist; mostly fine to medium SAND; little non to low plastic fines.									
159	8		5	5 7 8	15													
158	9	▽							Poorly-Graded SAND (SP); medium dense; brown; wet; mostly fine to medium SAND; 4% non-plastic fines.					13.6	102.7			
157	10																	
156	11		6	4 5 5	10									20.6		4		
155	12																	
154	13																	
153	14																	
152	15																	
151	16		7	2 2 2	4				loose					23.2		4		

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4701 Freeport Blvd
Sacramento, CA 95822
(916) 455-4225

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-001
ENTRY BY: EAH
CHECKED BY: ETT

ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD	CASING DEPTH	REMARKS
									FIELD			**LABORATORY**							
150	17								Poorly-Graded SAND (SP); medium dense; brown; wet; mostly fine to medium SAND; 4% non-plastic fines.										
149	18																		
148	19																		
147	20		8	4															
146	21			12 17	29				6" lense of CLAYEY GRAVEL with SAND (GC)					26.3	102.0				
145	22								Medium dense										
144	23																		
143	24																		
142	25		9	4															
141	26			6 5	11														
140	27								Fat CLAY (CH); (stiff); tan; moist; mostly medium to high plastic fines; trace fine SAND.										
139	28								SANDY Fat CLAY (CH); (very stiff); tan; moist; mostly medium to high plastic fines; some fine SAND.										
138	29																		
137	30		10	6															
136	31			11 13	24	2.75	0.88		Fat CLAY (CH); stiff to very stiff; tan; moist; mostly medium to high plastic fines; trace fine to medium SAND.					39.2	82.4				UC Strength: 1,742psf Strain at Failure: 6.2%
135	32								Dry to moist; few fine SAND.										
134	33																		
133	34																		
132	35		11	5															
131	36			7 8	15							65	101						
									Bottom of borehole at 36.5 ft bgs										

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Sacramento, CA 95822
(916) 455-4225

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-001
ENTRY BY: EAH
CHECKED BY: ETT

LOG OF BORING R-24-002

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
LOCATION: Soledad, CA
COUNTY: Monterey
CLIENT: Carollo
LOGGED BY: EAH
DEPTH OF BORING: 61.5 (ft)

BEGIN DATE: 05/13/2024
COMPLETION DATE: 05/14/2024
SURFACE ELEVATION: 162.0 (ft)
SURFACE CONDITION: Grass
WATER DEPTH: 4.0 ft
READING TAKEN: 05/13/24
HAMMER EFFICIENCY: 92.2 (%)

DRILLING CONTRACTOR: Geo-Ex
DRILLING METHOD: 4" SS and 4" Rotary
DRILL RIG: D 70 Track
HAMMER TYPE: Automatic; 140 (lbs); 30 (in) drop
SAMPLER TYPE & SIZE: MCAL (2.4" ID), ST, SPT (1.4" ID)
BOREHOLE DIAMETER: 4.0 (in)
BACKFILL METHOD: Neat Cement Grout

FIELD										LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD CASING DEPTH	REMARKS
161	1		1	6 11 22	33				SILTY SAND (SM); dense; brown; dry; mostly fine to medium SAND; little non-pastic fines.	67				10.6	110.1			Organics present from 0 to 1 ft
160	2		2	10 14 31	45				Poorly-Graded SAND with SILT (SP); dense; brown; dry; mostly fine to medium SAND; few non-plastic fines. Very dense.	83								
159	3		3	8 14 15	29				Poorly-Graded SAND (SP); very dense; brown; dry; mostly fine to medium SAND; trace fines.	78				23.6	87.4	6		
158	4								Poorly-Graded SAND with SILT and GRAVEL (SP-SM); medium dense; tan; moist; mostly fine to medium SAND; little fine to medium GRAVEL, 6% fines.									
157	5		4	4 3 4	7				6" lense of Silty Sand (SM)	100								
156	6																	
155	7								Poorly-Graded SAND (SP); loose; tan; wet; 92% coarse to fine SAND; 5% fine GRAVEL; 3% fines..									
154	8		5	2 1 2	3				Very loose; tan; wet.	61				22.9		2		
153	9																	
152	10																	
151	11		6	2 3 4	7				Medium Dense	72				20.0		3		
150	12																	
149	13								Fat CLAY (CH); stiff; tan; moist to wet; mostly high plastic fines; few fine to medium SAND.									
148	14																	
147	15																	
146	16		7	4 3 4	7	1.00	0.50			100		48	80	52.5	70.9			pH: 7.100, Min Resistivity: .54ohm-cm, Chloride: 62.5ppm, Sulfate: 177.5ppm, Redox Potential: 223mv UC Strength: 2,390psf Strain at Failure: 6.7%

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: R-24-002
ENTRY BY: EAH
CHECKED BY: ETT

ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD CASING DEPTH	REMARKS
									FIELD			**LABORATORY**						
145	17								Fat CLAY (CH); stiff; tan; moist to wet; mostly high plastic fines; few fine to medium SAND.									
144	18																	
143	19																	
142	20		S 7															Shelby hydraulic push: 500 PSI
141	21																	
140	22					2.75			Very Stiff									
139	23																	
138	24																	
137	25																	
136	26		8	7 9 13	22	3.50	0.68		Fat CLAY with SAND (CH); very stiff to stiff; tan; moist to wet; mostly high plastic Fines; little fine to medium SAND.			77	113	41.4	78.9			
135	27																	
134	28								Fat CLAY (CH); very stiff; tan; moist; mostly high plastic fines; few fine SAND.									
133	29																	
132	30		9	8 10 16	26		1.25					55	88	40.8	79.2			UC Strength: 4,046psi Strain at Failure: 5%
131	31																	
130	32																	
129	33																	
128	34																	
127	35		10	9 13 18	31		0.88		Grayish brown.									
126	36																	

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: R-24-002
ENTRY BY: EAH
CHECKED BY: ETT

ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD CASING DEPTH	REMARKS
125	37								Fat CLAY (CH); very stiff; tan; moist; mostly high plastic fines; few fine SAND.									
124	38																	
123	39																	
122	40		S 11															Shelby hydraulic push: 100 PSI
121	41																	consolidation test
						2.50												
120	42								Medium plastic fines.; trace fine SAND									
119	43																	
118	44								Lean CLAY with SAND (CL); stiff; tan; moist; mostly medium plastic fines; little fine to medium SAND.									
117	45		12	7														
				9	21													
116	46			12					SILT (ML); medium dense; gray; moist; mostly medium plastic fines; few fine SAND.			14	42	32.7	89.5			
									Gray; moist; trace fine SAND.					35.1	84.9			
115	47																	
114	48																	
113	49																	
112	50		13	7														
				9	25													
111	51			16		1.75	0.35							39.7	80.0			UC Strength: 2,578psf Strain at Failure: 6.6%
110	52																	
109	53								SILTY SAND (SM); (dense); brown; wet; mostly fine to medium SAND; little non-plastic fines.									
108	54																	
107	55		S 14															Shelby hydraulic push: 1000 PSI
106	56																	

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: R-24-002
ENTRY BY: EAH
CHECKED BY: ETT

ELEVATION (ft)	DEPTH (ft)	FIELD: SAMPLE	FIELD: SAMPLE NO	FIELD: BLOWS PER 6 IN.	FIELD: BLOWS PER FOOT	FIELD: POCKET PEN. (TSF)	FIELD: TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	LABORATORY: PLASTICITY INDEX	LABORATORY: LIQUID LIMIT	LABORATORY: MOISTURE (%)	LABORATORY: D. DENSITY (PCF)	LABORATORY: % PASSING 200 SIEVE	DRILL METHOD	CASING DEPTH	REMARKS
104	58								SILTY SAND (SM); (dense); brown; wet; mostly fine to medium SAND; little non-plastic fines.										
103	59								Poorly-Graded SAND (SP); very dense; tan; wet; mostly fine to medium SAND; trace non-plastic fines.										
102	60		15	25															
101	61			38 38	76									17.8		5			
									Bottom of borehole at 61.5 ft bgs										
100	62																		
99	63																		
98	64																		
97	65																		
96	66																		
95	67																		
94	68																		
93	69																		
92	70																		
91	71																		
90	72																		
89	73																		
88	74																		
87	75																		
86	76																		

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: R-24-002
ENTRY BY: EAH
CHECKED BY: ETT

LOG OF BORING A-24-003

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
LOCATION: Soledad, CA
COUNTY: Monterey
CLIENT: Carollo
LOGGED BY: EAH
DEPTH OF BORING: 36.5 (ft)

BEGIN DATE: 05/14/2024
COMPLETION DATE: 05/14/2024
SURFACE ELEVATION: 182.0 (ft)
SURFACE CONDITION: Asphalt
WATER DEPTH: 27.0 ft
READING TAKEN: 05/14/24
HAMMER EFFICIENCY: 92.2 (%)

DRILLING CONTRACTOR: Geo-Ex
DRILLING METHOD: 4" SS and 4" Rotary
DRILL RIG: D 70 Track
HAMMER TYPE: Automatic; 140 (lbs); 30 (in) drop
SAMPLER TYPE & SIZE: SPT (1.4" ID), MCAL (2.4" ID), Bulk
BOREHOLE DIAMETER: 4.0 (in)
BACKFILL METHOD: Neat Cement Grout

FIELD										LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD / CASING DEPTH	REMARKS
									ASPHALT CONCRETE(4")									
									AGGREGATE BASE(6")									
181	1	Bulk							CLAYEY SAND (SC); medium dense; brown; moist; mostly fine to coarse SAND; little medium plastic fines.	100								
			1	8 11 12	23	+4.5												
180	2								Lean CLAY with SAND (CL); hard; dark brown; moist; mostly medium plastic fines; little fine to medium SAND.									
			2	4 4 6	10				Lean CLAY (CL); (hard); dark brown; moist; mostly medium plastic fines; few fine to medium GRVEL; trace fine SAND.	67								
178	4																	
			3	7 21 29	50	+4.5			Lean CLAY with SAND (CL); hard; tan; dry; 82% fines; little fine to medium SAND.	67				22.6	101.8	82		
177	5																	
			4	7 8 7	15				SANDY lean CLAY (CL); (stiff); tan; dry; 53% low to medium plastic fines; some fine to medium SAND.	78						53		
176	6																	
175	7																	
174	8																	
173	9																	
172	10																	
			5	13 14 17	31	2.00			very stiff; brown; moist; 60% fines.					18.9	107.5	60		
171	11																	
170	12								Poorly-Graded SAND (SP); dense; tan; moist; mostly fine to medium SAND; trace fines.									
169	13								SILTY SAND (SM); dense; tan; dry; mostly fine to coarse SAND; little non-plastic fines.									
168	14																	
167	15																	
			6	13 14 14	28				Poorly-Graded SAND (SP); dense; tan; dry to moist; most fine to coarse SAND; trace fines.					2.8		3		
166	16																	

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-003
ENTRY BY: EAH
CHECKED BY: ETT

ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD	CASING DEPTH	REMARKS
165	17								Poorly-Graded SAND (SP); dense; tan; dry to moist; most fine to coarse SAND; trace fines.										
164	18																		
163	19								Poorly-Graded SAND with SILT (SP-SM); very dense; tan; moist; mostly fine to coarse SAND; few non-plastic fines.										
162	20		7	15															
161	21			19 28	47														
									Poorly-Graded SAND (SP); very dense; tan; moist; mostly fine to coarse SAND; trace fines.										
160	22								Poorly-Graded SAND with GRAVEL (SP); very dense; tan; moist; mostly fine to coarse SAND; little fine to medium GRAVEL; trace non-plastic fines.										
159	23								SILTY SAND (SM); dense; tan; moist; mostly fine to coarse SAND; little non-plastic fines.										
158	24																		
157	25		8	9															
156	26			10 21	31														
									SILTY SAND with GRAVEL (SM); dense; tan; moist; mostly fine to coarse; little non-plastic fines.										
155	27	▼																	
154	28								SILTY SAND (SM); dense; tan; moist to wet; mostly fine to coarse SAND; little non-plastic fines; little fine to medium GRAVEL.										
153	29																		
152	30		9	13															
151	31			14 13	27									9.1					
150	32																		
149	33								Poorly-Graded SAND (SP); very dense; tan; wet; mostly fine to medium SAND; trace fines.										
148	34																		
147	35		10	17															Could not continue sampling, auger hole was collapsing.
146	36			19 25	44				Poorly-Graded SAND with SILT (SP-SM); very dense; tan; wet; mostly fine to medium SAND; few non-plastic fines.										1" SILTY SAND pockets present.

Bottom of borehole at 36.5 ft bgs

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-003
ENTRY BY: EAH
CHECKED BY: ETT

LOG OF BORING A-24-004

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
LOCATION: Soledad, CA
COUNTY: Monterey
CLIENT: Carollo
LOGGED BY: EAH
DEPTH OF BORING: 16.5 (ft)

BEGIN DATE: 05/14/2024
COMPLETION DATE: 05/15/2024
SURFACE ELEVATION: 190.0 (ft)
SURFACE CONDITION: Asphalt
WATER DEPTH: Not Encountered
READING TAKEN: N/A
HAMMER EFFICIENCY: 92.2 (%)

DRILLING CONTRACTOR: Geo-Ex
DRILLING METHOD: 4" SS
DRILL RIG: D 70 Track
HAMMER TYPE: Automatic; 140 (lbs); 30 (in) drop
SAMPLER TYPE & SIZE: MCAL (2.4" ID), SPT (1.4" ID), Bulk
BOREHOLE DIAMETER: 16.5 (in)
BACKFILL METHOD: Neat Cement Grout

FIELD										LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD / CASING DEPTH	REMARKS
190	0								ASPHALT CONCRETE(5")									
									AGGREGATE BASE(5")									
189	1		Bulk						CLAYEY SAND (SC); Medium dense; brown; moist; mostly fine to coarse SAND; little low to medium plastic fines.	100								
			1	6														
188	2			10	21	3.25			Lean CLAY with SAND (CL); very stiff; brown; moist; mostly medium plastic fines; little fine to medium SAND.					20.9	105.6			
				11		2.82												
187	3		2	4					Lean CLAY (CL); very stiff; brown; moist; mostly medium plastic fines; trace fine to medium SAND.	100								
				7	16													
186	4			9					Few fine to medium SAND.									
			3	9						89								
185	5			7	29	+4.5			Hard.									pH: 8.12, Min Resistivity: .6ohm-cm, Chloride: 131ppm, Sulfate: 196.7ppm, Redox Potential: 261mv
				22		+4.5												
184	6		4	5					Lean CLAY with SAND (CL); (stiff); tan; dry; mostly low to medium plastic fines; little fine to medium SAND.	94								
				5	9				<6" Lense of SILT (ML)									
183	7			4														
182	8																	
181	9								Poorly-Graded SAND (SP); medium dense; tan; moist; mostly medium to coarse SAND; 3% fines.									
180	10																	
			5	5														
179	11			7	15									2.1		3		Finished drilling for the day 5-14-24, continued on 5-15-24.
				8														
178	12																	
177	13								Poorly-Graded SAND with SILT and GRAVEL (SP-SM); dense; tan; dry; mostly fine to medium SAND; little fine to medium GRAVEL; few non-plastic fines.									
176	14																	
175	15																	
			6	10														
174	16			12	30													
				18					Poorly-Graded SAND (SP); dense; tan; dry; mostly fine to medium SAND; trace fines.									
									Bottom of borehole at 16.5 ft bgs									

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-004
ENTRY BY: EAH
CHECKED BY: ETT

LOG OF BORING A-24-005

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
LOCATION: Soledad, CA
COUNTY: Monterey
CLIENT: Carollo
LOGGED BY: EAH
DEPTH OF BORING: 16.5 (ft)

BEGIN DATE: 05/14/2024
COMPLETION DATE: 05/14/2024
SURFACE ELEVATION: 258.0 (ft)
SURFACE CONDITION: Soil
WATER DEPTH: Not Encountered
READING TAKEN: N/A
HAMMER EFFICIENCY: 92.2 (%)

DRILLING CONTRACTOR: Geo-EX
DRILLING METHOD: 4" SS
DRILL RIG: D 70 Track
HAMMER TYPE: Automatic; 140 (lbs); 30 (in) drop
SAMPLER TYPE & SIZE: SPT (1.4" ID), Bulk, MCAL (2.4" ID)
BOREHOLE DIAMETER: 4.0 (in)
BACKFILL METHOD: Neat Cement Grout

FIELD										LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD / CASING DEPTH	REMARKS
257	1	Bulk	1	20 16 20	36				SILTY SAND (SM); dense; brown; dry; mostly fine to coarse SAND; little non-plastic fines.	100				6.3	135.1			
256	2		2	14 9 4	13				CLAYEY SAND (SC); medium dense; dark brown; dry; mostly fine to coarse SAND; 29% low to medium plastic fines.	78				5.2		29		
255	3		3	5 12 10	22	4.00 +4.5			SANDY lean CLAY (CL); (hard); dark brown; dry; mostly medium plastic fines; some fine to coarse SAND.					8.0	127.3			pH: 7.61, Min Resistivity: 3.75ohm-cm, Chloride: 6.2ppm, Sulfate: 18.9ppm, Redox Potential: 290mv
253	5		4	4 5 5	10				CLAYEY SAND (SC); medium dense; brown; moist; mostly fine to coarse SAND; 43% medium to low plastic fines.					8.4		43		
248	10		5	11 8 5	13					83				8.4				
245	13								SILTY SAND (SM); very dense; brown; moist; mostly fine to coarse SAND; little non to low plastic fines.									
242	16		6	20 31 35	66					100								
									Bottom of borehole at 16.5 ft bgs									

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-005
ENTRY BY: EAH
CHECKED BY: ETT

LOG OF BORING A-24-006

PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
LOCATION: Soledad, CA
COUNTY: Monterey
CLIENT: Carollo
LOGGED BY: EAH
DEPTH OF BORING: 18.0 (ft)

BEGIN DATE: 05/15/2024
COMPLETION DATE: 05/14/2024
SURFACE ELEVATION: 224.0 (ft)
SURFACE CONDITION: Asphalt
WATER DEPTH: Not Encountered
READING TAKEN: N/A
HAMMER EFFICIENCY: 92.2 (%)

DRILLING CONTRACTOR: Geo-Ex
DRILLING METHOD: 4" SS
DRILL RIG: D70 Track
HAMMER TYPE: Automatic; 140 (lbs); 30 (in) drop
SAMPLER TYPE & SIZE: SPT (1.4" ID), MCAL (2.4" ID), Bulk
BOREHOLE DIAMETER: 4.0 (in)
BACKFILL METHOD: Neat Cement Grout

FIELD										LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD / CASING DEPTH	REMARKS
									ASPHALT CONCRETE(4")									
									AGGREGATE BASE(4")									
223	1	Bulk							CLAYEY SAND (SC); loose; dark brown; dry; mostly fine to medium SAND; 24% low to medium plastic fines.	100								
			1	6 3 5	8					61								
222	2								Moist					8.3	119.2			
			2	4 4 6	10				Medium Dense	89								
220	4		3	7 8 11	19				Fine to coarse SAND.	78				6.7		24		pH: 7.02, Min Resistivity: .91ohm-cm, Chloride: 22.5ppm, Sulfate: 80.3ppm, Redox Potential: 28mv
218	6		4	5 5 5	10				Some low to medium plastic fines, few fine GRAVEL. No GRAVEL.	83								
215	9								Poorly-Graded SAND with CLAY (SP-SC); medium dense; dark brown; moist; mostly fine to medium SAND; few low to medium plastic fines.									
214	10		5	6 5 5	10					78				12.9				
212	12								CLAYEY SAND (SC); medium dense; dark brown; moist; mostly fine to medium SAND; little low to medium plastic fines.									
209	15		6	4 6 7	13					89								
208	16								SANDY CLAY (CL); (stiff); brown; moist; mostly low to medium plastic fines; some fine to medium SAND.	100								

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PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-006
ENTRY BY: EAH
CHECKED BY: ETT

FIELD											LABORATORY							
ELEVATION (ft)	DEPTH (ft)	SAMPLE	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	TORVANE (TSF)	GRAPHIC LOG	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTICITY INDEX	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	DRILL METHOD	CASING DEPTH	REMARKS
207	17			13 15 21	36	2.75	1.62		SANDY CLAY (CL); (stiff); brown; moist; mostly low to medium plastic fines; some fine to medium SAND.										
206	18								Lean CLAY wih SAND (CL); very stiff; brown; moist; mostly fine to medium SAND; little fine to coarse SAND.										
205	19								Bottom of borehole at 18.0 ft bgs										
204	20																		
203	21																		
202	22																		
201	23																		
200	24																		
199	25																		
198	26																		
197	27																		
196	28																		
195	29																		
194	30																		
193	31																		
192	32																		
191	33																		
190	34																		
189	35																		
188	36																		

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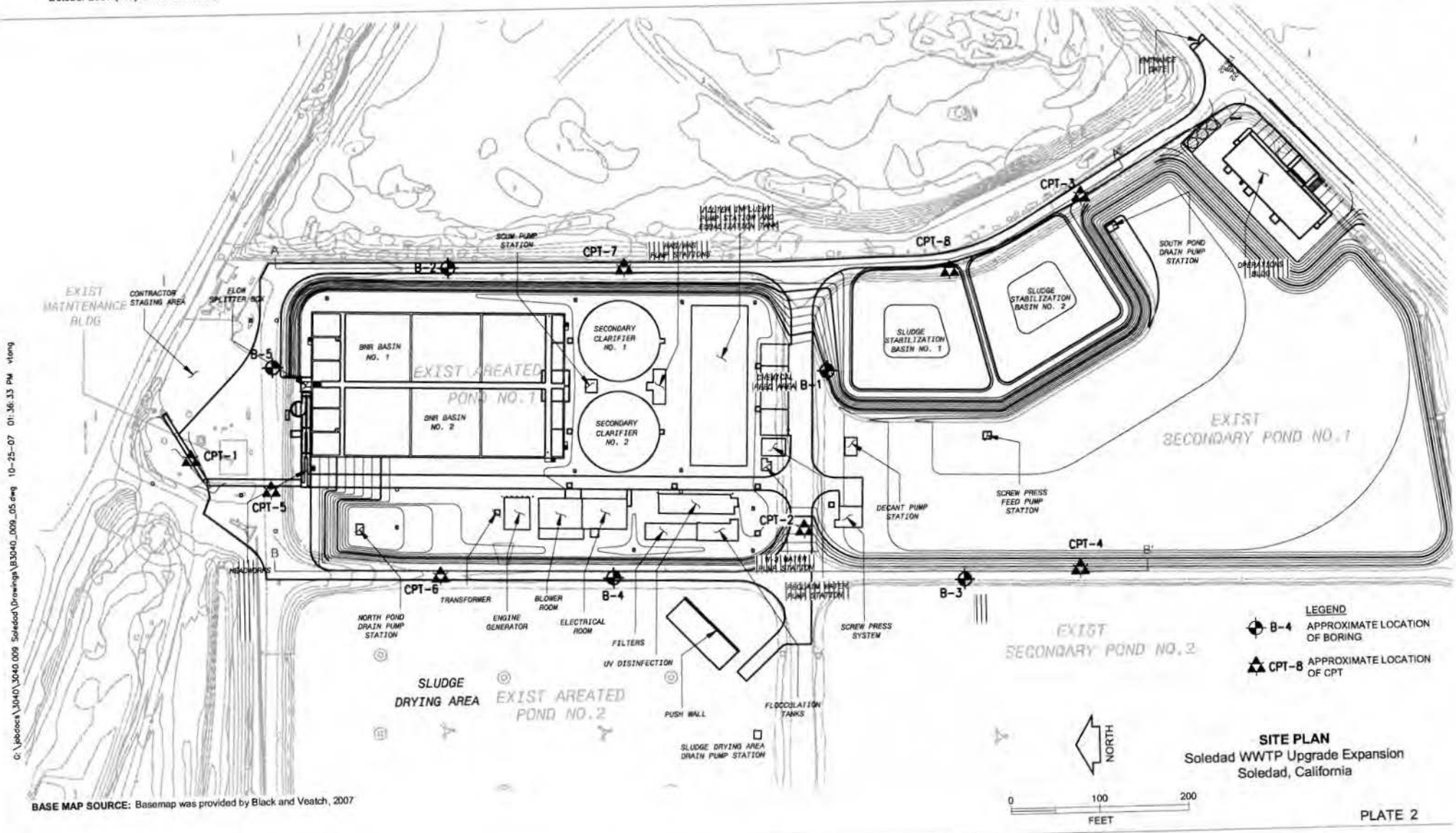
PROJECT NO: 24-1057.1
PROJECT: Soledad Recycled Water Conveyance
BORING: A-24-006
ENTRY BY: EAH
CHECKED BY: ETT

APPENDIX III

Previous Boring Logs and Associated Lab

Black & Veatch
October 2007 (Project No. 3040.009)



SITE PLAN
Soledad WWTP Upgrade Expansion
Soledad, California

PLATE 2

BASE MAP SOURCE: Basemap was provided by Black and Veatch, 2007

G:\jobdocs\3040\3040.009 Soledad\Drawings\B3040_009_05.dwg 10-25-07 01:36:33 PM vtong

MAJOR DIVISIONS			GROUP NAMES	
COARSE-GRAINED SOILS More than 50% retained on the No. 200 sieve	GRAVELS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	Clean gravels less than 5% fines	GW	Well-Graded Gravel
			GP	Poorly Graded Gravel
		Gravels with more than 12% fines	GM	Silty Gravel
			GC	Clayey Gravel
	SANDS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	Clean sand less than 5% fines	SW	Well-Graded Sand
			SP	Poorly Graded Sand
		Sands with more than 12% fines	SM	Silty Sand
			SC	Clayey Sand
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	SILTS AND CLAYS Liquid Limit Less than 50%		ML	Silt
			CL	Lean Clay
			OL	Organic Silt
	SILTS AND CLAYS Liquid Limit Greater than 50%		MH	Elastic Silt
			CH	Fat Clay
			OH	Organic Clay
HIGHLY ORGANIC SOILS			PT	Peat or Highly Organic Soils
			FILL	Debris or Mixed Fill
			AC	Asphalt Concrete Pavement with Aggregate Base

GENERAL NOTES

Classification of Soils in general accordance with ASTM D2487 or D2488 (based on the Unified Soil Classification System)

Geologic Formation noted in bold font at the top of interpreted interval
Sloped line in break column indicates transitional boundary

Blow counts for modified California Liner Sampler shown in ( )

Length of sample symbol approximates recovery length

SAMPLER DRIVING RESISTANCE

Number of blows with 140 lb. hammer, falling 30-in. to drive sampler 1-ft. after seating sampler 6-in.; for example,

Blows/ft	Description
25	25 blows drove sampler 12" after initial 6" of seating
50/7"	50 blows drove sampler 7" after initial 6" of seating
Ref/3"	50 blows drove sampler 3" during initial 6" seating interval (Ref=Refusal)

STRENGTH TEST METHOD

U = Unconfined Compression
Q = Unconsolidated Undrained Triaxial
T = Torvane
P = Pocket Penetrometer
M = Miniature Vane
F = Field Vane

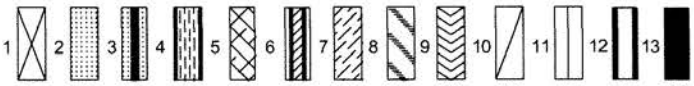
OTHER TESTS

k = Permeability
Consol = Consolidation
Gs = Specific Gravity
MA = Particle Size Analysis
EI = Expansion Index
OVM = Organic Vapor Meter

WATER LEVEL SYMBOLS

- Initial or perched water level
- Final ground water level
- Seepages encountered

SAMPLER TYPE AND RECOVERY



Samplers and sampler dimensions (unless otherwise noted in report text) are as follows:

1 SPT Sampler, driven 1 3/8" ID, 2" OD
2 MOD CA Liner Sampler 2 3/8" ID, 3" OD
3 CA Liner Sampler 1 7/8" ID, 2.5" OD
4 Thin-walled Tube, pushed 2 7/8" ID, 3" OD
5 Bulk Bag Sample (from cuttings)
6 Hand Auger Sample
7 Lexan Sample
8 Pitcher Sample
9 Vibracore Sample
10 No Sample Recovered
11 Rock Core
12 Direct Push
13 Enviromental Sample

Retained samples listed in sample No. column

SOIL STRUCTURE

Fissured: Containing shrinkage or relief cracks, often filled with fine sand or silt, usually more or less vertical.

Pocket: Inclusion of material of different texture that is smaller than the diameter of the sample.

Parting: Inclusion less than 1/8 inch thick extending through the sample.

Seam: Inclusion 1/8 inch to 3 inches thick extending through the sample.

Layer: Inclusion greater than 3 inches thick extending through the sample.

Laminated: Soil sample composed of alternating partings or seams of different soil types.

Interlayered: Soil sample composed of alternating layers of different soil type.

Intermixed: Soil sample composed of pockets of different soil type, and layered or laminated structure is not evident.

CONSISTENCY (1)

Clays	Blows/Foot SPT	Undrained Shear Strength (ksf)
Very Soft	0 - 2	0 - 0.25
Soft	2 - 4	0.25 - 0.5
Firm	4 - 8	0.5 - 1
Stiff	8 - 15	1 - 2
Very Stiff	15 - 30	2 - 4
Hard	Over 30	Over 4

RELATIVE DENSITY (1)

Sands and Gravels	Blows/Foot SPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

INCREASING VISUAL MOISTURE CONTENT

Information on each boring log is a compilation of subsurface conditions and soil or rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the time and places indicated, and can vary with time, geologic condition, or construction activity.

(1) Terzaghi and Peck 1967

TERMS AND SYMBOLS USED ON BORING LOGS

LOCATION: Soledad City Plant
N 2,044,503 E 5,873,492

SURFACE EL: 169.1 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
	1a 1b		(47)	Fine to Medium SAND (SP): medium dense, brown, dry, trace fine gravel							
	2		28	- layer of dark brown clay with organics, at 1'							
165 / 5	3a 3b		(49)	Clayey Fine SAND (SC): medium dense, dark gray							
	4		20	- black, with organics, below 6'			39				
160 / 10	5		18								
155 / 15	6		23								
	7		24	Fine to Coarse SAND (SW): medium dense, gray, with clay pockets, trace gravel							Corrosivity
150 / 20	8		11	Medium to Coarse SAND with Fine Gravel (SW): loose to medium dense, gray			3				
145	9		14	Fat CLAY (CH): stiff, light brown							

Continued

BORING DEPTH: 50.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-1

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,503 E 5,873,492

SURFACE EL: 169.1 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
140 / 30	10a 10b		(31)			37		70	51	0.6 Q	
135 / 35	11		(78/9")	- mottled brown, below 35'							
130 / 40	12a 12b		(19)	- with coarse gravel and rock fragments, at 40'							
125 / 45	13		300 psi	- fine sand in tip of sampler, at 46'							
120	14		(24)								

Continued

BORING DEPTH: 50.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-1

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,503 E 5,873,492

SURFACE EL: 169.1 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
115 / 55					- brownish gray, mottle brown, with sand pockets, at 50'							
110 / 60					- End of Boring at 50.5'							
105 / 65												
100 / 70												
95												

BORING DEPTH: 50.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-1

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,930 E 5,873,605

SURFACE EL: 171.9 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
171.9 / 0					Clayey SAND (SC): medium dense, brown, dry							
170		1		23								
5		2		19	Clayey SAND (SC): medium dense, dark gray to black							
165												
10		3		18	- with organics, at 9'			44				
160												
15		4a 4b		(11)								
155												
20		5a 5b		(19)	Silty Fine SAND (SM): medium dense, gray, trace mica							
150												
		6		12				18				

Continued

BORING DEPTH: 30.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 18, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-2

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,930 E 5,873,605

SURFACE EL: 171.9 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
145												
					Lean CLAY (CL): stiff, grayish brown, mottled brown							
30		7a 7b		(23)		80	42					
					- End of Boring at 30.5'							
140												
35												
135												
40												
130												
45												
125												

BORING DEPTH: 30.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 18, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-2

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,352 E 5,873,250

SURFACE EL: 168.9 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
165 / 5		1		43	Fine SAND with silt (SP-SM): dense, brown, dry							
		2		39	- light gray, moist, with gravel, below 5'							
160 / 10		3		25				7				
155 / 15		4		14	Fine to Coarse SAND with Gravel (SW): medium dense, brown			3				
150 / 20		5		30								
145				14								

Continued

BORING DEPTH: 40.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-3

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,352 E 5,873,250

SURFACE EL: 168.9 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
	6		22								
140	7		12	Lean CLAY (CL): stiff to very stiff, grayish brown, mottled brown							
30											
135	8a		(17)	- with gravel, at 34'	86	38					
35	8b										
130	9		18								
40				- End of Boring at 40.5'							
125											
45											
120											

BORING DEPTH: 40.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-3

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,749 E 5,873,260

SURFACE EL: 169.0 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
		1		83	Find SAND with Silt (SP-SM): very dense, brown, dry (high blowcount from cold cathead) - gray, moist, below 2'							
165 / 5		2		56								
160 / 10		3		8	Lean CLAY (CL): firm, gray, trace organics			90				
155 / 15		4a 4b		(8)	Fine SAND with Silt (SP-SM): loose, gray							Corrosivity
150 / 20		5		21	Fine to Coarse SAND with Gravel (SW): medium dense, gray			5				
145		6		50	- very dense, at 24'							

Continued

BORING DEPTH: 40.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 18, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-4

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,044,749 E 5,873,260

SURFACE EL: 169.0 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
					Lean CLAY (CL): stiff, grayish brown, mottled brown							
140 / 30		7a 7b		(42)		113	17					
135 / 35		8		psi	- with sand, at 34'		39		48	32	1.8 Q	
130 / 40		9		16	- trace gravel, at 39'							
					- End of Boring at 40.5'							
125 / 45												
120												

BORING DEPTH: 40.5 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 18, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-4

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,045,173 E 5,873,505

SURFACE EL: 172.8 ft +/- 0.5 (rel. NAVD88 datum)

ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
170 / 0		1		68	Fine SAND (SP): very dense, light brown, dry, with clay pockets							
5		2		42	Clayey SAND with Fine Gravel (SC): dense, dark brown							
165												
10		3		12	- medium dense, brown, with clay pockets, below 9'							
160												
15		4		13								Corrosivity
155												
20		5a 5b		23	Fine to Coarse GRAVEL with Sand (GW): medium dense, subrounded							
150												
		6a 6b		35	Fine to Medium SAND with Gravel (SP): dense,			11				

Continued

BORING DEPTH: 35.0 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-5

Soledad WWTP Upgrade and Expansion
Soledad, California

LOCATION: Soledad City Plant
N 2,045,173 E 5,873,505

SURFACE EL: 172.8 ft +/- 0.5 (rel. NAVD88 datum)

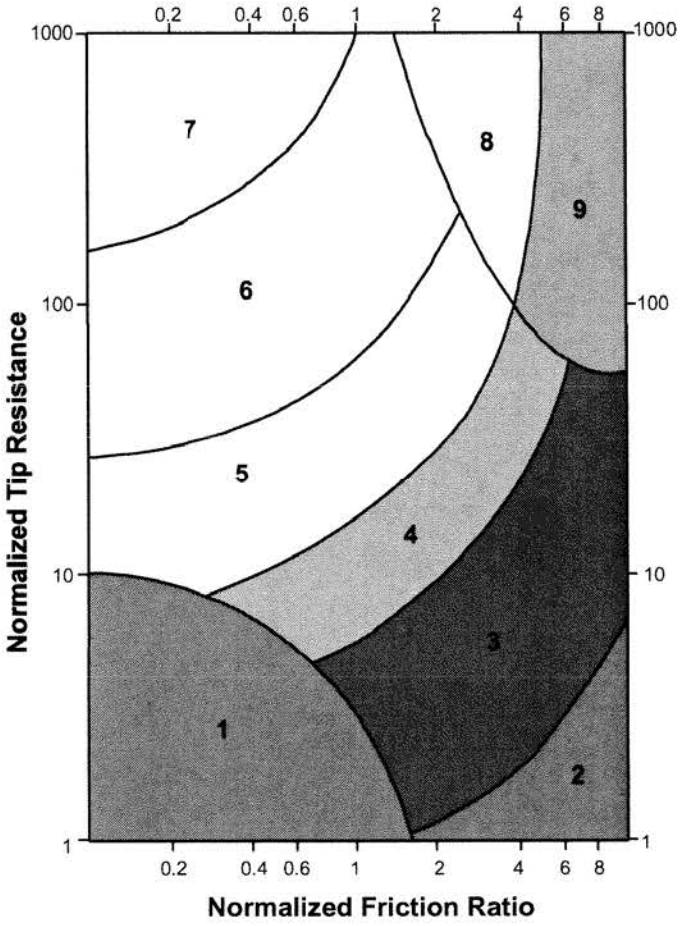
ELEVATION, ft / DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
145 / 30		7		34	brown							
140		8		32	Clayey SAND (SC): dense, brown, mottled red			42				
35					- End of Boring at 35'							
135												
40												
130												
45												
125												

BORING DEPTH: 35.0 ft
DEPTH TO WATER: Not Measured
BACKFILL: Grout
COMPLETION DATE: November 17, 2006
NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 5-in. dia. Mud Rotary Wash
HAMMER TYPE: Safety Hammer - Rope and Cathead, 140 lb
DRILLED BY: Gregg Drilling
LOGGED BY: M. Paquette

LOG OF BORING NO. B-5

Soledad WWTP Upgrade and Expansion
Soledad, California



Zone	Soil Behavior Type
1	Sensitive Fine-grained
2	Organic Material
3	Clay to Silty Clay
4	Clayey Silt to Silty Clay
5	Silty Sand to Sandy Silt
6	Clean Sands to Silty Sands
7	Gravelly Sand to Sand
8	Very Stiff Sand to Clayey Sand
9	Very Stiff Fine-grained *

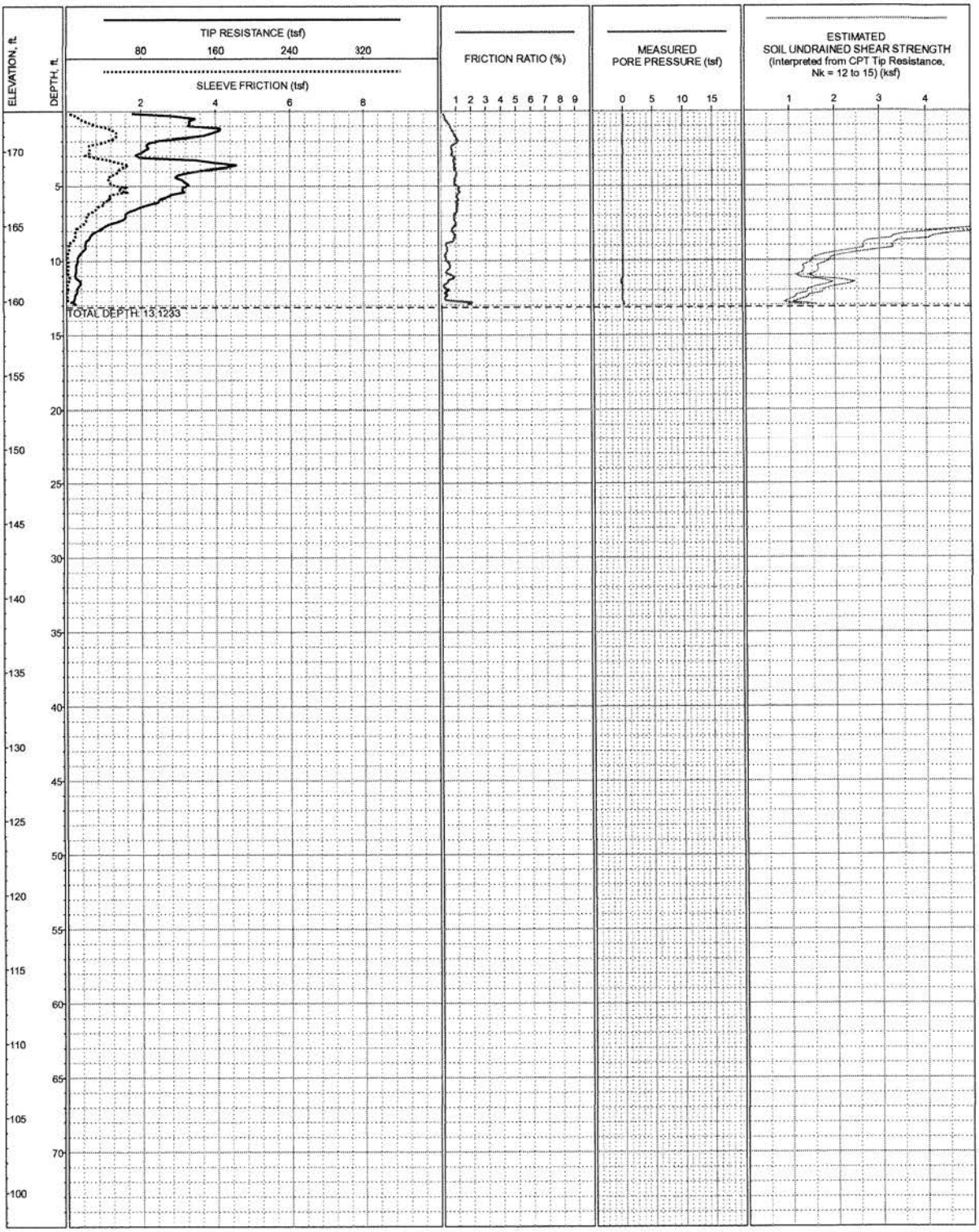
*overconsolidated or cemented

CPT CORRELATION CHART
(Modified from Robertson, 1990)

KEY TO CPT LOGS

Soledad WWTP Upgrade and Expansion
Soledad, California

G:\jobdocs\3040\3040.009 Soledad\GIS\MXD\Key_CPT_Logs.mxd, 06/04/07, mboone



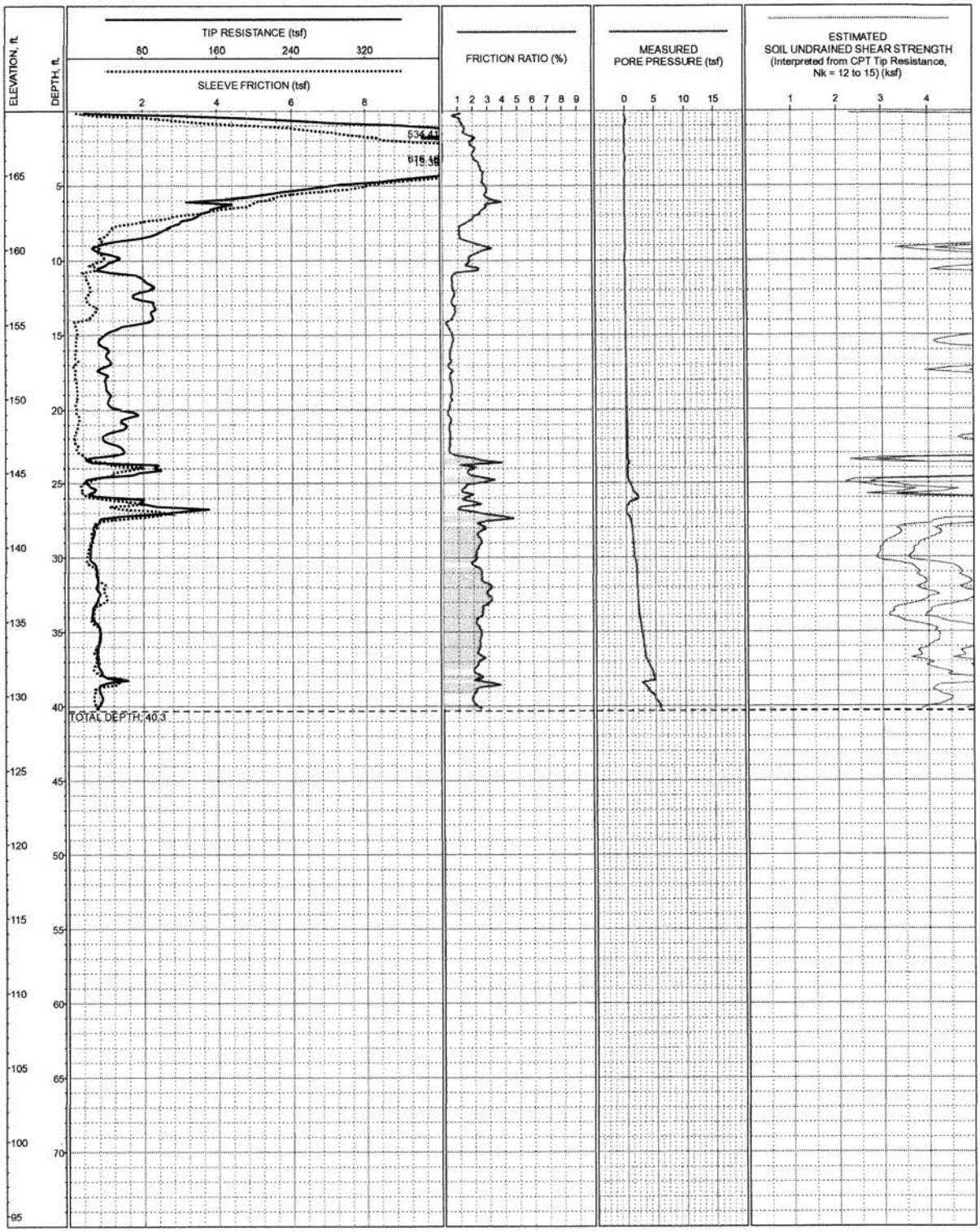
LOCATION: E5873404 N2045226 (State Plane, NAD83, California Zone 4)
SURFACE EL: 172.7ft (NAVD88)
COMPLETION DEPTH: 13.1233ft
TEST DATE: 11/21/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-1

Soledad WWTP Upgrade and Expansion
Soledad, California

FUGRO

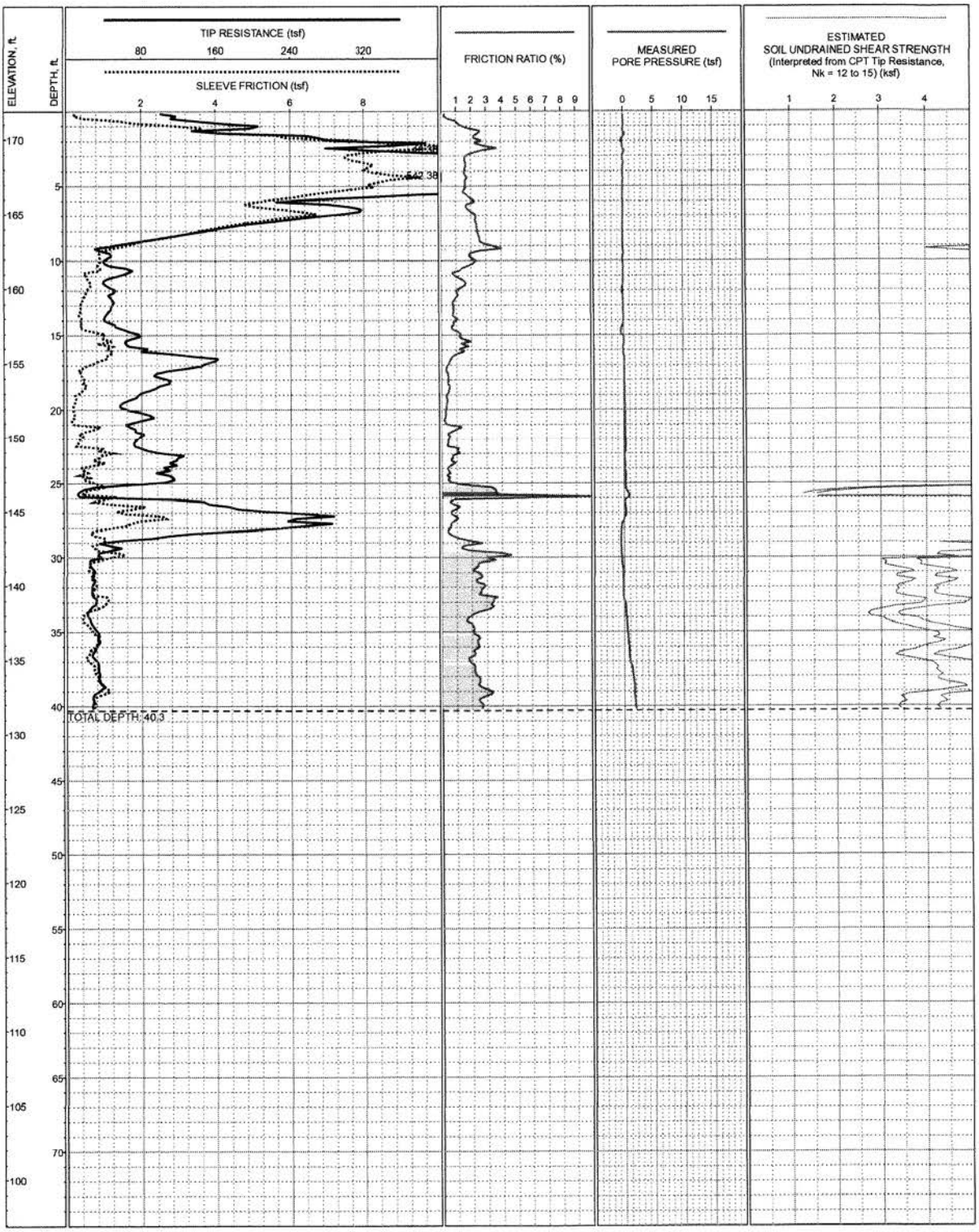


LOCATION: E5873310 N2044533 (State Plane, NAD83, California Zone 4)
SURFACE EL: 169.3ft (NAVD88)
COMPLETION DEPTH: 40.3ft
TEST DATE: 11/21/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-2

Soledad WWTP Upgrade and Expansion
Soledad, California

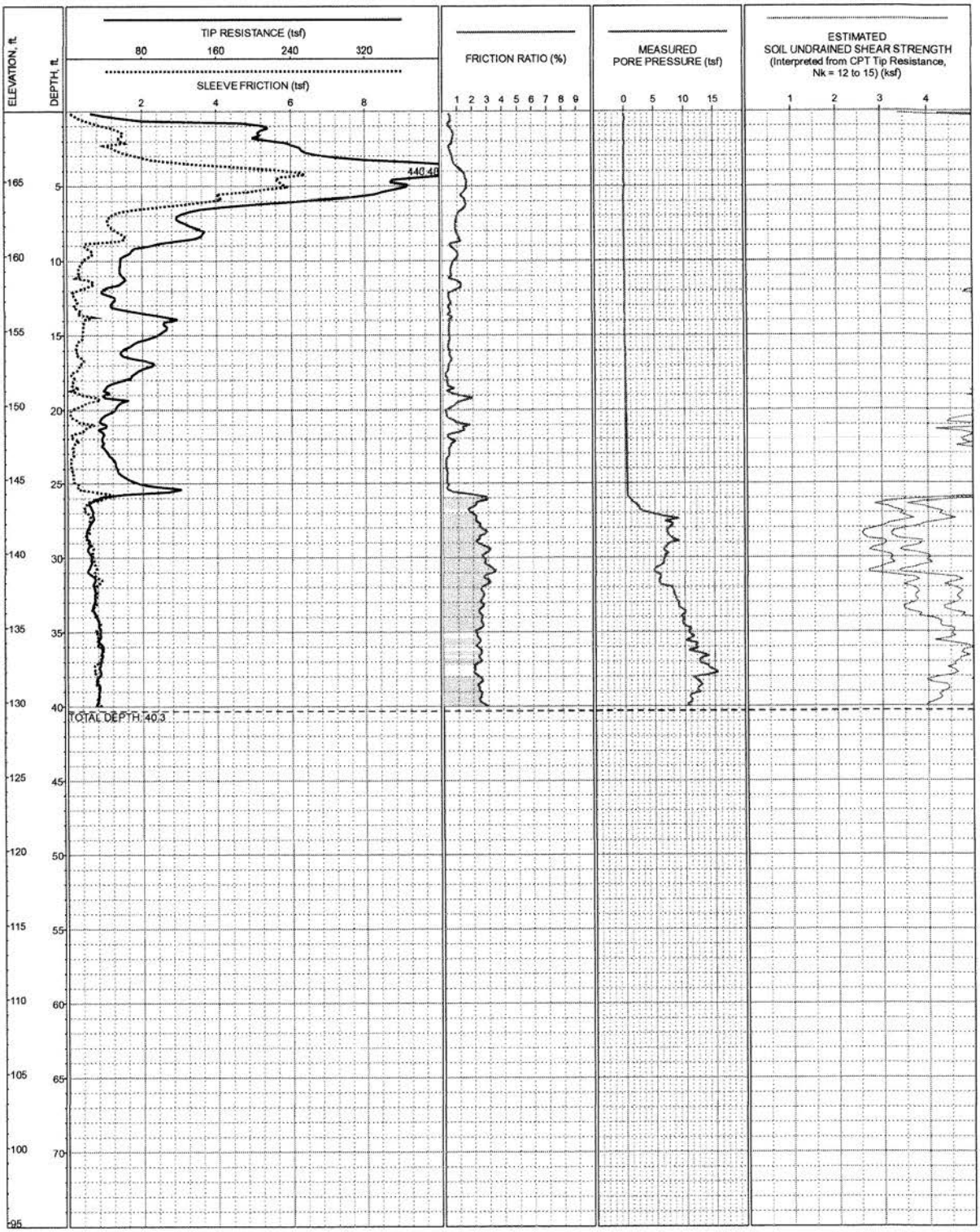


LOCATION: E5873685 N2044211 (State Plane, NAD83, California Zone 4)
SURFACE EL: 171.9ft (NAVD88)
COMPLETION DEPTH: 40.3ft
TEST DATE: 11/22/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-3

Soledad WWTP Upgrade and Expansion
Soledad, California

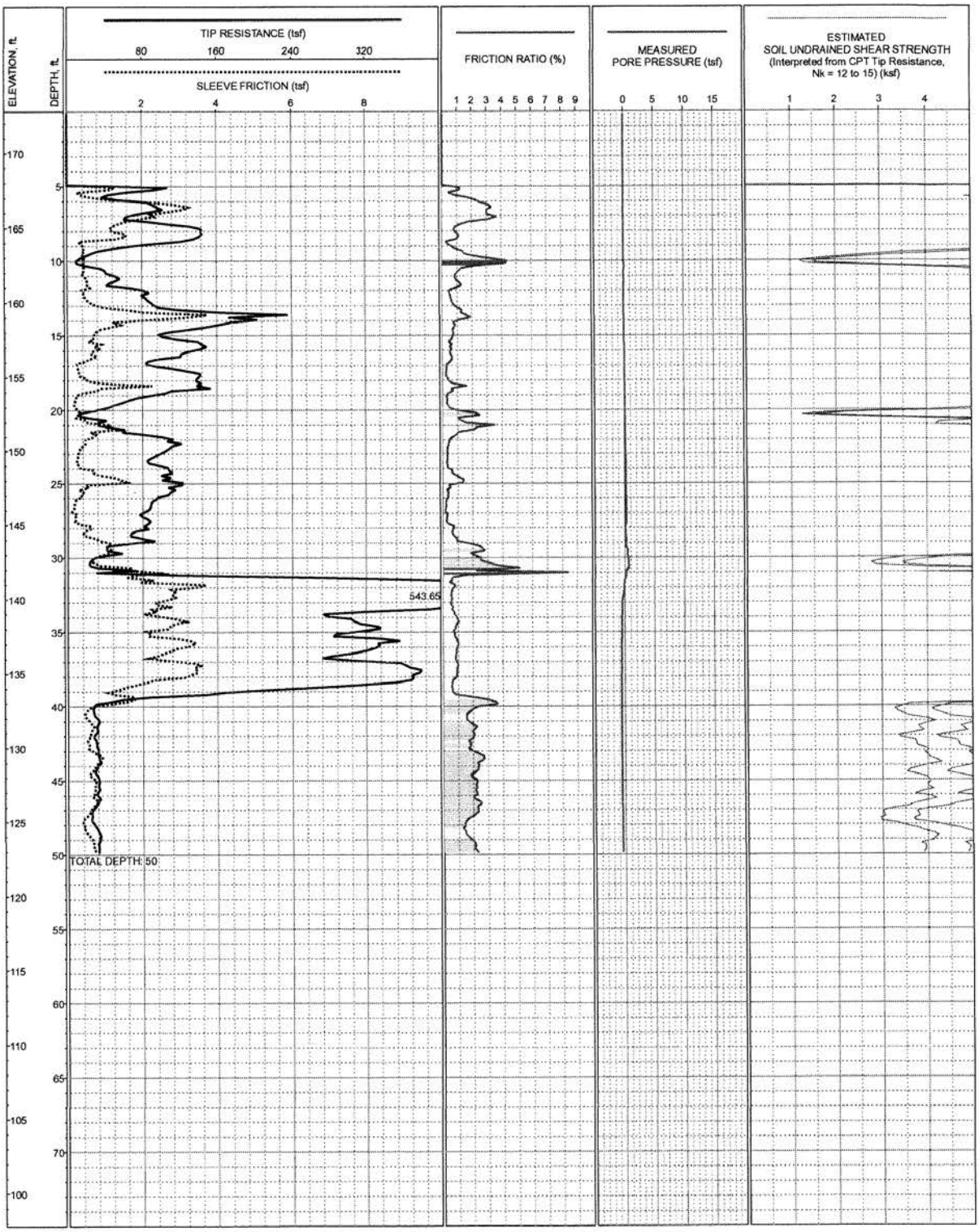


LOCATION: E5873258 N2044221 (State Plane, NAD83, California Zone 4)
SURFACE EL: 169.7ft (NAVD88)
COMPLETION DEPTH: 40.3ft
TEST DATE: 11/21/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-4

Soledad WWTP Upgrade and Expansion
Soledad, California

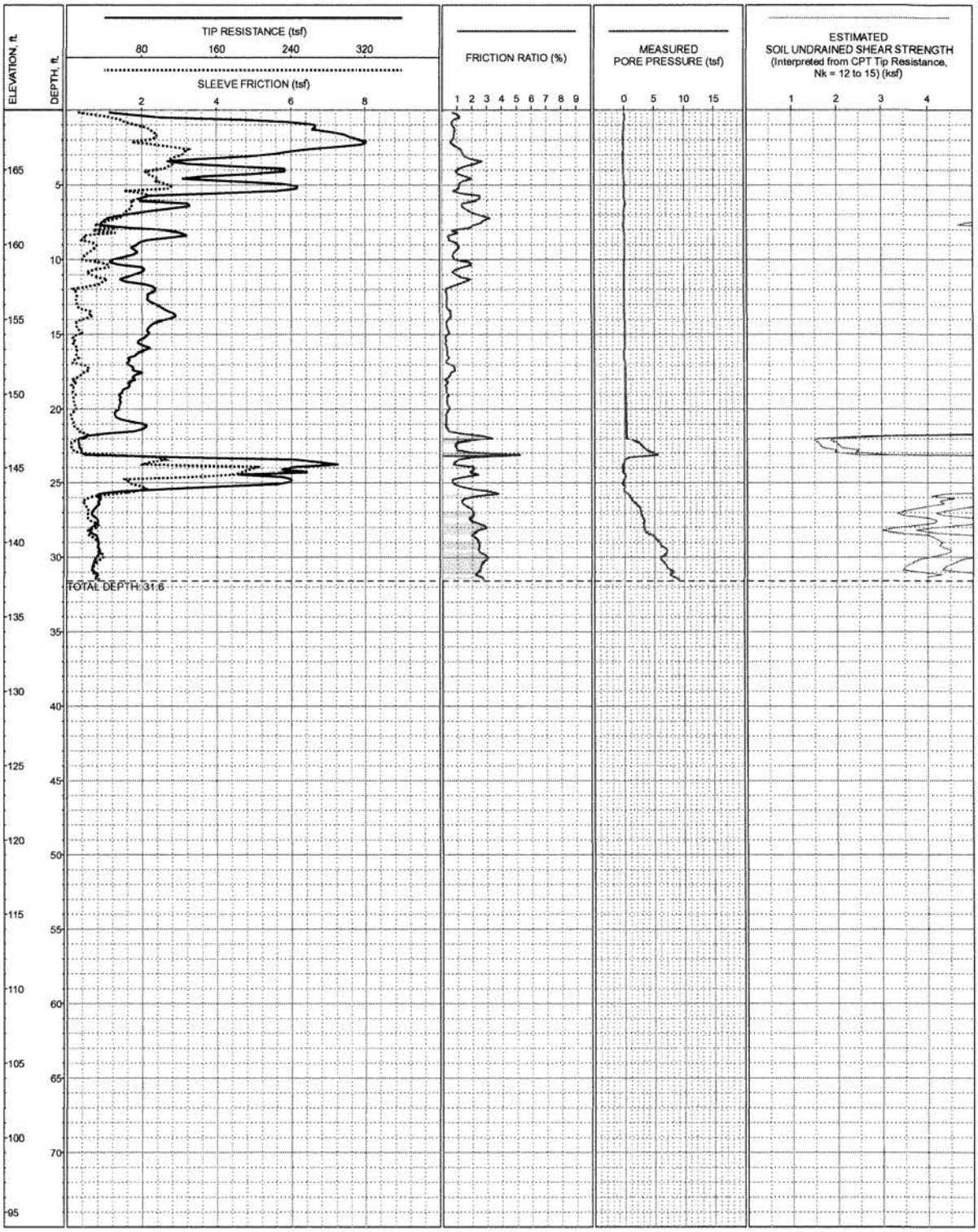


LOCATION: E5873366 N2045136 (State Plane, NAD83, California Zone 4)
SURFACE EL: 172.8ft (NAVD88)
COMPLETION DEPTH: 50ft
TEST DATE: 11/21/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-5

Soledad WWTP Upgrade and Expansion
Soledad, California

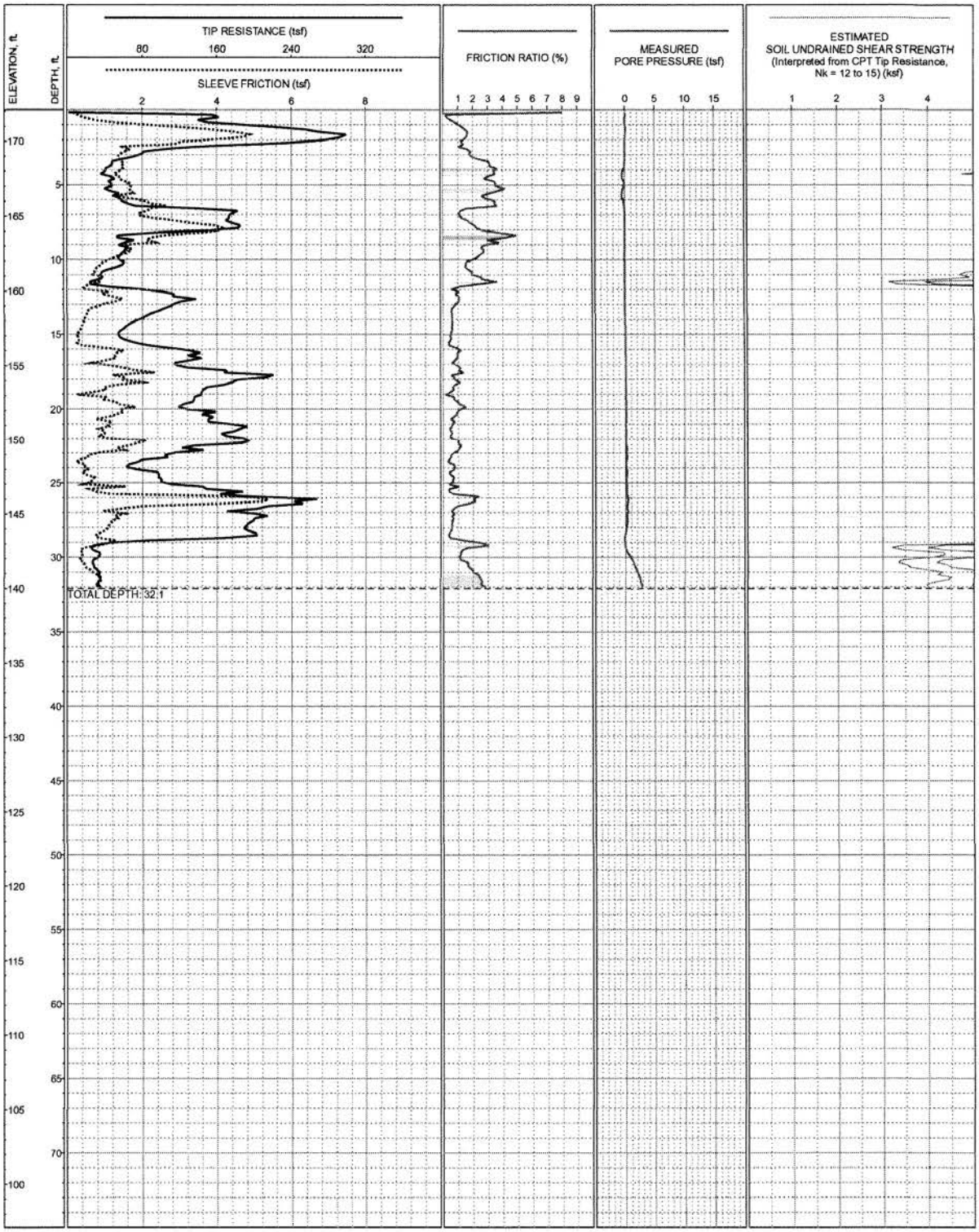


LOCATION: E5873264 N2044946 (State Plane, NAD83, California Zone 4)
SURFACE EL: 169ft (NAVD88)
COMPLETION DEPTH: 31.6ft
TEST DATE. 11/21/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-6

Soledad WWTP Upgrade and Expansion
Soledad, California



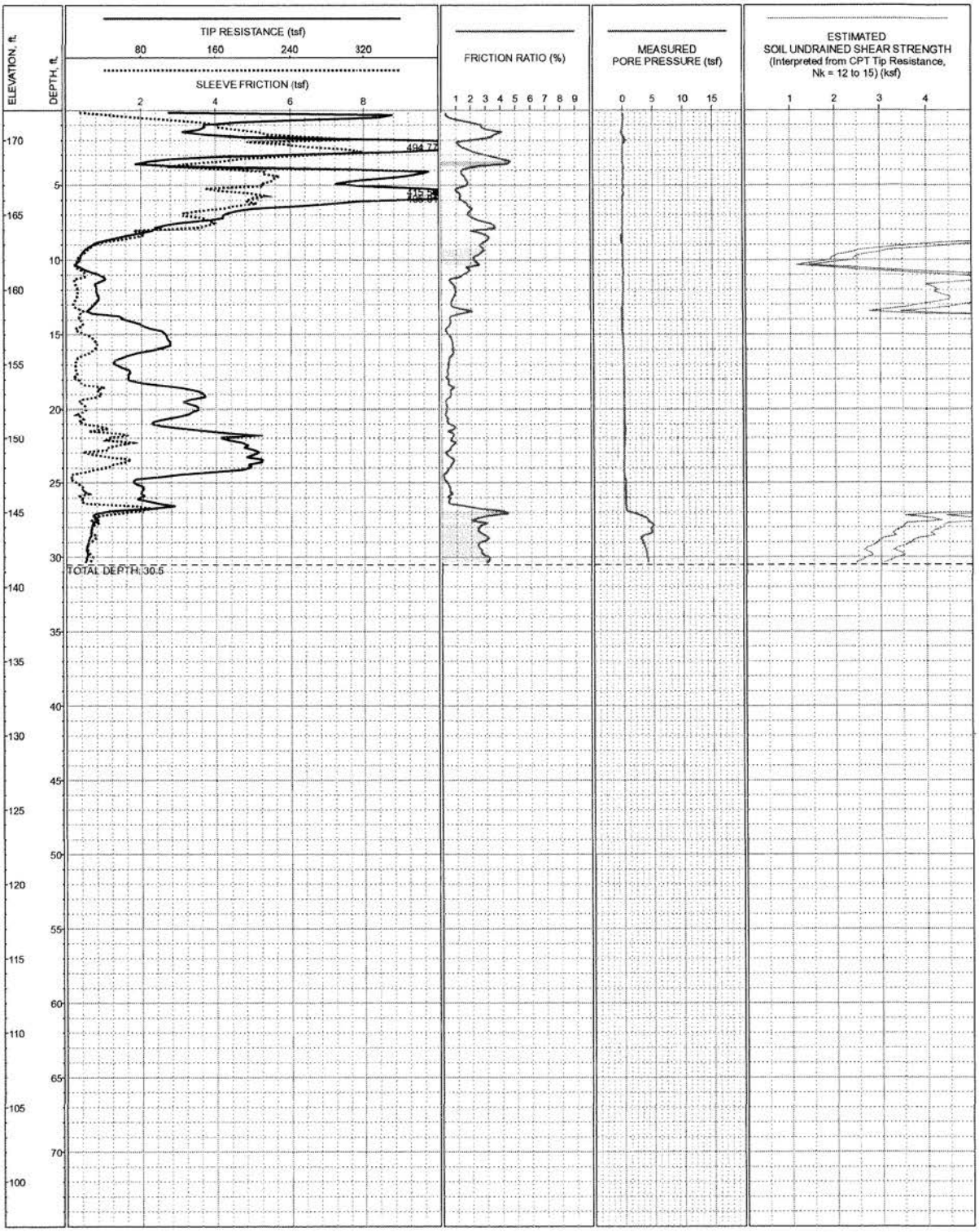
LOCATION: E5873606 N2044730 (State Plane, NAD83, California Zone 4)
SURFACE EL: 172.1ft (NAVD88)
COMPLETION DEPTH: 32.1ft
TEST DATE: 11/22/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

LOG OF CPT-7

Soledad WWTP Upgrade and Expansion
Soledad, California

FUGRO



LOCATION: E5873603 N2044362 (State Plane, NAD83, California Zone 4)
SURFACE EL: 172ft (NAVD88)
COMPLETION DEPTH: 30.5ft
TEST DATE: 11/22/2006

Exploration Type: CPT
PERFORMED BY: Gregg In Situ
OPERATOR: Gregg In Situ
REVIEWED BY: M. Paquette

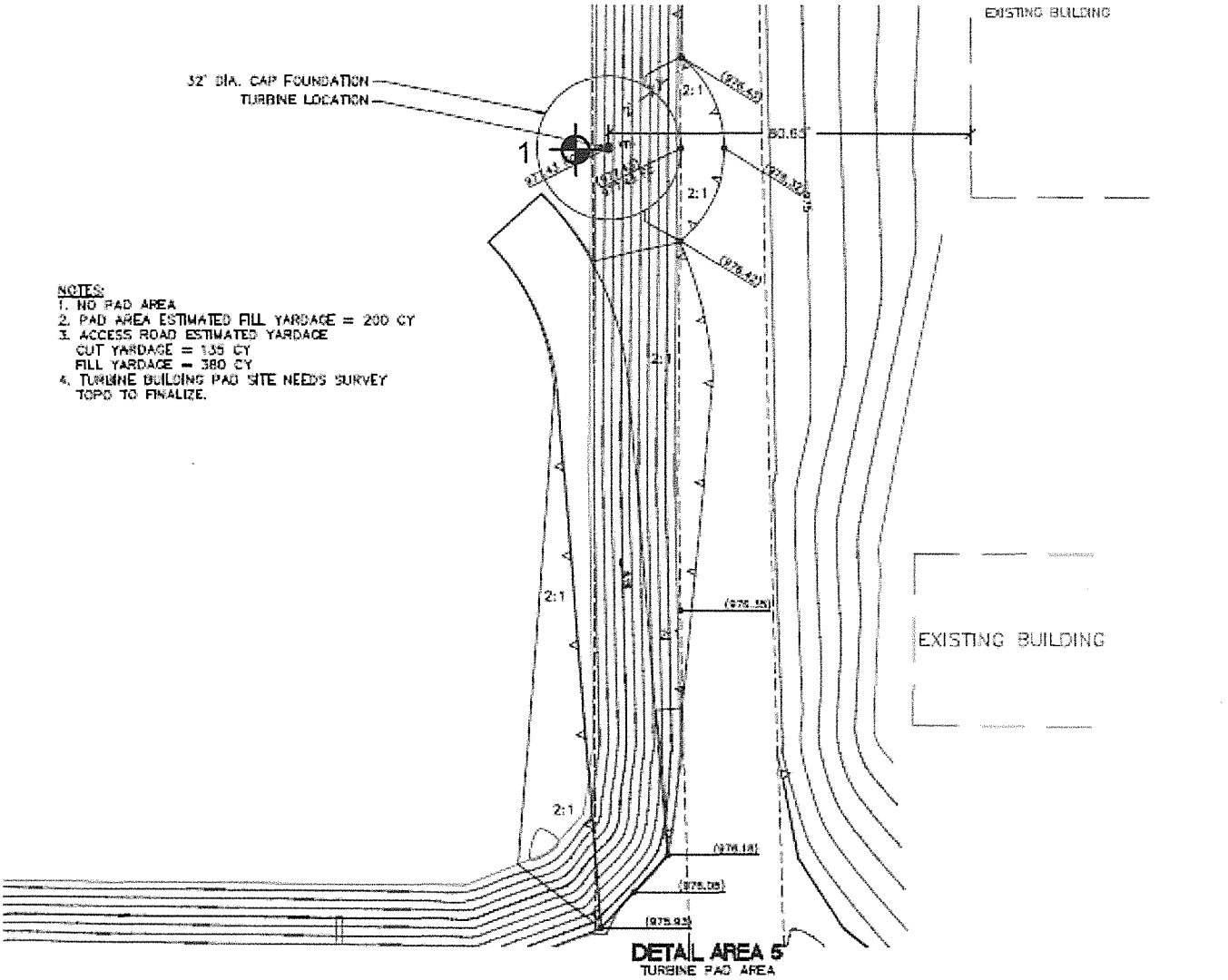
LOG OF CPT-8

Soledad WWTP Upgrade and Expansion
Soledad, California

BORING LOCATION MAP

SOLEDAD WATER RECLAMATION FACILITY
WIND TURBINE

34520 Morsoli Road
Soledad, California



NOTES:
1. NO PAD AREA
2. PAD AREA ESTIMATED FILL YARDAGE = 200 CY
3. ACCESS ROAD ESTIMATED YARDAGE
   CUT YARDAGE = 135 CY
   FILL YARDAGE = 380 CY
4. TURBINE BUILDING PAD SITE NEEDS SURVEY TOPO TO FINALIZE.

Base Map Provided by Patrick and Henderson, Inc., September 25, 2013

LEGEND

1 Boring Location (Approx.)

N

NOT TO SCALE

Earth Systems Pacific

4378 Old Santa Fe Road
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E-mail: esp@earthsys.com

October 3, 2013 QF SL-17099-SA

SOLDEDAD WATER RECLAMATION FACILITY WIND TURBINE–100313Borings

Earth Systems Pacific

BORING LOG LEGEND

SAMPLE / SUBSURFACE WATER SYMBOLS	GRAPH. SYMBOL
CALIFORNIA MODIFIED	
STANDARD PENETRATION TEST (SPT)	
SHELBY TUBE	
BULK	
SUBSURFACE WATER DURING DRILLING	
SUBSURFACE WATER AFTER DRILLING	

SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS	GROUP SYMBOL	TYPICAL DESCRIPTIONS	GRAPH. SYMBOL
COARSE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS TESTED OR JUDGED TO BE LARGER THAN #200 SIEVE SIZE)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES	
	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
	SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
	SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES	
FINE GRAINED SOILS (HALF OR MORE OF MATERIAL IS TESTED OR JUDGED TO BE SMALLER THAN #200 SIEVE SIZE)	ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY, CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY	
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY, SILTY SOILS, ELASTIC SILTS	
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

OBSERVED MOISTURE CONDITION

DRY	SLIGHTLY MOIST	MOIST	VERY MOIST	WET
LITTLE/NO MOISTURE	JUDGED BELOW OPTIMUM	JUDGED ABOUT OPTIMUM	JUDGED OVER OPTIMUM	SATURATED

TYPICAL CONSISTENCY

COARSE GRAINED SOILS

BLOWS/FOOT		DESCRIPTIVE TERM
SPT	CA SAMPLER	
0-10	0-16	LOOSE
11-30	17-50	MEDIUM DENSE
31-50	51-83	DENSE
OVER 50	OVER 83	VERY DENSE

FINE GRAINED SOILS

BLOWS/FOOT		DESCRIPTIVE TERM
SPT	CA SAMPLER	
0-2	0-3	VERY SOFT
3-4	4-7	SOFT
5-8	8-13	MEDIUM STIFF
9-15	14-25	STIFF
16-30	26-50	VERY STIFF
OVER 30	OVER 50	HARD

GRAIN SIZES

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENING		
# 200	# 40	# 10	# 4	3/4"	3"	12"

SILT & CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

TYPICAL ROCK HARDNESS

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
EXTREMELY HARD	CORE, FRAGMENT, OR EXPOSURE CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CAN ONLY BE CHIPPED WITH REPEATED HEAVY HAMMER BLOWS
VERY HARD	CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CORE OR FRAGMENT BREAKS WITH REPEATED HEAVY HAMMER BLOWS
HARD	CAN BE SCRATCHED WITH KNIFE OR SHARP PICK WITH DIFFICULTY (HEAVY PRESSURE); HEAVY HAMMER BLOW REQUIRED TO BREAK SPECIMEN
MODERATELY HARD	CAN BE GROOVED 1/16 INCH DEEP BY KNIFE OR SHARP PICK WITH MODERATE OR HEAVY PRESSURE; CORE OR FRAGMENT BREAKS WITH LIGHT HAMMER BLOW OR HEAVY MANUAL PRESSURE
SOFT	CAN BE GROOVED OR GOUGED EASILY BY KNIFE OR SHARP PICK WITH LIGHT PRESSURE, CAN BE SCRATCHED WITH FINGERNAIL; BREAKS WITH LIGHT TO MODERATE MANUAL PRESSURE
VERY SOFT	CAN BE READILY INDENTED, GROOVED OR GOUGED WITH FINGERNAIL, OR CARVED WITH KNIFE; BREAKS WITH LIGHT MANUAL PRESSURE

TYPICAL ROCK WEATHERING

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
FRESH	NO DISCOLORATION, NOT OXIDIZED
SLIGHTLY WEATHERED	DISCOLORATION OR OXIDATION IS LIMITED TO SURFACE OF, OR SHORT DISTANCE FROM; SOME FRACTURES PRESENT; FELDSPAR CRYSTALS ARE DULL
MODERATELY WEATHERED	DISCOLORATION OR OXIDATION EXTENDS FROM FRACTURES, USUALLY THROUGHOUT; Fe-Mg MINERALS ARE "RUSTY"; FELDSPAR CRYSTALS ARE "CLOUDY"
INTENSELY WEATHERED	DISCOLORATION OR OXIDATION THROUGHOUT; FELDSPAR AND Fe-Mg MINERALS ARE ALTERED TO CLAY TO SOME EXTENT OR CHEMICAL ALTERATION PRODUCES IN SITU DISAGGREGATION
DECOMPOSED	DISCOLORATION OR OXIDATION THROUGHOUT, BUT RESISTANT MINERALS SUCH AS QUARTZ MAY BE UNALTERED; FELDSPAR AND Fe-Mg MINERALS ARE COMPLETELY ALTERED TO CLAY

drafting/masters/Boring Log Legend091608.dwg

Earth Systems Pacific

Boring No. 1

LOGGED BY: R. Wagner — PAGE 1 OF 3
DRILL RIG: Mobile B-53 with Auto Hammer — JOB NO.: SL-17099-SA
AUGER TYPE: 6" Hollow Stem Auger — Surface Elevation: 967 ft +/- — DATE: 08/13/13

SOLEDAD WATER RECLAMATION FACILITY
WIND TURBINE
34520 Morsoli Road
Soledad, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.	N_{60} BLOWS PER FOOT
0	SM		SILTY SAND: olive brown, loose, slightly moist (Alluvium)						
2			gray						
3			olive	0.0 - 4.0	○				
5	SP		POORLY GRADED SAND: gray, loose, wet, fine grained to very fine grained	5.0 - 6.5	■	86.0	40.7	2 3 3	4
10			interbedded with thin lenses of SANDY SILT	10.0 - 11.5	■	90.6	30.7	1 4 6	7
14			medium dense, trace fine to coarse gravel						
15				15.0 - 16.5	■	96.6	23.9	4 9 13	17
20	CH		FAT CLAY WITH SAND: light olive gray, stiff, very moist, very fine grained sand	20.0 - 21.5	■	82.4	38.7	4 10 10	17
25				25.0 - 26.5	■	84.6	38.3	6 10 11	18

LEGEND: ■ Ring Sample ○ Grab Sample ▭ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.

Earth Systems Pacific

Boring No. 1

LOGGED BY: R. Wagner — PAGE 2 OF 3

DRILL RIG: Mobile B-53 with Auto Hammer — JOB NO.: SL-17099-SA

AUGER TYPE: 6" Hollow Stem Auger — Surface Elevation: 967 ft +/- — DATE: 08/13/13

SOLEDAD WATER RECLAMATION FACILITY
WIND TURBINE
34520 Morsoli Road
Soledad, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.	N_{60} BLOWS PER FOOT
27	CH		FAT CLAY WITH SAND: as above						
30				30.0 - 31.5	Ring	82.5	37.7	4 7 9	14
35				35.0 - 36.5	Ring	80.2	41.5	4 5 8	11
36			medium stiff						
40	CL		LEAN CLAY: gray, stiff, very moist, trace fine sand	40.0 - 41.5	SPT			3 4 6	14
45				45.0 - 46.5	SPT			2 4 5	13
50			medium stiff	50.0 - 51.5	SPT			2 4 4	11
53									

LEGEND: Ring Sample ◯ Grab Sample ▭ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.

Earth Systems Pacific

Boring No. 1
PAGE 3 OF 3

LOGGED BY: R. Wagner
DRILL RIG: Mobile B-53 with Auto Hammer
AUGER TYPE: 6" Hollow Stem Auger Surface Elevation: 967 ft +/-

JOB NO.: SL-17099-SA
DATE: 08/13/13

SOLEDAD WATER RECLAMATION FACILITY
WIND TURBINE
34520 Morsoli Road
Soledad, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.	N_{60} BLOWS PER FOOT
54									
55	CL		LEAN CLAY: as above						
56	SP		POORLY GRADED SAND: brown, loose, wet, fine grained						
57				55.0 - 56.5	●			0 0 4	6
58									
59	SW		WELL GRADED SAND: light brown, medium dense, wet						
60									
61									
62			End of Boring @ 61.5'	60.0 - 61.5	●			4 7 11	25
63			Subsurface water encountered between 4.5' and 19.5' and @ 55.5'						
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.

Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

BULK DENSITY TEST RESULTS

ASTM D 2937-10 (modified for ring liners)

September 8, 2013

BORING NO.	DEPTH feet	MOISTURE CONTENT, %	WET DENSITY, pcf	DRY DENSITY, pcf
1	6.0 - 6.5	40.7	121.0	86.0
1	11.0 - 11.5	30.7	118.4	90.6
1	16.0 - 16.5	23.9	119.7	96.6
1	21.0 - 21.5	38.7	114.3	82.4
1	26.0 - 26.5	38.3	117.0	84.6
1	31.0 - 31.5	37.7	113.6	82.5
1	36.0 - 36.5	41.5	113.5	80.2

Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

MOISTURE-DENSITY COMPACTION TEST

ASTM D 1557-12

PROCEDURE USED: A

PREPARATION METHOD: Moist

RAMMER TYPE: Mechanical

SPECIFIC GRAVITY: 2.65 (assumed)

September 8, 2013

Boring #1 @ 0.0 - 4.0'

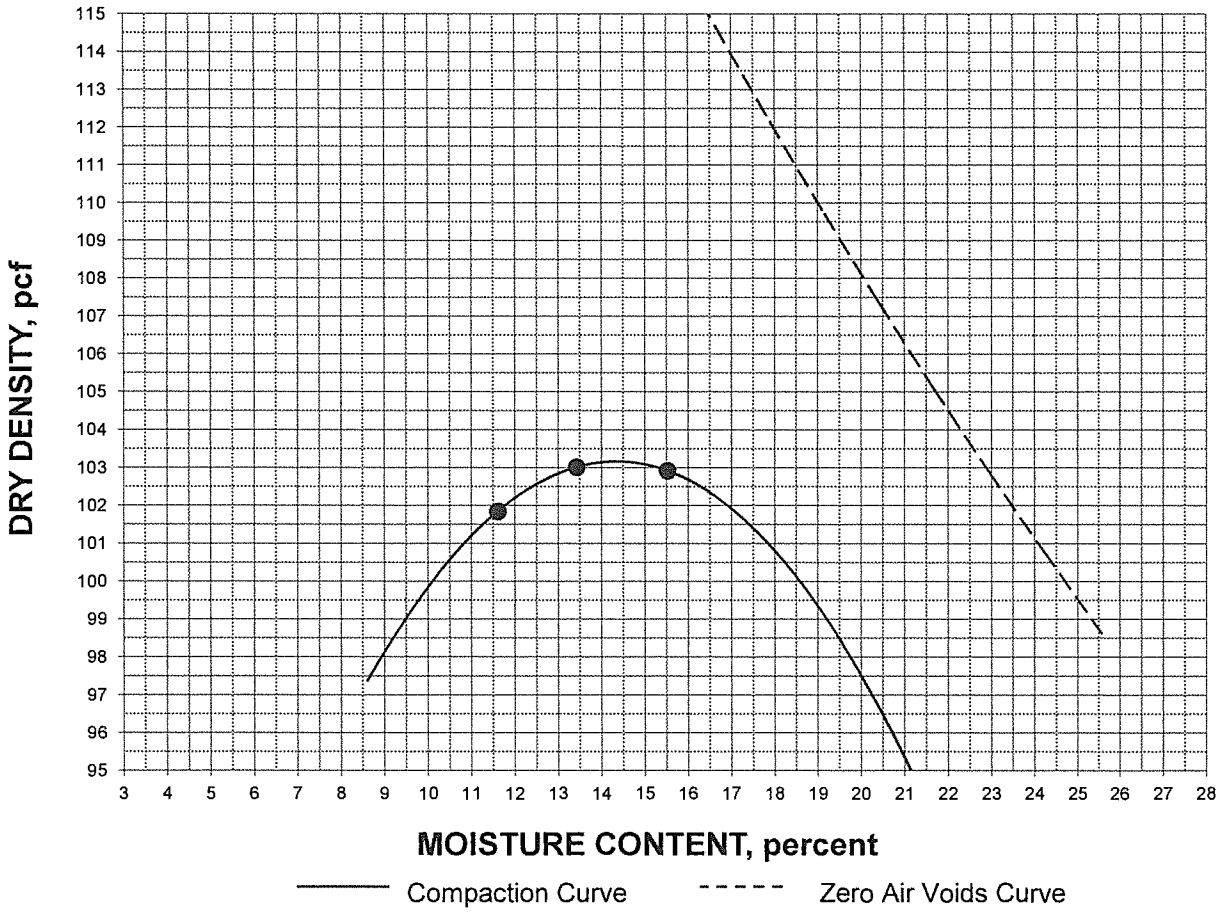
Olive Brown Silty Sand (SM)

SIEVE DATA:

Sieve Size	% Retained (Cumulative)
3/4"	0
3/8"	0
#4	0

MAXIMUM DRY DENSITY: 103.2 pcf

OPTIMUM MOISTURE: 14.3%



Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

PARTICLE SIZE ANALYSIS

ASTM D 422-63/07; D 1140-00/06

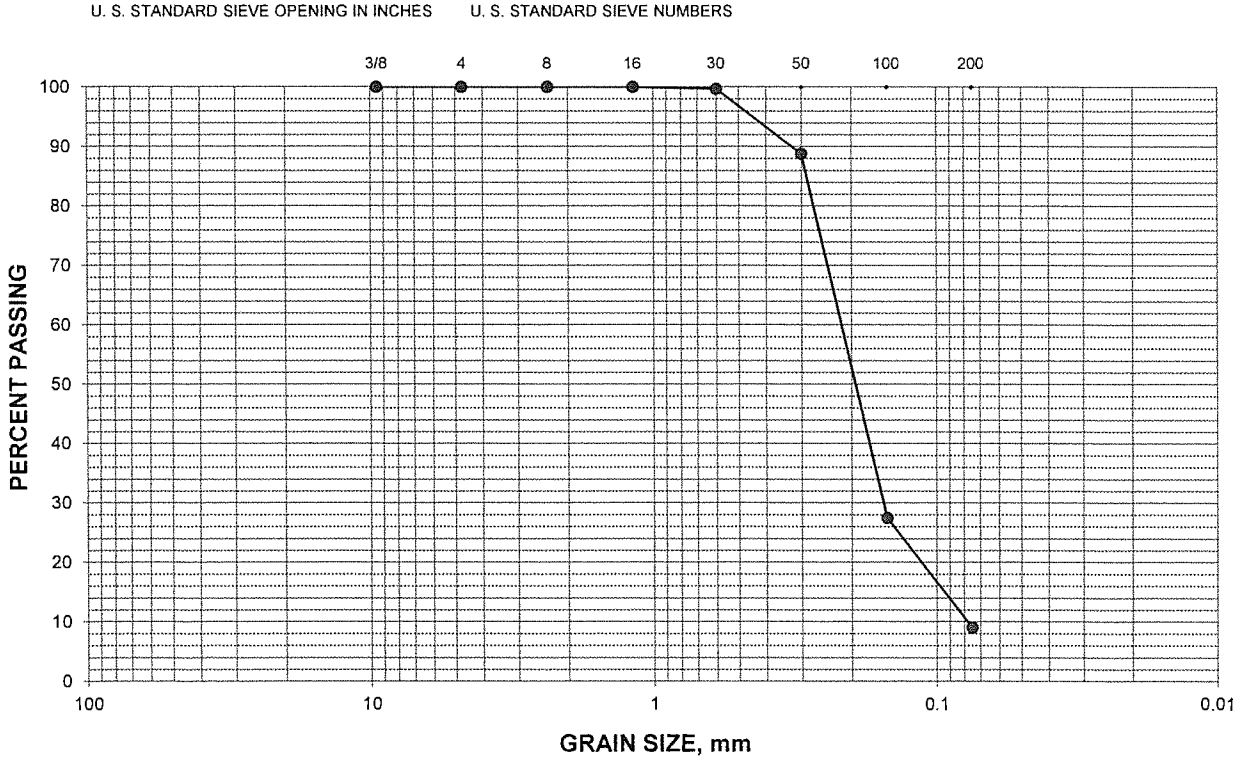
Boring #1 @ 6.0 - 6.5'

September 8, 2013

Poorly Graded Sand (SP)

Cu = 2.8; Cc = 1.4

Sieve size	% Retained	% Passing
3/8" (9.5-mm)	0	100
#4 (4.75-mm)	0	100
#8 (2.36-mm)	0	100
#16 (1.18-mm)	0	100
#30 (600-µm)	0	100
#50 (300-µm)	11	89
#100 (150-µm)	73	27
#200 (75-µm)	91	9



Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

PARTICLE SIZE ANALYSIS

ASTM D 422-63/07; D 1140-00/06

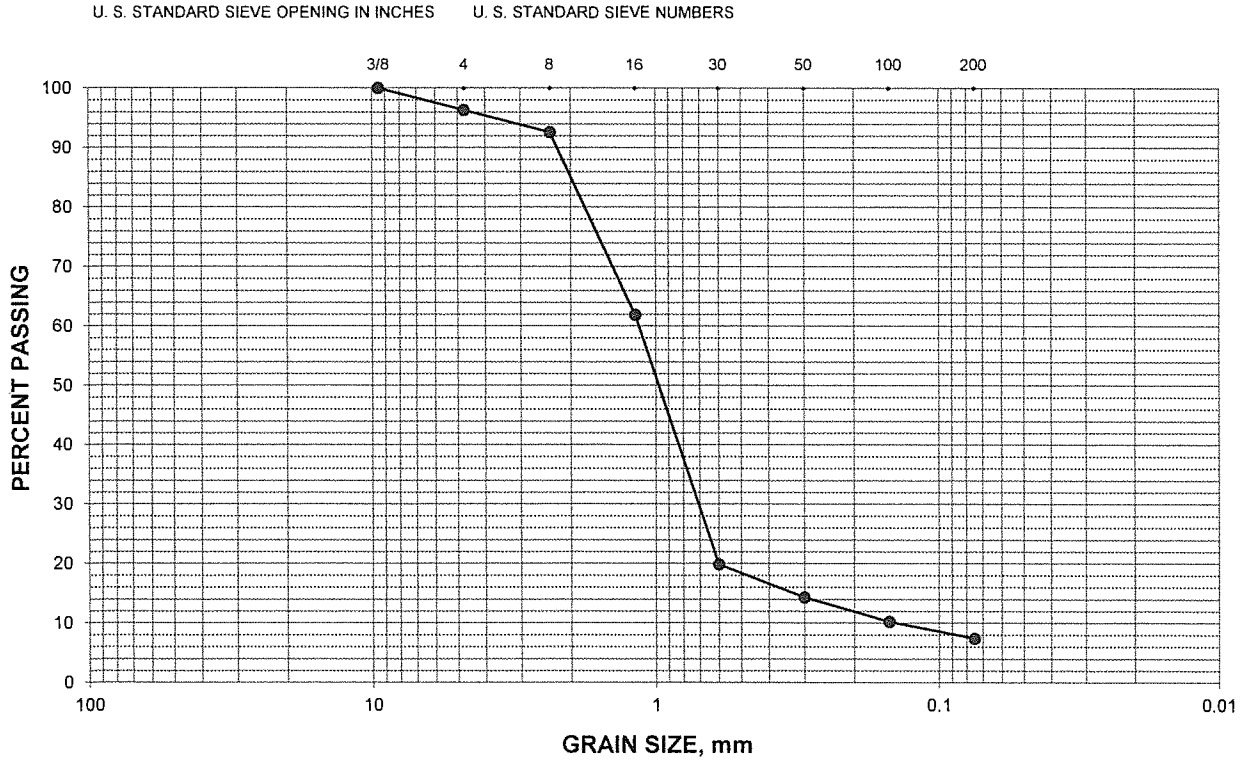
Boring #1 @ 16.0 - 16.5'

September 8, 2013

Poorly Graded Sand (SP)

Cu = 8.1; Cc = 3.1

Sieve size	% Retained	% Passing
3/8" (9.5-mm)	0	100
#4 (4.75-mm)	4	96
#8 (2.36-mm)	7	93
#16 (1.18-mm)	38	62
#30 (600-µm)	80	20
#50 (300-µm)	86	14
#100 (150-µm)	90	10
#200 (75-µm)	93	7



Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

PARTICLE SIZE ANALYSIS

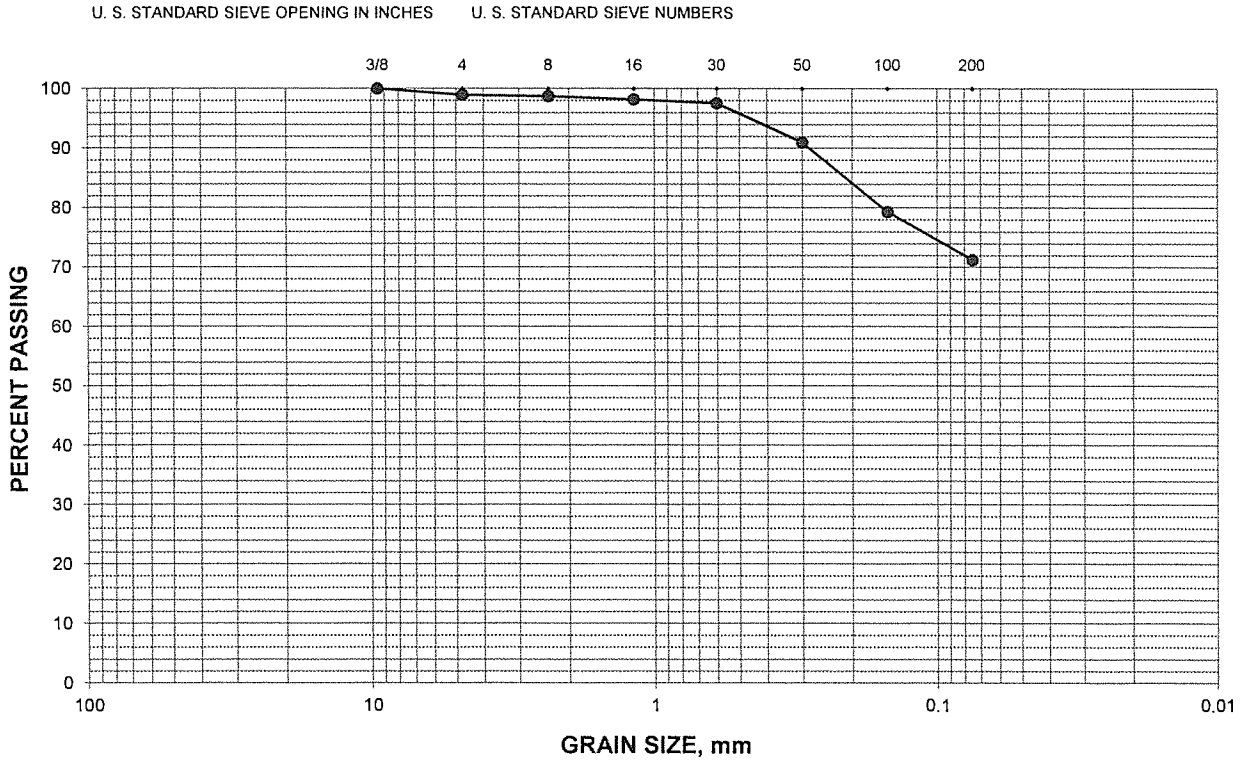
ASTM D 422-63/07; D 1140-00/06

Boring #1 @ 26.0 - 26.5' September 8, 2013

Fat Clay with Sand (CH)

LL = 51; PL = 13; PI = 38

Sieve size	% Retained	% Passing
3/8" (9.5-mm)	0	100
#4 (4.75-mm)	1	99
#8 (2.36-mm)	1	99
#16 (1.18-mm)	2	98
#30 (600-µm)	2	98
#50 (300-µm)	9	91
#100 (150-µm)	21	79
#200 (75-µm)	29	71



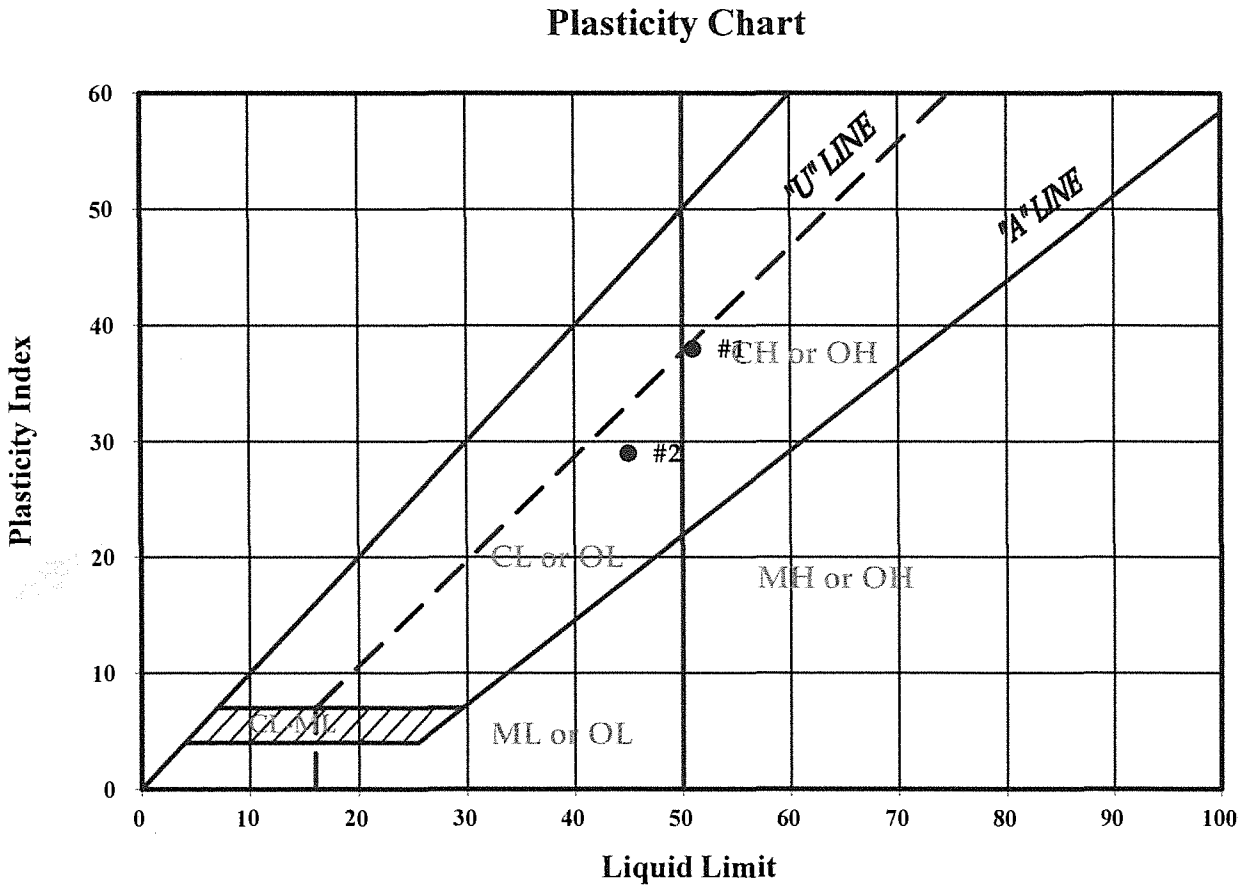
Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

PLASTICITY INDEX

ASTM D 4318-10

September 8, 2013

Test No.:	1	2	3	4	5
Boring No.:	1	1			
Sample Depth:	26.0 - 26.5'	45.0 - 46.5'			
Liquid Limit:	51	45			
Plastic Limit:	13	16			
Plasticity Index:	38	29			



DIRECT SHEAR

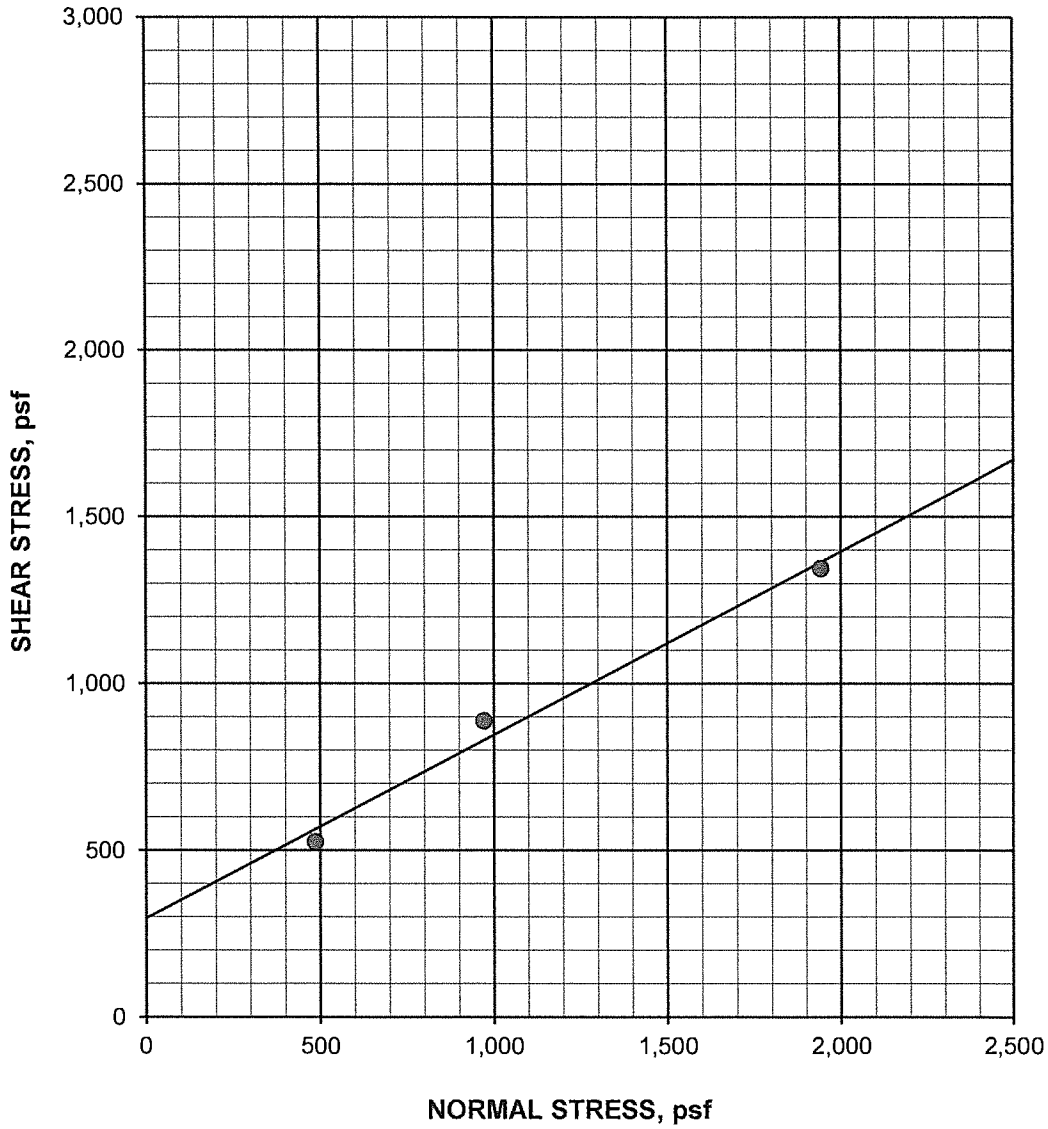
ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

September 8, 2013

Boring #1 @ 11.0 -11.5'
Poorly Graded Sand (SP)
Ring sample, saturated

INITIAL DRY DENSITY: 90.4 pcf
INITIAL MOISTURE CONTENT: 30.7 %
PEAK SHEAR ANGLE (Ø): 29°
COHESION (C): 296 psf

SHEAR vs. NORMAL STRESS



DIRECT SHEAR continued

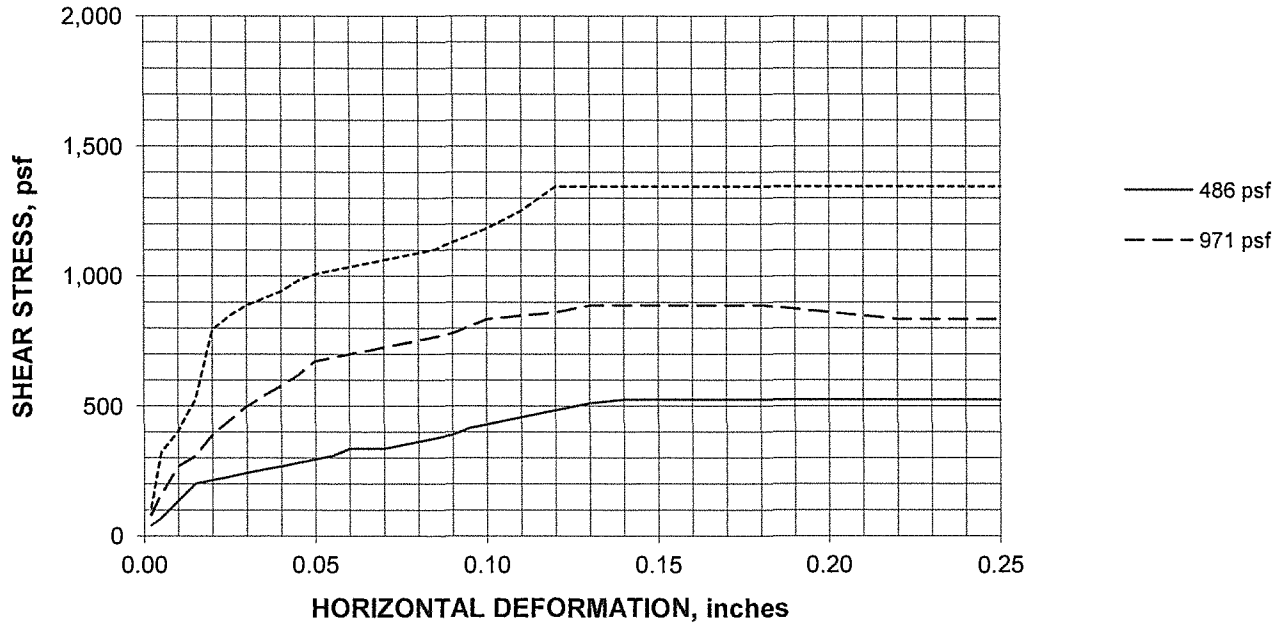
ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

Boring #1 @ 11.0 -11.5' September 8, 2013

Poorly Graded Sand (SP)

Ring sample, saturated SPECIFIC GRAVITY: 2.65 (assumed)

SAMPLE NO.:	1	2	3	AVERAGE
INITIAL				
WATER CONTENT, %	30.7	30.7	30.7	30.7
DRY DENSITY, pcf	89.3	91.1	91.0	90.4
SATURATION, %	95.4	99.7	99.5	98.2
VOID RATIO	0.853	0.816	0.817	0.829
DIAMETER, inches	2.410	2.410	2.410	
HEIGHT, inches	1.00	1.00	1.00	
AT TEST				
WATER CONTENT, %	35.3	36.1	37.8	
DRY DENSITY, pcf	89.9	92.8	96.5	
SATURATION, %	100.0	100.0	100.0	
VOID RATIO	0.840	0.782	0.714	
HEIGHT, inches	0.99	0.98	0.94	



DIRECT SHEAR

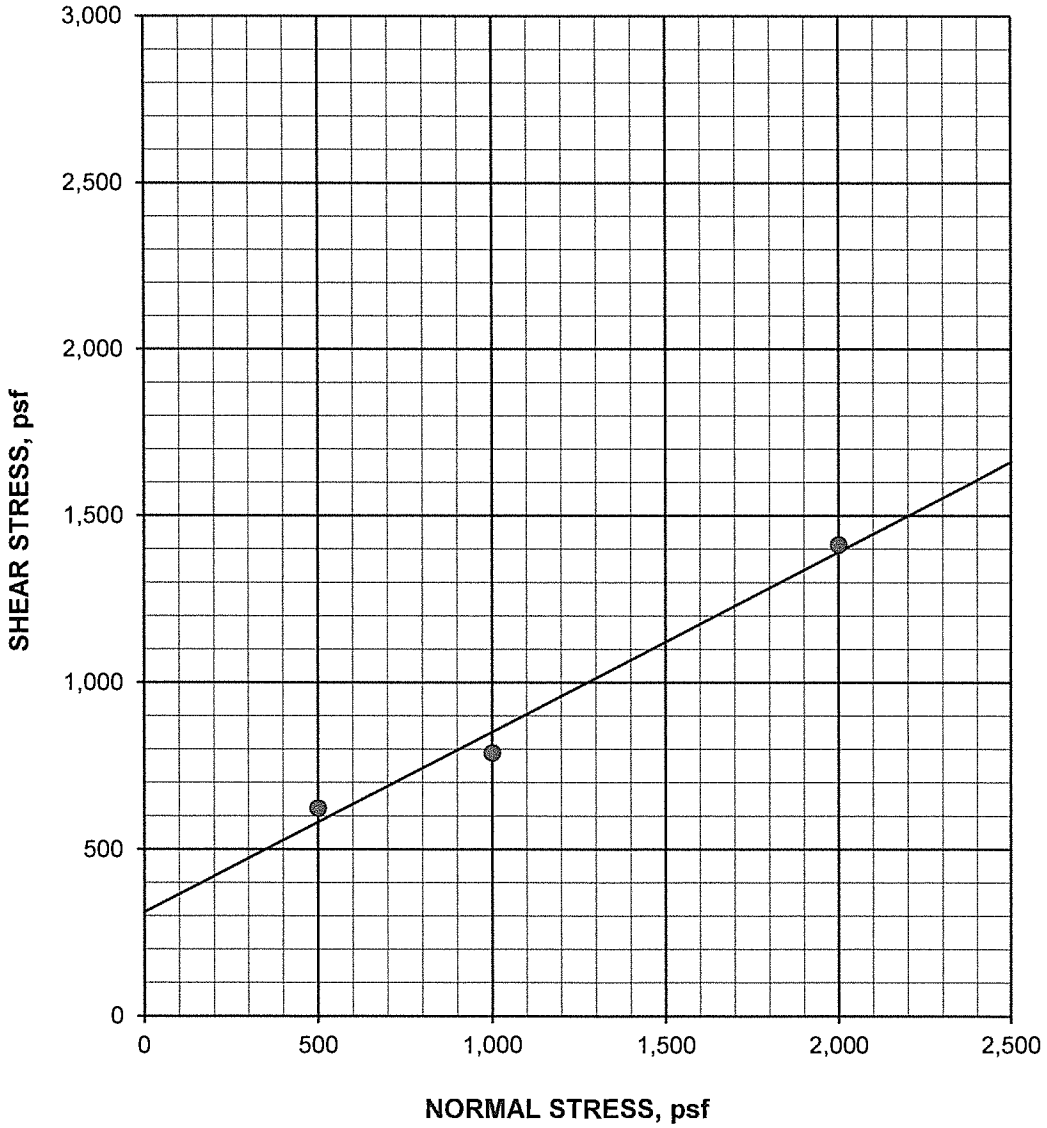
ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

September 8, 2013

Boring #1 @ 16.0 - 16.5'
Poorly Graded Sand (SP)
Ring sample, saturated

INITIAL DRY DENSITY: 110.0 pcf
INITIAL MOISTURE CONTENT: 13.5 %
PEAK SHEAR ANGLE (Ø): 28°
COHESION (C): 312 psf

SHEAR vs. NORMAL STRESS



DIRECT SHEAR continued

ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

Boring #1 @ 16.0 - 16.5'

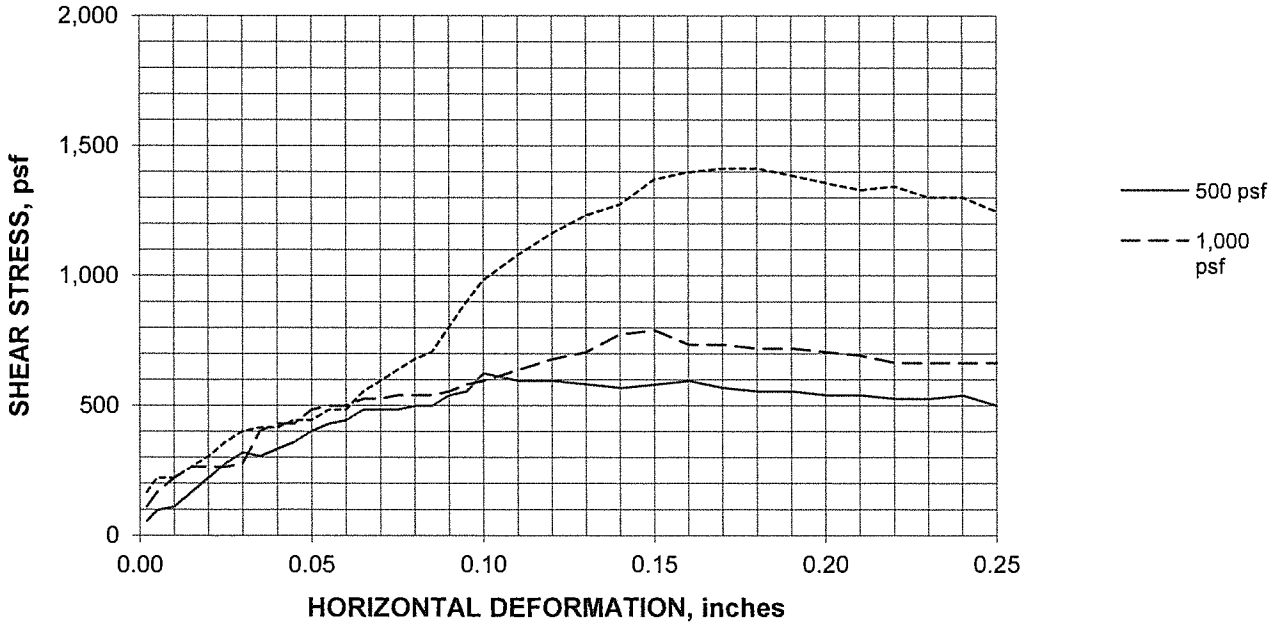
September 8, 2013

Poorly Graded Sand (SP)

Ring sample, saturated

SPECIFIC GRAVITY: 2.65 (assumed)

SAMPLE NO.:	1	2	3	AVERAGE
INITIAL				
WATER CONTENT, %	13.5	13.5	13.5	13.5
DRY DENSITY, pcf	110.5	111.0	108.6	110.0
SATURATION, %	72.0	73.0	68.5	71.2
VOID RATIO	0.497	0.490	0.522	0.503
DIAMETER, inches	2.375	2.375	2.375	
HEIGHT, inches	1.00	1.00	1.00	
AT TEST				
WATER CONTENT, %	18.6	17.9	17.8	
DRY DENSITY, pcf	110.8	112.3	112.6	
SATURATION, %	100.0	100.0	100.0	
VOID RATIO	0.492	0.472	0.469	
HEIGHT, inches	1.00	0.99	0.97	



Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

UNCONFINED COMPRESSION ON COHESIVE SOIL

ASTM D 2166-06

September 8, 2013

Boring #1 @ 21.0 - 21.5'
Fat Clay with Sand (CH)
Ring Sample
COMPRESSIVE STRENGTH: 27 psi (3,940 psf)

Dry Density: 82.4 pcf
Moisture Content: 38.7%
Degree Saturation: 100%
Specific Gravity: 2.70 (assumed)
H/D Ratio: 1.68

TIME (MINUTES)	DEFORM, in (X 1000)	AXIAL STRAIN	AREA (SQ. IN.)	APPLIED LOAD (LBS)	STRENGTH (PSI)	STRENGTH (PSF)
0.5	31	0.0078	4.46	36	8	1,161
1.0	69	0.0173	4.51	78	17	2,492
1.5	106	0.0265	4.55	105	23	3,323
2.0	141	0.0353	4.59	118	26	3,700
2.5	177	0.0443	4.64	126	27	3,914
3.0	212	0.0530	4.68	128	27	3,940
3.5	248	0.0620	4.72	124	26	3,781
4.0	281	0.0703	4.76	111	23	3,355
4.5	315	0.0788	4.81	88	18	2,635
5.0	351	0.0878	4.86	68	14	2,016
5.5	390	0.0975	4.91	50	10	1,467
6.0	424	0.1060	4.96	31	6	901
6.5	460	0.1150	5.01	20	4	575
7.0	495	0.1238	5.06	13	3	370
7.5	531	0.1328	5.11	10	2	282
8.0	600	0.1500	5.21	5	1	138

Soledad Water Reclamation Facility Wind Turbine SL-17099-SA

UNCONFINED COMPRESSION ON COHESIVE SOIL

ASTM D 2166-06

September 8, 2013

Boring #1 @ 36.0 - 36.5'
Fat Clay with Sand (CH)
Ring Sample
COMPRESSIVE STRENGTH: 24 psi (3,454 psf)

Dry Density: 80.2 pcf
Moisture Content: 41.5%
Degree Saturation: 100%
Specific Gravity: 2.70 (assumed)
H/D Ratio: 1.68

TIME (MINUTES)	DEFORM, in (X 1000)	AXIAL STRAIN	AREA (SQ. IN.)	APPLIED LOAD (LBS)	STRENGTH (PSI)	STRENGTH (PSF)
0.5	31	0.0078	4.46	28	6	903
1.0	61	0.0153	4.50	46	10	1,472
1.5	93	0.0233	4.54	56	12	1,778
2.0	123	0.0308	4.57	65	14	2,048
2.5	154	0.0385	4.61	71	15	2,219
3.0	185	0.0463	4.64	78	17	2,418
3.5	215	0.0538	4.68	83	18	2,553
4.0	245	0.0613	4.72	90	19	2,746
4.5	277	0.0693	4.76	96	20	2,904
5.0	307	0.0768	4.80	100	21	3,001
5.5	338	0.0845	4.84	105	22	3,125
6.0	368	0.0920	4.88	110	23	3,247
6.5	399	0.0998	4.92	115	23	3,365
7.0	429	0.1073	4.96	118	24	3,424
7.5	458	0.1145	5.00	120	24	3,454
8.0	488	0.1220	5.05	118	23	3,368
8.5	518	0.1295	5.09	115	23	3,254
9.0	548	0.1370	5.13	106	21	2,973
9.5	578	0.1445	5.18	98	19	2,725
10.0	610	0.1525	5.23	86	16	2,369
10.5	641	0.1603	5.28	73	14	1,993

CONSOLIDATION TEST

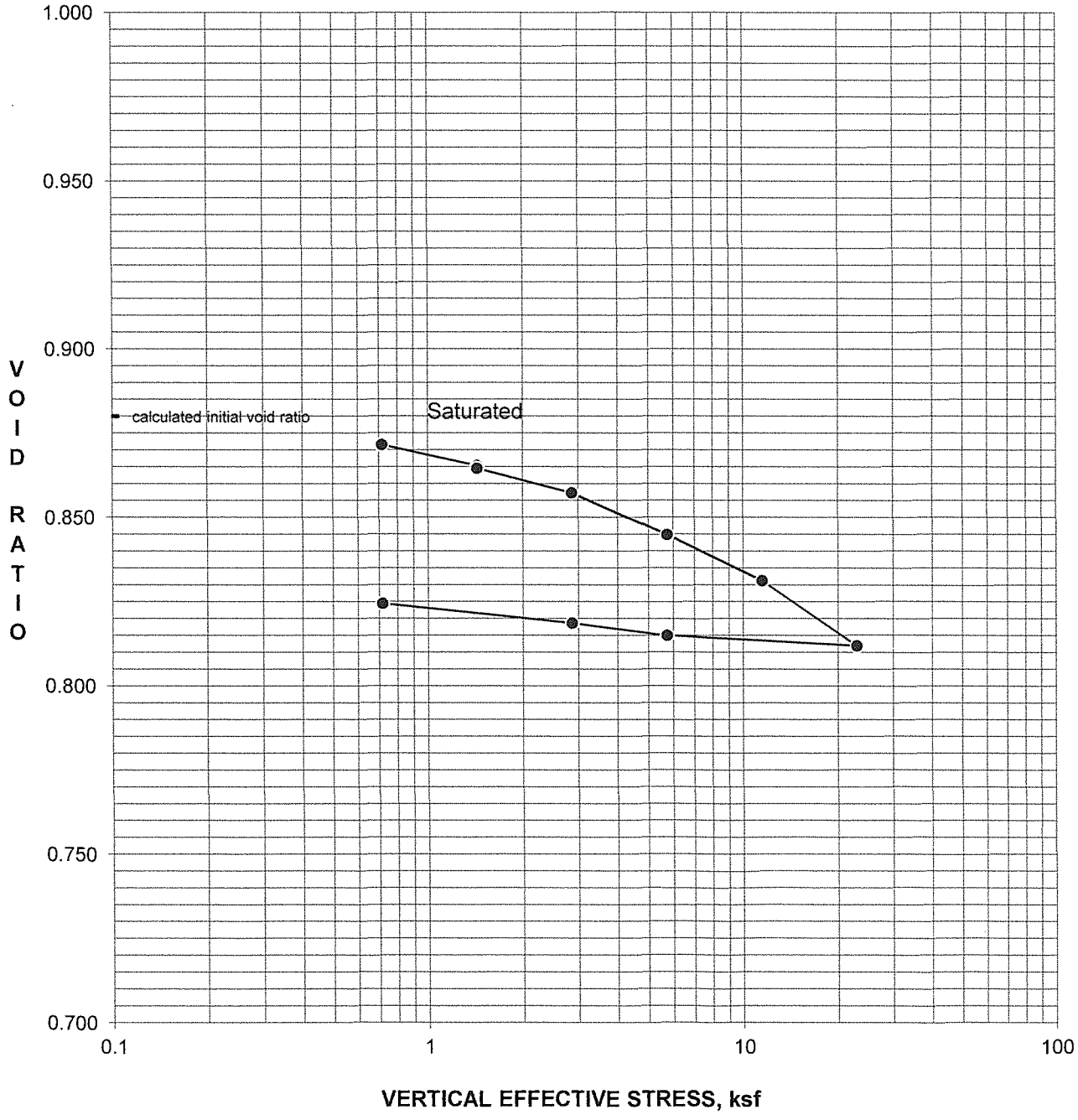
ASTM D 2435/D2435M-11

September 8, 2013

Boring #1 @ 6.0 - 6.5'
Poorly Graded Sand (SP)
Ring Sample

DRY DENSITY: 88.0 pcf
MOISTURE CONTENT: 40.7%
SPECIFIC GRAVITY: 2.65 (assumed)
INITIAL VOID RATIO: 0.880

VOID RATIO vs. NORMAL PRESSURE DIAGRAM



CONSOLIDATION TEST

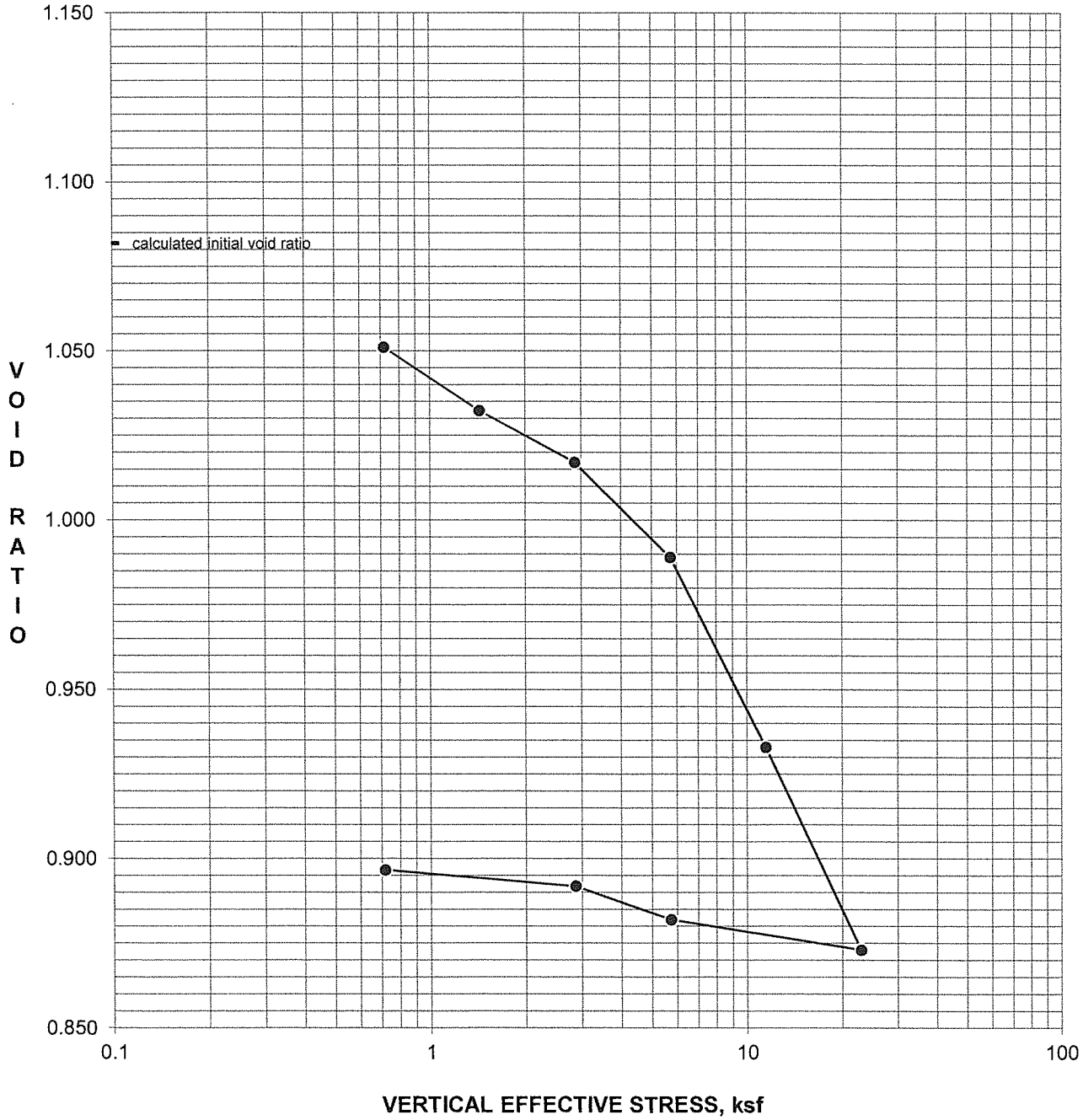
ASTM D 2435/D2435M-11

September 8, 2013

Boring #1 @ 21.0 - 21.5'
Fat Clay with Sand (CH)
Ring Sample

DRY DENSITY: 81.0 pcf
MOISTURE CONTENT: 38.7%
SPECIFIC GRAVITY: 2.70 (assumed)
INITIAL VOID RATIO: 1.082

VOID RATIO vs. NORMAL PRESSURE DIAGRAM



CONSOLIDATION TEST

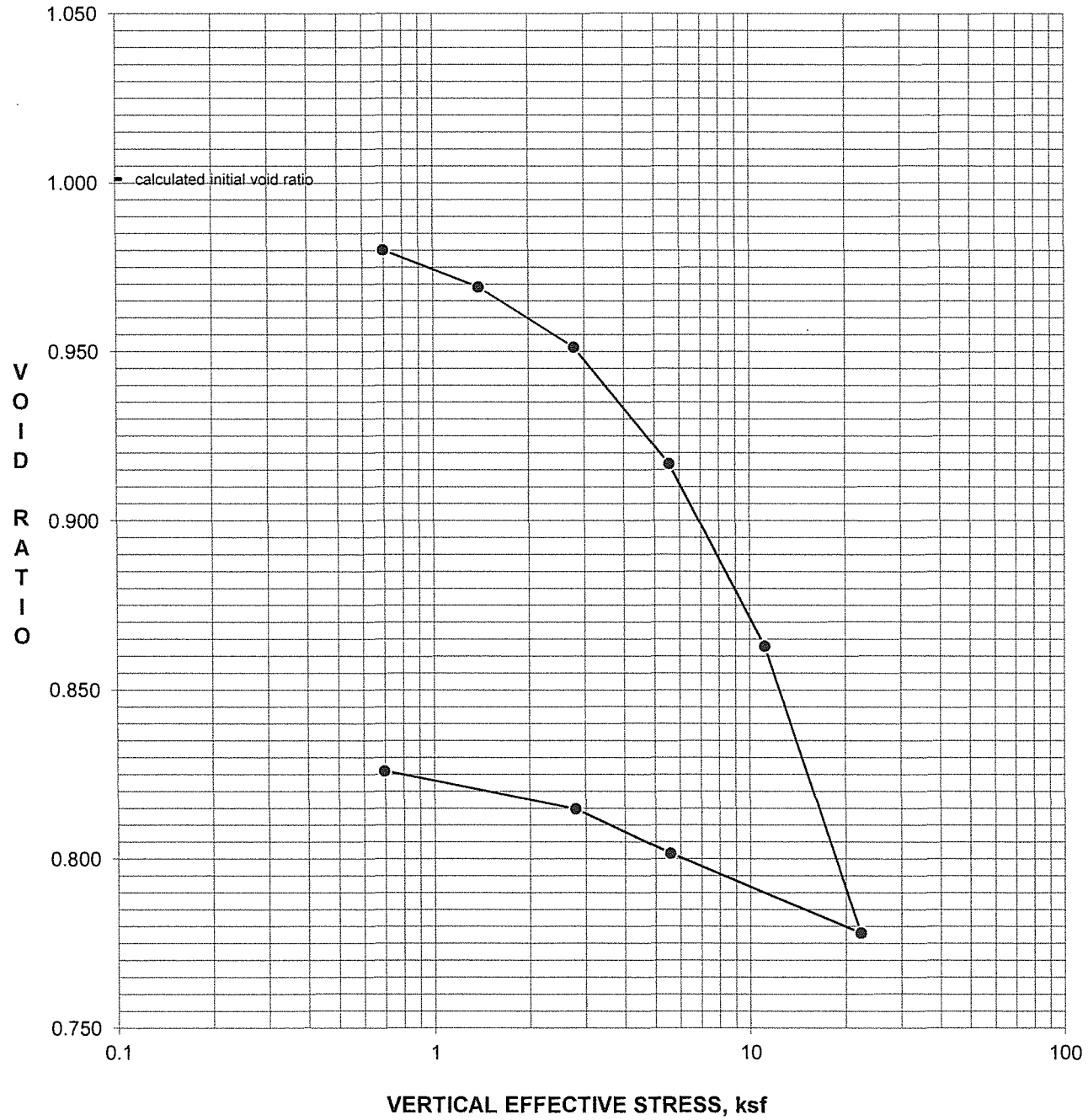
ASTM D 2435/D2435M-11

September 8, 2013

Boring #1 @ 26.0 - 26.5'
Fat Clay with Sand (CH)
Ring Sample

DRY DENSITY: 84.2 pcf
MOISTURE CONTENT: 38.3%
SPECIFIC GRAVITY: 2.70 (assumed)
INITIAL VOID RATIO: 1.001

VOID RATIO vs. NORMAL PRESSURE DIAGRAM



CONSOLIDATION TEST

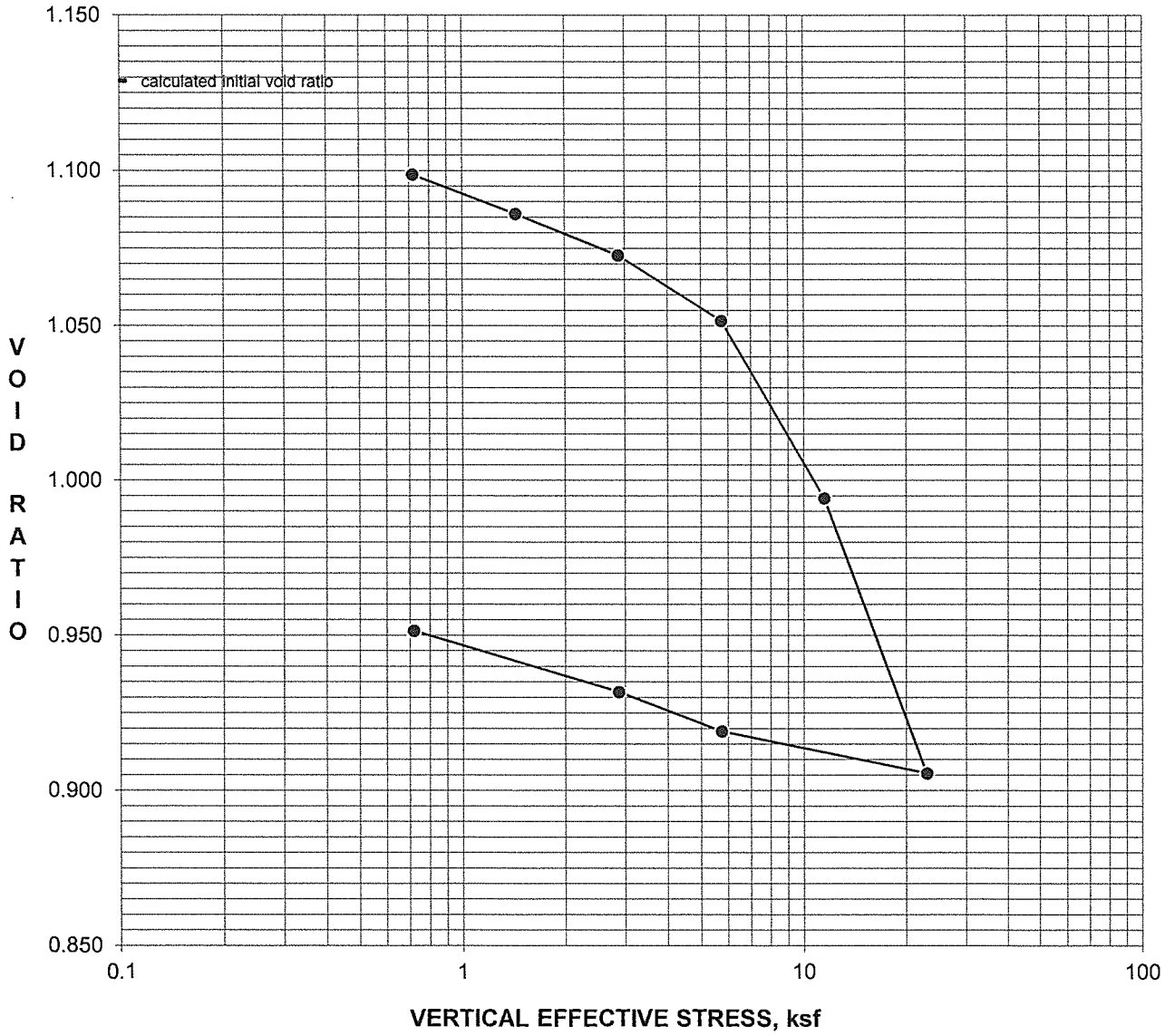
ASTM D 2435/D2435M-11

September 8, 2013

Boring #1 @ 36.0 - 36.5'
Fat Clay with Sand (CH)
Ring Sample

DRY DENSITY: 79.2 pcf
MOISTURE CONTENT: 41.5%
SPECIFIC GRAVITY: 2.70 (assumed)
INITIAL VOID RATIO: 1.129

VOID RATIO vs. NORMAL PRESSURE DIAGRAM



California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

12 September, 2013

Job No.1309000
Cust. No.11974

Mr. Judd King
Earth Systems Pacific
4378 Santa Fe Road
San Luis Obispo, CA 93401

Subject: Project No.: SL-17099-SA
Project Name: Soledad WRF Wind Turbine
Corrosivity Analysis – ASTM Test Methods

Dear Mr. King:

Pursuant to your request, CERCO Analytical has analyzed the soil samples submitted on September 03, 2013. Based on the analytical results, this brief corrosivity evaluation is enclosed for your consideration.

Based upon the resistivity measurements, both samples are classified as "corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentrations ranged from none detected to 50 mg/kg. Because the chloride ion concentrations are less than 300 mg/kg, they are determined to be insufficient to attack steel embedded in a concrete mortar coating.

The sulfate ion concentrations ranged from 69 to 1,000 mg/kg and are determined to be sufficient to damage reinforced concrete structures and cement mortar-coated steel at these locations. Therefore, concrete that comes into contact with this soil should use sulfate resistant cement such as Type II, in accordance with the California Building Code requirements with a maximum water-to-cement ratio of 0.55.

The pH of the soils range from 6.74 to 8.87 which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

The redox potentials range from 310 to 470-mV. Sample No.001 is indicative of aerobic soil conditions. Sample No.002 is indicative of potentially "slightly corrosive" soils resulting from anaerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific long-term corrosion control design recommendations or consultation, please call *JDH Corrosion Consultants, Inc. at (925) 927-6630.*

We appreciate the opportunity of working with you on this project. If you have any questions, or if you require further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.

J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

Client: EarthSystems Pacific
Client's Project No.: SL-17099-SA
Client's Project Name: Soledad WRF Wind Turbine
Date Sampled: 13-Aug-13
Date Received: 3-Sep-13
Matrix: Soil
Authorization: Signed Chain of Custody

Date of Report: 12-Sep-2013

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
1309000-001	B1 @ 0'-5.0'	470	6.74	-	510	-	50	1,000
1309000-002	B1 @ 50.5'-51.5'	310	8.87	-	970	-	N.D.	69

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Detection Limit:	-	-	10	-	50	15	15
Date Analyzed:	10-Sep-2013	10-Sep-2013	-	11-Sep-2013	-	11-Sep-2013	11-Sep-2013

Cheryl McMillen
Laboratory Director

* Results Reported on "As Received" Basis
N.D. - None Detected

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

APPENDIX IV

2024 Laboratory Test Results

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: SPV

MOISTURE-DENSITY TESTS - D2216/D7263

	1	2	3	4	5
Sample No.	A-24-001-3A	A-24-001-5A	A-24-001-8A	A-24-001-10A	R-24-002-1A
USCS Symbol	SP	SP	SP	CH	SP-SM
Depth (ft.)	4	8.5	21	31	1
Sample Length (in.)	5.946	5.948	5.369	4.880	5.944
Diameter (in.)	2.395	2.361	2.399	2.383	2.354
Sample Volume (ft^3)	0.01550	0.01507	0.01404	0.01260	0.01497
Total Mass Soil+Tube (g)	1050.3	1082.2	1101.3	928.6	1106.9
Mass of Tube (g)	272.8	284.9	280.3	272.6	279.2
Tare No.	122	124	105	D4	152
Tare (g)	14.7	14.3	14.0	13.7	14.2
Wet Soil + Tare (g)	77.0	88.8	88.8	81.3	93.0
Dry Soil + Tare (g)	72.6	79.9	73.2	62.2	85.4
Dry Soil (g)	57.8	65.6	59.2	48.5	71.3
Water (g)	4.5	8.9	15.6	19.0	7.6
Moisture (%)	**7.7**	**13.6**	**26.3**	**39.2**	**10.6**
Dry Density (pcf)	**102.7**	**102.7**	**102.0**	**82.4**	**110.1**

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24-5/30/2024
Technician: SPV

MOISTURE-DENSITY TESTS - D2216/D7263

	1	2	3	4	5
Sample No.	R-24-002-3A	R-24-002-7A	R-24-002-8A	R-24-002-9A	R-24-002-12B
USCS Symbol	SP-SM	CH	CH	CH	ML
Depth (ft.)	4	16	26	31	45.5
Sample Length (in.)	5.977	5.594	5.290	5.071	3.725
Diameter (in.)	2.344	2.379	2.396	2.401	2.390
Sample Volume (ft^3)	0.01492	0.01439	0.01380	0.01329	0.00967
Total Mass Soil+Tube (g)	1012.5	980.3	978.4	949.4	799.0
Mass of Tube (g)	280.8	275.0	279.5	277.1	278.2
Tare No.	9013	152.0	K18	G7	G23
Tare (g)	114.2	14.2	13.6	13.4	13.5
Wet Soil + Tare (g)	334.6	67.8	70.6	74.7	76.3
Dry Soil + Tare (g)	292.5	49.3	53.9	56.9	60.8
Dry Soil (g)	178.4	35.2	40.3	43.5	47.4
Water (g)	42.1	18.5	16.7	17.8	15.5
Moisture (%)	**23.6**	**52.5**	**41.4**	**40.8**	**32.7**
Dry Density (pcf)	**87.4**	**70.9**	**78.9**	**79.2**	**89.5**

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24-5/30/2024
Technician: SPV

MOISTURE-DENSITY TESTS - D2216/D7263

	1	2	3	4	5
Sample No.	R-24-002-12A	R-24-002-13A	A-24-003-1A	A-24-003-3A	A-24-003-5A
USCS Symbol	ML	ML	CL	CL	CL
Depth (ft.)	46	51	2	5	11
Sample Length (in.)	5.510	5.392	5.931	5.570	6.005
Diameter (in.)	2.388	2.394	2.380	2.385	2.363
Sample Volume (ft^3)	0.01428	0.01405	0.01527	0.01440	0.01524
Total Mass Soil+Tube (g)	1017.6	991.5	1167.3	1038.0	1155.3
Mass of Tube (g)	274.7	279.2	273.2	223.1	272.0
Tare No.	H22	A12	C19	2015	9018
Tare (g)	13.6	13.8	13.9	114.6	115.4
Wet Soil + Tare (g)	81.0	75.9	98.7	321.3	319.7
Dry Soil + Tare (g)	63.5	58.3	91.7	283.2	287.1
Dry Soil (g)	49.9	44.4	77.7	168.6	171.8
Water (g)	17.5	17.6	7.1	38.2	32.5
Moisture (%)	**35.1**	**39.7**	**9.1**	**22.6**	**18.9**
Dry Density (pcf)	**84.9**	**80.0**	**118.4**	**101.8**	**107.5**

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: SPV

MOISTURE-DENSITY TESTS - D2216/D7263

	1	2	3	4	5
Sample No.	A-24-003-9A	A-24-004-1A	A-24-004-5A	A-24-005-1A	A-24-005-3A
USCS Symbol	SP	CL	SP	CL	SC
Depth (ft.)	31	2	11	1	4
Sample Length (in.)	-	5.736	-	5.822	5.962
Diameter (in.)	-	2.372	-	2.382	2.393
Sample Volume (ft^3)	-	0.01467	-	0.01501	0.01552
Total Mass Soil+Tube (g)	-	1090.4	-	1216.3	1253.0
Mass of Tube (g)	-	241.5	-	238.3	285.9
Tare No.	C19	B18	2005	2019	G7
Tare (g)	13.9	13.8	121.7	124.8	13.4
Wet Soil + Tare (g)	93.6	85.3	331.2	265.3	81.3
Dry Soil + Tare (g)	86.9	73.0	327.0	257.0	76.3
Dry Soil (g)	73.1	59.2	205.3	132.2	62.9
Water (g)	6.7	12.3	4.2	8.3	5.0
Moisture (%)	**9.1**	**20.9**	**2.1**	**6.3**	**8.0**
Dry Density (pcf)	**-**	**105.6**	**-**	**135.1**	**127.3**

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: SPV

MOISTURE-DENSITY TESTS - D2216/D7263

	1	2	3	4	5
Sample No.	A-24-005-5A	A-24-006-1A	A-24-006-3A	A-24-006-5A	
USCS Symbol	SC	SC	SC	SC	
Depth (ft.)	11	2	5	11	
Sample Length (in.)	-	5.979	5.294	-	
Diameter (in.)	-	2.401	2.397	-	
Sample Volume (ft^3)	-	0.01567	0.01383	-	
Total Mass Soil+Tube (g)	-	1157.7	1106.2	-	
Mass of Tube (g)	-	240.4	239.2	-	
Tare No.	C4	122	B18	A9	
Tare (g)	13.6	14.2	13.7	13.9	
Wet Soil + Tare (g)	83.2	86.3	78.4	88.3	
Dry Soil + Tare (g)	77.8	80.8	74.0	79.8	
Dry Soil (g)	64.2	66.5	60.2	65.9	
Water (g)	5.4	5.5	4.4	8.5	
Moisture (%)	**8.4**	**8.3**	**7.3**	**12.9**	
Dry Density (pcf)	**-**	**119.2**	**128.8**	**-**	

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: AOM

200 Wash - ASTM D1140
Method A

Max Particle	Standard Sieve	Recommended
2 mm or less	No. 10	20 g
4.75 mm	No. 4	100 g
9.5 mm	3/8 "	500 g
19.0 mm	3/4 "	2.5 kg
37.5 mm	1 1/2 "	10 kg
75.0 mm	3 "	50 kg

Table from 6.2 of ASTM D1140

Sample No.	A-24-001-6A	A-24-001-7A	R-24-002-3A	R-24-002-5A	R-24-002-15A
USCS Symbol	SP	SP	SP-SM	SP	SP
Depth (ft.)	11	16	4	7.5	61
Tare No.	9007	1009	9013	X26	X23
Tare (g)	114.6	126.69	114.17	116.47	117.14
Dry Soil + Tare (g)	283.33	292.71	292.52	280.34	289.22
Dry Mass before (g)	168.7	166.0	178.4	163.9	172.1
Dry Mass after (g)	162.0	159.8	167.6	159.8	164.3
Moisture (%)	20.6	23.2	23.6	22.9	17.8
Percent Fines (%)	4	4	6	2	5

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: AOM

200 Wash - ASTM D1140
Method A

Max Particle	Standard Sieve	Recommended
2 mm or less	No. 10	20 g
4.75 mm	No. 4	100 g
9.5 mm	3/8 "	500 g
19.0 mm	3/4 "	2.5 kg
37.5 mm	1 1/2 "	10 kg
75.0 mm	3 "	50 kg

Table from 6.2 of ASTM D1140

Sample No.	A-24-003-3A	A-24-003-5A	A-24-003-6A	A-24-004-5A	A-24-005-2A
USCS Symbol	CL	CL	SP	SP	SC
Depth (ft.)	5	11	16	11	2.5
Tare No.	2015	9018	X11	2005	X19
Tare (g)	114.6	115.35	116.37	121.66	114.1
Dry Soil + Tare (g)	283.15	287.13	367.08	326.96	307.66
Dry Mass before (g)	168.6	171.8	250.7	205.3	193.6
Dry Mass after (g)	30.8	68.2	242.8	199.2	138.0
Moisture (%)	22.6	18.9	2.8	2.1	5.2
Percent Fines (%)	82	60	3	3	29

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: AOM

200 Wash - ASTM D1140
Method A

Max Particle	Standard Sieve	Recommended
2 mm or less	No. 10	20 g
4.75 mm	No. 4	100 g
9.5 mm	3/8 "	500 g
19.0 mm	3/4 "	2.5 kg
37.5 mm	1 1/2 "	10 kg
75.0 mm	3 "	50 kg

Table from 6.2 of ASTM D1140

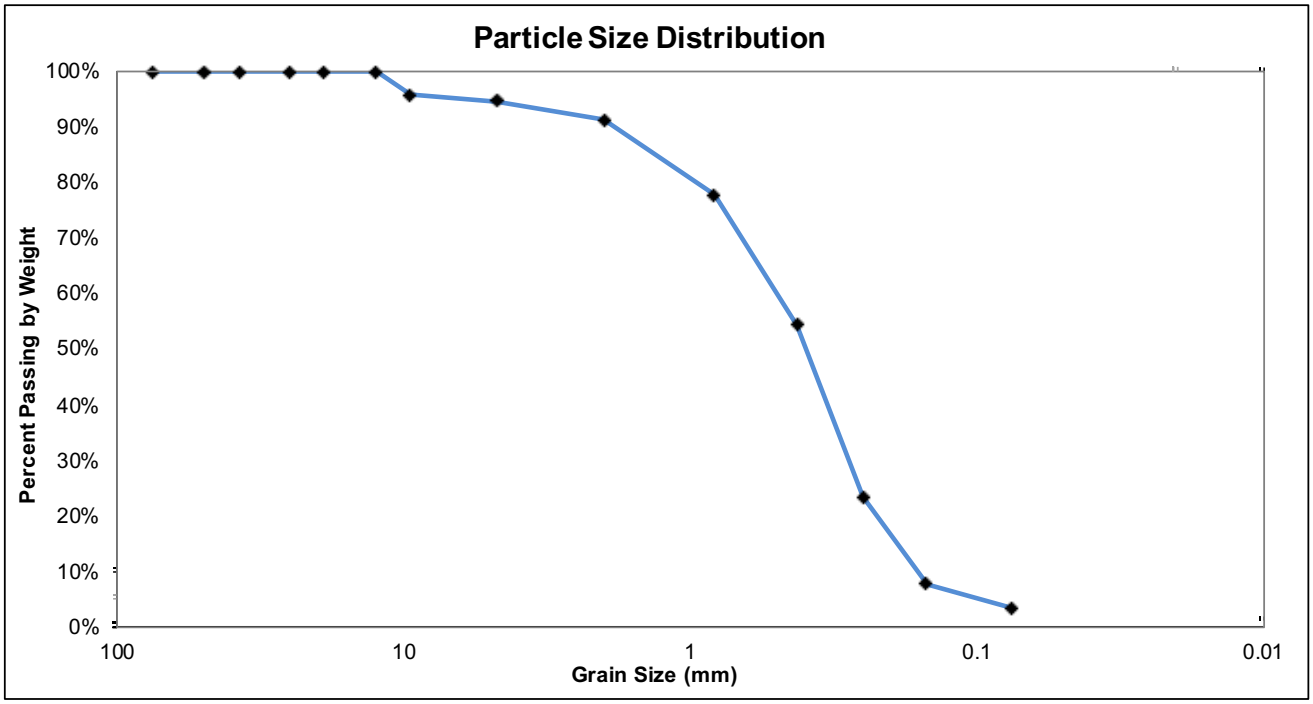
Sample No.	A-24-005-4A	A-24-006-3A			
USCS Symbol	SC	SC			
Depth (ft.)	5.5	5			
Tare No.	X19	23213			
Tare (g)	115.77	129.16			
Dry Soil + Tare (g)	303.95	325.31			
Dry Mass before (g)	188.2	196.2			
Dry Mass after (g)	107.2	149.0			
Moisture (%)	8.4	6.7			
Percent Fines (%)	43	24			

Notes:

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
CAInc File No: 24-1057.1
Date: 5/24/24
Technician: AOM
Sample ID: R-24-002-6A
Depth (ft): 11
USCS Classification: Poorly-graded Sand (SP)

ASTM 6913 - Method A



% Cobble	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	Silt/Clay
	0	5	4	37	51	
0	**5**		**92**			**3**

		Sieve #	Opening mm	Cummulative Mass Retained (g)	% Passing %
Cobbles		**3"**	75	0.0	100%
Gravel	Coarse	**2"**	50	0.0	100%
		1-1/2"	37.5	0.0	100%
		1"	25.0	0.0	100%
		3/4"	19.0	0.0	100%
	Fine	**1/2"**	12.5	0.0	100%
		3/8"	9.50	7.3	96%
		#4	4.75	9.3	95%
Sand	Coarse	**#10**	2.00	15.0	91%
	Medium	**#20**	0.825	38.4	78%
		#40	0.425	78.4	54%
	Fine	**#60**	0.250	131.9	23%
		#100	0.150	158.9	8%
Silt/Clay		**#200**	0.075	166.4	3%

Coefficient of Uniformity	Coefficient of Curvature
Cu = 3.2	Cc = 1.0

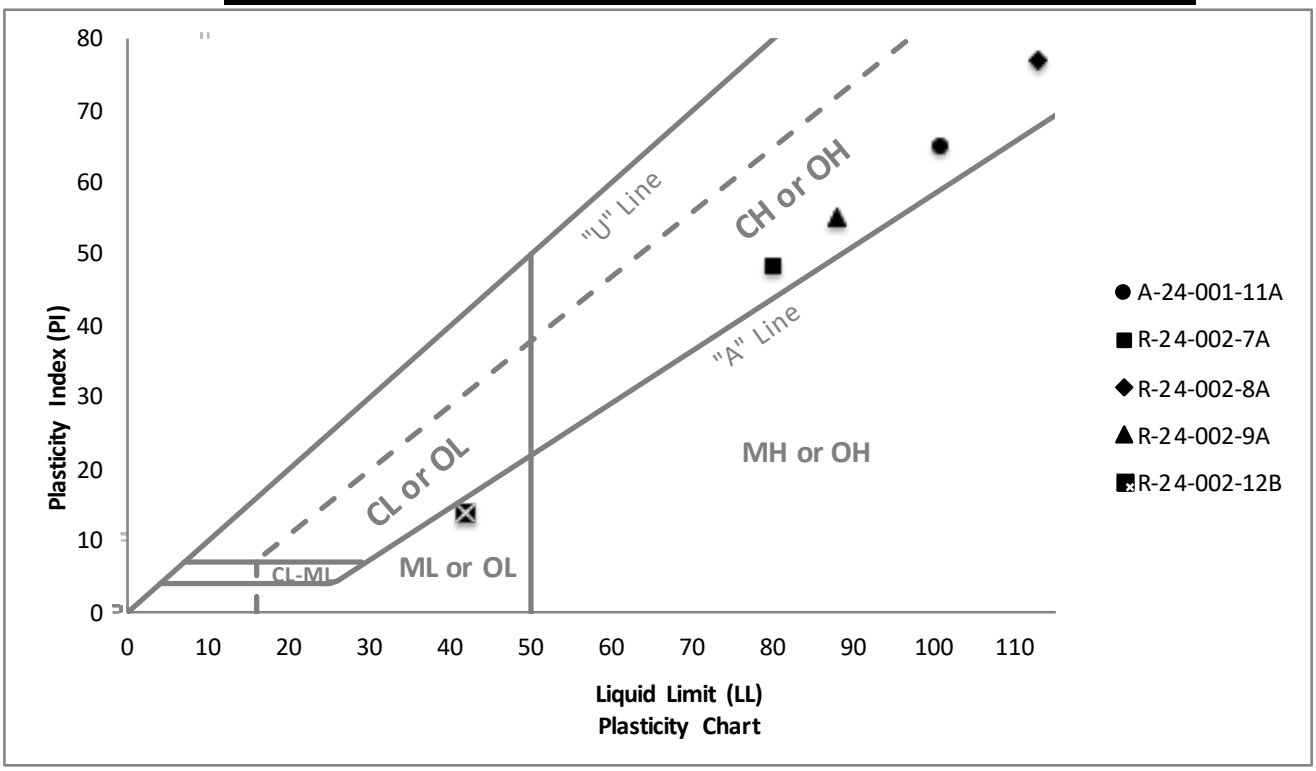
Moisture (%)
20%

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/29-6/4/2024
Technician: AOM

Plasticity Index - ASTM D4318

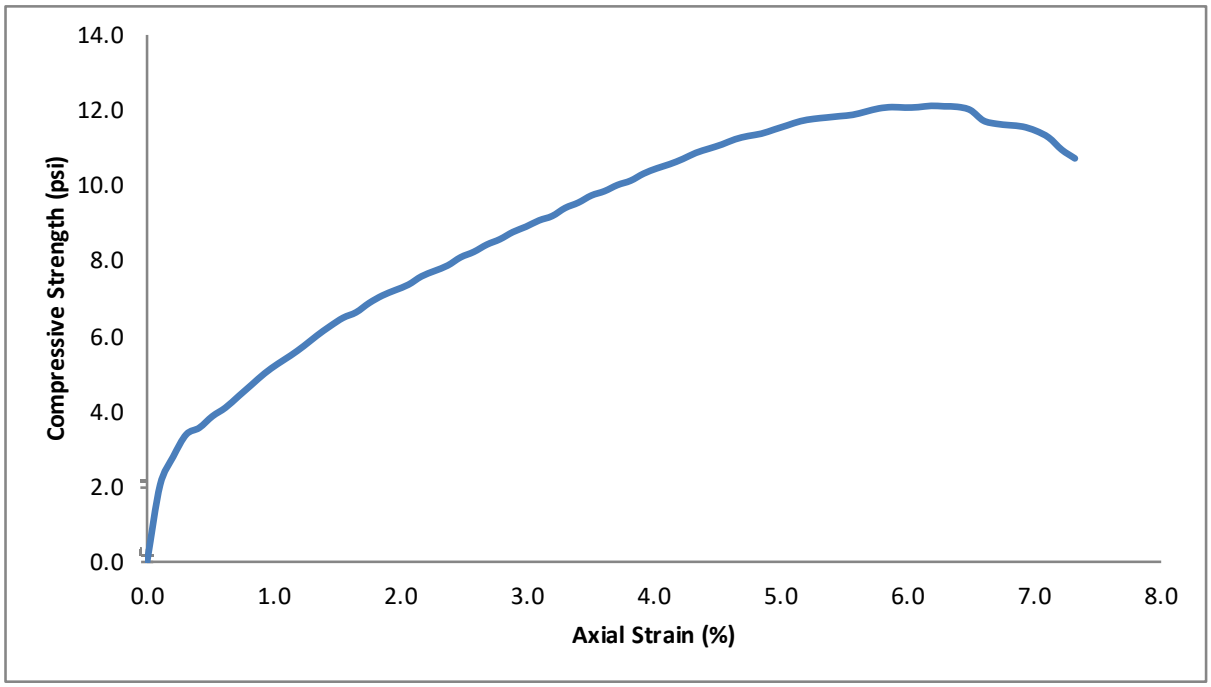
Sample ID	Depth (ft)	Liquid Limit	Plastic Limit	PI
A-24-001-11A	36	101	36	65
R-24-002-7A	16	80	32	48
R-24-002-8A	26	113	36	77
R-24-002-9A	31	88	33	55
R-24-002-12B	45.5	42	28	14



Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

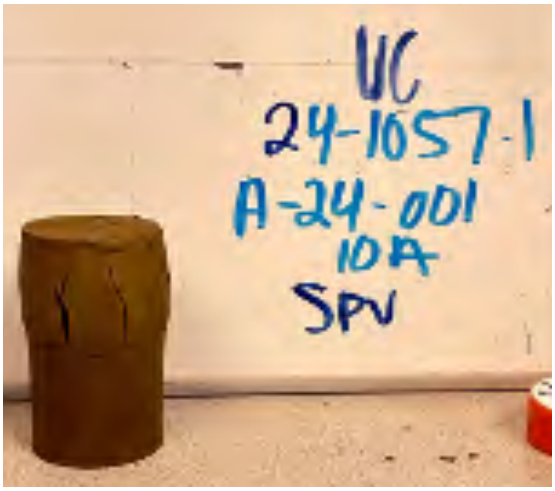
Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/24/24
Technician: SPV
Sample ID: A-24-001-10A Depth (ft): 31.0
USCS Classification: Fat Clay (CH)

UNCONFINED COMPRESSION TEST - D2166



Dry Density (pcf)	**82.4**
Water Content (%)	**39.2**
Unconfined Compressive Strength (psi)	**12.1**
Unconfined Compressive Strength (psf)	**1742**
Average Height (in)	4.880
Average Diameter (in)	2.383
Rate of strain (%)	0.5
Strain at Failure (%)	6.2

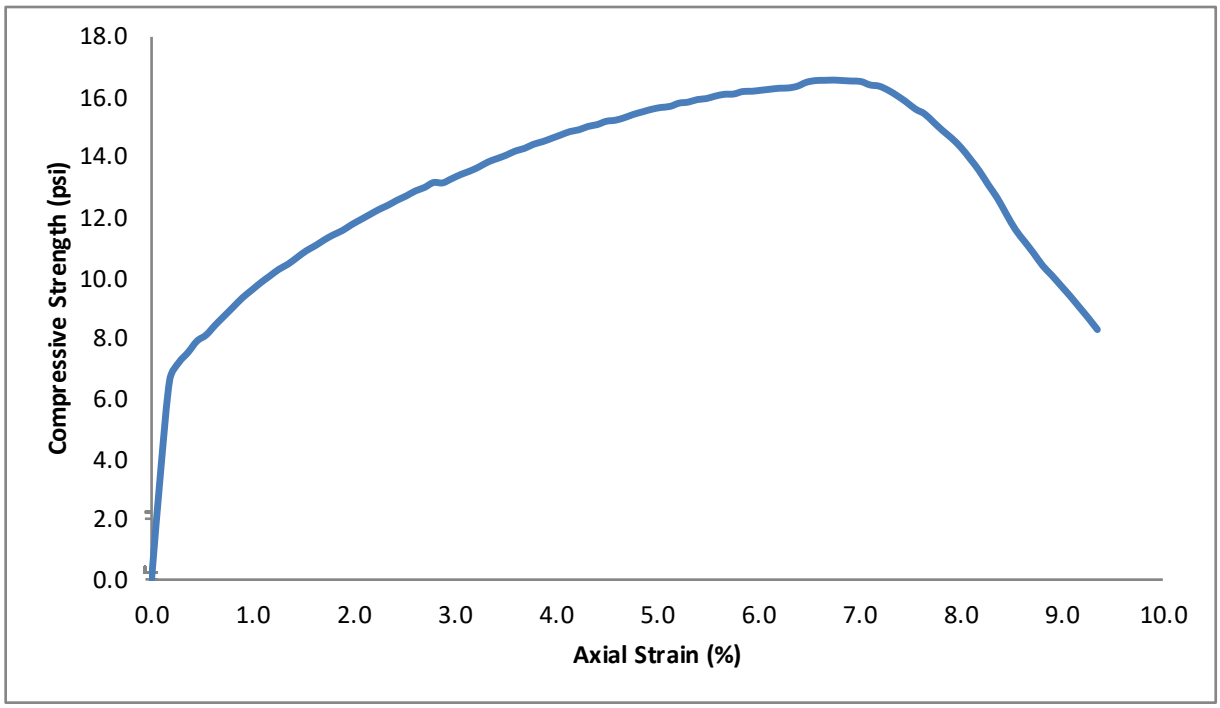
Notes:



Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

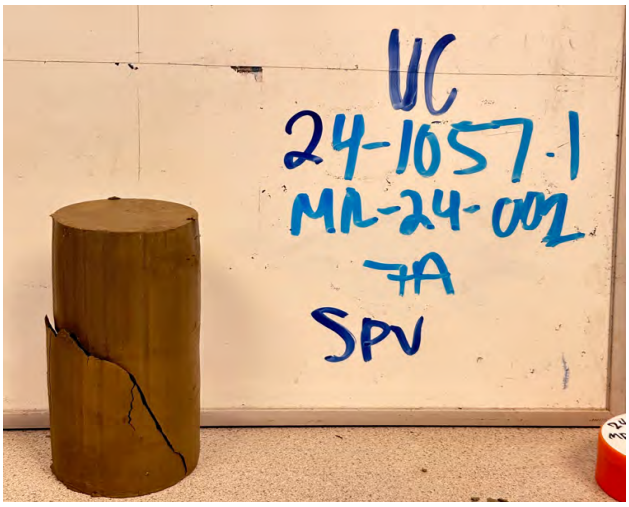
Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/30/24
Technician: SPV
Sample ID: R-24-002-7A Depth (ft): 16.0
USCS Classification: Fat Clay (CH)

UNCONFINED COMPRESSION TEST - D2166



Dry Density (pcf)	**70.9**
Water Content (%)	**52.5**
Unconfined Compressive Strength (psi)	**16.6**
Unconfined Compressive Strength (psf)	**2390**
Average Height (in)	5.594
Average Diameter (in)	2.379
Rate of strain (%)	0.5
Strain at Failure (%)	6.7

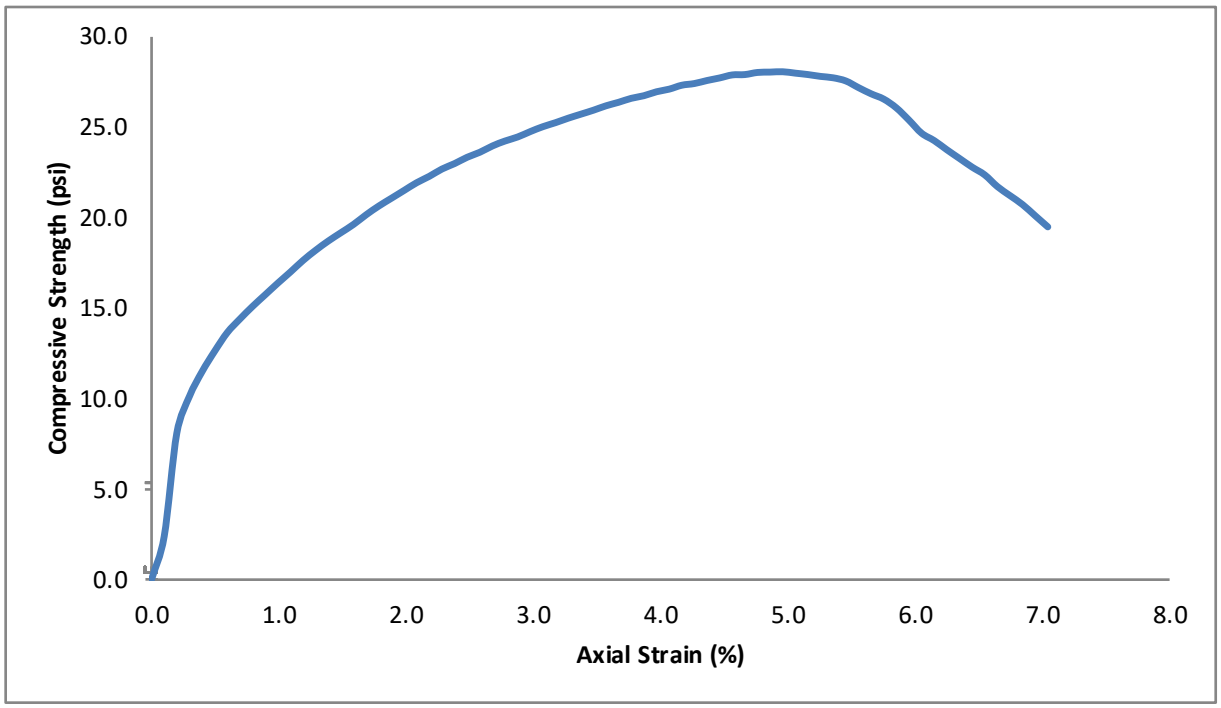
Notes:



Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

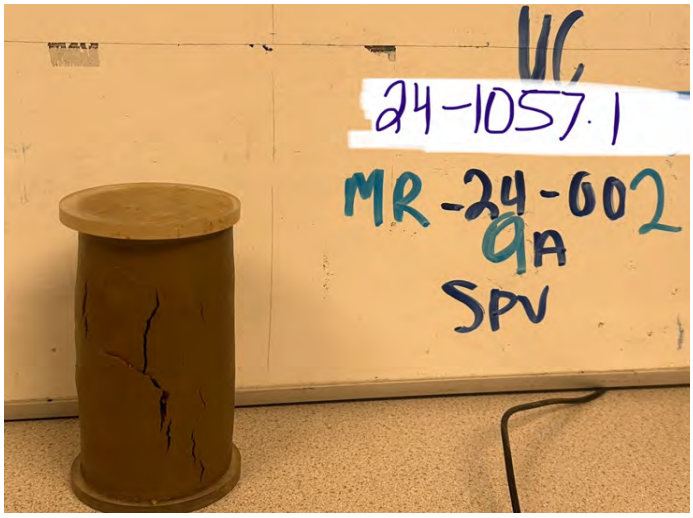
Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/29/24
Technician: SPV
Sample ID: R-24-002-9A Depth (ft): 31.0
USCS Classification: Fat Clay (CH)

UNCONFINED COMPRESSION TEST - D2166



Dry Density (pcf)	**79.2**
Water Content (%)	**40.8**
Unconfined Compressive Strength (psi)	**28.1**
Unconfined Compressive Strength (psf)	**4046**
Average Height (in)	5.071
Average Diameter (in)	2.401
Rate of strain (%)	0.5
Strain at Failure (%)	5.0

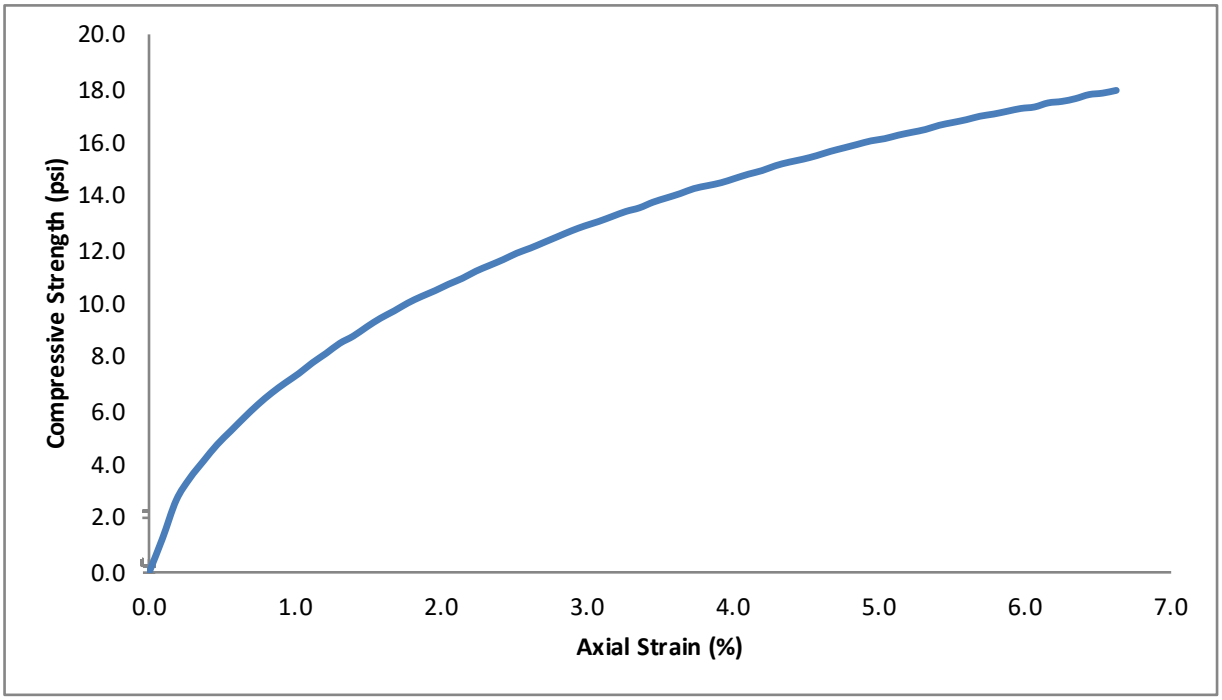
Notes:



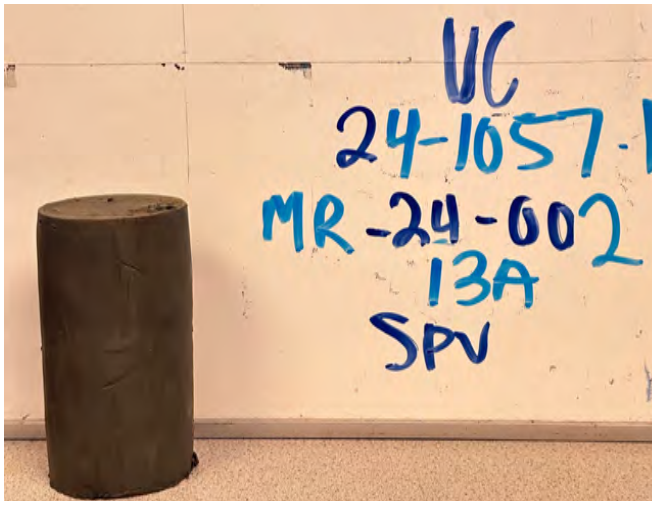
Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services

Project Name: Soledad Recycled Water Conveyance
Crawford File No: 24-1057.1
Date: 5/30/24
Technician: SPV
Sample ID: R-24-002 13A Depth (ft): 51.0
USCS Classification: Silt (ML)

UNCONFINED COMPRESSION TEST - D2166



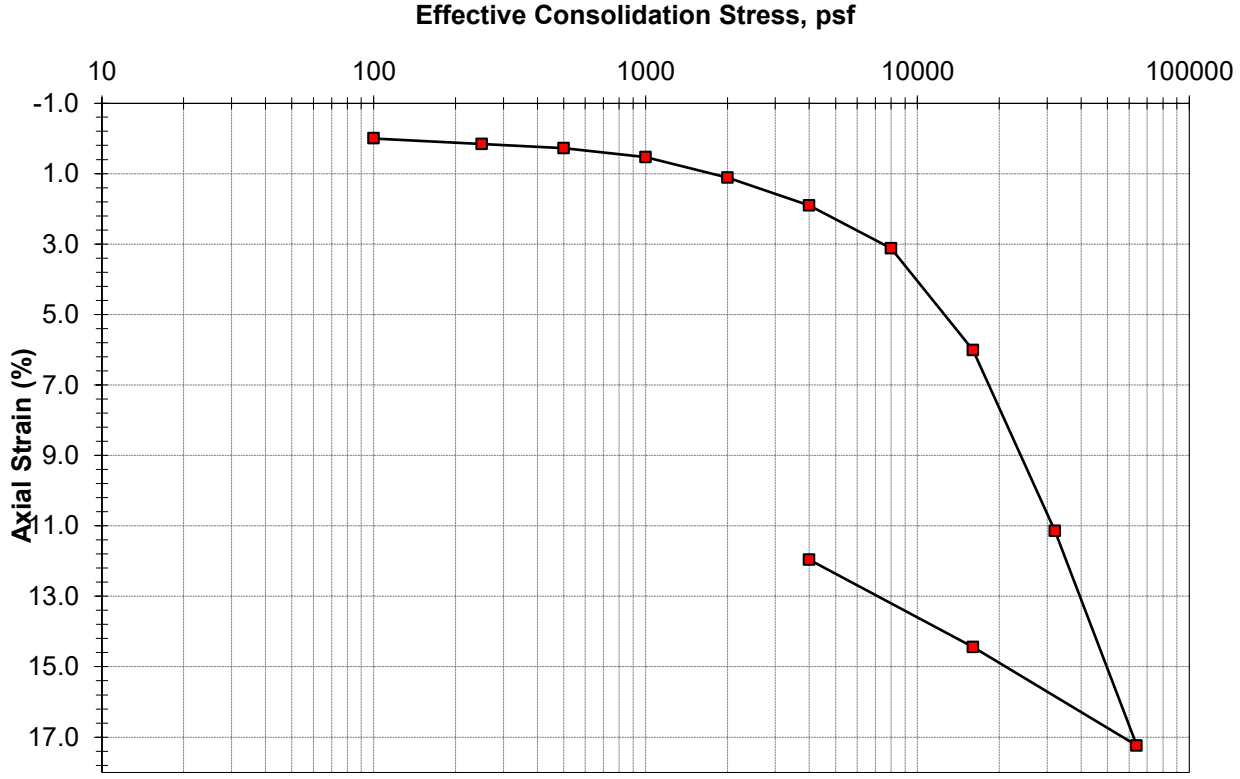
Dry Density (pcf)	**80.0**
Water Content (%)	**39.7**
Unconfined Compressive Strength (psi)	**17.9**
Unconfined Compressive Strength (psf)	**2578**
Average Height (in)	5.392
Average Diameter (in)	2.394
Rate of strain (%)	0.5
Strain at Failure (%)	6.6



Notes:

CONSOLIDATION TEST - ASTM D2435
STRESS VERSUS STRAIN

Project Name	Soledad Recycled Water
Geocon Project Number	S9763-05-285
Boring Number	MR-24-002
Sample Number	Shelby 11 (40-42')
Sample Description	Greenish Gray lean CLAY



Axial Load, psf	Void Ratio	Axial Strain, %
initial	1.215	0.00
100	1.215	0.00
250	1.211	0.16
500	1.209	0.28
1000	1.203	0.53
2000	1.190	1.11
4000	1.173	1.90
8000	1.146	3.12
16000	1.082	6.01
32000	0.968	11.15
64000	0.833	17.24
16000	0.895	14.44
4000	0.950	11.96

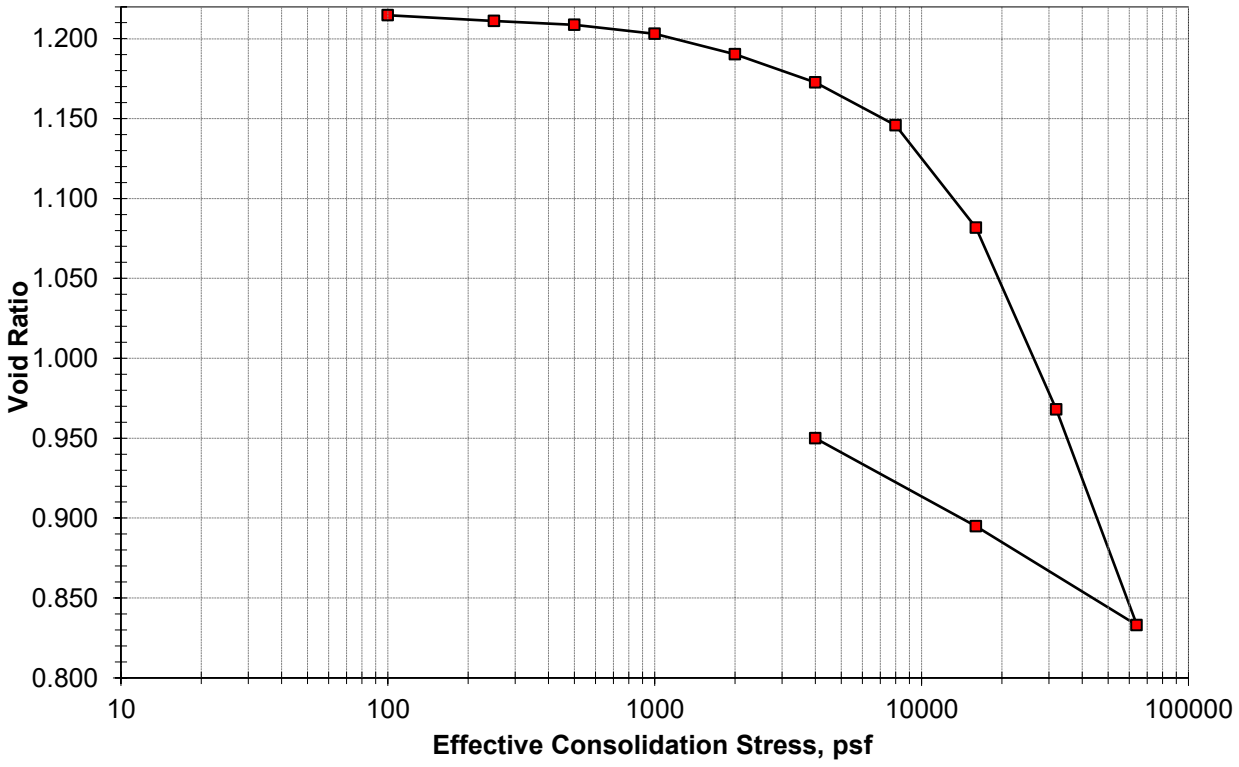
Measurement	Initial	Final
Height (in.)	0.750	0.654
Moisture Content (%)	40.4	33.8
Dry Density (pcf)	77.2	88.6
Saturation (%)	91	100

Note:
Gs = 2.74 (assumed)

GEOCON
CONSULTANTS, INC.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
tel. 916.852-9118 fax. 916.852.9132

CONSOLIDATION TEST - ASTM D2435
STRESS VERSUS VOID RATIO

Project Name	Soledad Recycled Water
Geocon Project Number	S9763-05-285
Boring Number	MR-24-002
Sample Number	Shelby 11 (40-42')
Sample Description	Greenish Gray lean CLAY



Axial Load, psf	Void Ratio	Axial Strain, %
initial	1.215	0.00
100	1.215	0.00
250	1.211	0.16
500	1.209	0.28
1000	1.203	0.53
2000	1.190	1.11
4000	1.173	1.90
8000	1.146	3.12
16000	1.082	6.01
32000	0.968	11.15
64000	0.833	17.24
16000	0.895	14.44
4000	0.950	11.96

Measurement	Initial	Final
Height (in.)	0.750	0.654
Moisture Content (%)	40.4	33.8
Dry Density (pcf)	77.2	88.6
Saturation (%)	91	100

Note:
Gs = 2.74 (assumed)

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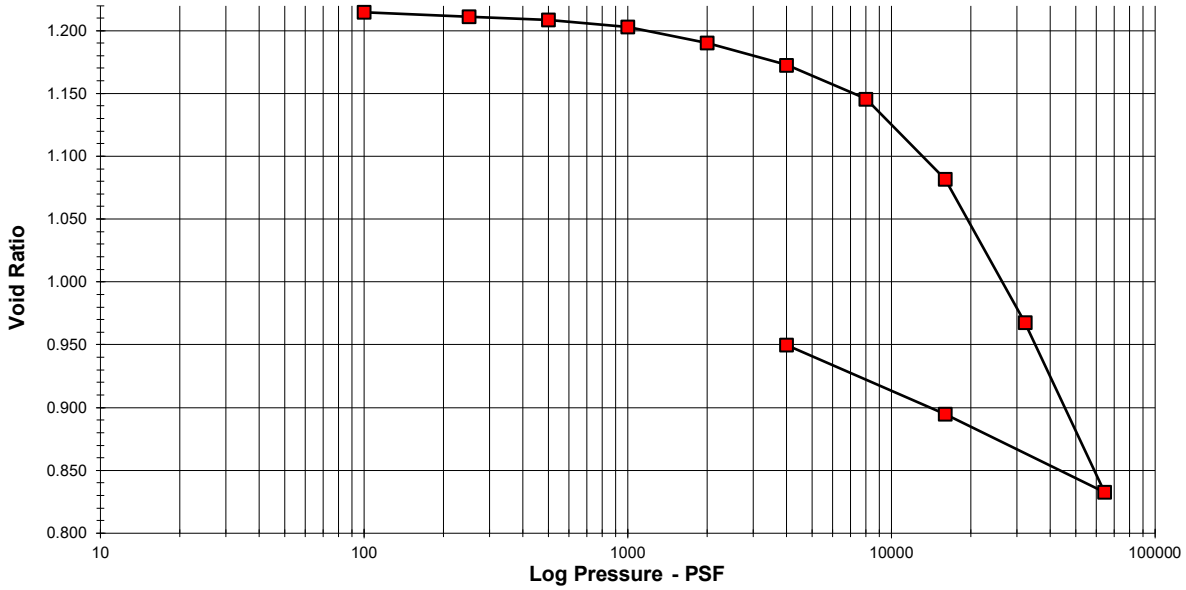
CONSOLIDATION TEST - ASTM D2435

Project Name: Soledad Recycled Water
Project Number: S9763-05-285 Sample Number: MR-24-002 Shelby 11 (40-42')

CONSOLIDATION TEST RESULTS
JOB S9763-05-285, BORING MR-24-002, Shelby 11 (40-42')

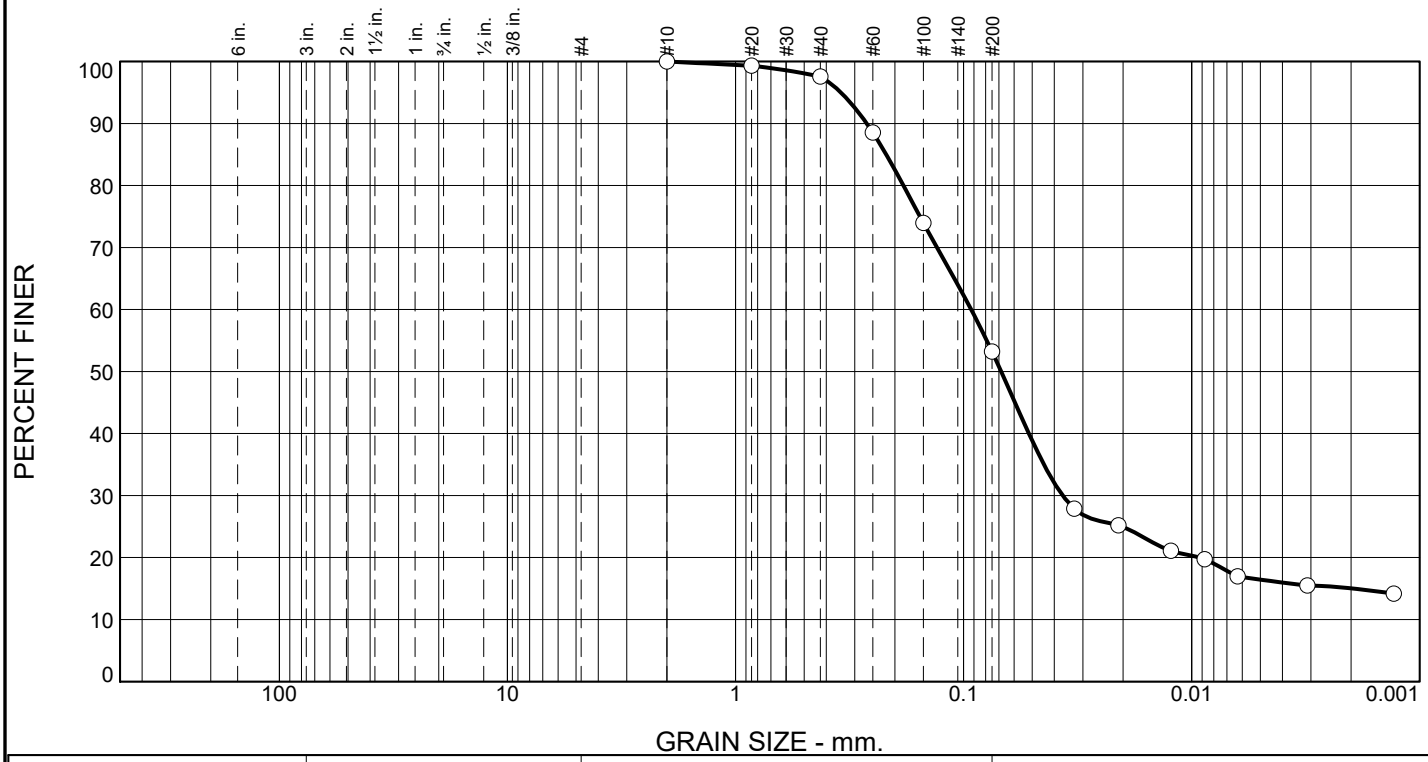


Axial Load (psf)	Void Ratio	Axial Strain (%)	m_V, coef of vol Compres (in^2/lb)	c_C, Comp Index	50% Consolidation t_{50}, Time to Consol (min)	50% Consolidation C_V, Coeff of Consol (ft^2/yr)	90% Consolidation t_{90}, Time to Consol (min)	90% Consolidation C_V, Coeff of Consol (ft^2/yr)
initial	1.215	0.00						
100	1.215	0.00						
250	1.211	0.16	0.0016	0.009	0.02	4325.07	0.10	4350.05
500	1.209	0.28	0.0007	0.008	0.03	3521.38	0.12	3541.72
1000	1.203	0.53	0.0007	0.018	0.03	3035.15	0.14	3052.68
2000	1.190	1.11	0.0008	0.043	0.41	242.06	1.76	243.46
4000	1.173	1.90	0.0006	0.058	0.32	310.02	1.36	311.81
8000	1.146	3.12	0.0004	0.089	0.22	442.05	0.93	444.60
16000	1.082	6.01	0.0005	0.213	0.93	99.16	3.98	99.73
32000	0.968	11.15	0.0005	0.378	2.41	35.07	10.33	35.27
64000	0.833	17.24	0.0003	0.448	5.46	13.64	23.39	13.72
16000	0.895	14.44						
4000	0.950	11.96						

	COND AT START OF TEST	COND AT END OF TEST
G_s = 2.74 (assumed)		
HEIGHT (in.)	0.7500	0.6537
MOISTURE CONTENT (%)	40.4	33.8
DRY DENSITY (pcf):	77.2	88.6
SATURATION (%)	91.1	99.7

GEOCON CONSULTANTS, INC.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
tel. 916.852-9118 fax. 916.852.9132

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.4	44.4	36.8	16.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#10	100.0		
#20	99.3		
#40	97.6		
#60	88.5		
#100	74.0		
#200	53.2		
0.0327 mm.	27.9		
0.0209 mm.	25.2		
0.0123 mm.	21.1		
0.0088 mm.	19.7		
0.0063 mm.	17.0		
0.0031 mm.	15.5		
0.0013 mm.	14.2		

* (no specification provided)

Material Description

Atterberg Limits (ASTM D 4318)

PL= **LL=** **PI=**

Classification

USCS (D 2487)= **AASHTO (M 145)=**

Coefficients

D_{90}= 0.2659 D_{85}= 0.2184 D_{60}= 0.0927
D_{50}= 0.0684 D_{30}= 0.0368 D_{15}= 0.0020
D_{10}= C_u= C_c=

Remarks

Date Received: **Date Tested:** 6/4/24

Tested By: JF

Checked By: MR

Title: Lab Manager

Sample Number: A-21-003-4A **Depth:** 6.5-7.0 **Date Sampled:**

GEOCON CONSULTANTS, INC.

Client: Crawford and Associates

Project: Soledad Recycled Water Conveyance

Project No: S9763-05-285 **Figure**

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/05/2024
Date Submitted 05/31/2024

To: Carmelo Pagan
Crawford & Associates, Inc.
4701 Freeport Blvd
Sacramento, CA 95822

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager RH

The reported analysis was requested for the following location:
Location : 24-1057.1 Site ID : A-24-005 3B.
Thank you for your business.

* For future reference to this analysis please use SUN # 92349-191324.

EVALUATION FOR SOIL CORROSION

Soil pH	7.61	
Moisture	6.8 %	
Minimum Resistivity	3.75 ohm-cm (x1000)	
Chloride	6.2 ppm	00.00062 %
Sulfate	18.9 ppm	00.00189 %
Redox Potential	(+) 290 mv	
Sulfides	Presence - NEGATIVE	

METHODS
pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m
Redox Potential ASTM G-200m, Sulfides AWWA C105/A25.5

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/05/2024
Date Submitted 05/31/2024

To: Carmelo Pagan
Crawford & Associates, Inc.
4701 Freeport Blvd
Sacramento, CA 95822

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 24-1057.1 Site ID : A-24-004 3B.
Thank you for your business.

* For future reference to this analysis please use SUN # 92349-191325.

EVALUATION FOR SOIL CORROSION

Soil pH	8.12	
Moisture	10.4 %	
Minimum Resistivity	0.60 ohm-cm (x1000)	
Chloride	131.0 ppm	00.01310 %
Sulfate	196.7 ppm	00.01967 %
Redox Potential	(+) 261 mv	
Sulfides	Presence - NEGATIVE	

METHODS
pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m
Redox Potential ASTM G-200m, Sulfides AWWA C105/A25.5

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/05/2024
Date Submitted 05/31/2024

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Crawford & Associates, Inc.
4701 Freeport Blvd
Sacramento, CA 95822

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 24-1057.1 Site ID : A-24-006 3B.
Thank you for your business.

* For future reference to this analysis please use SUN # 92349-191326.

EVALUATION FOR SOIL CORROSION

Soil pH	7.02	
Moisture	6.3 %	
Minimum Resistivity	0.91 ohm-cm (x1000)	
Chloride	22.5 ppm	00.00225 %
Sulfate	80.3 ppm	00.00803 %
Redox Potential	(+) 28 mv	
Sulfides	Presence - NEGATIVE	

METHODS
pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m
Redox Potential ASTM G-200m, Sulfides AWWA C105/A25.5

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/05/2024
Date Submitted 05/31/2024

To: Carmelo Pagan
Crawford & Associates, Inc.
4701 Freeport Blvd
Sacramento, CA 95822

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 24-1057.1 Site ID : MK-24-002 7B.
Thank you for your business.

* For future reference to this analysis please use SUN # 92349-191327.

EVALUATION FOR SOIL CORROSION

Soil pH	7.100	
Moisture	30.9 %	
Minimum Resistivity	0.54 ohm-cm (x1000)	
Chloride	62.5 ppm	00.00625 %
Sulfate	177.5 ppm	00.01775 %
Redox Potential	(+) 223 mv	
Sulfides	Presence - NEGATIVE	

METHODS
pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m
Redox Potential ASTM G-200m, Sulfides AWWA C105/A25.5

APPENDIX V

Site Specific Analysis

Appendix V
Site-Specific Ground Motion Hazard Memorandum
Recycled Water Conveyance
City of Soledad, California

SITE SPECIFIC ANALYSIS

The following sections describe the site-specific ground motion analysis performed in accordance with ASCE 7-16 (and supplements) and 2022 CBC.

INITIAL SEISMIC HAZARD ANALYSIS

SEISMIC DESIGN CRITERIA

Seismic design criteria are included in Section 11 of ASCE 7-16 (Sections referenced hereafter refer to ASCE 7-16), including mapped acceleration parameters. These mapped parameters are available online through the SEAOC/OSHPD[2] Seismic Design website, which interpolates values form the ASCE 7-16 maps using the site location.

SITE CLASS AND RISK CATEGORY

The encountered subsurface soils during Crawford's 2024 exploration indicate a Site Class D. However, the 2024 borings show potentially liquefiable soils present at the proposed pump station site. Liquefiable soils are considered Site Class F per Section 20.3.1 of ASCE 7-16 and a site-specific site response is required, unless the structures have fundamental periods of vibration equal or less than 0.5s. *We assume the proposed pump station will have a fundamental period of 0.5 seconds or less.* According to the Exception in Section 20.3.1 of ASCE 7-16, "a site class is permitted to be determined in accordance with Section 20.3 and the corresponding values of Fa and Fv are determined from Table 11.4-1 and 11.4-2."; therefore, the soils are considered Site Class D for the site-specific ground motion hazard analysis.

The average shear wave velocity of 195 meters per second (m/s) in the upper 30 meters or 100 feet (V_{S30}) used for the site was developed from 2024 boring data. Crawford used correlations[1] with SPT blow count N-values (Burmister[2]) corrected for hammer efficiency to determine V_S values. The Risk Category for the structure was assumed to be III.

MAPPED ACCELERATION PARAMETERS

Crawford accessed the SEAOC/OSHPD Seismic Design Map website[3] considering the site location latitude 36.4205°N and longitude -121.3402°, Site Class D, and Risk Category III to determine the Mapped Maximum Considered Earthquake (MCE) Spectral Response Short Period (S_S), Mapped MCE Spectral Response at 1 second period (S_1), Long Period (T_L), and mapped risked coefficients (C_{RS} and C_{R1}). The S_S, S_1, T_L, C_{RS}, and C_{R1} are coordinate specific and are

[1] Empirical Correlations for Estimating Shear Wave Velocity, Caltrans Geotechnical Manual, Design Acceleration Response Spectrum, Attachment 2, January 2021.
[2] AASHTO LRFD Bridge Design Specifications, Section 10.4.6.2.4, 8th Edition, 2018 and Burmister's Energy-Area Correction for Sampler Size Conversions to SPT N-value.
[3] https://www.seismicmaps.org/

taken from ASCE 7-16 figures independently of site class. The mapped acceleration parameters are based on an MCE which is roughly equivalent to an earthquake with a 2% chance of exceedance in 50 years (2,475-year return period). Table 1 summarizes the mapped acceleration parameters.

Table 1: Mapped Acceleration Parameters

Mapped Acceleration Parameter	Value	Source
Mapped MCE_R Spectral Response Short Period (S_S)	1.591	Figure 21-1
Mapped MCE_R Spectral Response at 1 Second Period (S_1)	0.566	Figure 21-2
Long Period (T_L)	12	Figure 21-14
Mapped Risk Coefficient at Short Period (C_{RS})	0.982	Figure 22-17
Mapped Risk Coefficient at 1 Second Period (C_{R1})	0.946	Figure 22-18

HORIZONTAL GROUND MOTION HAZARD ANALYSIS

A ground motion hazard analysis accounts for the regional tectonic setting, geology, and seismicity of a specific site as well as the expected recurrence of the maximum magnitudes of the earthquakes on known faults and source zones, considering ground motion attenuation and near source effects. The methodology included in ASCE 7-16 was used to determine the site-specific ground motions of the project site, generally consisting of the following steps:

- Determine the probabilistic MCE ground motions
- Determine the deterministic MCE ground motions
- Adjust probabilistic MCE ground motions to risk-targeted maximum considered earthquake ground motions (MCE_R)
- Compare and scale the site-specific deterministic MCE ground motion with minimum spectral responses to ASCE 7-16 Supplement 1 Section 21.2.2
- Compare the scaled deterministic ground motion to the probabilistic ground motion to determine the site-specific MCE_R ground motion (lower of the two at each period)
- Calculate design spectral response ground motion (2/3 of MCE_R)
- Compare the Section 21.2 design spectral response ground motion to the Section 11.4.6 design spectral response ground motion (cannot be lower than 80% Section 11.4.6 design spectral response ground motion)
- Determine the design spectral response spectrum and design acceleration parameters
- Calculate peak ground acceleration (PGA_M)

GROUND MOTION HAZARD ANALYSIS

Crawford performed a seismic hazard analyses and site response analyses using EZ-FRISK software Version 8.10. Crawford used the following next generation attenuation (NGA) relationships all equally weighted for the nearby strike-slip, normal, and reverse faults:

- Abrahamson-et al (2014)
- Boore-et al (2014)

- Campbell and Bozorgnia (2014)
- Chiou and Youngs (2014)

The following parameters were common to all analyses for each of the attenuation relationships:

- The V_{S30} of the site of 195 m/s
- Depth to soil with a V_S of 1,000 m/s was calculated to be 763 meters based on the methodology proposed by Abrahamson and Silva (2008)
- Depth to soil with a V_S of 2,500 m/s was calculated to be 3.26 kilometers based on the methodology proposed by Campbell and Bozorgnia (2008)

PROBABILISTIC MCER GROUND MOTION

Seismic sources within 300 kilometers were used to determine the site-specific ground motions. The NGA analyses considered the faults in Table 2: Summary of Seismic Sources (See page 7).

EZ-FRISK software was used to determine geometric mean spectral response acceleration predicted using attenuation relationships from a 5% damped response spectrum with a 2% in 50-year exceedance probability. Crawford included directivity factors following Huang, Whittaker, and Luco (2008) to apply the maximum rotated component.

RISK COEFFICIENTS

Method 1 of Section 21.2 was used to determine the probabilistic MCE_R ground motion

Mapped risk coefficients (C_{RS} and C_{R1}) were used to adjust the response accelerations to a 1% chance of collapse in 50 years per Section 21.2.1.1. The risk coefficients are summarized in Table 1, along with the source figure from ASCE 7-16.

C_{RS} was applied to accelerations at spectral periods less than or equal to 0.2 seconds. C_{R1} was applied accelerations at spectral periods greater than or equal to 1 second. For spectral periods between 0.2 and 1 seconds, the C_R value was linearly interpolated.

PROBABILISTIC MCE_R GROUND MOTION

Figure 1 shows the maximum rotated spectral response for the 2% in 50-year event developed using EZ-FRISK for each of the attenuation relationships described above. Also shown is the risk-adjusted response spectrum adjusting the response to a 1% in 50-year probability of collapse, which is equivalent to the site-specific probabilistic ground motion MCE_R.

DETERMINISTIC MCE_R GROUND MOTION

The deterministic spectral response acceleration is defined as the 84th-percentile 5% damped spectral response in the direction of maximum horizontal response for the characteristic earthquake on all known active faults within the region. EZ-FRISK was used to calculate the deterministic ground motion per Section 21.2.2. The deterministic spectral response was taken as the largest amplitude of ground motion considering all sources using the weighted mean of NGA attenuation relationships stated above. The controlling seismic source for the project site is the Great Valley 10 (Panoche) fault from spectral periods of 0 to 1 seconds and Reliz 2011 CFM for spectral periods greater than 1 seconds. Figure 2 shows the 84th-percentile 5% damped spectral response for the NGA attenuation relationships.

DETERMINISTIC MCE_R GROUND MOTION SCALING

Per ASCE 7-16 Supplement 1 Section 21.2.2, the maximum deterministic spectral response was compared with the minimum peak acceleration of 1.5Fa with Fa = 1 for Site Class D. Our maximum spectral response was 2.26g, therefore, no scaling of the deterministic curve was required. Figure 2 shows our deterministic ground motions compared to the minimum peak spectral accelerations.

SITE-SPECIFIC SPECTRAL RESPONSE ACCELERATION MCE_R

The site-specific spectral response acceleration is defined as the lower of the probabilistic and deterministic ground motions in Section 21.2.3. For the project site, the probabilistic ground motion controls for at PGA and 0.3 to 10 seconds. The deterministic ground motion controls for periods between 0.05 to 0.2 seconds. The site-specific spectral response acceleration (MCE_R) is shown on Figure 3.

DESIGN RESPONSE SPECTRUM

The design response spectrum is defined in Section 21.3 as the higher of two values:

- Two-thirds of the site-specific design spectral response acceleration per Section 21.2
- 80% of the design spectral response acceleration per Section 11.4.6 where Fa is calculated in Table 11.4-1 and Fv = 2.5 for $S_1 > 0.2$ for Site Class D

Crawford first calculated the design spectral response acceleration by taking 2/3 of the site-specific response acceleration MCE_R as shown in Figure 4.

Crawford then calculated the design response accelerations per Section 11.4.6 using F_a = 1.0 and F_v = 2.5 and reduced the spectral accelerations 80% to determine the design accelerations for a Site Class D. We then compared Section 11.4.6 design spectral accelerations for Site Class D with our site-specific design spectral response accelerations (Figure 5). The site-specific design spectral response acceleration per Section 21.2 controlled for all periods.

The design response spectrum is shown on Figure 5 and Table 3.

Table 3: Design Response Spectrum

Period, s	Sa, g
PGA	0.54
0.05	0.56
0.1	0.76
0.2	0.98
0.3	1.04
0.4	1.35
0.5	1.37
0.6	1.35

Period, s	Sa, g
0.7	1.26
0.8	1.17
0.9	1.10
1.0	1.04
2.0	1.03
3.0	0.98
4.0	0.70
5.0	0.53
6.0	0.42
7.0	0.32
8.0	0.25
9.0	0.20
10.0	0.17

DESIGN ACCELERATION PARAMETERS

Design acceleration parameters were calculated in accordance with Section 21.4. The S_{DS} value was taken as 90% the peak spectral acceleration value from periods 0.2 to 5 seconds. The S_{D1} value was taken as the maximum product of $T*S_a$ (period * spectral acceleration) from periods 1 to 5 seconds. Per Section 21.4, the S_{DS} and S_{D1} values cannot be less than 80% of the S_{DS} and S_{D1} calculated from Section 11.4.5. The S_{DS} and S_{D1} values in Section 11.4.5 was calculated from using $F_a = 1.0$ and $F_v = 4.0$ for a Site Class D as given in Section 21.3.

S_{MS} and S_{M1} were calculated as 1.5 times S_{DS} and S_{D1}, respectively. Per Section 21.4, the S_{MS} and S_{M1} values cannot be less than 80% of the S_{MS} and S_{M1} calculated from Section 11.4.3. The S_{MS} and S_{M1} values in Section 11.4.3 was calculated from using $F_a = 1.0$ and $F_v = 2.5$ for a Site Class D as given in Section 21.3

The design acceleration parameters are summarized in Table 4.

Table 4: Horizontal Site-Specific Spectral Accelerations

Design Acceleration Parameter	Value (g)
Design Spectral Acceleration for Short Period (S_{DS})	1.24
Design Spectral Acceleration for 1 Second Period (S_{D1})	1.67
MCE Spectral Response Acceleration for Short Period (S_{MS})	1.86
MCE Spectral Response Acceleration for 1 Second Period (S_{M1})	2.50

MAXIMUM CONSIDERED EARTHQUAKE MCE_G PEAK GROUND ACCELERATION (PGA)

PROBABILISTIC MCE_G PGA

Per Section 21.5.1 the probabilistic geometric mean PGA shall be taken as geometric mean peak ground acceleration with a 2% probability of exceedance within a 50-year period. The probabilistic MCE_G PGA is 0.83g.

DETERMINISTIC MCE_G PGA

Per Section 21.5.2, the deterministic geometric mean PGA shall be taken as the largest 84th-percentile geometric mean peak PGA but not lower than $0.5*F_{PGA}$ where F_{PGA} is determined using ASCE 7-16 Table 11.8-1 and PGA is taken as 0.5g. The deterministic MCE_G PGA was taken as 0.86g.

SITE-SPECIFIC MCE_G PGA

The site-specific MCE_G PGA (PGA_M) taken as the lesser of the probabilistic MCE_G PGA and deterministic MCE_G PGA but not less than 80% of the PGA_M determined from Equation 11.8-1 in ASCE 7-16. The site-specific PGA_M was taken as 0.83g.

TABLE 2

Table 2: Summary of Seismic Sources

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
NGA	Carson Range fault [1285]	283.94	7.08	Normal	35-65	E	SW
	Carson Range-Kings Canyon fault [1285_1654]	283.94	7.23	Normal	35-65	E	SW
	Huntoon Valley fault system [1302]	291.98	6.9	Strike Slip	90	--	SW
	Smith Valley fault [1291abc]	288.35	7.4	Normal	35-65	E	SW
	Unnamed faults [1303]	296.33	6.9	Strike Slip	90	--	SW
	FM31-Antelope Valley 2011	281.69	7.0	Normal	50	E	SW
	FM31-Bennett Valley 2011 CFM	224.06	7.6	Strike Slip	90	--	SE
	FM31-Big Pine (Central)	264.83	8.0	SS|R	76	SE,S	NW
	FM31-Big Pine (East)	264.53	8.0	SS|R	73	NW,N	NW
	FM31-Big Pine (West)	237.19	7.4	Reverse	50	N	NW
	FM31-Breckenridge 2011	273.54	7.2	N|SS	60	E	NW
	FM31-Butano 2011 CFM	93.85	8.1	SS|R	70	N,NE	SE
	FM31-Calaveras (Central) 2011 CFM	72.56	7.8	Strike Slip	77	NE	S
	FM31-Calaveras (No) 2011 CFM	122.72	7.5	Strike Slip	80	SW,W	S
NGA	FM31-Calaveras (So) - Paicines extension 2011 CFM	25.09	7.9	Strike Slip	77	SW	S
	FM31-Calaveras (So) 2011 CFM	46.89	7.9	Strike Slip	85	NE,E	S
	FM31-Casmalia 2011 CFM	168.24	8.0	Reverse	75	S,SW	N
	FM31-Channel Islands Western Deep Ramp	272.37	7.8	SS|R	21	S,SW	NW
	FM31-Clayton	166.28	7.7	SS|R	90	--	S
	FM31-Collayami 2011 CFM	277.84	6.7	Strike Slip	90	--	SE
	FM31-Concord 2011 CFM	174.21	7.8	Strike Slip	90	--	S
	FM31-Contra Costa (Lafayette) 2011 CFM	172.44	7.3	Strike Slip	90	--	SE
	FM31-Contra Costa Shear Zone (connector) 2011 CFM	178.72	7.3	Strike Slip	81	SW,W	S
	FM31-East Huasna 2011 CFM	146.04	7.2	Strike Slip	90	--	NW
	FM31-Fish Slough 2011 CFM	273.92	7.3	N|SS	60	W	SW
	FM31-Franklin 2011 CFM	170.21	7.3	Strike Slip	90	--	S
	FM31-Garlock (West)	281.70	8.2	Strike Slip	90	--	NW

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM31-Great Valley 03 Mysterious Ridge	257.22	7.4	Reverse	16-20	SW,W	S
	FM31-Great Valley 03a Dunnigan Hills	250.16	6.5	Reverse	20	NE,E	S
	FM31-Great Valley 04a Trout Creek	237.93	7.4	Reverse	20	SW	SE
	FM31-Great Valley 04b Gordon Valley	212.18	7.5	Reverse	20	SW,W	S
	FM31-Great Valley 05 Pittsburg - Kirby Hills alt1	182.58	6.5	Strike Slip	55	E	S
	FM31-Great Valley 06 (Midland) 2011 CFM alt1	161.64	7.3	Reverse	47	SW,W	S
	FM31-Great Valley 07 (Orestimba)	79.16	6.9	Reverse	20	SW	S
	FM31-Great Valley 08 (Quinto)	63.15	6.8	SS|R	25	SW	S
	FM31-Great Valley 09 (Laguna Seca)	48.68	6.6	Reverse	25	SW	S
	FM31-Great Valley 10 (Panoche)	17.00	7.6	Reverse	15-24	SW	SW
	FM31-Great Valley 11	33.67	7.5	Reverse	15-16	SW	W
	FM31-Great Valley 12	36.87	7.4	Reverse	15-17	SW	W
	FM31-Great Valley 13 (Coalinga)	68.04	7.4	Reverse	15-19	SW	NW
	FM31-Great Valley 14 (Kettleman Hills)	107.41	7.0	Reverse	22	SW	NW
	FM31-Green Valley 2011 CFM	192.20	7.9	Strike Slip	84	W	S
	FM31-Greenville (No) 2011 CFM	122.20	7.8	SS|R	84	NE	S
	FM31-Greenville (So) 2011 CFM	93.39	7.8	Strike Slip	87	E	S
NGA	FM31-Hartley Springs 2011 CFM	249.04	7.4	Normal	50	NE,E	SW
	FM31-Hayward (No) 2011 CFM	168.60	7.7	Strike Slip	82	NE,E	SE
	FM31-Hayward (So) 2011 CFM	116.12	7.8	Strike Slip	76	NE	S
	FM31-Hayward (So) extension 2011 CFM	95.58	7.8	Strike Slip	48	NE,E	S
	FM31-Hilton Creek 2011 CFM	258.39	7.3	Normal	50	NE	SW
	FM31-Hosgri	45.46	8.0	SS|R	80	NE,E	N
	FM31-Hosgri (Extension)	182.11	6.5	Strike Slip	80	E	N
	FM31-Hunting Creek - Bartlett Springs connector 2011	266.97	7.9	Strike Slip	90	--	S
	FM31-Hunting Creek - Berryessa 2011 CFM	235.00	7.9	Strike Slip	90	--	S
	FM31-Independence rev 2011	272.22	7.8	N|SS	50	NE,E	W
	FM31-Kern Canyon (Lake Isabella) 2011	272.38	7.3	N|SS	60	E	W
	FM31-Kern Canyon (North Kern) 2011	262.30	7.7	Normal	60	E	W
	FM31-Kern Canyon (South Kern) 2011	262.72	7.7	Normal	60	E	W
	FM31-La Panza 2011	126.19	7.3	Strike Slip	51	NE	NW

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM31-Lake Isabella (Seismicity)	273.44	7.1	Strike Slip	90	--	W
	FM31-Las Positas	138.45	6.4	Strike Slip	90	--	S
	FM31-Lions Head 2011 CFM	175.76	7.8	Reverse	75	N,NE	NW
	FM31-Los Alamos 2011 CFM	207.38	8.1	SS|R	30	S,SW	NW
	FM31-Los Alamos extension	229.33	8.0	SS|R	30	S,SW	NW
	FM31-Los Medanos - Roe Island	181.68	7.8	SS|R	39	NE	S
	FM31-Los Osos 2011	122.48	7.8	Reverse	45	S,SW	N
	FM31-Lost Hills	137.05	6.8	Reverse	29	SW	NW
	FM31-Maacama 2011 CFM	258.26	7.6	Strike Slip	63	NE	SE
	FM31-Mission (connected) 2011 CFM	122.68	7.5	Strike Slip	90	--	SE
	FM31-Mission Ridge-Arroyo Parida-Santa Ana	257.13	8.1	SS|R	70	SE,S	NW
	FM31-Mono Lake 2011 CFM	261.29	6.6	Normal	50	NE,E	SW
	FM31-Monte Vista - Shannon 2011 CFM	88.25	8.1	SS|R	61	S,SW	SE
	FM31-Monterey Bay-Tularcitos	16.19	7.9	Strike Slip	90	--	NE
	FM31-Morales (East)	209.93	6.5	Reverse	32	N	NW
	FM31-Morales (West)	189.58	6.8	Reverse	32	NE	NW
	FM31-Mount Diablo Thrust North CFM	159.39	7.8	SS|R	40	NE	S
NGA	FM31-Mount Diablo Thrust South	151.69	7.8	SS|R	40	NE	S
	FM31-Oceanic - West Huasna	78.04	7.4	SS|R	58	NE,E	NW
	FM31-Ortigalita (North)	69.80	6.8	Strike Slip	90	--	S
	FM31-Ortigalita (South)	51.51	7.2	Strike Slip	90	--	S
	FM31-Owens Valley	282.71	7.8	N|SS	90	--	W
	FM31-Owens Valley Keough Hot Springs	278.81	7.8	N|SS	50-86	NE,E	W
	FM31-Ozena	225.85	7.6	Reverse	33	S,SW	NW
	FM31-Pilarcitos 2011 CFM	123.15	8.0	SS|R	81	NE	SE
	FM31-Pine Mtn	251.63	7.7	SS|R	45	N,NE,N	NW
	FM31-Pitas Point (Lower West)	124.61	8.1	Reverse	13	N	NW
	FM31-Pitas Point (Lower)-Montalvo	195.69	8.0	Reverse	16	N	NW
	FM31-Pleito	247.26	8.1	SS|R	46	SE,S,SW	NW
	FM31-Point Reyes 2011 CFM	213.16	7.0	Reverse	53	N,NE,E	SE
	FM31-Point Reyes 2011 connector	178.74	8.0	SS|R	53	NE	SE
	FM31-Quien Sabe 2011 CFM	38.92	7.6	Strike Slip	85	SW	S
	FM31-Red Mountain	227.41	8.0	Reverse	56	N	NW

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM31-Reliz 2011 CFM	6.33	8.1	Strike Slip	58	SW	SE
	FM31-Rinconada 2011 CFM	24.90	7.6	Strike Slip	82	SW,W	N
	FM31-Robinson Creek	267.59	6.5	Normal	50	SE	SW
	FM31-Rodgers Creek - Healdsburg 2011 CFM	217.10	7.6	Strike Slip	77	NE	SE
	FM31-Round Valley	259.19	7.2	Normal	50	NE,E	W
	FM31-San Andreas (Big Bend)	239.80	8.1	SS|R	90	--	NW
	FM31-San Andreas (Carrizo) rev	180.96	8.1	SS|R	90	--	NW
	FM31-San Andreas (Cholame) rev	119.36	8.2	Strike Slip	90	--	NW
	FM31-San Andreas (Creeping Section) 2011 CFM	22.97	8.4	Strike Slip	90	--	NW
	FM31-San Andreas (Mojave N)	284.82	8.0	Strike Slip	90	--	NW
	FM31-San Andreas (North Coast) 2011 CFM	201.69	7.9	Strike Slip	90	--	SE
	FM31-San Andreas (Parkfield)	83.90	8.2	Strike Slip	90	--	NW
	FM31-San Andreas (Peninsula) 2011 CFM	102.48	8.0	SS|R	90	--	SE
	FM31-San Andreas (Santa Cruz Mts) 2011 CFM	44.08	8.1	Strike Slip	79	SW	SE
	FM31-San Cayetano	283.03	8.1	SS|R	42	N	NW
	FM31-San Gabriel	292.70	7.7	Strike Slip	61	NE	NW
	FM31-San Gregorio (North) 2011 CFM	89.04	8.0	SS|R	90	--	SE
NGA	FM31-San Gregorio (South) 2011 CFM	41.69	8.2	Strike Slip	75	NE,E	NE
	FM31-San Juan	111.48	7.4	SS|R	90	--	NW
	FM31-San Luis Range - Oceano 2011 CFM	150.21	7.8	Reverse	45	NE	NW
	FM31-San Luis Range - Pecho 2011 CFM	142.45	6.6	Reverse	90	--	N
	FM31-San Luis Range 2011 CFM	136.28	7.8	SS|R	52	NE	NW
	FM31-Santa Cruz Island	288.11	8.0	SS|R	90	--	NW
	FM31-Santa Rosa Island	277.21	7.9	SS|R	90	--	NW
	FM31-Santa Ynez (East)	263.76	7.7	SS|R	70	S	NW
	FM31-Santa Ynez (West)	226.09	8.0	SS|R	70	S,SW	N
	FM31-Santa Ynez River	205.76	8.0	SS|R	70	S,SW	N
	FM31-Sargent 2011 CFM	50.44	8.1	SS|R	90	--	SE
	FM31-Shoreline	134.42	7.8	SS|R	90	--	N
	FM31-Sierra Nevada (No Extension)	291.47	7.7	N|SS	50	E	W
	FM31-Silver Creek 2011 CFM	87.86	7.8	Strike Slip	75	NE,E	S

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM31-Sisar	293.99	8.1	SS|R	29	S	NW
	FM31-South Cuyama	158.91	7.9	Reverse	33	S,SW	NW
	FM31-Swain Ravine - Spenceville	258.33	7.4	Normal	60	NE,E	S
	FM31-Ventura-Pitas Point	275.15	8.0	SS|R	64	N,NW, N	NW
	FM31-West Napa 2011 CFM	209.55	7.0	Strike Slip	75	SW,W	SE
	FM31-West Tahoe	284.73	7.3	Normal	50	E	SW
	FM31-White Mountains	288.92	7.4	Strike Slip	90	--	W
	FM31-White Wolf	261.67	7.5	Strike Slip	75	SE	NW
	FM31-White Wolf (Extension)	283.19	7.1	Strike Slip	75	SE	NW
	FM31-Zayante-Vergeles 2011 CFM	26.17	8.2	Strike Slip	30	S,SW	SE
	FM32-Antelope Valley 2011	281.69	7	Normal	50	E	SW
	FM32-Bennett Valley 2011 CFM	224.06	7.6	Strike Slip	90	--	SE
	FM32-Big Pine (Central)	264.83	8	SS|R	76	SE,S	NW
	FM32-Big Pine (East)	264.53	8	SS|R	73	NW,N	NW
	FM32-Big Pine (West)	237.19	7.4	Reverse	50	N	NW
	FM32-Breckenridge 2011	273.54	7.2	N|SS	60	E	NW
	FM32-Butano 2011 CFM	93.85	8.1	SS|R	70	N,NE	SE
	FM32-Calaveras (Central) 2011 CFM	72.54	7.9	Strike Slip	77	NE	S
	FM32-Calaveras (No) 2011 CFM	122.72	7.4	Strike Slip	80	SW,W	S
	FM32-Calaveras (So) - Paicines extension 2011 CFM	25.09	7.9	Strike Slip	77	SW	S
	FM32-Calaveras (So) 2011 CFM	46.89	7.9	Strike Slip	85	NE,E	S
	FM32-Casmalia 2011 CFM	168.25	7.8	SS|R	75	S,SW	N
	FM32-Channel Islands Western Deep Ramp	272.75	8.0	SS|R	21	S,SW	NW
	FM32-Clayton	166.28	7.7	SS|R	90	--	S
	FM32-Collayami 2011 CFM	277.84	6.7	Strike Slip	90	--	SE
	FM32-Concord 2011 CFM	174.21	7.8	Strike Slip	90	--	S
	FM32-Contra Costa (Briones) 2011 CFM	181.83	7.2	Strike Slip	90	--	SE
	FM32-Contra Costa (Dillon Point) 2011 CFM	191.69	7.1	Strike Slip	90	--	SE
	FM32-Contra Costa (Lafayette) 2011 CFM	172.44	7.3	Strike Slip	90	--	SE
	FM32-Contra Costa (Lake Chabot) 2011 CFM	203.58	7.0	Strike Slip	90	--	S

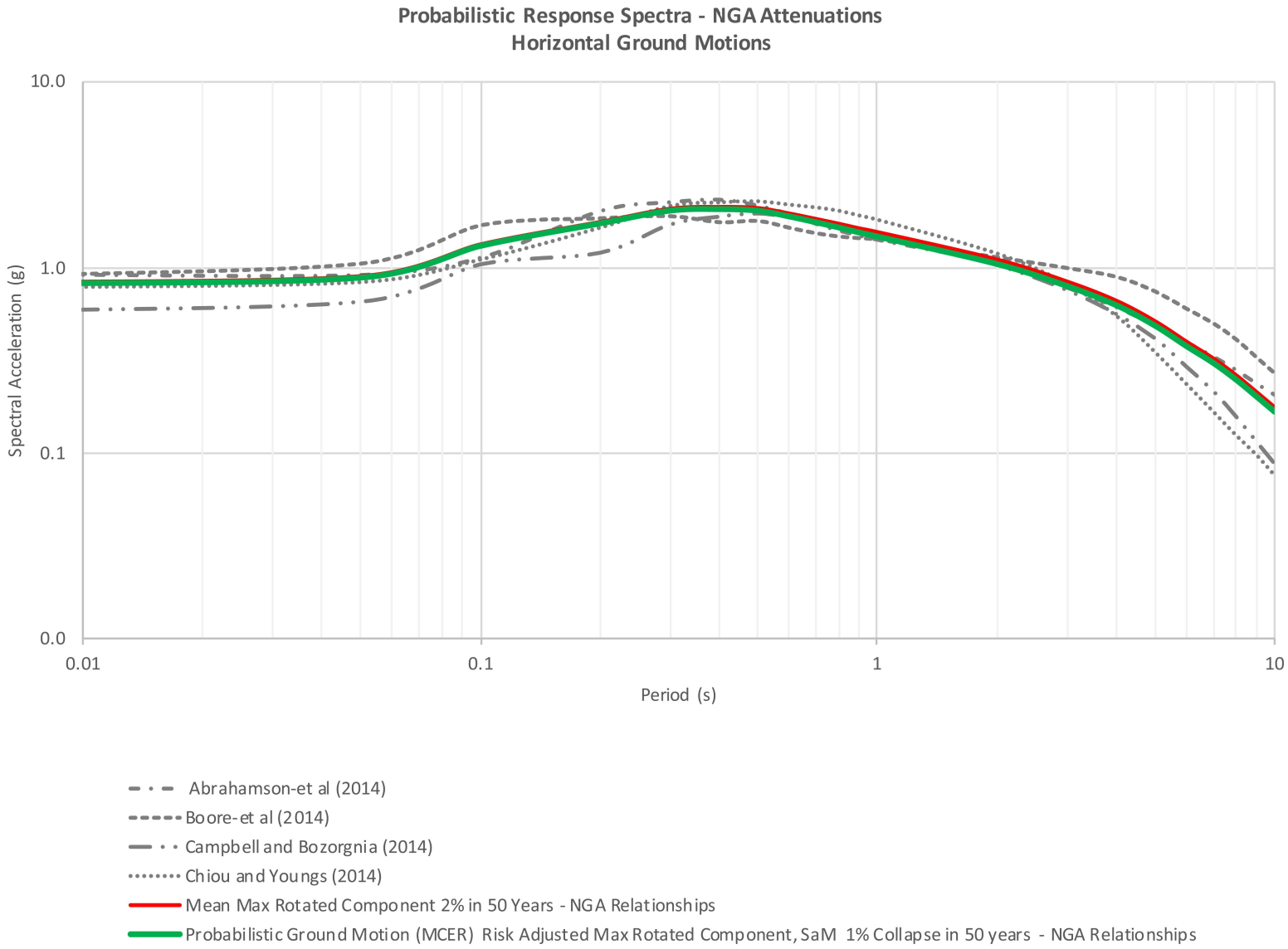
Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM32-Contra Costa (Larkey) 2011 CFM	172.21	7.3	Strike Slip	90	--	S
	FM32-Contra Costa (Ozal - Columbus) 2011 CFM	192.58	7.1	Strike Slip	90	--	SE
	FM32-Contra Costa (Reliez Valley) 2011 CFM	175.83	7.3	Strike Slip	90	--	S
	FM32-Contra Costa (Southampton) 2011 CFM	181.29	7.2	Strike Slip	80	SW	S
	FM32-Contra Costa (Vallejo) 2011 CFM	201.39	7.0	Strike Slip	77	SW	SE
	FM32-East Huasna 2011 CFM	146.04	7.9	SS|R	90	--	NW
	FM32-Fish Slough 2011 CFM	273.92	7.3	N|SS	60	W	SW
	FM32-Franklin 2011 CFM	170.21	7.3	Strike Slip	90	--	S
	FM32-Garlock (West)	281.70	8.2	Strike Slip	90	--	NW
	FM32-Great Valley 03 Mysterious Ridge	257.22	7.4	Reverse	16-20	SW,W	S
	FM32-Great Valley 03a Dunnigan Hills	250.16	6.5	Reverse	20	NE,E	S
	FM32-Great Valley 04a Trout Creek	237.93	7.4	Reverse	20	SW	SE
	FM32-Great Valley 04b Gordon Valley	212.18	7.5	Reverse	20	SW,W	S
	FM32-Great Valley 05 Pittsburg Kirby Hills alt2	182.45	7.6	Reverse	36-90	W	S
	FM32-Great Valley 06 Midland alt2	163.31	7.7	SS|R	30	W	S
	FM32-Great Valley 07 (Orestimba)	79.16	6.9	Reverse	20	SW	S
	FM32-Great Valley 08 (Quinto)	63.15	6.8	SS|R	25	SW	S
	FM32-Great Valley 09 (Laguna Seca)	48.68	6.6	Reverse	25	SW	S
	FM32-Great Valley 10 (Panoche)	17.00	7.6	Reverse	15-24	SW	SW
	FM32-Great Valley 11	33.67	7.5	Reverse	15-16	SW	W
	FM32-Great Valley 12	36.87	7.4	Reverse	15-17	SW	W
	FM32-Great Valley 13 (Coalinga)	68.04	7.4	Reverse	15-19	SW	NW
	FM32-Great Valley 14 (Kettleman Hills)	107.41	7.0	Reverse	22	SW	NW
	FM32-Green Valley 2011 CFM	192.20	7.9	Strike Slip	84	W	S
	FM32-Greenville (No) 2011 CFM	122.25	7.8	SS|R	84	NE	S
	FM32-Greenville (So) 2011 CFM	93.39	7.8	SS|R	87	E	S
	FM32-Hartley Springs 2011 CFM	249.04	7.4	Normal	50	NE,E	SW
	FM32-Hayward (No) 2011 CFM	168.60	7.7	Strike Slip	82	NE,E	SE
	FM32-Hayward (So) 2011 CFM	116.12	7.8	Strike Slip	76	NE	S
	FM32-Hayward (So) extension 2011 CFM	95.58	7.8	Strike Slip	48	NE,E	S
	FM32-Hilton Creek 2011 CFM	258.39	7.3	Normal	50	NE	SW

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM32-Hosgri	45.46	7.9	SS|R	80	NE,E	N
	FM32-Hosgri (Extension)	182.11	6.5	Strike Slip	80	E	N
	FM32-Hunting Creek - Bartlett Springs connector 2011	266.97	8.0	Strike Slip	90	--	S
	FM32-Hunting Creek - Berryessa 2011 CFM	235.00	7.9	Strike Slip	90	--	S
	FM32-Independence rev 2011	272.22	7.8	N|SS	50	NE,E	W
	FM32-Kern Canyon (Lake Isabella) 2011	272.38	7.3	N|SS	60	E	W
	FM32-Kern Canyon (North Kern) 2011	262.30	7.7	Normal	60	E	W
	FM32-Kern Canyon (South Kern) 2011	262.72	7.7	Normal	60	E	W
	FM32-La Panza 2011	126.19	7.3	Strike Slip	51	NE	NW
	FM32-Lake Isabella (Seismicity)	273.44	7.1	Strike Slip	90	--	W
	FM32-Las Positas	138.45	6.4	Strike Slip	90	--	S
	FM32-Lions Head 2011 CFM	175.76	7.6	Reverse	75	N,NE	NW
	FM32-Los Alamos 2011 CFM	207.41	7.7	SS|R	30	SW	NW
	FM32-Los Alamos extension	229.36	7.6	SS|R	30	S,SW	NW
	FM32-Los Medanos - Roe Island	181.68	7.8	SS|R	39	NE	S
	FM32-Los Osos 2011	122.48	7.8	SS|R	45	S,SW	N
	FM32-Lost Hills	137.05	6.8	Reverse	29	SW	NW
	FM32-Maacama 2011 CFM	258.26	7.6	Strike Slip	63	NE	SE
	FM32-Mission (connected) 2011 CFM	122.68	7.5	Strike Slip	90	--	SE
	FM32-Mission Ridge-Arroyo Parida-Santa Ana	257.13	8.1	SS|R	70	SE,S	NW
	FM32-Mono Lake 2011 CFM	261.29	6.6	Normal	50	NE,E	SW
	FM32-Monte Vista - Shannon 2011 CFM	88.25	8.1	SS|R	61	S,SW	SE
	FM32-Monterey Bay-Tularcitos	16.19	7.9	Strike Slip	90	--	NE
	FM32-Morales (East)	209.93	6.5	Reverse	32	N	NW
	FM32-Morales (West)	189.58	6.8	Reverse	32	NE	NW
	FM32-Mount Diablo Thrust	153.51	7.8	SS|R	38	NE	S
	FM32-North Channel	234.82	7.9	SS|R	26	N,NE,N	NW
	FM32-Oak Ridge (Offshore)	285.36	7.8	Reverse	32	S	NW
	FM32-Oak Ridge (Offshore) west extension	265.15	7.8	Reverse	67	S,SW	NW
	FM32-Oceanic - West Huasna	75.92	7.8	SS|R	58	N,NE,E	NW
	FM32-Ortigalita (North)	69.80	6.8	Strike Slip	90	--	S
	FM32-Ortigalita (South)	51.51	7.2	Strike Slip	90	--	S

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM32-Owens Valley	282.71	7.8	N|SS	90	--	W
	FM32-Owens Valley Keough Hot Springs	278.81	7.8	N|SS	50-86	NE,E	W
	FM32-Ozena	225.85	7.6	Reverse	33	S,SW	NW
	FM32-Pilarcitos 2011 CFM	123.15	8.0	SS|R	81	NE	SE
	FM32-Pine Mtn	251.63	7.7	SS|R	45	N,NE,N	NW
	FM32-Pitas Point (Upper)	247.54	7.9	Reverse	42	N	NW
	FM32-Pleito	247.26	8.1	SS|R	46	SE,S,S	W NW
	FM32-Point Reyes 2011 CFM	213.16	7.0	Reverse	53	N,NE,E	SE
	FM32-Point Reyes 2011 connector	178.74	8.0	SS|R	53	NE	SE
	FM32-Quien Sabe 2011 CFM	38.92	7.6	Strike Slip	85	SW	S
	FM32-Red Mountain	232.94	7.9	SS|R	56	N	NW
	FM32-Reliz 2011 CFM	6.33	8.1	Strike Slip	58	SW	SE
	FM32-Rinconada 2011 CFM	24.90	7.8	SS|R	82	SW,W	N
	FM32-Robinson Creek	267.59	6.5	Normal	50	SE	SW
	FM32-Rodgers Creek - Healdsburg 2011 CFM	217.10	7.6	Strike Slip	77	NE	SE
	FM32-Round Valley	259.19	7.2	Normal	50	NE,E	W
	FM32-San Andreas (Big Bend)	239.80	8.1	SS|R	90	--	NW
	FM32-San Andreas (Carrizo) rev	180.96	8.1	SS|R	90	--	NW
	FM32-San Andreas (Cholame) rev	119.36	8.2	Strike Slip	90	--	NW
	FM32-San Andreas (Creeping Section) 2011 CFM	22.97	8.4	Strike Slip	90	--	NW
	FM32-San Andreas (Mojave N)	284.82	8.0	Strike Slip	90	--	NW
	FM32-San Andreas (North Coast) 2011 CFM	201.69	7.9	Strike Slip	90	--	SE
	FM32-San Andreas (Parkfield)	83.90	8.2	Strike Slip	90	--	NW
	FM32-San Andreas (Peninsula) 2011 CFM	102.48	8.0	SS|R	90	--	SE
	FM32-San Andreas (Santa Cruz Mts) 2011 CFM	44.08	8.1	Strike Slip	79	SW	SE
	FM32-San Cayetano	283.03	8.1	SS|R	42	N	NW
	FM32-San Gabriel	292.70	7.7	Strike Slip	61	NE	NW
	FM32-San Gregorio (North) 2011 CFM	89.04	8	SS|R	90	--	SE
	FM32-San Gregorio (South) 2011 CFM	41.69	8.2	Strike Slip	75	NE,E	NE
	FM32-San Juan	111.48	7.4	SS|R	90	--	NW

Attenuation Relationship Type	Source	Closest Distance (km)	Maximum Magnitude	Mechanism	Dip Angle (degree)	Dips Direction	Site Lies
	FM32-San Luis Bay 2011 CFM	142.33	7.8	SS|R	90	--	N
	FM32-San Luis Range - Pecho 2011 CFM	142.45	6.6	Reverse	90	--	N
	FM32-San Luis Range (So Margin)	131.27	7.9	SS|R	45	N,NE	NW
	FM32-Santa Cruz Island	288.11	7.9	SS|R	90	--	NW
	FM32-Santa Rosa Island	277.21	7.9	SS|R	90	--	NW
	FM32-Santa Ynez (East)	263.76	7.7	SS|R	70	S	NW
	FM32-Santa Ynez (West)	226.09	7.7	SS|R	70	S,SW	N
	FM32-Santa Ynez River	205.76	7.7	SS|R	70	S,SW	N
	FM32-Sargent 2011 CFM	50.44	8.1	SS|R	90	--	SE
	FM32-Shoreline	134.42	7.8	SS|R	90	--	N
	FM32-Sierra Nevada (No Extension)	291.47	7.7	N|SS	50	E	W
	FM32-Silver Creek 2011 CFM	87.86	7.8	Strike Slip	75	NE,E	S
	FM32-Sisar	294.51	7.9	Reverse	29	S	NW
	FM32-South Cuyama	158.83	7.9	Reverse	33	S,SW	NW
	FM32-Swain Ravine - Spenceville	258.33	7.4	Normal	60	NE,E	S
	FM32-Ventura-Pitas Point	275.15	8	SS|R	64	N,NW, N	NW
	FM32-West Napa 2011 CFM	209.55	7	Strike Slip	75	SW,W	SE
	FM32-West Tahoe	284.73	7.3	Normal	50	E	SW
	FM32-White Mountains	288.92	7.4	Strike Slip	90	--	W
	FM32-White Wolf	261.67	7	Normal	50	E	SW
	FM32-White Wolf (Extension)	283.19	7.6	Strike Slip	90	--	SE
	FM32-Zayante-Vergeles	42.81	8	SS|R	76	SE,S	NW
	FM31_Normal	0.00	7.9	Normal	90	--	Above
	FM31_Reverse	0.00	7.9	Reverse	90	--	Above
	FM31_StrikeSlip	0.00	7.9	Strike Slip	90	--	Above
	FM32_Normal	0.00	7.9	Normal	90	--	Above
	FM32_Reverse	0.00	7.9	Reverse	90	--	Above
	FM32_StrikeSlip	0.00	7.9	Strike Slip	90	--	Above

ATTACHMENTS



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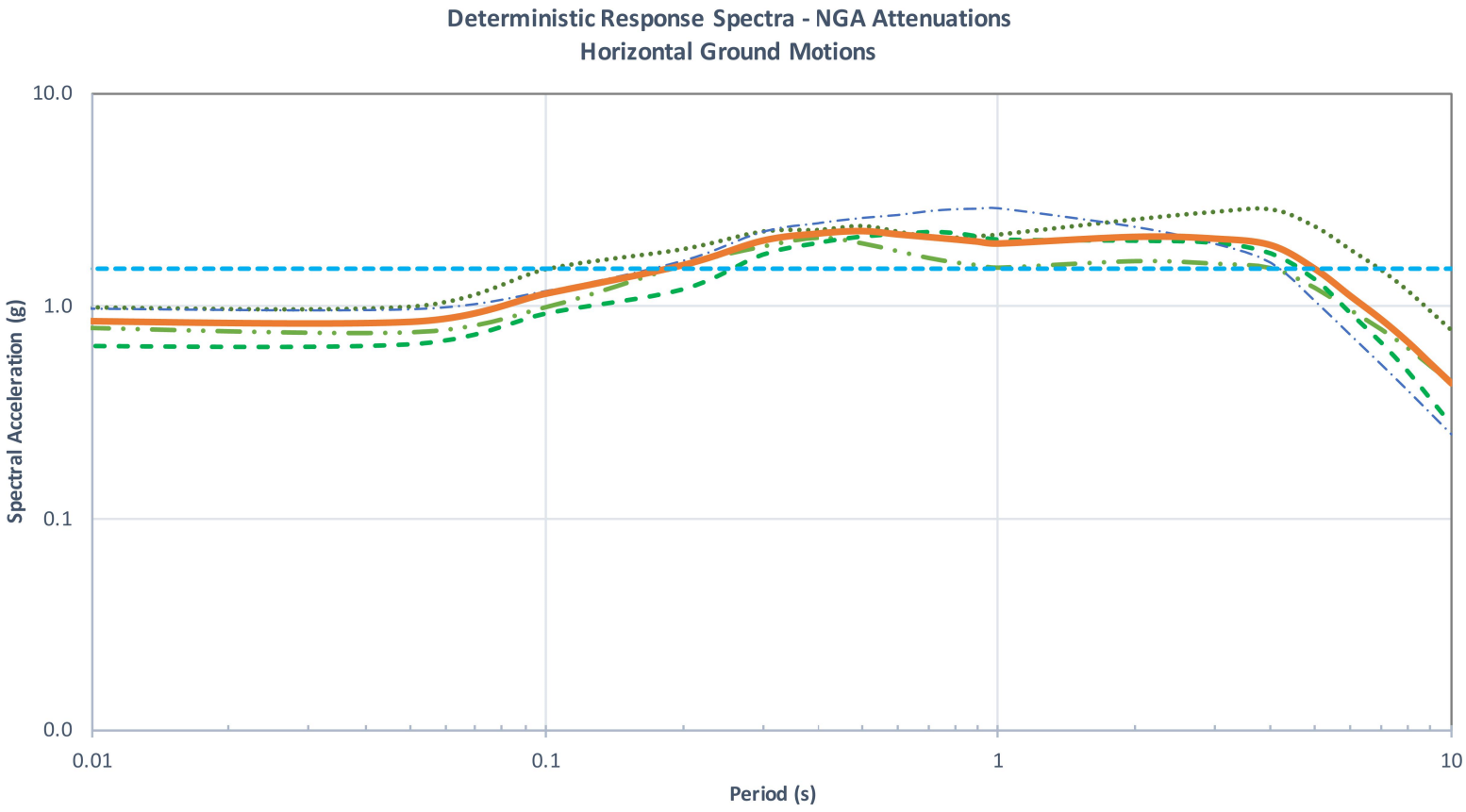
Appendix V
Figure 1
Probabilistic Response Spectra-NGA Attenuations
Prj. No: 24-1057.1
Date: 07/18/2024



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Appendix V
Figure 2
Deterministic Response Spectra-NGA Attenuations
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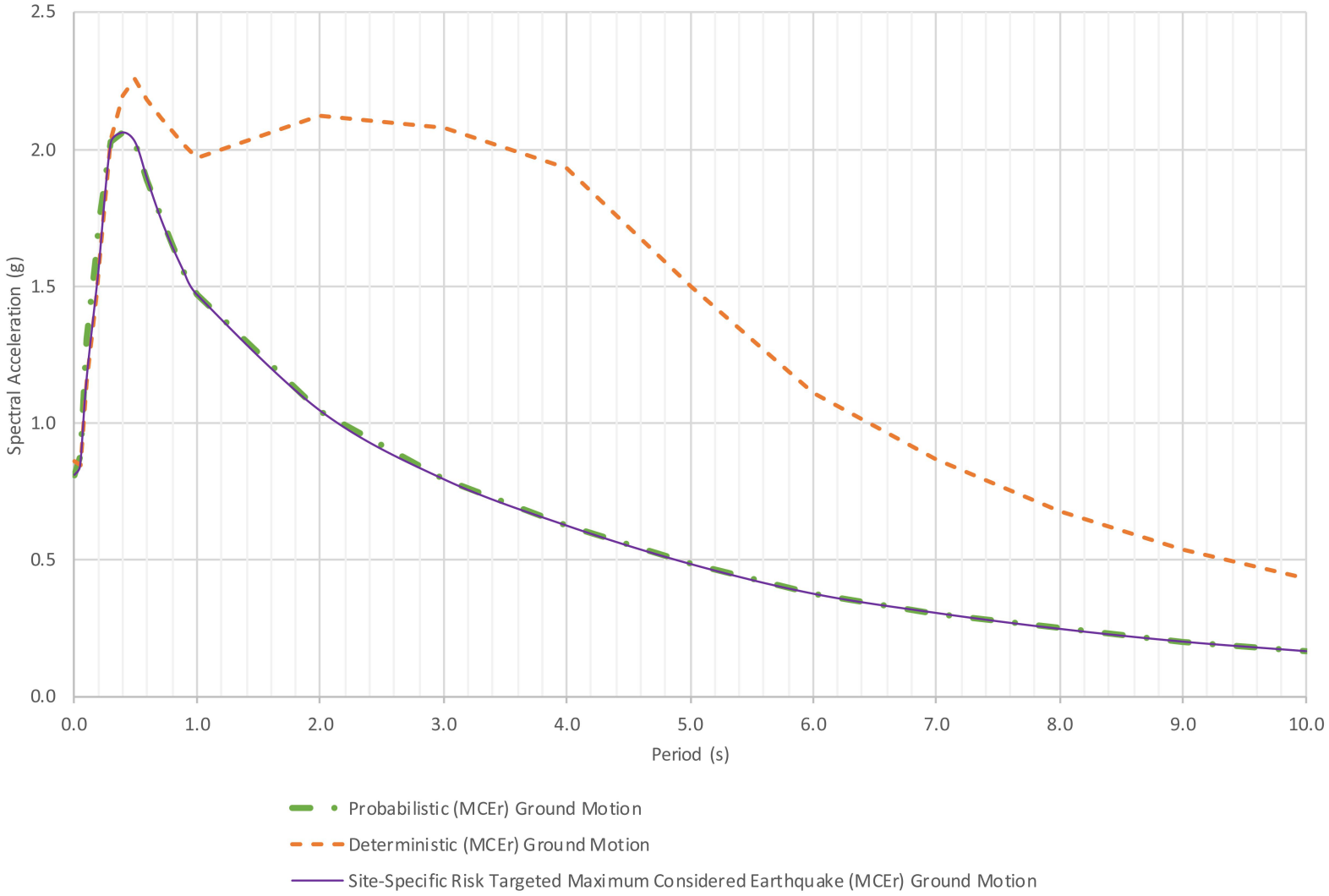
Date: 07/18/2024

Risk Targeted Maximum Considered Earthquake (MCEr)
Horizontal Ground Motions



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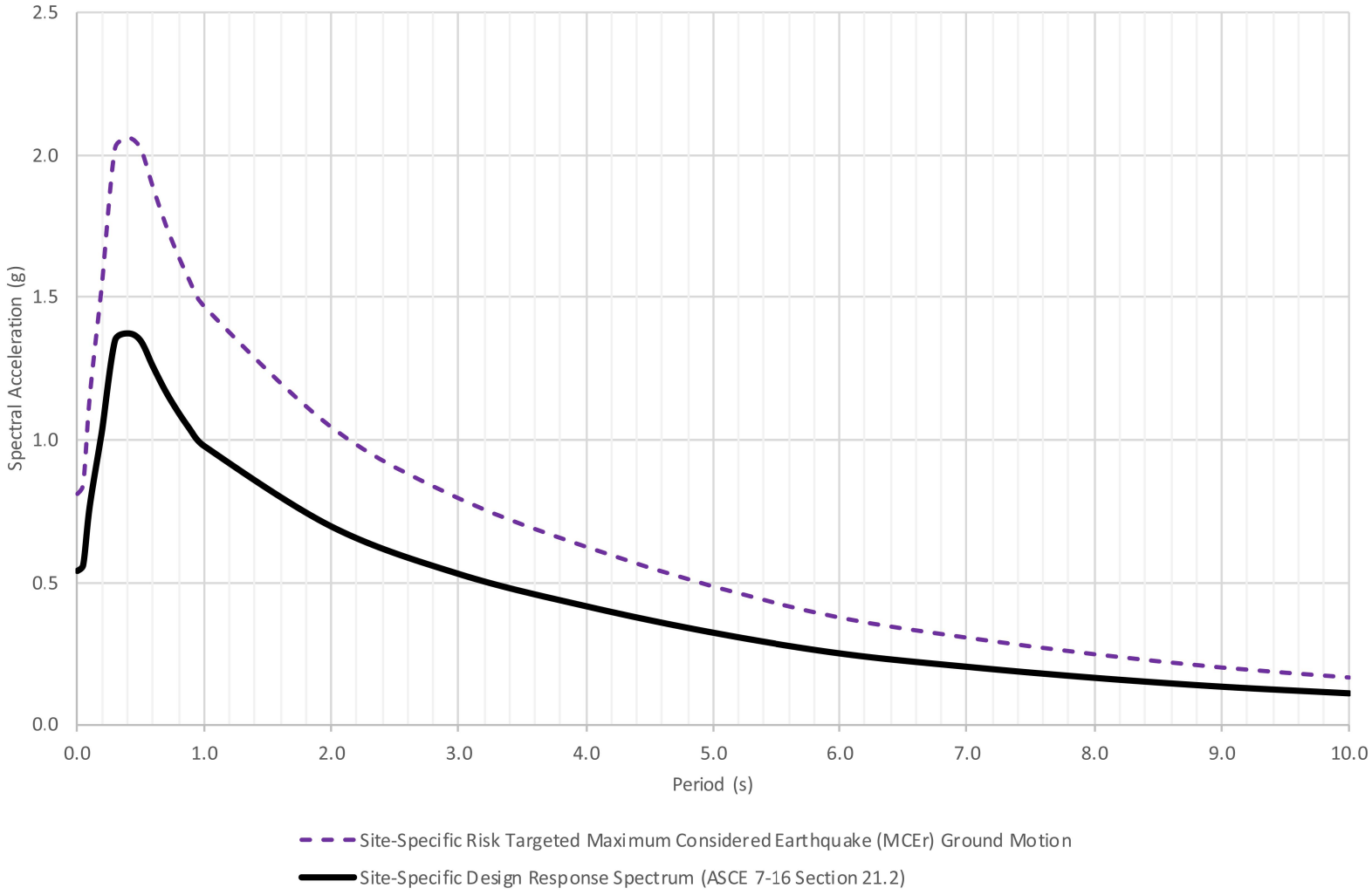
Appendix V
Figure 3
Risk Targeted Maximum Considered Earthquake (MCEr)

Prj. No: 24-1057.1
Date: 07/18/2024

Site-Specific Risk Targeted Maximum Considered Earthquake (MCEr) vs Site Specific Design Response Spectrum
Horizontal Ground Motions



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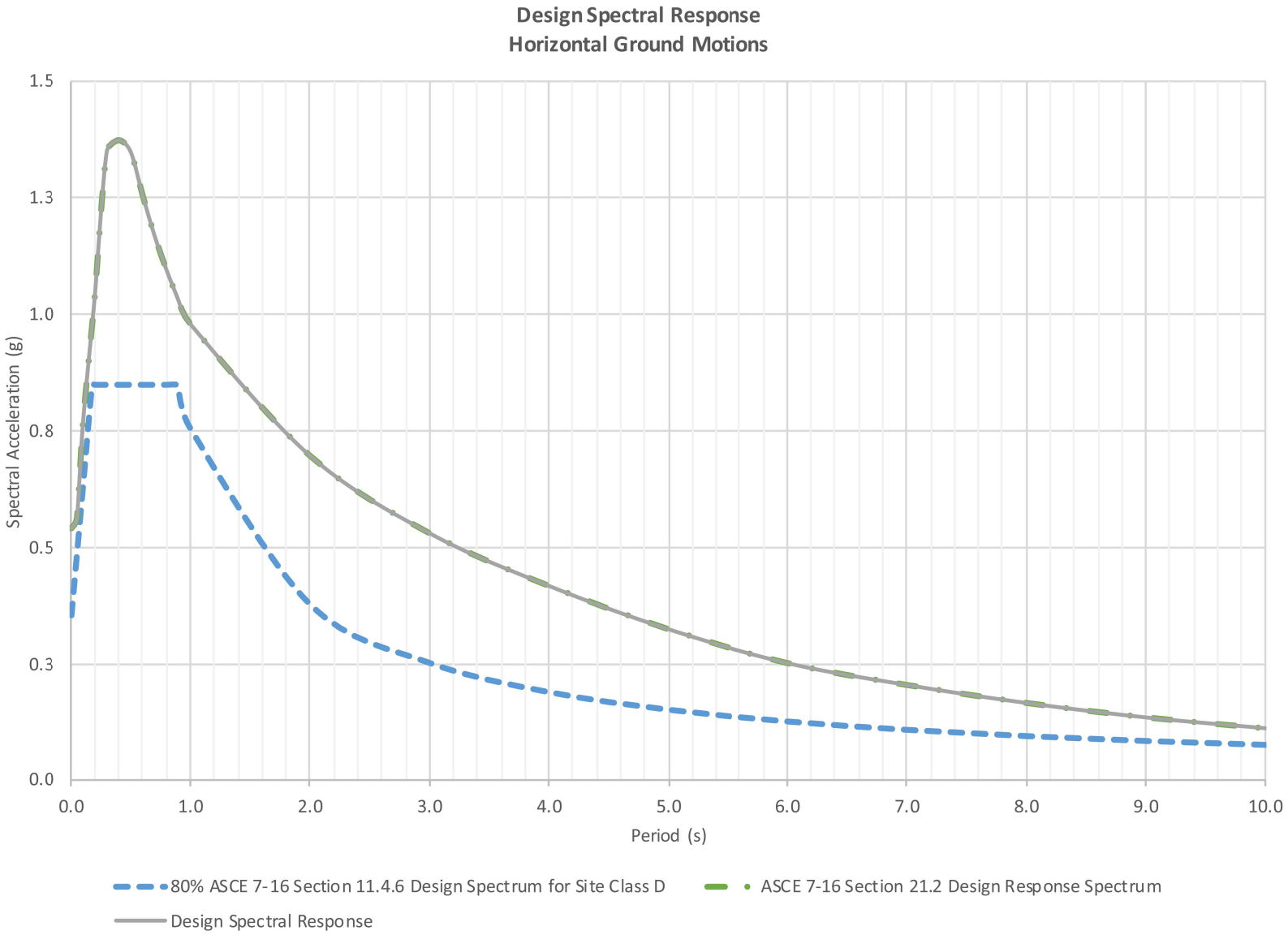
Appendix V
Figure 4
Site-Specific Risk Targeted Maximum Considered Earthquake (MCEr) vs Site Specific Design Response

Prj. No: 24-1057.1
Date: 07/18/2024



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Appendix V
Figure 5
Design Spectral Response Horizontal Ground Motions
Prj. No: 24-1057.1
Date: 07/18/2024