Initial Study/Mitigated Negative Declaration for the Riverdale Park Tract Community Services District Water System Consolidation Project, Modesto, Stanislaus County, California

JANUARY 2022

PREPARED FOR

City of Modesto

PREPARED BY

SWCA Environmental Consultants

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE RIVERDALE PARK TRACT COMMUNITY SERVICES DISTRICT WATER SYSTEM CONSOLIDATION PROJECT, MODESTO, STANISLAUS COUNTY, CALIFORNIA

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SWCA Project No. 52268

January 2022

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1 INTRODUCTION

The Riverdale Park Tract Community Services District (RPTCSD) is located on approximately 62 acres southwest of the city of Modesto, within the City of Modesto (City) sphere of influence, in Stanislaus County, California. The RPTCSD service area is generally bounded by the Tuolumne River to the north, Hatch Road to the south, Carpenter Road to the east, and Hatch Road to the west. The RPTCSD is located within the Riverdale Park Census Designated Place (CDP), which is classified as a Severely Disadvantaged Community (SDAC). The RPTCSD owns and operates a domestic water supply system that supplies potable water to approximately 498 residents through 178 residential connections under the authority of Domestic Water Supply Permit No. 2018-03-014, issued on March 16, 2015, by the Stanislaus County Department of Environmental Resources (DER). The water system is also regulated by the State Water Resources Control Board Division of Drinking Water (SWRCB-DDW). The water system is classified as a Small Community Water System (SCWS) and has one active groundwater well referred to as Well 03 (Primary Station [PS] Code #5000019-003), constructed in 1981. The RPTCSD water supply system also includes a second well that is inactive and inoperable.

Well 03 consists of a 14-inch diameter steel casing to a completed depth of 120 feet. The well is gravel-packed from 50 to 120 feet below ground surface (BGS), and the annular seal runs from the surface to 50 feet BGS. Well 03 is equipped with a 75-horsepower vertical turbine pump capable of producing 1,100 gallons per minute. The wellhead piping includes a source water sample tap, a check valve, a totalizer meter, and galvanized steel discharge piping. Three 3,392-gallon steel hydropneumatic pressure tanks in series sustain pressure and provide a small storage volume for the RPTCSD. The RPTCSD has an alternative source of water supply that consists of an 8-inch emergency connection to the City's water system. The emergency connection was installed in 1993 and delivered water during the 1997 floods. The distribution system consists of 178 connections and includes approximately 500 linear feet (LF) of 4-inch diameter pipe, 2,655 LF of 6-inch diameter pipe, 8,660 LF of 8-inch diameter pipe, 37 valves, and 18 fire hydrants.

The RPTCSD's monthly water production rates from 2014, 2016, and 2017 through 2020 are identified in Table 1. The data in Table 1 has been supplied by RPTCSD staff. It appears that the 2014 production is estimated because it uses the same value for every month of the year. There is no production reported for 2015 and the production for 2016 appears to be incorrect. Production figures for 2017 appear to be correct and were used to calculate the Maximum Daily Demand (MDD) and the Peak Hourly Demand (PHD). Peak water usage occurs in June, with a MDD of 178,584 gallons and a PHD of 186 gallons per minute. The average monthly consumption from January through September of 2017 was 3,047,778 gallons, or 100,476 gallons per day. Production figures for 2018 through 2020 appear to be correct, with the end of the year rates for 2020 being higher than expected but not out of line with the yearly production. The average monthly consumption for 2018 was 2,993,445 gallons, or 98,415 gallons per day; the average monthly consumption for 2019 was 3,491,455, or 114,788 gallons per day; and the average monthly consumption for January through November of 2020 was 3,793,091 gallons, or 124,922 gallons per day. The increase in production rates in 2019 and 2020 is likely due to the increase in cultivation of vegetation throughout the community.

Uranium concentrations in the water produced by Well 03 have periodically exceeded the Maximum Contaminant Level of 20 picocuries per liter (pCi/L). The historical uranium concentration in the water produced by Well 03 is identified in Table 2.

Table 1. Riverdale Park Tract Community Services District Monthly Water Production Rates

	Water Production (Gallons)[1]					
Month	**2014[2]**	**2016**	**2017**	**2018**	**2019**	**2020**
January	3,688,833	118,307	2,121,704	1,786,000	2,184,030	1,925,000
February	3,688,833	134,118	2,105,165	1,905,000	2,794,720	1,792,000
March	3,688,833	129,222	2,743,182	2,131,000	2,643,250	2,023,000
April	3,688,833	156,812	3,365,839	2,333,000	3,679,000	3,312,000
May	3,688,833	152,419	3,014,140	1,563,000	3,649,000	5,121,500
June	3,688,833	171,381	3,571,670	2,473,000	4,122,000	8,974,800
July	3,688,833	170,416	3,522,448	7,023,500	6,479,000	4,586,700
August	3,688,833	170,912	3,468,129	5,541,000	7,183,000	2,643,000
September	3,688,833	182,212	3,517,723	4,092,560	4,123,150	2,503,000
October	3,688,833	167,418	--	4,153,700	3,822,180	6,374,000
November	3,688,833	183,217	--	1,602,000	643,070	2,469,000
December	3,688,833	161,716	--	1,317,700	575,060	--
Average	3,688,833	158,179	3,047,778	2,993,455	3,491,455	3,793,091

Notes:

[1] These calculations use an average daily demand of 100,476 gallons and a population of 498 (RPTCSD Electronic Annual Report 2014); the per capita water consumption is approximately 202 gallons per capita per day.

[2] It appears that the 2014 production is estimated because it uses the same value for every month of the year.

Source: am Consulting Engineers 2018

Table 2. Reported Uranium Concentrations in Water Produced by Well 03

Sample Date	**Concentration (picocuries per liter [pCi/L])**
5/10/2004	20.6
2/15/2005	19
9/20/2006	18
12/27/2006	21
3/27/2007	21
6/22/2007	19
9/20/2007	13
12/12/2007	17
3/10/2008	18
6/26/2008	15
9/18/2008	15
12/1/2008	15
12/16/2011	28
12/11/2014	24
3/24/2015	21
6/23/2015	23

Sample Date	Concentration (picocuries per liter [pCi/L])
9/29/2015	24
12/28/2015	20
3/31/2016	23
5/31/2016	21
8/18/2016	19
11/3/2016	19
2/2/2017	9.6
5/22/2017	11
8/17/2017	15
11/8/2017	17
2/20/2018	18
5/30/2018	16
8/3/2018	17

Source: am Consulting Engineers 2018

On February 2, 2016, the Stanislaus County DER issued Compliance Order No. DER-16CO-002 (CO#1) to the RPTCSD, which requires the RPTCSD to submit a final plan to correct the uranium exceedance problem, which is based on a running annual average, by April 18, 2016, and have all of the improvements constructed by July 1, 2018. Quarterly monitoring results and progress reports have been submitted to the Stanislaus County DER since CO#1 was issued. The RPTCSD has been working to apply for grant funding for a permanent solution to water quality issues since December 2018. In addition, the RPTCSD has increased usage rates to strengthen the stability of the water system until completion of the proposed project and a Consolidation Agreement with the City has been finalized. The RPTCSD continues to maintain the water system and will assist the community in transitioning to the City's water system. The RPTCSD would dissolve after completion of the proposed project. Uranium concentrations in the groundwater have remained below the Maximum Contaminant Level since August 2016; however, the Stanislaus County DER and the SWRCB-DDW are still requiring the RPTCSD to address the uranium violations in the long term.

1.1 Project Location

The Riverdale Park Tract Water System Consolidation Project (project) area includes the RPTCSD service area, which is in unincorporated Stanislaus County in the sphere of influence of the incorporated city of Modesto (Figures 1 and 2). The project area is designated for Low Density Residential (LDR) and Urban Transition (UT) land uses within the Whitmore-Carpenter Comprehensive Planning District (Figure 3), as identified in the *City of Modesto General Plan* (City of Modesto 2019a). The project area is zoned Rural Residential (R-2) and General Agriculture 10 acre (A-2-10) in the Stanislaus County Zoning Ordinance (Stanislaus County 1993) (Figure 4).

1.2 Environmental Setting

The project area is generally developed with single-family residential development located south of the Tuolumne River in the City's sphere of influence. The project footprint consists of existing developed and disturbed land.

1.3 Project Description

In order to comply with the requirements of CO#1, the City proposes to replace and upgrade the RPTCSD water system in the Riverdale Park Tract neighborhood, and tie into the City's water system near the intersection of Hatch and Carpenter Roads. The RPTCSD's existing distribution system is shown on Figure 5, and project design plans are included in Appendix A. The proposed project includes the replacement of water mains, valves, fittings, and fire hydrants, where required. It is expected that the project will replace an existing 8-inch water main with approximately 1,500 linear feet of 12-inch water main along Hatch Road to provide additional supply to the community and replace approximately 8,000 linear feet of existing 6-inch and smaller pipes along Avondale, Greenlawn, and Riverdale Avenues with 8-inch mains. Water main replacements would occur within approximately 9,400 linear feet of the pipeline and would extend through most public streets within the community. The project includes destruction of the RPTCSD's two existing wells per the California Health and Safety Code, Part 9.5, Section 115700.

Upon completion of these improvements, the City will install meters in the service connection boxes throughout neighborhood. Following installation of the new permanent connection and water meters, the City would supply water to the RPTCSD, and the Stanislaus County Local Agency Formation Commission (LAFCO) would dissolve the RPTCSD.

The proposed project would provide water that meets all current drinking water standards. The City has a larger water system with multiple wells and would be capable of responding to any future change in water quality. Because the City relies on multiple wells for water supply and has redundant wells, connecting to the City's system would provide the most reliable water supply for the RPTCSD. The City is seeking funding through the Drinking Water State Revolving Fund (DWSRF) to support implementation of the proposed project. The City also has surface water supply provided by the Modesto Irrigation District and sourced from Don Pedro Reservoir, which allows the City to utilize a conjunctive use water supply program throughout its contiguous water system.

1.3.1 *Construction*

Construction of the proposed project is expected to begin by spring 2022 and last approximately 8 months (160 working days). Construction work would typically take place on weekdays between the hours of 7:00 a.m. and 5:00 p.m.; additional construction on weekends may also be necessary to avoid impacts and accommodate the project schedule and would generally occur between 8:00 a.m. and 4:00 p.m. No nighttime construction is anticipated.

All construction of distribution mains would be located within existing public rights-of-way, City property, or City easements. Installation of the pipelines would be accomplished using open trench construction. Construction of most sections of pipeline would require a 30-foot-wide construction corridor/easement to accommodate pipe storage and to allow trucks and equipment access along the trench. It is anticipated that excavation would be no more than 5 feet deep and 3 feet wide, depending on the pipe size, existing utility locations, and pipe bedding requirements. Some areas of the community are underlain by sugar sand, which would not be capable of supporting traditional methods of 5-foot-deep and 3-foot-wide trenches. In those areas, trenches are expected to open at a 1 to 1.5 ratio slope, or up to 12 feet wide, but would not exceed 12 feet. Open trench construction generally involves the following processes:

- Utility location/potholing;
- Saw cutting the pavement (as needed);

- Excavating a trench;
- Removing and stockpiling the soils;
- Installing the pipeline;
- Backfilling the trench and applying temporary paving;
- Pressure testing and disinfecting the pipeline; and
- Repaving with permanent pavement.

Open-cut construction in existing roads would require cutting and removing pavement in existing paved areas as needed. Asphalt would be cut using large saw blades mounted on a special cart that would be pushed by a construction laborer. The asphalt would be lifted in large chunks and slabs from the cut area by a front-end loader or backhoe into a dump truck for off-hauling. The saw cutting operation would be relatively fast, with several hundred feet typically being cut within a few hours.

The open trench in which the pipeline would be constructed would be a minimum of approximately 36 inches wide to accommodate the new 12-inch-diameter pipeline. Pipeline staging would be located on roadways adjacent to the pipeline alignment. Prior to installation, sections of the pipeline would be laid out along the alignment. The pipeline would then be lowered into the trench, the trench would be backfilled, and sections of the pipeline would be pressure tested and disinfected through chlorination before repaving.

Repaving of disturbed roadway areas would occur after pipeline installation and testing. New asphalt or concrete pavement would be placed to match the surrounding road type. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction with permanent repaving near completion of the project. A repaving crew would follow the installation crew and prepare the road surface for repaving. Final repaving to restore all disturbed roadways would be done after pipeline installation and testing is completed.

The exact location of construction staging areas is not yet known; however, the proposed staging areas for construction materials and equipment for the proposed project would generally be located within existing City facilities, properties, and rights-of-way to the extent feasible. Staging areas may be located on Stanislaus County or RPTCSD property, or on private property pending an agreement with a vacant private property owner, as determined by the contactor and available land.

Demolition of a small pump house and three well tanks within the existing well site would require the use of a jack hammer and other small-powered equipment, approximately two work utility trucks, hauling trucks, dump trucks, eight slurry trucks, a semi-truck, a mini excavator, and a bobcat, and may use a drill rig to clear out any obstructions. Blasting activity for deconstruction is not anticipated. The tanks to be demolished are located at the well site and consist of three identical 9-foot-tall pressure tanks with 15,000-gallon storage capacity. Some materials within the pump house (pumping equipment, electronics, etc.) may be salvageable and could be sold and/or recycled in lieu of demolition and disposal. The total of demolished material is estimated to be 440 cubic yards and would be disposed of at a licensed disposal facility.

Equipment used during the construction phase would consist of an excavator, tractor trailer delivery trucks, a paver, a backhoe, a dump truck, a wheel roller, service trucks, a concrete saw, a vibratory compactor, a jackhammer, and various construction worker vehicles. A small truck-mounted drill rig and other equipment may be utilized to properly destroy the identified wells.

Excavation, trenching, and grading activities would be necessary for construction of the proposed project. Excavated materials resulting from site preparation would either be balanced on-site during construction or disposed of at an approved receiving facility. Additional truck trips would be necessary to deliver materials, equipment, and asphalt-concrete to the site. Street closures are not anticipated to be necessary during construction; however, traffic controls may be required in certain instances resulting in short delays to local traffic in the community during daily construction operations.

The City would replace the existing water meter box, install the new water meter box and water meter within 2 feet of the existing water meter box, and install new service line connections. In addition, existing on-site plumbing would be connected to the meter. Once the new permanent 12-inch connection is installed and all water supply services have been switched over to the City's system, the RPTCSD's existing waterlines and other underground appurtenances would be abandoned in place and existing service would be capped at the property lines. Additional excavation and staging are not required for abandonment and capping activities.

Temporary water shutoffs would occur during construction and would last a maximum of 4 hours. No other utility relocations or interruptions are proposed during construction.

1.3.2 *Operation*

The City's Utilities Department will operate and maintain the consolidated water distribution system. Regular maintenance activities for the proposed project would be conducted by one or two Utilities Department Water Services workers who would routinely inspect the water distribution facilities and connections for leaks, repair facilities on an as-needed basis, and conduct scheduled preventative maintenance procedures to keep the facilities in good working order. Operation and maintenance (O&M) would consist of exercising valves, conducting periodic inspection of appurtenances, flushing mains when necessary for water quality purposes, and conducting minor repairs as needed. Once operational, the proposed project would provide a reliable source of water supply that meets current drinking water standards. During operation, each residence would be responsible for the ongoing future maintenance of the connection after the meter is installed. The City would be responsible for future maintenance of the new City connection, fire hydrant, and pipeline infrastructure.

1.4 Project Objectives/Purpose and Need

The primary purpose of the proposed project is to provide a reliable source of fire flow water and drinking water supply to the Riverdale Park Tract that meets all current drinking water standards. The project is needed to comply with the requirements of CO#1, pursuant to the Stanislaus County DER and SWRCB-DDW, to address the uranium violations in the long term.

The City has identified the following objectives for the proposed project:

- Provide a reliable source of drinking water supply to the Riverdale Park Tract that meets all current drinking water standards.
- Implement a long-term solution to meet the requirements of CO#1 and address and resolve the uranium violations of RPTCSD drinking water.
- Utilize existing RPTCSD distribution infrastructure to the extent feasible.

1.5 Required Discretionary Approvals

The City is the Lead Agency, as defined by the California Environmental Quality Act (CEQA), for the proposed RPTCSD Water System Consolidation Project.

Table 3 summarizes the potential permits and/or approvals that may be required prior to construction of the proposed project. Additional local approvals and permits may also be required.

Table 3. Summary of Potential Permits and/or Approvals

Agency	Type of Approval
California Division of Occupational Safety and Health	Construction activities in compliance with California Division of Occupational Safety and Health safety requirements
California Department of Fish and Wildlife	Streambed Alteration Agreements
San Joaquin Valley Air Pollution Control District	Authority to Construct, Permit to Operate, Dust Control
State Water Resources Control Board	California Water Code Section 1211 Change in Point of Discharge
Stanislaus County	Encroachment Permit – County Roads Construction/Grading Permit
City of Modesto	No Fee Encroachment Permit

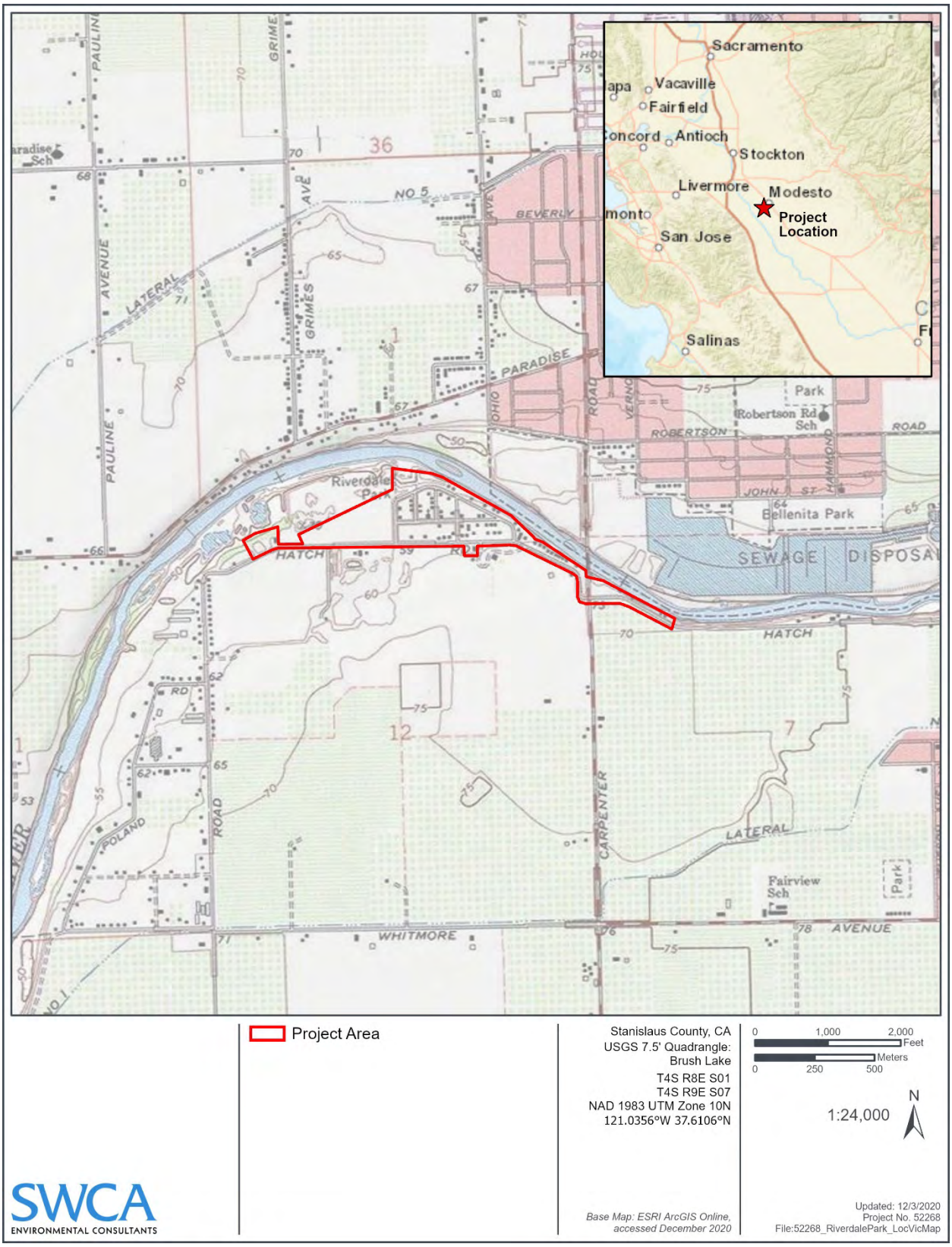

Figure 1. Project vicinity map.

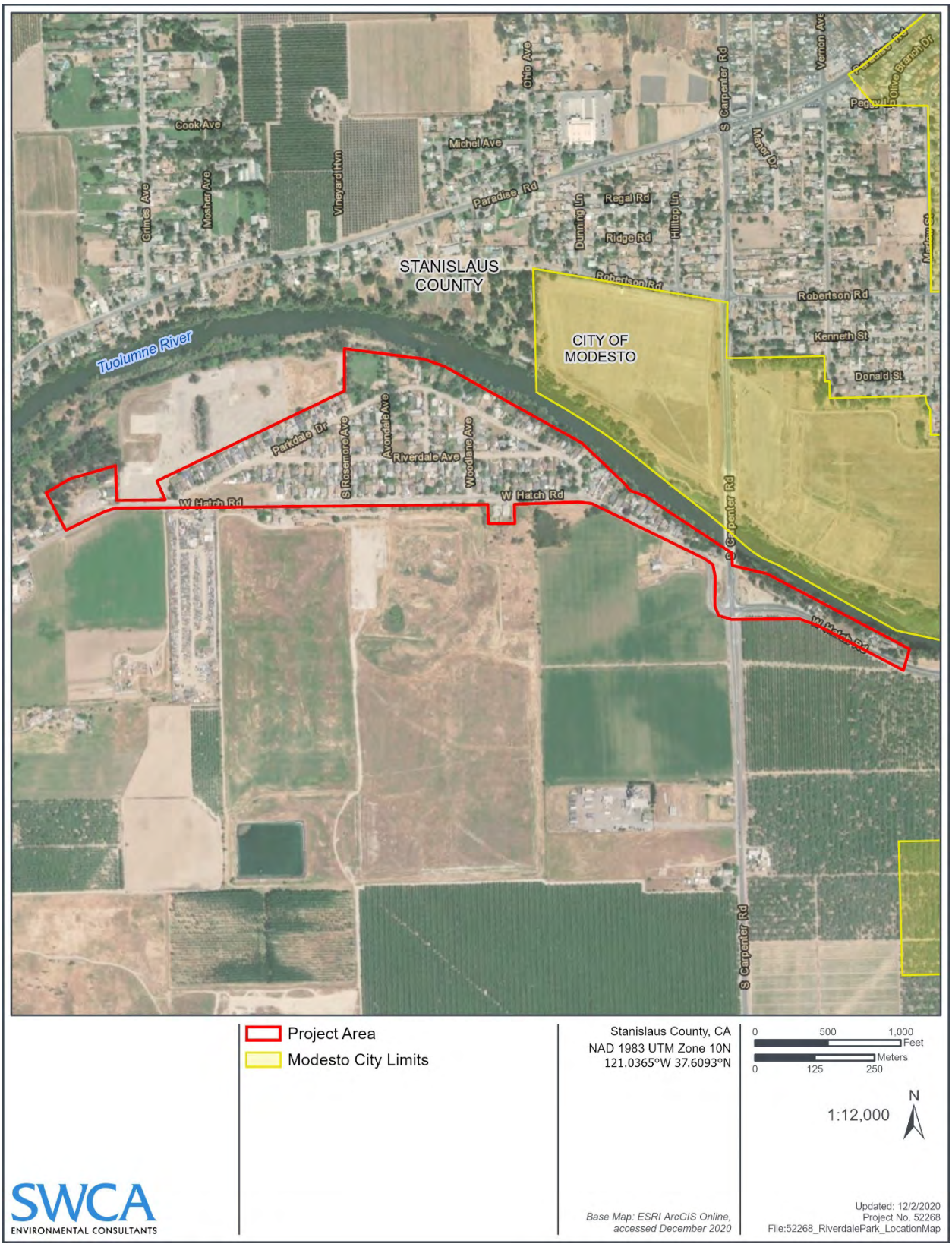

Figure 2. Project location map.

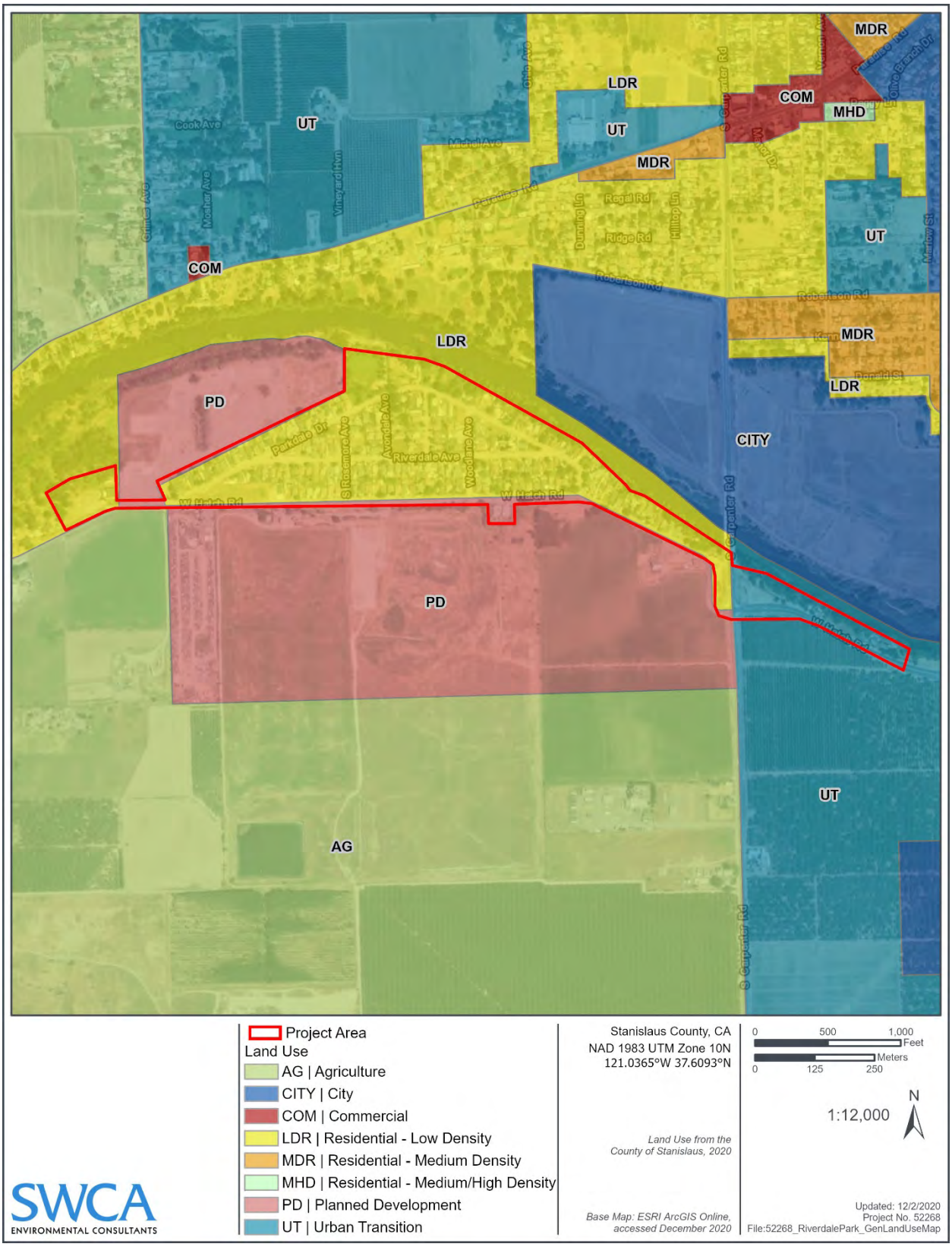

Figure 3. Land use map.

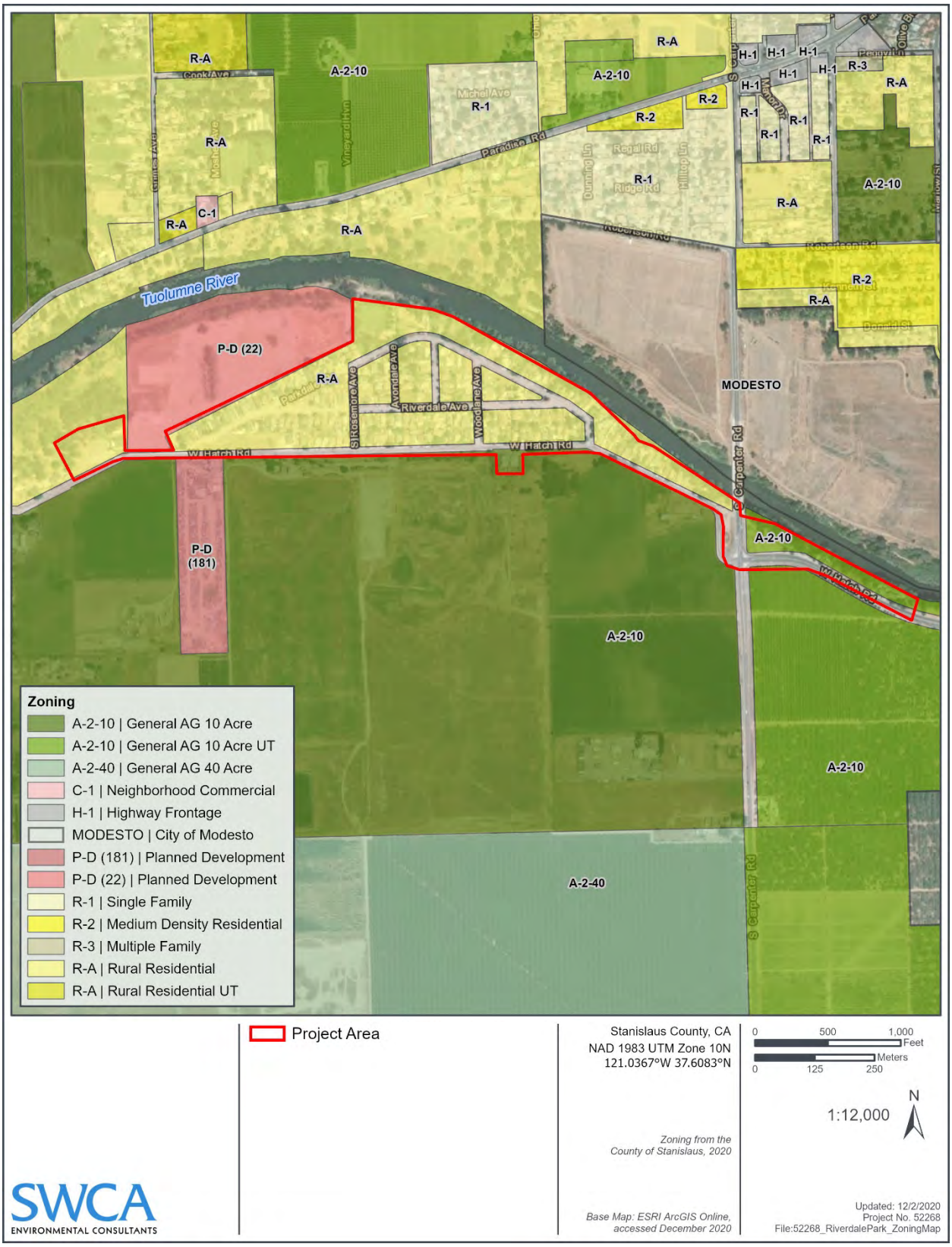

Figure 4. Zoning map.

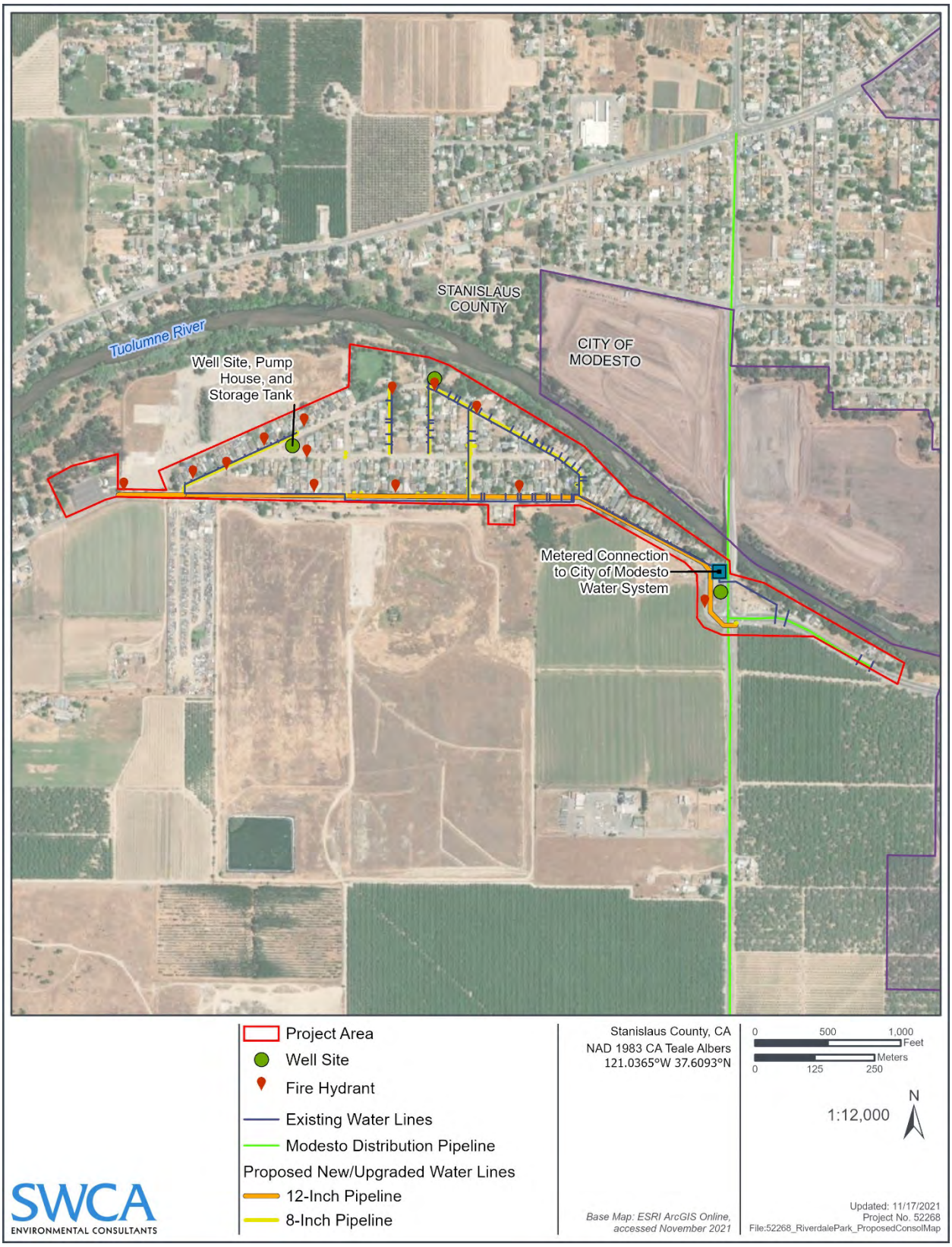

Figure 5. Proposed consolidation map.

2 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The proposed project could have a "Potentially Significant Impact" for environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

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

ENVIRONMENTAL 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 measure 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.

Date: 1-12-2022 **Signed:** 

I. Aesthetics

Environmental Issues		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:					
(a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
(c)	In non-urbanized 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?	☐	☐	☒	☐

Setting

The project site is generally defined by the RPTCSD service area boundary and consists of a single-family residential development, as shown on Figure 5. The Riverdale Park Tract neighborhood is located southwest of Modesto and is within the City's sphere of influence. The neighborhood consists of low-density residential units in an area that is zoned as Low Density Residential (LDR) and Urban Transition (UT) within the Whitmore-Carpenter Comprehensive Planning District, as identified in the *City of Modesto General Plan* (City of Modesto 2019a) (see Figure 3) and Rural Residential (R-2) and General Agriculture 10 acre (A-2-10) in the Stanislaus County Zoning Ordinance (Stanislaus County 1993) (see Figure 4). The project site is surrounded by the Tuolumne River, undeveloped land, and single-family residential development in the city of Modesto to the north, and undeveloped land and agricultural land uses to the east, west, and south. The region surrounding the city is primarily characterized by agricultural and industrial land uses that are visible from State Route 99 (SR 99) and Southern Pacific Railroad (SPRR) routes that run northwest to southeast. The project site is located approximately 3.5 miles east of SR 99 and the nearest SPRR line. The floodplains of the Tuolumne and Stanislaus Rivers create natural greenbelts within the city's urban area.

Environmental Evaluation

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

The project site is located southwest of Modesto and within the City's sphere of influence. Implementation of the project would not obstruct any potential viewing points of Tuolumne River as the majority of the project would be underground except for small above ground features including fire hydrants, service connection boxes, and necessary pumps (see Figure 5).

Ground disturbance and construction associated with the project is limited to excavation of a 32-inch open trench along the project area to accommodate the new 12-inch pipeline (see Figure 5). Pipeline staging would be located on roadways adjacent to the pipeline alignment. Once pipeline installation is complete, open trenches would be backfilled and roadways would be repaved and returned to

preconstruction conditions. The project would replace the existing water system that surrounds the developed neighborhood and would not result in the construction of new buildings or structures that would create a long-term visual effect on the project area. Aboveground structures that would be developed in association with the project include fire hydrants and service connection boxes where necessary and would be consistent with the existing water system. Therefore, project implementation would not change or impede scenic views in the area. Pipelines would be installed underground, and the pavement of new roads would be consistent with the existing roads in the project's immediate vicinity. Impacts associated with the installation of upgraded pipelines would be *less than significant*.

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

The project site is located southwest of Modesto and within the City's sphere of influence. There are no state-designated scenic highways located in Modesto or in the City's planning area (Caltrans 2020). The project would not damage scenic resources within a state scenic highway; therefore, there would be *no impact*.

c) In non-urbanized areas, would the project 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?

The project proposes to replace and upgrade the existing RPTCSD water system in the Riverdale Park Tract neighborhood, which includes the replacement of water mains, valves, fittings, and fire hydrants, where required. The project does not propose the construction of new structures that have the potential to change the visual character in the immediate or surrounding area. Aboveground structures that would be developed in association with the project include fire hydrants and service connection boxes, where necessary, and would be consistent with the existing land use. Pipelines would be installed underground, and the repaving of roads disturbed during project construction would be consistent with the existing roads in the project's immediate vicinity. Therefore, project implementation would not change or degrade the existing visual character or quality of the area.

The project has the potential to create short-term construction-related impacts to views in existing public rights-of-way, City property, and City easements. Construction activities would be visible from surrounding residences during the short-term construction period and would include the presence of construction equipment, vehicles, staging areas, construction materials, and 32-inch-wide open trenches. Associated signage or traffic cones may be necessary for safety during the construction period. All trenches for underground distribution pipelines would be backfilled and returned to preconstruction conditions. Impacts to the visual character or quality of the project area would be short term (approximately 8 months) and would not substantially degrade the long-term existing character of the immediate or surrounding area. Therefore, project impacts would be *less than significant*.

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

Project construction would occur on weekdays between 7:00 a.m. and 7:00 p.m. and no nighttime construction is expected to occur. The project does not propose any development that would create new or additional nighttime lighting in the area; therefore, project impacts would be *less than significant.*

Conclusion

The project would not substantially affect a scenic vista, damage a scenic resource, conflict with zoning, or create a source of new light or glare; therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

II. Agriculture and Forestry Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Setting

The California Department of Conservation (DOC) classifies and maps agricultural lands in the state through the Farmland Mapping and Monitoring Program (FMMP). The FMMP identifies five farmland categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Farmland of Local Potential. The DOC Important Farmland Finder designates the project area as urban and built-up land surrounded by nonagricultural or natural vegetation to the north and Prime farmland to the southwest and southeast (DOC 2020).

The project site is zoned R-2 and A-2-10 in the Stanislaus County Zoning Ordinance (Stanislaus County 1993). The project site is not located within or immediately adjacent to land zoned for agricultural uses, land under an active Williamson Act contract, or land currently supporting agricultural uses.

Environmental Evaluation

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 project area is developed with existing single-family residential development and associated infrastructure improvements. The project includes improvements to the existing water distribution system within existing developed and disturbed areas designated as urban and built-up land. The project would not result in the conversion of or other impacts to prime farmland, unique farmland, or farmland of statewide importance; therefore, *no impact* would occur.

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

The project area is zoned R-2 and A-2-10 in the Stanislaus County Zoning Ordinance (see Figure 4). According to the Data Basin Map for Stanislaus County, the Riverdale Park Tract neighborhood is not currently under a Williamson Act contract (Conservation Biology Institute 2015). Proposed construction activities along the eastern portion of West Hatch Road in the project area would occur adjacent to a parcel currently under a Williamson Act contract; however, the project would not be located on the parcel and does not propose any features that would convert agricultural land to nonagricultural uses or conflict with a Williamson Act contract. The project would replace the existing water system and fire hydrants, water pumps, and service connection boxes, where necessary. There are no fire hydrants or other aboveground features located on the parcel under the Williamson Act that would need to be replaced. The proposed project is consistent with Stanislaus County's current zoning standards and the project area is not under a Williamson Act contract; therefore, *no impacts* would occur.

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 project area is zoned R-2 and A-2-10 in the Stanislaus County Zoning Ordinance (see Figure 4). The project area is not zoned forest land, timberland, or timberland production. Project activities would not conflict with existing zoning or result in the rezoning of forest land or timberland; therefore, *no impact* would occur.

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

As discussed previously, the project site consists of developed single-family residences and land zoned for rural residential and agricultural land uses. The project would occur within a developed neighborhood and would not result in the conversion of forest land to non-forest use; therefore, *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 project would result in the construction and operation of an upgraded water supply system that would supply existing residences with reliable drinking water from the City. All project activities would occur within previously developed areas and construction and operation of the project would not result in any off-site or other indirect impacts to surrounding lands that are designated prime farmland or active agricultural land uses. The project would not convert farmland to non-agricultural use or forest land to non-forest use; therefore, *no impact* would occur.

Conclusion

The project would not convert Farmland, conflict with existing zoning or a Williamson Act contract, result in the loss or conversion of forest land or timberland, or result in other changes which could result in conversion of Farmland or forest land; therefore, no impact would occur, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

III. Air Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
(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?	☐	☐	☒	☐

Setting

Modesto is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The San Joaquin Valley is in nonattainment for the standards established for fine particulate matter (particulate matter less than or equal to 2.5 micrometers in diameter $PM_{2.5}$) and 8-hour ozone (U.S. Environmental Protection Agency [USEPA] 2020).

Environmental Evaluation

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

The SJVAPCD developed a Clean Air Plan (CAP) that utilizes extensive science and research, state of the art air quality management, and the best available information in developing a strategy to attain the federal health-based 1997, 2006, and 2012 national ambient air quality standards (NAAQS) for $PM_{2.5}$ as expeditiously as possible (SJVAPCD 2018). The San Joaquin Valley is one of the fastest growing regions in the state, and the California Department of Finance (DOF) projects that the population of the valley will increase by 19.3% between 2015 and 2030, while the state of California is only projected to increase by 12.5% in that same period (SJVAPCD 2018). An increase in population generally means there will be an increase in air pollutant emissions and vehicle miles traveled (VMT) (SJVAPCD 2018). Implementation of the project is not anticipated to conflict with the CAP because the project is limited to construction and operation of an upgraded water distribution system that would supply potable drinking water to residents within the Riverdale Park Tract neighborhood. The project would not result in the construction of buildings or structures that will directly increase the population in the region. Project construction is expected to use workers from the local workforce and project operation would use existing City employees for maintenance.

The *City of Modesto General Plan* establishes goals and policies to reduce emissions from building projects, VMT, and other land uses in the city (City of Modesto 2019a). Some standards include the creation of complete streets, creating mixed-use downtown areas, and transit services. Implementation of the project is not anticipated to conflict with policies in the City's General Plan because the project is limited to construction and operation of an upgraded water distribution system within the Riverdale Park Tract neighborhood. Project construction would result in a short-term increase in vehicle trips to the project area but is not expected to exceed 110 trips per day and would be considered to have a less-than-significant impact on VMT (California Governor's Office of Planning and Research [OPR] 2018). Project operation would be limited to infrequent trips by City employees to conduct maintenance activities on an as-needed basis. As a result, project operation is not anticipated to exceed 110 trips per day and would be considered to have a less-than-significant impact on VMT (OPR 2018). The proposed project is not anticipated to conflict with the SJVAPCD CAP or with the goals and policies of the General Plan; therefore, impacts from the project are considered *less than significant*.

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 San Joaquin Valley is in nonattainment for the standards established for $PM_{2.5}$ and 8-hour ozone (USEPA 2020). Implementation of the proposed project has the potential to generate emissions during construction of the project (short-term emissions) and during operation of the proposed facilities (long-term emissions).

SHORT-TERM EMISSIONS

Heavy equipment and earth-moving construction activities generate fugitive dust and combustion emissions. These may have substantial temporary impacts on local air quality. Fugitive dust emissions would result from land clearing, demolition, excavation, trenching, grading activities, and trip generation. Combustion emissions, such as nitrogen oxide (NO_X) and particulate matter less than or equal to 10 micrometers in diameter (PM_{10}), are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other types of equipment. As discussed previously, construction of the proposed project would include the use of hand-operated equipment (e.g., hand saws,

compactors, etc.), off-road flatbed delivery and dump trucks, a backhoe, an excavator, a rubber-tire dozer, a compactor, a crane, a water truck, a concrete mixer truck, a paver, and various passenger vehicles, which could generate combustion emissions.

Estimated construction air emissions were calculated for the proposed project using the California Emissions Estimator Model (CalEEMod). The CalEEMod results are included in Appendix B, and the results of the unmitigated estimated construction emission calculations for the proposed project are shown in Table 4.

Table 4. Annual Construction Emissions for the Proposed Project

	Criteria Pollutant (TPY)					
Source	**ROG**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Project Construction	0.28	2.89	1.93	0.004	0.62	0.39
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceed threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod 2021

Based on the results shown in Table 4, construction air emissions would be in compliance with the SJVAPCD thresholds for all pollutants. Descriptions of the pollutants identified in Table 4 are provided below.

Ozone

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, at ground level, troposphere, or "bad," ozone is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. The stratospheric or "good" ozone layer extends upward from about 10–30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is what is known as a photochemical pollutant. It needs reactive organic gases (ROGs), NOx, and sunlight to form. ROG and NOx are emitted from various sources throughout Stanislaus County. Significant ozone formation generally requires an adequate number of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant. It is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically NOx and ROG. Sources of precursor gases number in the thousands and include common sources, such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins. Based on proposed grading estimates, construction emissions would not result in an exceedance of significance thresholds for ROG or NO_X (see Table 4). All equipment used for the construction of the proposed project would meet the SJVAPCD Tier

2 standard or better to ensure construction activities would not exceed the SJVAPCD thresholds for ROG or NO_X.

Combustion Emissions

Combustion emissions (ROG and NOx) are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other heavy equipment. Emissions can vary substantially from day to day, depending on the level of activity and the specific type of operation. ROGs and NO_X are the critical pollutants caused by construction work because of the high output of these pollutants by heavy diesel equipment normally used in grading operations. Based on proposed grading estimates, construction emissions would not result in an exceedance of significance thresholds for ROG or NO_X (see Table 4). All equipment used for the construction of the proposed project would meet the SJVAPCD Tier 2 standard or better to ensure construction activities would not exceed the SJVAPCD thresholds for ROG or NO_X.

Carbon Monoxide

Carbon monoxide (CO), an odorless, colorless, poisonous gas that is highly reactive, is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is a byproduct of motor vehicle exhaust, which contributes more than 66% of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95% of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. As shown in Table 4, CO emissions associated with project construction would not exceed established SJVAPCD thresholds.

Sulfates

Sulfates (SO_4^{-2}) are particulate products that come from the combustion of sulfur-containing fossil fuels. When sulfur monoxide (SO) or sulfur dioxide (SO_2) is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur 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, 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 sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features. As shown in Table 4, SO_X emissions associated with project construction would not exceed established SJVAPCD thresholds.

Particulate Matter

Particulate matter (PM_{10} and $PM_{2.5}$) pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke, and others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. PM_{10} refers to particles less than or equal to 10 microns in aerodynamic diameter. $PM_{2.5}$ refers to particles less than or equal to 2.5 microns in aerodynamic diameter and is a subset of PM_{10}. Particulate matter or airborne dusts

are the small particles that remain suspended in the air for long periods of time. Particulates of concern are PM_{10} and $PM_{2.5}$, which are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, possibly leading to adverse health effects.

The composition of PM_{10} and $PM_{2.5}$ can vary greatly with time, location, the sources of the material, and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM_{10} and $PM_{2.5}$. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO_2 and NO_X in the atmosphere to create sulfates (SO_4) and nitrates (NO_3), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of PM_{10} in both urban and rural areas. PM_{10} and $PM_{2.5}$ are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely. As shown in Table 4, total $PM_{2.5}$ and PM_{10} emissions associated with project construction would not exceed established SJVAPCD thresholds.

Diesel Particulate Matter

Although construction activities would not exceed daily thresholds for diesel particulate matter (DPM), as shown in Table 4, the proposed project would occur in developed areas in the vicinity of residential development, resulting in the potential for exposure of humans to DPM. Implementation of standard SJVAPCD measures would mitigate this impact.

Fugitive Dust

Heavy equipment used to perform ground-disturbing construction activities would generate fugitive dust, resulting in temporary impacts. Fugitive dust emissions would result from land clearing and excavation, grading, and trenching activities. Although emissions would not exceed SJVAPCD thresholds, impacts from fugitive dust emissions would be potentially significant because they could cause a public nuisance or exacerbate the existing PM_{10} non-attainment status. Standard dust control mitigation measures are included to minimize impacts to sensitive receptors; therefore, impacts would be *less than significant with mitigation*.

LONG-TERM EMISSIONS

Operational emissions associated with the project would be limited to emissions from infrequent trips by City employees for maintenance activities on an as-needed basis. To conservatively capture emissions, it is assumed two trips would occur each month, resulting in 24 trips per year; however, actual trips for maintenance activities are not expected to be that frequent. Estimated operational air emissions were calculated for the proposed project using the CalEEMod (see Appendix B). The results of the unmitigated estimated operational emission calculations for the proposed project are shown in Table 5. It should be noted that the results are based on conservative estimations provided by the City and by the CalEEMod defaults; therefore, it is possible that project operation emissions may vary.

The threshold criteria established by the SJVAPCD to determine the significance and appropriate mitigation level for long-term operational emissions (i.e., vehicular and area source emissions) from the project are presented in Table 5. Emissions that equal or exceed the designated threshold levels are considered potentially significant and should be mitigated.

Table 5. Annual Operational Emissions for the Proposed Project

Source	Criteria Pollutant (tons per year))					
	ROG	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Project Operation	0.002	0.0002	0.02	0.00	0.0001	0.0001
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceed threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod 2021

Based on the results shown in Table 5, even under the worst-case scenario conditions, operational air emissions would not exceed any SJVAPCD thresholds. Operational emissions and activities are not anticipated to create a nuisance for surrounding sensitive receptors. Therefore, operational impacts would be *less than significant*.

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

The project area is comprised of the Riverdale Park Tract neighborhood, which includes single-family residential units. The nearest sensitive receptors to the project area are the surrounding residents within 50 to 300 feet of the proposed work areas located on Parkdale Drive and on West Hatch Road and the residents in the central portion of the neighborhood on West Hatch Road. The proposed project has the potential to expose surrounding residents to short-term construction-related emissions. As discussed in Impact Discussion III(b) above, construction of the project would generate emissions including DPM and fugitive dust. Construction and operational emissions would not exceed SJVAPCD thresholds; however, due to the proximity of sensitive receptors, compliance with the SJVAPCD Standard Regulation VIII Control Measures and Mitigation Measure AQ-1 would be implemented to reduce the potential for a nuisance and exposure to DPM and fugitive dust. Therefore, potential impacts would be *less than significant with mitigation*.

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

An odor characteristically has three significance thresholds. The first threshold is the detection threshold, which is the minimum amount of odor-free dilution air needed to prevent an individual from detecting the odor. The detection threshold is the point where an individual detects an odor; this threshold varies for each individual. The second threshold, the recognition threshold, occurs at lower dilutions (higher concentrations). At the recognition threshold, other odor parameters, such as odor character and relative pleasantness, are noticeable. The third threshold is called the annoyance threshold. The annoyance threshold is at or above the recognition threshold. At the annoyance threshold, people complain about an odor; this can even occur when the odor is pleasant. For example, a person passing by an industrial bakery or chocolate factory may experience the odor as pleasant; however, individuals living near these facilities and constantly subjected to the odor may consider it a nuisance. Although construction activities may result in odor associated with DPM emissions from construction equipment, odors are expected to be minimal and temporary as they would only occur during construction when equipment is being used. Operation of the project would not generate odors. Based on the limited nature of construction and operational activities, implementation of the proposed project would not result in significant odors affecting the surrounding area; therefore, impacts would be *less than significant*.

Conclusion

The project is not anticipated to conflict with the SJVAPCD CAP or with the goals and policies of the General Plan, it would not exceed any SJVAPCD thresholds for construction or operational emissions and would not result in other emissions (such as odor) that could adversely affect a substantial number of people. Although emissions would not exceed SJVAPCD thresholds, impacts from fugitive dust emissions would be potentially significant because they could cause a public nuisance or exacerbate the existing PM_{10} non-attainment status. The project's special provisions and specifications require compliance with the SJVAPCD Standard Regulation VIII Control Measures and standard mitigation is included to ensure compliance with permitting requirements; therefore, impacts would be less than significant with mitigation.

Mitigation Measures

AQ-1 **Permit Requirements.** Prior to ground disturbance and construction, the Construction Contractor shall obtain all required permits for dust control and the use of portable equipment, 50 horsepower or greater, from the SJVAPCD. Upon application for construction permits, all required mitigation measures shall be shown on all applicable grading or construction plans and implemented during all applicable grading and construction activities.

IV. Biological Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☒	☐	☐

Setting

A literature review was conducted for the project site using the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online tool, and the National Marine Fisheries Service (NMFS) Google Earth species list tool. Unofficial species lists were generated from each of these three agencies and are included in Appendix C. Based on the literature review, designated critical habitat for California Central Valley steelhead and essential fish habitat for Chinook salmon is present in the Tuolumne River corridor north of the project site and 10 special-status plants, four special-status mammals, two special-status reptiles, three special-status amphibians, three special-status fish, four special-status insects, five special-status crustaceans, nine special-status birds, and migratory birds are considered to have the potential to occur in the project area and/or have documented occurrences within 10 miles of the project site.

A biological reconnaissance survey was conducted within the project site by SWCA Environmental Consultants (SWCA) Senior Biologist John Moule on November 24, 2020, to assess the habitat conditions and biological resources present within the project area. Based on observations made during the reconnaissance survey, the entire project area is heavily disturbed (e.g., the project area has a long history of residential and agricultural activity) and is comprised entirely of paved roads, ornamental/garden vegetation and trees, ruderal/disturbed vegetation, bare ground, and residential development.

The disturbed nature of the project site and the habitat types on-site do not provide ideal conditions for special-status plants to occur, and no special-status plant species were observed. Based on habitat conditions observed within the project site, SWCA determined that terrestrial animal species, several species of bats (Order Chiroptera), and nesting birds (Class Aves) have potential to occur within the project area. Although these species may occur within or adjacent to the project area, these species were not observed during the biological reconnaissance survey conducted on November 24, 2020.

Environmental Evaluation

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?

SPECIAL-STATUS PLANT SPECIES

Although the biological reconnaissance survey was conducted outside of the blooming period for most local sensitive plant species, there is a very low potential for any sensitive plant species to occur within the project area due to the absence of suitable habitat. Additionally, no tree trimming or vegetation removal activities are required for implementation of the project. All project activities would occur within

existing developed and disturbed areas; therefore, impacts to special-status plant species are not expected and impacts would be *less than significant*.

SPECIAL-STATUS ANIMAL SPECIES

Although the project site is comprised of disturbed and developed areas and does not support suitable habitat for special-status animals, the potential for special-status animal species to occur cannot be ruled out due to their transitory nature. Surrounding trees and water in the Tuolumne River corridor adjacent to the project area are relatively undisturbed and undeveloped. With habitat of moderate quality nearby, there is a probability for special-status animal species to occur; however, due to the proximity of anthropogenic barriers (e.g., residential fences, development, noise, street traffic), the presence of these species is expected to be low.

The project site does not contain any aquatic resources; therefore, fish and fully aquatic species identified in the literature review would not be directly or indirectly impacted by the proposed project as work would occur within developed and disturbed areas.

Four sensitive insect species identified in the literature review as having the potential to occur in the project vicinity include: obscure bumble bee (*Bombus caliginosus*), Crotch bumble bee (*Bombus crotchii*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and Moestan blister beetle (*Lytta moesta*). Bumble bees are not anticipated to be impacted by the proposed project as they would fly away if disturbed and the project area does not support habitat suitable for nests, which are typically located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. The valley elderberry longhorn beetle is always found on or close to its host plant, red or blue elderberry (*Sambucus* species) and would simply fly away if disturbed. No elderberry plants are present within the project site; therefore, the project would not result in adverse impacts to suitable habitat for valley elderberry longhorn beetle. The project area does not support grassland habitat suitable for Moestan blister beetle; therefore, this species is not expected to occur within the project area or be impacted by the project.

The developed and disturbed areas within the project area that would be disturbed during construction do not provide suitable habitat for special-status reptiles identified through the literature review, giant garter snake (*Thamnophis gigas*) and Northern California legless lizard (*Anniella pulchra*); therefore, impacts to these species are not expected to occur.

Several terrestrial and semiaquatic animal species, including federally and state-listed species such as: San Joaquin Valley woodrat (*Neotoma fuscipes riparia*), San Joaquin kit fox (*Vulpes macrotis mutica*), riparian brush rabbit (*Sylvilagus bachmani riparius*), western spadefoot (*Spea hammondii*), California tiger salamander (*Ambystoma californiense*), and California red-legged frog (*Rana draytonii*) were identified in the literature review as having the potential to occur in the project area. These species use aquatic, riparian, and upland habitats for foraging, shelter, cover, and dispersal movements. These species could occur on-site while moving through or foraging in the project area, or may reside in upland refugia, including ground burrows, under debris, and under manmade features. Since direct impacts are anticipated to occur only within paved areas and bare ground, it is not anticipated that sites of refuge would be disturbed, demolished, or buried as a result of ground-disturbing construction activities. However, it is possible that these species may become trapped in open trenches if they move through the project site during construction. Mitigation Measures BIO-1 through BIO-4 have been included to avoid and/or minimize potential impacts to these species during construction activities.

The project area provides suitable nesting habitat for various bird species protected under the federal Migratory Bird Treaty Act (MBTA) and roosting habitat for several bat species considered under CEQA. Common passerines and raptors may use trees within the project area for foraging and or nesting.

Roosting bat species could use trees and structures for roosting. Nesting habitat and roosting habitat can be impacted by project activities, including noise or other disturbances; however, the intensity and cumulative sound and disturbance impacts resulting from construction are unlikely to substantially exceed existing levels of disturbance associated with the residential neighborhood. Pre-disturbance surveys for nesting birds and roosting bats are not necessary, as birds of bats choosing to nest or roost in the project area would already be adapted to anthropomorphic disturbances and the project would not require the modification or removal of existing trees, vegetation, or structures that could be used by birds or bats. No additional studies or mitigation measures are necessary.

In conclusion, due to the disturbed and developed conditions present at the project site, suitable habitat is not present for special-status plants or animals. However, due to their transitory nature, it is possible that special-status terrestrial species and nesting birds have the potential to occur within the project site. Mitigation has been included to minimize the potential for special-status animals to be impacted during construction; therefore, impacts would be *less than significant with mitigation.*

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, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

The Tuolumne River and its riparian corridor are adjacent to the northern boundary of project area and are under the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB). The Tuolumne River corridor is also designated as critical habitat for California Central Valley steelhead and as essential fish habitat for Chinook salmon. Proposed work areas, staging areas, and areas of direct disturbance are all located outside the jurisdictional boundaries of the Tuolumne River. The project, as proposed, would not encroach upon these jurisdictions or result in direct impacts to this sensitive natural community. With implementation of Mitigation Measures BIO-3 and BIO-4, the proposed project would not result in any offsite impacts to jurisdictional riparian habitat; therefore, impacts would be *less than significant with mitigation.*

c) Would the project 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?

As described under Impact Discussion IV(b), the Tuolumne River and its riparian corridor are adjacent to the northern boundary of the project area and are under the jurisdiction of the USACE, CDFW, and RWQCB. Work areas, staging areas, and areas of direct disturbance are all outside the jurisdictional boundaries of the Tuolumne River, and the project would not encroach on these jurisdictions. With implementation of Mitigation Measures BIO-3 and BIO-4, the proposed project would not result in direct or indirect impacts to jurisdictional wetlands or riparian habitat; therefore, impacts would be *less than significant with mitigation.*

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 northern portion of the project area is located along the Tuolumne River, which serves as a wildlife corridor for migratory fish and other aquatic species. Ground disturbance is not proposed within the Tuolumne River or its riparian corridor and the project would not impede drainage patterns associated with the river; therefore, the proposed project is not anticipated to result in direct impacts associated with the movement of resident or migratory fish or wildlife species. Project construction along the Tuolumne

River has the potential to create indirect effects to wildlife corridors associated with the Tuolumne River. Implementation of Mitigation Measure BIO-4 would minimize potential impacts associated with excavation and other ground-disturbing activities to the Tuolumne River; therefore, impacts would be *less than significant with mitigation.*

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

The *City of Modesto General Plan Environmental Resources, Open Space and Conservation Element* (Chapter VII) does not include a tree preservation policy; however, the General Plan does require protection of sensitive species and sensitive habitats as described in the City's Final Master Plan EIR. The project would not require vegetation or tree removal or trimming and no impacts to natural communities are anticipated. Implementation of Mitigation Measures BIO-1 through BIO-4 would ensure potential impacts to special-status species during construction are avoided and the project does not conflict with local policies and ordinances intended to protect biological resources; therefore, impacts would be *less than significant with mitigation*.

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?

There are no habitat conservation plans or natural community conservation plans that apply to the project area. Implementation of Mitigation Measures BIO-1 through BIO-4 would ensure potential impacts to special-status species during construction are avoided and the project does not conflict with local policies and ordinances intended to protect biological resources. Therefore, impacts would be *less than significant with mitigation*.

Conclusion

Due to the disturbed and urban conditions present at the project site, suitable habitat is not present for special-status plants or animals; however, due to their transitory nature, it is possible that special-status terrestrial species and nesting birds have the potential to occur within the project site. Mitigation has been included to minimize the potential for special-status animals to be impacted during construction. Mitigation has also been included to minimize potential indirect impacts to off-site sensitive natural communities, wetlands, and wildlife corridors; therefore, impacts would be less than significant with mitigation.

Mitigation Measures

BIO-1 At the end of each working day, the Construction Contractor shall take measures to prevent the entrapment of animals in all excavated, steep-walled holes or trenches more than 2 feet deep. Such measures shall include covering excavations with plywood or providing dirt or plank escape ramps from the trenches.

BIO-2 Prior to, during, and after the site-disturbance and/or construction phase, if needed, the use of pesticides shall follow all federal, state, and local regulations. Anti-coagulant rodenticides such as brodifacoum, bromadiolone, difethialone, and difenacoumare are prohibited. This is necessary to minimize the probability of primary or secondary poisoning of special-status animals, such as the San Joaquin kit fox possibly utilizing adjacent habitats, and the depletion of prey upon which these animals depend.

BIO-3 Work and staging areas shall not occur within undeveloped surfaces on properties located immediately adjacent to the Tuolumne River.

BIO-4 The Construction Contractor shall follow all standard construction site Best Management Practices (BMPs) and prepare a Stormwater Pollution Prevention Plan (SWPPP) in compliance with all state and local agency requirements.

V. Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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?	☐	☐	☒	☐

Setting

The project area is generally developed within a single-family residential development located south of the Tuolumne River in the central San Joaquin Valley. The project footprint consists of existing developed and disturbed land. The San Joaquin Valley is bounded by the Sacramento-San Joaquin River Delta to the north, the Sierra Nevada to the east, the Tehachapi Mountains to the south, and the Pacific Coast Range to the west. The western slope of the Sierra Nevada Mountains is the source for rivers and streams that cross the San Joaquin Valley. The information in this section is based on the Cultural Resources Survey Report (CRSR) prepared for the proposed project (SWCA 2021).

Environmental Evaluation

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

The Riverdale Park Tract neighborhood consists of residential units that are greater than 50 years of age; however, implementation of the project would not result in the modification or removal of any residential units. While the project is mostly limited to the replacement of the existing water distribution line and replacement of fittings, valves, and fire hydrants, the project proposes to demolish a small pump building and three storage tanks within the well site. The pump building and storage tanks are not designated historical resources and removal of the pump building and storage tanks would not result in adverse effects to historical resources. Based on the limited removal of non-historic structures, impacts to historical resources would be *less than significant*.

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

The background research, Native American Heritage Commission (NAHC) coordination, and field survey did not identify the presence of cultural resources within the project area. No historical resources or unique archaeological resources, as defined by CEQA, or cultural resources that may qualify as historic properties, were identified within or adjacent to the project area. The project area is adjacent to the Tuolumne River, which elevates the potential for the presence of buried archaeological resources; however, prior studies within and near the project area have not identified archaeological resources in the vicinity. Implementation of the project would require ground disturbance within existing disturbed and developed areas to replace the existing water distribution line. In the unlikely event that archaeological resources are discovered during project construction, Mitigation Measure CR-1 has been included to ensure inadvertent impacts to unknown buried resources are avoided; therefore, impacts would be *less than significant with mitigation*.

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

As described in Impact Discussion V(b), implementation of the project would require limited ground disturbance within existing disturbed and developed areas. There are no known burial sites in the project area that could be uncovered or disturbed by construction activities. In the unlikely event human remains are uncovered, compliance with California Health and Safety Code Section 7050.0 is required to avoid potential impacts; therefore, impacts would be *less than significant*.

Conclusion

Although residences within the Riverdale Park Tract neighborhood are greater than 50 years of age, the project would not result in any modification of existing structures or require any residential units to be removed or demolished. There are no known archaeological resources within the project site; however, there is a potential for ground-disturbing construction activities to encounter unknown buried resources. Mitigation Measure CR-1 has been included to ensure potential impacts to unknown buried resources are avoided. Compliance with California Health and Safety Code Section 7050.0 is required in the event that human remains are discovered.

Mitigation Measures

CR-1 If cultural resources are encountered during subsurface earthwork activities, all ground disturbing activities within a 25-foot radius of the find shall cease and the City shall be notified immediately. Work shall not continue until a City-qualified archaeologist assesses the find and determines the need for further study. If the find includes Native American affiliated materials, a local Native American tribal representative will be contacted to work in conjunction with the City-approved archaeologist to determine the need for further study. A standard inadvertent discovery clause shall be included in every grading and construction contract to inform contractors of this requirement. Any previously unidentified resources found during construction shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist.

If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan, in conjunction with locally affiliated Native American representative(s) as necessary, that will capture those categories of data for which the site is significant. The archaeologist

shall also perform appropriate technical analysis, prepare a comprehensive report, and file it with the Central California Information Center (CCIC), located at the California State University at Stanislaus, and provide for the permanent curation of the recovered materials.

VI. Energy

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in a 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?	☐	☐	☐	☒

Setting

Energy, in the form of electricity and natural gas, is used in Modesto for lighting, heating, cooling, and various industrial applications. Electricity is generated through renewable sources (hydroelectricity and solar power) and also from burning natural gas (methane) and diesel fuel. Petroleum (gasoline and diesel) is utilized as a fuel for motor vehicles. Electricity is provided by the Modesto and Turlock Irrigation Districts, and natural gas is provided by Pacific Gas & Electric Company. Gasoline and diesel are provided by various private businesses.

Environmental Evaluation

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

The project proposes the installation of an upgraded water system in the Riverdale Park Tract neighborhood. Project operation would not require additional energy for residential units to receive potable water. Project construction requires the use of diesel-powered construction equipment. The City's General Plan identifies diesel-powered construction equipment as a short-term emission that is limited in nature. According to the CalEEMod conducted for the project, construction activity would result in approximately 0.29 ton per year of DPM, which is within the SJVAPCD threshold of 30 tons per year. Project operation would generate less than 1 ton per year of DPM, which is within the SJVAPCD threshold of 30 tons per year; therefore, project emissions would be *less than significant*.

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

Project operation consists of exercising valves, conducting periodic inspection of appurtenances, flushing mains when necessary for water quality purposes, and conducting minor repair as needed. Maintenance of the water system would be conducted by existing City employees who would routinely inspect the water distribution facilities and connections for leaks, repair facilities on an as-needed basis, and conduct scheduled preventative maintenance procedures to keep the facilities in good working order. Site visits

would require use of a motorized vehicle; however, trips would be infrequent and only conducted on an as-needed basis and would not utilize substantial amounts of energy in the form of fuel. Therefore, additional trips by City workers for maintenance of the water system would be limited in nature and would not cause a substantial increase in energy use and impacts would be *less than significant.*

Conclusion

The project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency during construction or operation; therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

VII. Geology and Soils

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☒	☐
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Setting

Tesla-Ortigalita Fault is the only active fault reported in Stanislaus County and is located approximately 20 miles west of Modesto. Other faults in the area include Greenville Fault, located approximately 35 miles northwest of Modesto; Calaveras and Concord Faults, located approximately 50 miles west of Modesto; Hayward Fault, located approximately 60 miles west of Modesto; and San Andreas Fault, located approximately 75 miles west of Modesto (City of Modesto 2019b).

Modesto has not been evaluated by the State of California under the Seismic Hazards Mapping Act; however, liquefaction is more likely to occur in sandy soils saturated with groundwater. The project area is underlain by the following soil types: Hanford sandy loam, 0 to 3 percent slopes; Hanford fine sandy loam, 0 to 3 percent slopes; Tujunga loamy sand, 0 to 3 percent slopes; and Tujunga sand, 0 to 3 percent slopes.

The Modesto area is primarily situated on alluvial fan deposits of Pleistocene age, but limited areas in the southeastern portion of Modesto are within the active floodplains of the Tuolumne River and Dry Creek and are underlain by younger (Holocene) alluvium. In the western portion of the city, the central portion of the Coast Ranges uplift is predominantly formed by exposed Franciscan Complex rocks of Jurassic through early Tertiary age. The range front to the west consists of a narrow belt of marine and nonmarine sedimentary rocks of post-Franciscan Tertiary age (City of Modesto 2019b).

A Geotechnical Memorandum was prepared by Crawford & Associates, Inc (CAInc) for the proposed project. The report was prepared to support the City and the Project Engineers during design and construction considerations of the proposed waterline (CAInc 2020).

Environmental Evaluation

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? Refer to Division of Mines and Geology Special Publication 42.

The state does not recognize any active faults that are designated under the Alquist-Priolo Earthquake Fault Zoning Act within the Modesto area (City of Modesto 2019b). Therefore, *no impact* would occur.

a-ii) Strong seismic ground shaking?

There is always potential in California for seismic ground shaking; however, the project does not propose the construction of new buildings, residences, or other aboveground structures that have the potential to be inhabitable or hazardous to humans or other structures in a ground-shaking event. Therefore, project impacts would be *less than significant*.

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

The project area is primarily underlain by Tujunga loamy sand, 0 to 3 percent, which is characterized as somewhat excessively drained, low available water capacity, and no frequency of ponding or flooding, which means that soils at the project site are generally dry. The project does not propose the development of any buildings, residences, or other aboveground features that could expose people or structures to seismic-related ground failure, such as liquefaction. Therefore, project impacts would be *less than significant*.

a-iv) Landslides?

Landslides in Stanislaus County occur in the western portion of the county in the Diablo Range where geologic conditions are considered unstable. Modesto is located in the central portion of the county, east of the Diablo Range (City of Modesto 2019b). The project site is comprised of single-family residential development on relatively flat land. The project does not propose the development of any buildings, residences, or other aboveground features that could expose people or structures to landslides. Therefore, project impacts would be *less than significant.*

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

The overall erosion hazard in Modesto is considered low and the soil types in the project area are characterized as having a slight erosion hazard (City of Modesto 2019b). Construction of the project has the potential to increase erosion in the project area as a result of grading and excavation activities required to install the new water distribution pipelines. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize soil loss and erosion with a construction Stormwater Pollution Prevention Plan (SWPPP) in conjunction with project's final design and grading plan. The SWPPP would be consistent with the BMPs found within the City's Storm Water Management Plan and shall identify the selected stormwater management procedures, pollution control technologies, spill response procedures, and other means that will be used to minimize erosion and sediment production and the release of pollutants to surface water during construction. Therefore, impacts are expected to be *less than significant with mitigation*.

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?

Modesto has a low potential for geologic-related ground failure such as landslides, lateral spreading, subsidence, and collapse (Stanislaus County 2017). The project area is comprised of relatively flat developed land and the project does not propose any development that would be inhabitable or harmful to humans or other structures in the event of ground failure. Implementation of the proposed project would require excavation and trenching (not to exceed 5 feet deep) for installation of pipeline. Due to the presence of loose soils within the project site, it is anticipated that trench walls will experience significant caving during construction activities. Based on the high potential for caving, the Geotechnical Memorandum requires the implementation of Occupational Safety and Health Administration (OSHA) sloping requirements for Type C materials. The construction contractor would be responsible for the safety and stability of all temporary excavations and should provide excavation sloping and shoring in compliance with current California Division of Occupational Safety and Health (Cal/OSHA) requirements based on actual conditions encountered in the field (CAInc 2020). The project would be consistent with the design and construction guidelines and recommendations identified in the Geotechnical Memorandum prepared for the project. Based on the Geotechnical Memorandum, so long as design and construction recommendations are followed, the water line alignments are suitable for construction (CAInc 2020). Project construction would comply with the Geotechnical Memorandum and

applicable state and local and state construction standards and project impacts would be *less than significant.*

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

Expansive soils typically consist of clay or contain clay components. The project site is underlain by sandy soils that do not consist of clay or clay materials; therefore, the project site is not located on expansive soils (City of Modesto 2019b). The project does not propose aboveground structures that would create substantial direct or indirect risk to life or property if placed on expansive soils. The project would not create a hazard as result of expansive soils; therefore, the project would have *no 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 project does not propose the installation of septic tanks, sewers, or alternative wastewater disposal systems; therefore, the project would have *no impact.*

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

The project site is located southwest of the city and would not be located near active floodplains in the southeast portion of the city. The project site is underlain by alluvial sediments of the Modesto formation. This formation is quaternary in age and composed of sand, gravel, and silt of terrace and alluvial fan distribution. The Modesto formation is generally 60 to 120 feet thick (CAInc 2020). Excavation would not exceed 5 feet deep and 12 feet wide and would occur on previously disturbed and developed land. Paleontological resources are not expected to occur in the project area or be disturbed by project construction activities; therefore, impacts would be *less than significant.*

Conclusion

The project is not expected to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, liquefaction, or landslides. Proposed ground-disturbing construction activities have the potential to result in soil erosion; however, implementation of Mitigation Measure BIO-4 would minimize potential impacts. The project would not be located on an unstable geologic unit or expansive soil and the project does not include use of a septic tank or alternative wastewater disposal system. Ground-disturbing construction activities would not exceed 5 feet in depth and are not expected to result in direct or indirect impacts to paleontological resources.

Mitigation Measures

Implement Mitigation Measure BIO-4.

VIII. Greenhouse Gas Emissions

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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?	☐	☐	☒	☐

Setting

GHGs are any gases that absorb infrared radiation in the atmosphere and are different from the criteria pollutants discussed in Section 3, Air Quality. The primary GHGs that are emitted into the atmosphere as a result of human activities are CO_2, methane (CH_4), nitrous oxide (N_2O), and fluorinated gases.

California Global Warming Solutions Act

Under the California Global Warming Solutions Act, also known as Assembly Bill 32 (AB 32), the California Air Resources Board (CARB) established statewide GHG emissions cap for 2020, adopted mandatory reporting cards for significant sources of GHG, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016, Senate Bill 32 (SB 32) was signed into law, amending the California Global Warming Solutions Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to express the 2030 statewide target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTOCO_2e$.

Sustainable Communities Strategy and Climate Protection Act

Senate Bill 375 (SB 375), known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GH reduction targets for automobile and light truck sectors for 2020 and 2035, as compared to 2005 emissions levels. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a Sustainable Communities Strategy (SCS) with their regional transportation plans (RTPs).

StanCOG Regional Transportation Plan/Sustainable Communities Strategy

The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, an MPO must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. Stanislaus Council of Governments (StanCOG) adopted its own RTP/SCS in 2018. The SCS lays out how the region will

reduce per capita emissions from passenger vehicles 26 percent by 2020 and 22 percent by 2035 based on a 2005 baseline.

San Joaquin Valley Climate Change Action Plan

San Joaquin Valley Air Pollution Control District (SJVAPCD) released the San Joaquin Valley Climate Change Action Plan in December 2009. The Climate Change Action Plan set goals and policies to address reductions in GHGs and improvement to regional air quality. The plan also includes Best Performance Standards (BPS), which are mitigation measures intended to accomplish GHG reductions. BPS include building design elements that reduce energy consumption, project designs that promote pedestrian access, and land use planning decisions that reduce vehicle miles traveled (VMT).

Environmental Evaluation

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

The proposed project would result in a temporary increase in GHG emissions associated with construction activities, including operation of construction equipment and emissions from construction workers' personal vehicles traveling to and from the project site. Construction-related GHG emissions would vary depending on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel. Based on the CalEEMod modelling conducted for the proposed project (Appendix B), construction would generate 383.71 $MMTCO_2e$ per year. During operation, the project would generate GHG emissions resulting from infrequent trips to the project site by City employees for as-needed maintenance activities. For the purposes of modelling, it is conservatively assumed two trips would occur each month, resulting in 24 trips per year; however, actual trips for maintenance activities are not expected to be that frequent. Based on the CalEEMod modelling conducted for the proposed project (Appendix B), operation is conservatively estimated to generate 0.07 $MMTCO_2e$ per year.

Because construction would be temporary and would not result in a permanent increase in emissions, and operation of the project is not anticipated to generate substantial VMT or GHG emissions, the proposed project would not interfere with the implementation of AB 32, SB 32, SB 375, the RTP/SCS, or the SJVAPCD CAP and impacts 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?

The project is within the jurisdiction of the SJVAPCD and would be subject to the 2018 CAP for the San Joaquin Valley. As described in Impact Discussion VIII(a), project construction is estimated to generate temporary GHG emissions resulting from the operation of construction equipment and employee vehicle trips. GHG emissions associated with operation would be minimal and limited to infrequent trips to the project site by City employees for as-needed maintenance activities. The purpose of the project is to upgrade and consolidate the existing water supply system. The project would not result in new development that would generate operational GHG emissions or increased VMT; therefore, the proposed project would not conflict with an appliable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and impacts would be *less than significant*.

Conclusion

The project would generate short-term GHG emissions during construction activities and limited GHG emissions associated with infrequent trips by City employees for as-needed maintenance activities. The

project would not generate substantial long-term GHG emissions or substantially increase VMT and would not conflict with an appliable plan, policy, or regulation adopted for the purpose of reducing GHG emissions; therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

No mitigation is necessary.

IX. Hazards and Hazardous Materials

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard 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?	☐	☐	☒	☐
(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Setting

The Hazardous Waste and Substances Site (Cortese) List is a planning document used by the state, local agencies, and developers to comply with CEQA requirements related to the disclosure of information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop, at least annually, an updated Cortese List. Various state and local government agencies are required to track and document hazardous material release information for the Cortese List. The California Department of Toxic Substance Control (DTSC) EnviroStor database tracks DTSC cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination, such as federal

superfund sites, state response sites, voluntary cleanup sites, school cleanup sites, school investigation sites, and military evaluation sites. The State Water Resources Control Board (SWRCB) GeoTracker database contains records for sites that impact, or have the potential to impact, water in California, such as Leaking Underground Storage Tank (LUST) sites, Department of Defense sites, and Cleanup Program Sites. The remaining data regarding facilities or sites identified as meeting the "Cortese List" requirements can be located on the CalEPA website: https://calepa.ca.gov/sitecleanup/corteselist/.

Based on a review of the SWRCB GeoTracker database and the DTSC EnviroStor database, the project site is not an active hazardous waste cleanup site (DTSC 2020). There are no schools or airports located within 2 miles of the project site.

Environmental Evaluation

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

The project does not propose the routine transport, use, or disposal of hazardous materials; however, construction activities require the use of hazardous materials, such as fuel for construction equipment. Additionally, there is a possibility that ground-disturbing construction activities could expose contaminated soils containing aerially deposited lead (ADL), if present, within the project area. Mitigation Measure HAZ-1 has been included to ensure potential impacts associated with these hazards would be reduced to a less-than-significant level by requiring proper monitoring, handling, and disposal of excavated materials and potentially hazardous materials or wastes per applicable federal, state, and local regulations. The project would need to comply with the City's Municipal Code (Section 3-1.213) in the event of a hazardous materials spill. As described in Impact Discussion VII(b), a SWPPP outlining BMPs for pollutant runoff and response, which includes hazardous materials spill response, would be prepared for the project. Preparation of and compliance with a SWPPP and associated BMPs and Mitigation Measures BIO-4 and HAZ-1 would mitigate potential impacts during construction; therefore, project impacts would be *less than significant with mitigation*.

b) 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 project requires excavation within approximately 9,400 linear feet of public roadways throughout the Riverdale Park Tract neighborhood. There is a possibility that ground-disturbing construction activities could expose contaminated soils containing ADL, if present, within the project area. The project also proposes the demolition of a small pump building and three tanks within the well site, which would be required to comply with state and local standards for demolition and disposal activity to ensure public safety. In addition, as described in Impact Discussion IX(a), a SWPPP outlining BMPs for pollutant runoff and response, which includes hazardous materials spill response, would be prepared for the project. Mitigation Measures BIO-4 and HAZ-1 would also mitigate potential impacts during construction. With implementation of Mitigation Measures BIO-4 and HAZ-1, impacts would be *less than significant with mitigation.*

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

The project site is located southwest of the city of Modesto. The nearest school is Fairview Elementary School, located approximately 1.2 miles southwest of the project site. Therefore, there would be *no impact.*

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?

According to the California Department of Toxic Substance Control (DTSC) Envirostor database, there are no hazardous materials sites located within 1,000 feet of the project site (DTSC 2020). Therefore, there would be *no impact*.

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

The nearest airport to the project site is Modesto City-County Airport, located approximately 5 miles northwest of the project site. The project is located outside the County's Airport Land Use Commission (ALUC) planning area (Stanislaus County 2004); therefore, *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 *City of Modesto General Plan Public Safety Element* (City of Modesto 2019a) and the *Stanislaus County Local Hazard Mitigation Plan* (LHMP) (Stanislaus County 2017) identify local hazards within the county and city and mitigation strategies and actions that can be taken to prevent or minimize damage. The replacement of the current water system would supply potable drinking water from the city to the Riverdale Park Tract neighborhood and all project activities would be required to adhere to the General Plan. Project construction would not require any road closures that would restrict emergency access but may require traffic controls that could slow emergency access; however, roads would remain open to allow for emergency access and traffic controls would be short term and would be consistent with the City's General Plan and other local regulations. The project does not propose any structures that would interfere with long-term emergency access or otherwise impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; therefore, impacts would be *less than significant*.

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 California Department of Fire and Forestry Protection (CAL FIRE) does not characterize the project area as a high or very high fire severity zone (CAL FIRE 2020). The wildfire season in Stanislaus County occurs between May and October each year, and the highest fire hazard occurs in the undeveloped western and eastern portions of the county. The project site is located southwest of Modesto in the north-central portion of the county. The developed city of Modesto is not located within a high or very high fire hazard area. The project does not propose the development of any structures or buildings that could increase the potential for a fire to occur in the immediate or surrounding area. Therefore, the project would not expose nearby residents to wildfire and project impacts would be *less than significant.*

Conclusion

The project has the potential to result in impacts related to the accidental release of hazardous materials used during construction. Preparation and implementation of a SWPPP and compliance with associated BMPs and Mitigation Measure BIO-4 would minimize potential impacts; therefore, impacts would be less than significant with mitigation. The project is not located within 0.25 mile of a school or within 2 miles

of an airport and would not impair implementation of an adopted emergency response plan or emergency evacuation plan and would not expose people or structures to a significant risk involving wildfires.

Mitigation Measures

Implement Mitigation Measure BIO-4 and the following measure.

HAZ-1 Prior to initiation of vegetation removal, demolition activities, and earthmoving activities, the project contractor shall prepare and implement a Hazardous Materials Management Plan that details procedures that will be taken to ensure proper transport, use, and storage of hazardous construction materials and the appropriate handling, stockpiling, testing, and disposal of excavated materials to prevent the inadvertent release of hazardous construction materials and/or contaminated soil and demolished materials to the environment during construction activities. Elements of the plan shall include, but would not necessarily be limited to, the following:

Worker Health and Safety

1. Accident prevention measures.
2. Measures to address hazardous materials and other site-specific worker health and safety issues during construction, including the specific level of protection required for construction workers. This shall include preparation of a site-specific health and safety plan in accordance with federal OSHA regulations (29 Code of Federal Regulations [CFR] 1910.120) and Cal/OSHA regulations (8 California Code of Regulations [CCR] 5192) to address worker health and safety issues during construction.
3. The requirement that all construction crew members be trained regarding best practices for the proper transport, use, and storage of hazardous construction materials and the appropriate handling, stockpiling, testing, and disposal of excavated materials prior to beginning work.

Soil Contamination

4. Procedures for the proper handling, stockpiling, testing, and disposal of excavated materials in accordance with CCR Title 14 and Title 22.
5. Soil contamination evaluation and management procedures, including how to properly identify potential contamination (e.g., soil staining, odors, or buried material), the requirement that construction activities within a 50-foot-radius of potentially contaminated soil be halted until the hazard has been assessed and appropriately addressed, the requirement that access to potentially contaminated areas be limited to properly trained personnel, and procedures for notification and reporting, including internal management and local agencies (e.g., fire department, Stanislaus County Environmental Management Department), as needed.
6. Monitoring of ground-disturbing activities for soil contamination may include visual and organic vapor monitoring by personnel with appropriate hazardous materials training, including 40 hours of Hazardous Waste Operations and Emergency Response (HAZWOPER) training.
7. If visual and organic vapor monitoring indicates signs of suspected contaminated soil, then soil samples shall be collected and analyzed to characterize soil quality.

8. Evaluation of all potentially contaminated materials encountered during project construction activities in accordance with applicable federal, state, and local regulations and/or guidelines governing hazardous waste. All materials deemed to be hazardous shall be remediated and/or disposed of following applicable regulatory agency regulations and/or guidelines. Disposal sites for both remediated and non-remediated soils shall be identified prior to beginning construction. All evaluation, remediation, treatment, and/or disposal of hazardous waste shall be supervised and documented by qualified hazardous waste personnel.

Hazardous Construction Materials

9. Appropriate work practices necessary to effectively comply with applicable environmental laws and regulations, including hazardous materials management, handling, storage, disposal, and emergency response. These work practices include the following: an on-site hazardous material spill kit shall be provided for small spills; totally enclosed containment shall be provided for all trash; and all construction waste, including trash, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, shall be removed to an appropriate waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.
10. The requirement that hazardous construction materials must be stored at least 50 feet from storm drain inlets, creeks, and other drainage features and covered with tarps or stored inside buildings to ensure that materials are not released to the air during windy conditions or exposed to rain.
11. Procedures for proper containment of any spills or inadvertent releases of hazardous materials.
12. Notification requirements in the event of an accidental release of hazardous materials into the environment. Construction crew members shall immediately notify a construction foreperson who shall then report the release to the City of Modesto to ensure the release is remediated in accordance with City requirements.

X. Hydrology and Water Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☒	☐	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☒	☐	☐
(iv) Impede or redirect flood flows?	☐	☒	☐	☐
(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒	☐	☐
(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Setting

The project area is surrounded by the Tuolumne River to the north and is underlain by soils characterized as having a slight erosion hazard (City of Modesto 2019b). The Riverdale Park Tract is within the Turlock Groundwater Subbasin, located south of the Tuolumne River, and receives water from north and south of the river (Stanislaus County 2020). The upgraded water system would be supplied water through the City's system rather than the RPTCSD well, which receives water from the Turlock Groundwater Subbasin. The City has a larger water system with multiple wells and would be capable of responding to any future change in water quality. The City relies on multiple wells for water supply and has redundant wells that would be able to supply the necessary amount of reliable drinking water for the project site. Implementation of the project is intended to resolve previous water quality issues including excess amounts of uranium in the RPTCSD groundwater supply. The project site is comprised of a developed neighborhood that includes existing impervious surfaces, such as paved roadways and residential development. The northern portions of the project site are located directly south of the Tuolumne River and are located within a 100-year flood zone.

Environmental Evaluation

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

Construction of the project has the potential to increase erosion in the project area during ground disturbance. Projects that disturb 1 acre of soil or more are required to obtain NPDES coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit), Order No. 2009-0009-DWQ. The General Permit requires the development and implementation of a SWPPP, which includes BMPs to protect stormwater runoff and soil erosion. Because more than 1 acre of land would be disturbed during the construction phase, the project would require preparation of a

SWPPP and approval of a stormwater permit from the RWQCB. Following project construction, the project site would be developed with hardscapes, precluding the potential for substantial erosion or loss of topsoil. Mitigation Measure BIO-4 would ensure the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality; therefore, impacts would be *less than significant with mitigation*.

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 Riverdale Park Tract neighborhood currently receives water from the RPTCSD, which provides potable water via a single well that draws groundwater from the Turlock Subbasin. The proposed project would upgrade and consolidate the existing water system to connect to the City's municipal water system. The City's municipal water system provides water to over 75,000 water service connections via 77 water wells and 12 water tanks. The City's water also comes from the Modesto Subbasin, which is a high-priority basin monitored by a groundwater sustainability agency called the Stanislaus & Tuolumne Rivers Groundwater Basin Association. Since the project does not include the development of new land uses or an increase in demand for groundwater compared to existing conditions, the project is not anticipated to substantially decrease groundwater supplies. The proposed removal of the existing RPTCSD well and transfer of water supply to the City's water supply system, which relies on surface water and groundwater, may result in a reduction of groundwater being withdrawn from the Turlock Subbasin. Additionally, stormwater flows within the project site would be contained through the existing stormwater drainage system within the site to allow for percolation back into the groundwater table. There would be no increase in impervious surface area and the project would not decrease groundwater supplies or interfere substantially with groundwater recharge in the project vicinity. Therefore, the project would not deplete groundwater resources, and impacts would be *less than significant*.

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:

c-i) Result in substantial erosion or siltation on- or off-site?

The overall erosion hazard in Modesto is considered low and the soil types in the project area are characterized as having a slight erosion hazard (City of Modesto 2019b). Construction of the project has the potential to increase erosion in the project area as a result of grading and excavation activities required to install the new water distribution pipelines. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize soil loss and erosion with a construction SWPPP in conjunction with project's final design and grading plan. The SWPPP would be consistent with the BMPs included in the City's Storm Water Management Plan and will identify the selected stormwater management procedures, pollution control technologies; spill response procedures, and other means that will be used to minimize erosion and sediment production and the release of pollutants to surface water during construction. Therefore, impacts would be *less than significant with mitigation.*

c-ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The project site is currently developed with impervious surface areas and would remain developed following completion of construction activities. The project would not create new impervious surfaces or modify the existing stormwater drainage system in a manner that would result in on- or off-site flooding; therefore, impacts related to surface water runoff would be *less than significant*.

Ground-disturbing activities during project construction have the potential to temporarily alter drainage patters and could increase surface runoff in the project area. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize runoff with a construction SWPPP in conjunction with the project's final design and grading plan. Therefore, impacts would be *less than significant with mitigation.*

c-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?

The project site is currently developed with impervious surfaces and would remain developed following completion of construction activities. The project would not create new impervious surfaces or modify the existing stormwater drainage system in a manner that would result in runoff that would exceed the capacity of existing stormwater drainage systems. Ground-disturbing activities during project construction have the potential to temporarily increase erosive runoff in the project area. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize soil loss and erosion with a construction SWPPP in conjunction with project's final design and grading plan. Therefore, construction impacts are expected to be *less than significant with mitigation.*

c-iv) Impede or redirect flood flows?

The project site is currently developed with impervious surfaces and would remain developed following implementation of the project. Implementation of the project would not result in new impervious surfaces or modify existing drainage patterns or stormwater drainage systems in the project area in a manner that could redirect or impede flood flows. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize soil loss and erosion with a construction SWPPP in conjunction with project's final design and grading plan. The project would not impede or redirect flood flows and implementation of BIO-4 would reduce the potential for runoff during construction; therefore, impacts would be *less than significant with mitigation.*

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project site is not located within a tsunami or seiche zone; however, the northern portions of the project site are located directly south of the Tuolumne River and are located within a 100-year flood zone. Ground-disturbing construction activities have the potential to release pollutant and erosive runoff in the 100-year flood zone. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize soil loss and erosion with a construction SWPPP in conjunction with project's final design and grading plan. Therefore, impacts are expected to be *less than significant with mitigation.*

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

Excavation and other construction activities have the potential to release pollutant and erosive runoff during the construction period of the project. Implementation of Mitigation Measure BIO-4 would ensure construction BMPs would be implemented to avoid and minimize erosive and polluted runoff that could result in adverse effects to waterways. As described under Impact Discussion X(b), the project would not result in an increased demand for water, nor would it substantially decrease groundwater supplies or interfere with groundwater recharge. Therefore, impacts are expected to be *less than significant with mitigation.*

Conclusion

The project would result in more than 1 acre of ground disturbance during construction; therefore, the project would require preparation and implementation of a SWPPP. Mitigation Measure BIO-4 would require compliance with the BMPs of the SWPPP and would ensure the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. The project would not result in increased water demand, decreased groundwater supplies, or interfere with groundwater recharge.

Mitigation Measures

Implement Mitigation Measure BIO-4.

XI. Land Use and Planning

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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?	☐	☒	☐	☐

Setting

The project area includes the RPTCSD service area, which is in unincorporated Stanislaus County in the sphere of influence of the incorporated city of Modesto (Figures 1 and 2). The project area is designated for Low Density Residential (LDR) and Urban Transition (UT) land uses within the Whitmore-Carpenter Comprehensive Planning District (Figure 3), as identified in the *City of Modesto General Plan* (City of Modesto 2019a). The project area is zoned Rural Residential (R-2) and General Agriculture 10 acre (A-2-10) in the Stanislaus County Zoning Ordinance (Stanislaus County 1993) (Figure 4).

Environmental Evaluation

a) Would the project physically divide an established community?

The project proposes an upgraded water system that would supply the Riverdale Park Tract neighborhood with reliable drinking water from the City of Modesto. Installation of the upgraded water system would not physically divide an established community; therefore, the project would have *no impact.*

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 is consistent with current zoning standards designated by the City and Stanislaus County and is consistent with current developed land uses. Implementation of the mitigation measures included throughout this Initial Study would ensure the project does not conflict with any land use plans; therefore, impacts would be *less than significant with mitigation*.

Conclusion

The project would not divide an established community and implementation of the mitigation measures included throughout this Initial Study would ensure the project does not conflict with any land use plans.

Mitigation Measures

Implement Mitigation Measures AQ-1, BIO-1 through BIO-4, CR-1, and HAZ-1.

XII. Mineral Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
(b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Setting

The project site is within the City's sphere of influence, which does not contain any designated mineral resource zones (MRZ-2a or MRZ-2b) under the Surface Mining and Reclamation Act (SMARA). The city is designated as MRZ-3a for sand and gravel (City of Modesto 2019b).

Environmental Evaluation

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

The project proposes upgrades to the existing water supply system and would not result in the loss of availability of a known mineral resource; therefore, *no impact* would occur.

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

As discussed in Impact Discussion XII(a) above, there are no designated mineral resource zones in the project area; however, the city of Modesto is designated as MRZ-3a for sand and gravel (City of Modesto 2019b). The project proposes upgrades to the existing water supply system and would not result in the loss of availability of a locally important mineral resource recovery site; therefore, *no impact* would occur.

Conclusion

The proposed project would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site; therefore, no impact would occur, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XIII. Noise

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
(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 within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Setting

The Riverdale Park Tract neighborhood is located in unincorporated Stanislaus County. The County's Municipal Code establishes standards for construction noise in Chapter 10.46 Noise Control. As established therein, noise generated by construction activities shall not exceed 75 decibels between 7:00 p.m. and 7:00 a.m. The project area is comprised of the Riverdale Park Tract neighborhood, which includes single-family residential units. The nearest sensitive receptors to the project area are the surrounding residents within 50 to 300 feet of the proposed work areas located on Parkdale Drive and on West Hatch Road and the residents in the central portion of the neighborhood on West Hatch Road.

Environmental Evaluation

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?

Construction-related noise would be short term and would take place on weekdays between the hours of 7:00 a.m. and 5:00 p.m. and weekends between the hours of 8:00 a.m. and 4:00 p.m. Surrounding residents may be affected by short-term construction-related noise. Sources of project construction noise are expected to include an excavator, tractor trailer delivery trucks, a paver, a backhoe, a dump truck, a

wheel roller, service trucks, a concrete saw, a vibratory compactor, a jackhammer, a small truck-mounted drill rig, and various construction worker vehicles. Estimated noise levels associated with this equipment are identified in Table 6.

Table 6. Standard Noise Levels from Construction Equipment

Equipment Description	L_{max} Noise Limit at 50 feet, dB, Slow
Excavator	85
Tractor Trailer Delivery Trucks	84
Paver	85
Backhoe	85
Dump Truck	84
Concrete Saw	90
Jackhammer	85
Drill Rig	90

Source: Caltrans 2013

Construction activities may temporarily dominate the noise environment when construction equipment is in use; however, construction noise would be temporary and would take place on weekdays between the hours of 7:00 a.m. and 5:00 p.m. and weekends between the hours of 8:00 a.m. and 4:00 p.m., consistent with the County's Municipal Code. Therefore, construction-related noise impacts would be *less than significant*.

Operation of the project would not permanently increase the ambient noise in the surrounding area. The only noise generated by the project during operation would be from maintenance activities performed by City employees on an as-needed basis. Noise levels associated with maintenance of the water system are not expected to increase current ambient noise levels; therefore, operational noise impacts would be *less than significant.*

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

Refer to Impact Discussion XIII(a), above. The proposed project has the potential to generate limited groundborne vibration during construction activities that require the use of heavy equipment and during ground-disturbing demolition and trenching activities. Excessive groundborne vibration is not expected to occur as a result of the proposed project since demolition is expected to be minor and construction activities known to generate excessive groundborne vibration (such as pile driving) are not proposed. Construction activities would be short-term and compliance with County regulations would ensure construction-related groundborne noise and vibration impacts would be *less than significant*.

Operation of the project would be limited to maintenance activities conducted by City staff on an as-needed basis and would not result in groundborne noise or vibration. Therefore, operational impacts would be *less than significant*.

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

The project site is located outside the Stanislaus County ALUC's planning area (Stanislaus County 2004). The project does not propose any features that would place residents within the airport planning area; therefore, *no impact* would occur.

Conclusion

The project would generate noise and limited groundborne vibration associated with short-term construction activities; however, construction would occur during weekdays between the hours of 7:00 a.m. and 5:00 p.m. and weekends between the hours of 8:00 a.m. and 4:00 p.m., consistent with the County's Municipal Code. Operation of the project would not generate a new long-term source of noise or vibration. Therefore, construction-related noise impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XIV. Population and Housing

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting

The Riverdale Park Tract neighborhood is located in the City's sphere of influence. Modesto is the largest incorporated city in Stanislaus County and accounts for approximately 40 percent of the County's population. The California Department of Finance estimates the City's population was 209,186 as of January 1, 2015. The population anticipated by the City's General Plan and its Master Environmental Impact Report is between 334,000 and 357,000 people by 2025. The estimated capacity within the City's General Plan boundary is approximately 428,000.

Environmental Evaluation

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

Construction of the project is expected to use workers from the local employment force and would not require workers to relocate to the project area. Operation of the project would require maintenance activities on an as-needed basis, which would be performed by City employees and would not require workers to relocate to the project area. The project proposes the installation of an upgraded water system to serve the existing Riverdale Park Tract neighborhood and does not propose new development that would induce population growth. The Riverdale Park Tract neighborhood consists of approximately 20 undeveloped infill lots. Currently, the RPTCSD has a restriction on new development based on limited water supply. Once the water system is connected to the City's water system, the restriction on development would no longer be applicable. The project proposes to replace existing water services at currently vacant/undeveloped parcels with new services. Generally, vacant/undeveloped parcels that do not have existing water services would likely not be provided with service lines as part of the project. Therefore, the project has the potential to indirectly increase population growth in the area. However, new development is not currently proposed, and future development would be subject to subsequent environmental review and public fees to accommodate the marginal increase in population in the area. Therefore, the project would not result in a direct increase in population or the use of public facilities in the area and impacts would be *less than significant*.

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

The project would not displace existing people or housing; therefore, there would be *no impact.*

Conclusion

The project would not induce population growth or displace people or housing; therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XV. Public Services

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) 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:				

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Setting

The nearest fire station to the project area is Modesto Fire Station 10, located approximately 2 miles east of the project site. The nearest police station to the project area is the Ceres Police Department, located approximately 5 miles southeast of the project site. The Riverdale Park Tract Neighborhood is within the Modesto City School District.

Environmental Evaluation

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 any of the public services:

Fire protection?

The project does not propose the construction of new buildings or structures that would create an increased demand for fire protection. Aboveground structures that would be developed for the project include fire hydrants and service connection boxes, where necessary. The project would not result in the need for new or physically altered governmental facilities for fire protection; therefore, impacts related to fire protection would be *less than significant*.

Police protection?

The project does not propose the construction of new buildings or structures that would create an increased demand for police protection. The project would not result in the need for new or physically altered governmental facilities for police protection; therefore, impacts related to police protection for the project would be *less than significant.*

Schools?

As discussed in Section XIV, the project would not induce direct population growth. Future infill development may occur following implementation of the proposed project; however, no development plans have been identified and any future development would be subject to fees to accommodate public services, including schools. Implementation of the proposed project would not result in a direct increase of school-aged children in the area; therefore, the project would not create an increased demand on local schools and impacts would be *less than significant.*

Parks?

As discussed in Section XIV, the project would not induce population growth. Future infill development may occur following implementation of the proposed project; however, no development plans have been identified and any future development would be subject to fees to accommodate public services, including parks and recreational facilities. The project would not result in a direct increase in the population or the use of public facilities in the area; therefore, impacts would be *less than significant.*

Other public facilities?

The project does not propose features that would significantly increase the demand on public facilities; therefore, impacts would be *less than significant*.

Conclusion

The project does not propose the construction of new buildings or structures that would create an increased demand for fire protection, police protection, schools, parks, or other public facilities or services; therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XVI. Recreation

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

The Riverdale Park Tract neighborhood provides access to Riverdale Park and access to the Tuolumne River off Parkdale Avenue in the northern portion of the neighborhood. The fishing access area for the Tuolumne River is an unpaved parking lot with scattered structures throughout and Riverdale Park is an open lot with associated play features.

Environmental Evaluation

a) Would the project 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?

As discussed in Section XIV, the project would not induce direct population growth. Future infill development may occur following implementation of the proposed project; however, no development plans have been identified and any future development would be subject to fees to accommodate public services, including public parks and recreational facilities. Project construction and operation would not result in a direct increase in population or demand on recreational facilities in the area; therefore, impacts would be *less than significant.*

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

The project does not propose the development of a new recreational facility and would not result in an expansion of an existing facility; therefore, *no impact* would occur.

Conclusion

Implementation of the project would not result in increased use of existing recreational facilities and does not include construction of new or expanded recreational facilities; therefore, no impacts would occur, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XVII. Transportation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
(b) Would the project 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?	☐	☐	☒	☐

Setting

The City categorizes roadways in its circulation network as freeways, expressways, arterial streets, collector streets, and local streets and are summarized as follows (City of Modesto 2019b):

- **Freeways.** Intended for long range interregional travel.
- **Expressways.** High-capacity travel corridors with limited access at 0.5- to 1-mile intervals depending on the expressway classification, with traffic signals at major intersections.
- **Arterial Streets.** Immediate capacity travel corridors primarily intended to serve major movements between different land uses or different parts of the city.
- **Collector Streets.** Connection between local streets and arterial streets.
- **Residential/Local Streets.** Two-lane, low-volume streets with the exclusive function of providing access to properties and connecting higher-order roadways.

Modesto has four types of improved bikeways including Class I, Class II, Class III, and Class IV, summarized as follows (City of Modesto 2019b):

- **Class I.** Paved bike paths that are separated from city streets.
- **Class II.** Striped lanes on major city streets.
- **Class III.** On-street routes identified by "bicycle route" signs.
- **Class IV.** Facilities are one- or two-way dedicated bicycle facilities physically separated from vehicle traffic lanes.

Bus service within the city includes the Modesto Area Express (MAX), Modesto Dial-A-Ride, Stanislaus Regional Transit (StaRT), and Greyhound. Train service includes Amtrak, Altamont Commuter Express (ACE), and Bay Area Rapid Transit (BART) connections (City of Modesto 2019b).

The project site is accessed via West Hatch Road from South Carpenter Road from the east. Within the project area, South Carpenter Road is designated as a collector street and West Hatch Road is designated as a local street (City of Modesto 2019b). The segment of South Carpenter Road between Paradise and Hatch Roads, which would be used to access the project site, is classified as a daily level of service (LOS) E, meaning it is approaching capacity (City of Modesto 2019b).

Environmental Evaluation

a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

According to the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018), projects that do not indicate substantial evidence that a project would generate a potentially significant level of VMT, that are consistent with a Sustainable Communities Strategy (SCS) or general plan, or that would generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Implementation of the project would require maintenance trips to and from the project site on an as-needed basis but would not create more than 110 trips per day. Project construction would require vehicle trips to and from the site but would not exceed more than 110 trips per day. Construction activity may require temporary traffic controls along West Hatch Road and Parkdale Drive but would be limited in nature and would not increase long-term traffic to the area. The project would not conflict with the *City of Modesto General Plan Transportation Element* (Chapter V), and impacts would be *less than significant*.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

According to the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018), projects that do not indicate substantial evidence that a project would generate a potentially significant level of VMT, that are consistent with an SCS or general plan, or that would generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. The project does not propose features that would increase circulation to or from the project site. During operation, occasional trips may be required by City employees for maintenance activities on an as-needed basis; however, they would not exceed 110 trips per day and would not generate a significant increase in VMT. Therefore, project impacts would be *less than significant*.

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 project does not propose the design of new roadways or structures that could be considered hazardous. The project proposes aboveground features, including fire hydrants and service boxes that would not impede roadways or access to roadways.; therefore, project impacts would be *less than significant*.

d) Would the project result in inadequate emergency access?

Project operation would not include any features that would block emergency access. Existing paved roads that are disturbed during construction would be repaved following installation of the pipelines in order to allow emergency and other access. Temporary fill material would be placed over excavated roads during construction activity to ensure access to the area. Project construction does not propose the closure of roads but may require traffic controls that could slow the flow of traffic. However, roads would remain open to allow for emergency access to the site and to the Riverdale Park Tract Neighborhood; therefore, impacts would be *less than significant*.

Conclusion

The project would not conflict with a program plan, ordinance or policy addressing the circulation system, conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), substantially increase hazards, or result in inadequate emergency access; therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XVIII. Tribal Cultural Resources

	Environmental Issues	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 section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
	(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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Setting

Approved in 2014, AB 52 added tribal cultural resources to the categories of resources that must be evaluated under CEQA. Tribal cultural resources are defined as either of the following:

1) Sites, features, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or
    b. Included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code Section 5020.1.
2) 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 California Public Resources Code Section 5024.1. In applying these criteria for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Recognizing that tribes have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe regarding the potential for adverse impacts on tribal cultural resources as a result of a project. Consultation may include discussing the type of environmental review necessary, the presence and/or significance of tribal cultural resources, the level of significance of a project's impacts on the tribal cultural resources, and available project alternatives and mitigation measures recommended by the tribe to avoid or lessen potential impacts on tribal cultural resources.

Native American Tribes were notified on March 18, 2021, about the project consistent with state and City regulations under AB 52. As of May 5, 2021, the City has not received any responses.

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-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)?

The City has provided notice of the opportunity to consult to appropriate tribes per the requirements of AB 52 and has not received any responses as of May 5, 2021. The project site does not contain any known tribal cultural resources that have been listed or been found eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1. Mitigation Measure CR-1 has been included to require cessation of work if a discovery is made until a qualified archaeologist can assess the significance of the find. Therefore, impacts related to a substantial adverse change in the significance of tribal cultural resource would be *less than significant with mitigation*.

a-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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Refer to Impact Discussion XVIII(a-i). Mitigation Measure CR-1 has been included to require cessation of work if a discovery is made until a qualified archaeologist can assess the significance of the find. Therefore, impacts related to a substantial adverse change in the significance of tribal cultural resource would be *less than significant with mitigation*.

Conclusion

The project site does not contain any known tribal cultural resources that have been listed or been found eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1. Mitigation Measure CR-1 has been included to require cessation of work if a discovery is made until a qualified archaeologist can assess the significance of the find. Therefore, impacts related to a substantial adverse change in the significance of tribal cultural resource would be *less than significant with mitigation.*

Mitigation Measures

Implement Mitigation Measure CR-1.

XIX. Utilities and Service Systems

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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 could 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 statutes and regulations related to solid waste?	☐	☐	☒	☐

Setting

The City's water system currently serves a population of approximately 260,000 people in California's Central Valley. The City is currently the largest retail water supplier in Stanislaus County and has been providing potable water service to its urban area since 1895. The City's existing water service area consists of one large contiguous service area (defined by the City's current Sphere of Influence and also includes Salida, portions of North Ceres, and several unincorporated Stanislaus County "islands" located within the City's Sphere of Influence), and several smaller outlying service areas (including Grayson, Del Rio, Ceres [Walnut Manor], and portions of Turlock).

The City's water system consists of a little over 900 miles of transmission and distribution pipelines. A portion of the transmission mains traversing the City is owned and operated by the Modesto Irrigation District (MID), and these transmission mains deliver treated surface water from the Modesto Regional Water Treatment Plant (MRWTP) through a series of turnouts that have the ability to control water supply into the City's water distribution system. Within the contiguous service area, the City also has a total of 101 groundwater wells (77 of which are active), 11 at-grade storage tanks, and 10 active booster pump stations. In the outlying service areas, the City has 20 groundwater wells (17 of which are active), two at-grade storage tanks (in Grayson and Del Rio), and two booster pump stations (also in Grayson and Del Rio).

All municipal and most industrial water service in the Modesto planning area is provided by the City's water supply system. In addition to the City's system, the City owns and operates a number of smaller water systems outside the study area; these serve Salida, Ceres (Walnut Manor), Grayson, Del Rio (Hillcrest), and North, South, and Central Turlock. The City derives drinking water from a combination of

groundwater and surface water sources. In 2015, there were more than 74,500 water service connections with demand for more than 47,000 acre-feet (AF) of water, approximately 900 miles of water transmission and distribution pipelines, 86 operational groundwater wells serving both the contiguous and outlying service areas (77 within the contiguous system), and eight operational water tanks within the study area with a combined storage capacity of 12.1 million gallons (City of Modesto 2019b).

The project site is comprised of the Riverdale Park Tract neighborhood, which is currently served by the RPTCSD. The RPTCSD owns and operates a domestic water supply system that supplies potable water to approximately 498 residents through 178 residential connections under the authority of Domestic Water Supply Permit No. 2018-03-014, issued on March 16, 2015, by the Stanislaus County Department of Environmental Resources (DER). The water system is also regulated by the State Water Resources Control Board Division of Drinking Water (SWRCB-DDW). The water system is classified as a Small Community Water System (SCWS) and has one active groundwater well referred to as Well 03 (Primary Station [PS] Code #5000019-003), constructed in 1981. The RPTCSD water supply system also includes a second well that is inactive and inoperable.

On February 2, 2016, the Stanislaus County DER issued Compliance Order No. DER-16CO-002 (CO#1) to the RPTCSD, which requires the RPTCSD to submit a final plan to correct the uranium exceedance problem, which is based on a running annual average, by April 18, 2016, and have all of the improvements constructed by July 1, 2018. Quarterly monitoring results and progress reports have been submitted to the Stanislaus County DER since CO#1 was issued. Between August 2016 and 2020, uranium concentrations in the groundwater remained below the Maximum Contaminant Level (MCL); however, recent sampling efforts conducted in 2020 and 2021 indicate uranium levels are at or exceeding the MCL and the Stanislaus County DER and the SWRCB-DDW are still requiring the RPTCSD to address the uranium violations in the long term.

Environmental Evaluation

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 could cause significant environmental effects?

In order to comply with public health requirements, the City proposes to replace and upgrade the RPTCSD water system in the Riverdale Park Tract neighborhood, and tie into the City's water system near the Hatch and Carpenter Roads intersection. This project includes the replacement of water mains, valves, fittings, and fire hydrants, where required. The project would replace an existing 8-inch water main with approximately 1,500 linear feet of 12-inch water main along Hatch Road to provide additional supply to the community and replace approximately 8,000 linear feet of existing 8-inch, 6-inch, and smaller pipes along Avondale, Greenlawn, and Riverdale Avenues with 8-inch mains. Pipeline replacement would occur within approximately 9,400 linear feet of public roads and would extend throughout most of the roadways within the community. The RPTCSD well and City wells are within the Modesto and Turlock Groundwater Subbasins, which are not considered critically over-drafted basins. The upgraded water system would be supplied water through the City rather than the RPTCSD well for reliable drinking water. The environmental effects of the upgraded, consolidated water system are evaluated throughout this Initial Study. With implementation of mitigation measures outlined in this document and compliance with applicable standards and regulations, project impacts would be *less than significant*.

The City owns and operates two wastewater treatment facilities, located at Sutter Avenue and Jennings Road. The Sutter Avenue wastewater treatment facility treats approximately 20 million gallons of

wastewater per day before traveling 6 miles of pipelines to the facility at Jennings Road that treats approximately 15 million of those gallons further to tertiary (recycled water) levels (City of Modesto 2020). The project would not generate wastewater during construction or operation of the project or require relocation or construction of a new or expanded wastewater system. Therefore, *no impact* would occur.

The project may modify the existing drainage system temporarily during ground-disturbing construction activities; however, all disturbed streets and gutters would be returned to pre-construction conditions following construction of the upgraded water system infrastructure. The project would not require the relocation or construction of new or expanded stormwater drainage infrastructure. Therefore, *no impact* would occur.

The project would not require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities. Therefore, *no impact* would occur.

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 City's existing water supply portfolio includes surface water and groundwater sources. The City has purchased wholesale treated surface water from MID since the Modesto Regional Water Treatment Plant (MRWTP) was constructed in 1995. The MRWTP is owned and operated by MID, and it delivers an annual average supply of 30 million gallons per day (mgd) (33,601 AF per year [AFY]) to the City with a functional hydraulic peaking capacity up to 42.5 mgd. This treated surface water supply from MID, coupled with the available groundwater supply (together termed a "conjunctive supply") is used to meet the City's water supply needs for municipal customers in the contiguous service area. The MRWTP Phase Two Expansion was completed in early 2016 and provides the City with up to an additional 30 mgd of treated surface water capacity for a total annual average capacity of up to 60 mgd (67,202 AFY). The Phase Two Expansion project provides a near-term supply of 10 mgd by 2020 (not accounting for supply reductions due to drought). The supply available from the MRWTP Phase Two Expansion project to meet City demands is projected to increase as additional development occurs within the City's contiguous service area and within MID's treated water "place of use." It should be noted that the total 60 mgd capacity is a normal and wet year annual average, and the MRWTP facility has the ability to provide a peaking capacity greater than the annual average.

The City's groundwater supply wells are located throughout the City's existing water service areas, and these wells are located within the San Joaquin Valley Groundwater Basin (Modesto, Turlock and Delta-Mendota subbasins). The residents within the contiguous service area north of the Tuolumne River (North Modesto, Salida, and Empire) generally rely on treated surface water supply from MID year-round and supplemented with groundwater to meet increased water demands primarily in the summer months. Water demands from the contiguous service area located south of the Tuolumne River (South Modesto) and the outlying service areas are met with groundwater supply year-round (West Yost Associates 2017).

Since the Riverdale Park Tract neighborhood already relies on well water from the Turlock Subbasin via the RPTCSD's well, the project would not result in an increased demand for water, it would just be provided via the City through an upgraded and consolidated water supply system. The project would have sufficient water supplies available to serve the project and reasonably foreseeable development through the City's surface water and groundwater resources; therefore, impacts would be *less than significant*.

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 Riverdale Park Tract neighborhood would continue to be served by the same wastewater treatment provider and infrastructure. The project would not generate new or increased wastewater and would not require new or modified wastewater infrastructure; therefore, impacts would be *less than significant*.

d) 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?

Excavation, trenching, and grading activities would be necessary for construction of the proposed project; however, excavated materials resulting from site preparation would either be balanced on-site during construction or disposed of at an approved receiving facility. The project is not anticipated to generate solid waste during construction or operation; therefore, project impacts related to the generation of solid waste would be *less than significant.*

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

See discussion for Section XIX(d) above; impacts would be *less than significant*.

Conclusion

The environmental effects of the upgraded, consolidated water system are evaluated throughout this Initial Study. With implementation of mitigation measures outlined in this document and compliance with applicable standards and regulations, project impacts would be less than significant. The project would have sufficient water supplies to serve the project and future development. The project would not generate wastewater or solid waste.

Mitigation Measures

Implement Mitigation Measures AQ-1, BIO-1 through BIO-4, CR-1, and HAZ-1.

XX. Wildfire

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
(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?	☐	☐	☒	☐

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐

Setting

The project site is comprised of the Riverdale Park Tract neighborhood located in the City's sphere of influence in Stanislaus County. CAL FIRE does not identify Modesto or surrounding areas as being within a high or very high fire hazard severity zone (CAL FIRE 2020). Modesto and surrounding areas are within a Local Responsibility Area (LRA), and the project site and surrounding areas are primarily designated as unzoned and LRA moderate. The wildfire season in Stanislaus County occurs between May and October each year and the highest fire hazard area is in the undeveloped western and eastern portions of the county. The project area is located southwest of the city in the north-central portion of the county.

Environmental Evaluation

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

All construction activities would be located within existing public rights-of-way, City property, or City easements. Project construction does not propose the closure of roads but may require traffic controls that could slow the flow of traffic. However, all roads would remain open throughout the duration of construction activities to allow for emergency access to the site and to the Riverdale Park Tract neighborhood. Open trenches used for installation of the pipelines would be repaved after installation of the pipelines, and long-term emergency access to the Riverdale Park Tract neighborhood would be in compliance with applicable emergency plans. Therefore, the project would not impair implementation of an adopted emergency response plan or emergency evacuation plan and impacts would be *less than significant.*

b) Due to slope, prevailing winds, and other factors, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The developed city is not located within a high or very high fire hazard category. The project does not propose the development of any structures or buildings that could increase the potential for a wildfire to occur in the immediate or surrounding area. Therefore, the project would not expose nearby residents to wildfire and project impacts would be *less than significant.*

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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 project proposes upgrades to the existing water supply system that would deliver reliable drinking water to residents within the RPTCSD. Project construction would require demolition of existing pavement and excavation to install replacement pipelines. After installation, all disturbed road surfaces would be repaved consistent with existing infrastructure in the neighborhood. The project would not require the installation or maintenance of associated infrastructure that could exacerbate fire risk or result in temporary or ongoing impacts to the environment; therefore, project impacts would be *less than significant.*

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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 project area is developed with existing single-family residential development on a relatively flat site. The project area is not designated as a high or very high fire hazard area; therefore, hazards associated with wildfire including post-fire instability or drainage changes have a low potential to occur. The project does not propose the development of structures that could be damaged or create a hazard for nearby residents; therefore, project impacts are *less than significant.*

Conclusion

The project would not expose people or structures to new or exacerbated wildfire risks and would not require the development of new or expanded infrastructure or maintenance to reduce wildfire risks. Therefore, potential impacts associated with wildfire would be less than significant and mitigation measures are not required.

Mitigation Measures

Mitigation is not necessary.

XXI. Mandatory Findings of Significance

	Environmental Issues	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?	☐	☒	☐	☐

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☒	☐	☐

Environmental Evaluation

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?

As discussed in the preceding sections, the project has the potential to significantly degrade the quality of the environment, including effects on biological resources. During construction, ground disturbance and construction of the project may affect biological resources, including sensitive and special-status species. Mitigation measures are identified to reduce potential impacts a less-than-significant level, including, but not limited to, measures intended to prevent the entrapment of animals in excavated trenches, a measure that would prohibit the use of rodenticides, and avoidance of natural habitats where feasible.

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)?

When project impacts are considered along or in combination with other impacts, the project-related impacts may be significant. Construction and operation of the project would contribute to cumulative levels of air pollutant emissions, erosion and down-gradient sedimentation, and pollutant concentrations in stormwater runoff. Mitigation measures have been incorporated into the project to reduce project-related impacts to a less-than-significant level. Based on implementation of identified project-specific mitigation measures, the cumulative effects of the proposed project would be less than significant.

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

Implementation of the project would result in the generation of pollutants, which may affect air and water quality, and would result in a short-term increase in the ambient noise level during construction. Mitigation measures have been developed that would reduce these project-specific impacts to a less-than-significant level; therefore, the project would not result in substantial, adverse environmental effects to human beings, either directly or indirectly.

Conclusion

Based on implementation of mitigation measures identified in each of the sections above, all potential impacts associated with the construction and operation of the proposed project would be mitigated to less-than-significant levels.

3 REFERENCES

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APPENDIX A

Project Design Plans

CITY OF MODESTO
UTILITIES DEPARTMENT
RIVERDALE PARK TRACT STRENGTHEN & REPLACE WATER MAINS

ABBREVIATIONS

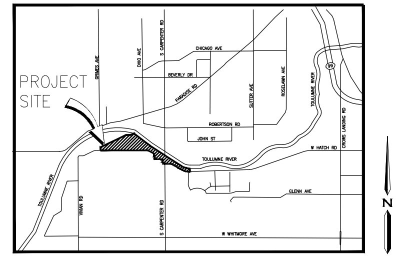
±	PLUS OR MINUS
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ADA	AMERICANS WITH DISABILITY ACT
BC	BEGINNING OF CURVE
BDRY	BOUNDARY
BM	BENCH MARK
BO	BLOW-OFF
BOC	BACK OF CURB
BVC	BEGIN VERTICAL CURVE
BSL	BUILDING SETBACK LINE
BW	BACK OF WALK
C&G	CURB AND GUTTER
CB	CATCH BASIN
CO	CLEANOUT
℄	CENTER LINE
C or CONC.	CONCRETE
D	STORM DRAIN
D.I.P.	DUCTILE IRON PIPE
EC	END OF CURVE
ELEV.	ELEVATION
EP	EDGE OF PAVEMENT
EVC	END VERTICAL CURVE
ESMT	EASEMENT
EX or EXIST	EXISTING
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
GB	GRADE BREAK
HORIZ	HORIZONTAL
HP	HIGH POINT
INV.	INVERT
IRR	IRRIGATION
JP	JOINT POLE
LF	LINEAL FEET
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N.T.S.	NOT TO SCALE
P.C.C.	PORTLAND CEMENT CONCRETE
PCC	POINT OF COMPOUND CURVE
PL	PROPERTY LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
P or PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RET	RETURN
R/W	RIGHT OF WAY
S/W	SIDEWALK
S or SS	SANITARY SEWER
SD	STORM DRAIN
SHT	SHEET
SNS	STREET NAME SIGN
SP	STANDPIPE
STA	STATION
STD	STANDARD
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB
TEMP	TEMPORARY
THRU	THROUGH
TPE	TREE PLANTING EASEMENT
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER
U.N.O.	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
TYP.	TYPICAL

LEGEND

EXISTING / PROPOSED

- ACCESSIBLE PARKING STRIPING
- AREA DRAIN
- BACKFLOW PREVENTOR
- BENCHMARK
- BOLLARD
- CATCH BASIN
- CLEAN OUT
- CONTOUR
- DOOR
- DOUBLE DETECTOR CHECK VALVE
- ELECTRIC METER/BOX
- ELECTROLIER
- ELEVATION W/ DESCRIPTION (× 100.65 EP)
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- GAS METER/BOX
- HOSE BIB
- POINT INDICATOR VALVE
- SANITARY SEWER MANHOLE
- SIGN
- STORM DRAIN MANHOLE
- STREET/SITE LIGHT PULL BOX
- TELECOMMUNICATIONS BOX
- TELECOMMUNICATIONS MANHOLE
- THRUST BLOCK
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL BOX
- TREES W/ DRIP LINE
- UNDERGROUND UTILITY LINE LABEL AND DIRECTION (XX"UT)
- UTILITY POLE
- UTILITY VALVE
- WALL (HEIGHT/TYPE NOTED)
- WATER METER/BOX
- CONCRETE
- PAVEMENT
- GRAVEL
- BRICK/PAVERS
- LANDSCAPE

CIVIL IMPROVEMENT LIMITS



VICINITY MAP

N.T.S.

SHEET INDEX

BENCHMARK:

DATUM:	NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
NAME:	POINT#1035 CITY OF MODESTO BENCHMARK D13-636
ELEVATION:	76.485 FEET
LOCATION:	BRASS DISK ON SIDEWALK STAMPED "CITY OF MODESTO MONUMENT BM D13-636" AT THE NORTHEAST RETURN AT THE INTERSECTION OF SOUTH CARPENTER ROAD AND PARADISE ROAD, APPROXIMATELY 5 FEET SOUTHEAST OF A FIRE HYDRANT AND ADJACENT TO A TRAFFIC SIGNAL POST

MONUMENTATION NOTE:

PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ON THIS SITE, IT IS ADVISED THAT ALL INVOLVED PARTIES REVIEW SECTION 8771 AND SECTION 8725 OF THE BUSINESS AND PROFESSIONS CODE AND SECTION 605 OF THE CALIFORNIA PENAL CODE TO ENSURE THAT MONUMENT CONSERVATION HAS BEEN PROPERLY ADDRESSED.

MONUMENT PRESERVATION NOTES:

1. PER SECTION 8771 OF THE CALIFORNIA LAND SURVEYOR ACT, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR, UNDER DIRECTION OF A LICENSED LAND SURVEYOR OR LICENSED CIVIL ENGINEER LEGALLY AUTHORIZED TO PRACTICE LAND SURVEYING, SHALL LOCATE AND REFERENCE MONUMENTS THAT WILL BE AFFECTED BY CONSTRUCTION AND A CORNER RECORD OR RECORD OF SURVEY SHALL BE FILED WITH THE COUNTY SURVEYOR.
2. PRIOR THE COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE CITY SURVEY DEPARTMENT WITH COPIES OF CORNER RECORDS OR RECORDS OF SURVEY THAT HAVE BEEN FILED WITH THE COUNTY SURVEYOR.
3. CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION OF NEW MONUMENTATION PER CITY OF MODESTO STANDARD SPECIFICATIONS AND PLANS, DETAIL NO. 212, OR AS OTHERWISE APPROVED BY THE SENIOR LAND SURVEYOR.

CONTACT INFORMATION

APPLICANTS: SELF-HELP ENTERPRISES, INC.
8445 W ELOWIN COURT, P.O BOX 6520
VISALIA, CA 93290
CONTACT: JUAN CANO
(559) 802-1674

CIVIL ENGINEER: O'DELL ENGINEERING
1165 SCENIC DRIVE, SUITE A
MODESTO, CA 95350
CONTACT: MIKE PERSAK
(209) 571-1765

COUNTY ENGINEER'S APPROVAL

APPROVAL OF THESE PLANS DOES NOT RELEASE THE DEVELOPER OF RESPONSIBILITY FOR CORRECTION OF MISTAKES, ERRORS OR OMISSIONS CONTAINED HEREIN. IF DURING THE COURSE OF CONSTRUCTION OF THE IMPROVEMENTS, PUBLIC INTEREST REQUIRES A MODIFICATION OF OR DEPARTURE FROM THE COUNTY SPECIFICATIONS OR THESE IMPROVEMENTS PLANS, THE COUNTY ENGINEER SHALL HAVE THE AUTHORITY TO REQUIRE SUCH MODIFICATIONS OR DEPARTURE AND TO SPECIFY THE MANNER IN WHICH THE SAME IS TO BE MADE.

DAVID LEAMON
RCE XXXXX

PUBLIC WORKS DIRECTOR
EXP X/XX/XXXX

DATE

ORDER OF WORK:

SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING
1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
odellengineering.com

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

CALL BEFORE YOU DIG U.S.A. 800-642-2444

CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION, CALL "UNDERGROUND SERVICE ALERT" (U.S.A.), (TOLL FREE 800-642-2444) PRIOR TO TRENCHING, GRADING, EXCAVATION, DRILLING, PIPE PUSHING, PLANTING TREES, DIGGING POST HOLES FOR FENCES, ETC. (U.S.A.) WILL SUPPLY INFORMATION OR LOCATE AND MARK ANY UNDERGROUND FACILITIES.

City of Modesto UTILITIES DEPARTMENT

UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

COVER SHEET

RIVERDALE PARK TRACT STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)

SHEET NO. C1.0 OF 23 PAGES

VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-CV.dwg Date: 11/24/2015

GENERAL NOTES:

1. ALL MATERIAL AND WORK SHALL CONFORM TO CITY OF MODESTO STANDARDS SPECIFICATIONS AND DETAILS. THE IMPROVEMENTS ARE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PUBLIC WORKS DEPARTMENT. CONTACT THE CONSTRUCTION ADMINISTRATION OFFICE AT 577–5452 TWO (2) WORKING DAYS (72 HOURS) PRIOR TO THE START OF ANY WORK TO ARRANGE FOR INSPECTION.

2. THE CONTRACTOR SHALL OBTAIN A NO FEE ENCROACHMENT PERMIT PRIOR TO THE START OF ANY WORK. NO WORK CAN BEGIN WITHOUT AN APPROVED AND SIGNED SET OF IMPROVEMENT PLANS.
   CONTRACTOR SHALL ALSO OBTAIN A STANISLAUS COUNTY ENCROACHMENT PERMIT.

3. PRIOR TO EXCAVATING ANY UNDERGROUND UTILITIES, CALL U.S.A. AT LEAST 48 HOURS IN ADVANCE AT (800) 642–2444 OR (800) 227–2600.

4. THESE PLANS HAVE BEEN CHECKED BY THE CITY OF MODESTO AND/OR ITS AUTHORIZED REPRESENTATIVE, BUT SUCH CHECKING AND/OR APPROVAL DOES NOT RELIEVE THE CONTRACTOR FROM HIS/HER RESPONSIBILITY TO CORRECT ERRORS, OMISSIONS OR MAKE CHANGES REQUIRED BY CONDITIONS DISCOVERED IN THE FIELD DURING THE COURSE OF CONSTRUCTION.

5. CONTRACTOR SHALL CONTROL DUST AT ALL TIMES DURING CONSTRUCTION AS REQUIRED BY THE STANISLAUS COUNTY AND THE REGIONAL AIR QUALITY CONTROL BOARD.

6. ALL CONSTRUCTION STAKING SHALL BE PROVIDED BY THE CITY OF MODESTO UNDER THE DIRECTION OF A CIVIL ENGINEER OR AN INDIVIDUAL LICENSED TO PERFORM LAND SURVEYING UNDER THE CALIFORNIA BUSINESS & PROFESSIONS CODE.

7. ALL EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THESE UTILITIES. THE CONTRACTOR SHALL NOT BEGIN EXCAVATION UNTIL ALL UTILITY COMPANIES AND THE CITY OF MODESTO HAVE BEEN NOTIFIED AND HAVE BEEN GIVEN THE OPPORTUNITY TO MARK THEIR FACILITIES IN THE FIELD.

8. HOUSE SERVICES, FIRE HYDRANT LATERALS, GAS AND TELEPHONE LINES, AND ALL OTHER UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO CURB, GUTTER, AND SIDEWALK CONSTRUCTION AND STREET PAVING.

9. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO ELIMINATE OR MINIMIZE POLLUTION DISCHARGE CAUSED BY CONSTRUCTION (SEE CITY OF MODESTO STANDARD SPECIFICATIONS CHAPTER 15).

10. STREET STRIPING SHALL INCLUDE STOP BARS, CENTERLINE STRIPING OR MARKERS, CROSSWALKS AND ALL OTHER MARKINGS REQUIRED BY THE CITY ENGINEER. STRIPING SHALL BE DONE WITH THERMOPLASTIC AND REFLECTIVE MARKERS.

11. ALL TRENCHES SHALL BE BACKFILLED IN ACCORDANCE WITH STANISLAUS COUNTY STANDARD SPECIFICATIONS.

12. EXISTING CURB AND SIDEWALK WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DISPLACED DURING CONSTRUCTION, EVEN THOUGH THEY WERE NOT TO BE REMOVED, SHALL BE REPAIRED OR REPLACED PER STANISLAUS COUNTY STANDARD DETAILS.

13. PRIOR TO TRENCHING FOR ANY SEWER, WATER, OR STORM DRAIN PIPE, THE CONTRACTOR SHALL VERIFY, IN THE FIELD, THE SIZE AND LOCATION OF THE EXISTING PIPE AT THE POINT OF CONNECTION. ANY DEVIATION FROM THE PLANS SHALL BE RESOLVED BY THE DESIGN ENGINEER PRIOR TO TRENCHING.

14. STREET CLOSURE OR LANE CLOSURE WILL REQUIRE A TRAFFIC CONTROL PLAN AND THE DESIGNATION OF A QUALIFIED INDIVIDUAL FOR ITS IMPLEMENTATION AND SAFE MAINTENANCE.

15. CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, ENGINEER AND THE CITY HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING FACILITIES.

17. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ORDINANCE WITH THE CURRENT ISSUE OF "MANUAL OF TRAFFIC CONTROLS WARNING SIGNS, LIGHTS AND DEVICES FOR USE IN PERFORMANCE OF WORK UPON HIGHWAYS" PUBLISHED BY THE STATE OF CALIFORNIA BUSINESS AND TRANSPORTATION AGENCY.

18. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT CITY OF MODESTO IMPROVEMENT STANDARDS AND SPECIFICATIONS, THE LATEST EDITION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND THE STANISLAUS COUNTY IMPROVEMENT STANDARDS AND SPECIFICATIONS. CITY OF MODESTO STANDARD PLANS ARE AVAILABLE AT THE OFFICE OF THE PUBLIC WORKS INSPECTOR.

19. ALL CONSTRUCTION SHALL BE LIMITED TO BETWEEN THE HOURS OF 7:00 A.M. AND 5:00 P.M., MONDAY THROUGH FRIDAY AND INSPECTION REQUESTS SHALL BE LIMITED TO NORMAL CITY BUSINESS HOURS: 8:00 A.M. THROUGH 5:00 P.M. MONDAY THROUGH FRIDAY. ARRANGEMENTS FOR ANY OVERTIME INSPECTION SERVICES AND PAYMENT OF FEES FOR SAME SHOULD BE MADE 72 HOURS IN ADVANCE AND ARE SUBJECT TO INSPECTION AVAILABILITY AND APPROVAL BY THE CITY.

20. THE CITY OF MODESTO OR ASSOCIATED UTILITY COMPANY AND RESIDENCES TO BE AFFECTED SHALL BE NOTIFIED IMMEDIATELY UPON ANY UTILITY SERVICE DISRUPTION OTHER THAN SPECIFIED ON THESE IMPROVEMENT PLANS AND A 72 HOUR NOTICE SHALL BE GIVEN FOR ANY PLANNED DISRUPTION.

21. DUST SHALL BE CONTROLLED BY THE CONTRACTOR AS PER SECTION 10 OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS AND THE CITY OF MODESTO'S SPECIFICATIONS. WATER FOR DUST CONTROL AND USE FOR COMPACTION MAY BE PURCHASED FROM THE APPROPRIATE AGENCY PRIOR TO START OF ANY WORK, AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR FOR ANY FEES OR DEPOSITS. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN CLEANLINESS OF THE EXISTING IMPROVED STREETS IN THE CONSTRUCTION AREA.

22. THE CONTRACTORS SHALL SUBMIT TO THE CITY, PRIOR TO FINAL ACCEPTANCE, RECORD DRAWINGS OF ALL IMPROVEMENTS REPRESENTED BY THE PROJECT PLANS AND SPECIFICATIONS.

23. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND REPLACEMENT OF EXISTING IMPROVEMENTS.

24. THE CONTRACTOR IS TO MAKE PROVISIONS FOR TRENCH SPOILS.

25. SAWCUT ALL TRENCHES WHICH LAY IN EXISTING PAVEMENT.

26. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION OF ALL UTILITY TRENCHES INCLUDING P.G.&E. AND FOR THE SPOILS GENERATED BY THESE SAME UTILITY TRENCHES.

27. ALL ENDS, BENDS, AND TEES ON WATER LINES MUST HAVE ADEQUATE THRUST BLOCKS CALCULATED FROM CITY OF MODESTO STANDARDS.

28. CONTRACTOR SHALL FURNISH CERTIFICATES OF COMPLIANCE TO THE COUNTY FOR CRUSHED MISCELLANEOUS BASE MATERIAL AND FOR THE SPECIFIED CLASS OF P.C.C. PRIOR TO PAVING ROADWAYS.

29. IN AREAS WHICH ARE TO RECEIVE A.C., P.C.C., OR AGGREGATE BASE, THE CONTRACTOR SHALL MAINTAIN SUBGRADE AT THE AS–GRADED WATER CONTENT. IF THE SUBGRADE IS ALLOWED TO DRY, THE WATER CONTENT OF SOIL SHOULD BE RAISED TO THE RECOMMENDED VALUE SPECIFIED FOR THE PROJECT.

30. STREET SIGNS, TRAFFIC CONTROL SIGNS, AND PAVEMENT MARKINGS SHALL BE PROTECTED OR REPLACED BY THE CONTRACTOR AT LOCATIONS SHOWN ON THESE PLANS.

31. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PRESERVATION OF ALL SUCH FACILITIES IN THE AREA OF CONSTRUCTION AND SHALL NOTIFY UTILITIES SEVENTY–TWO (72) HOURS IN ADVANCE OF ANY CONSTRUCTION.

32. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE REMOVAL OR RELOCATIONS OF ALL EXISTING UTILITIES WITH RESPECTIVE UTILITY COMPANIES.

33. MANHOLE OR VALVE CASTINGS AND COVERS SHALL BE ADJUSTED TO FINAL GRADES BY THE PAVING CONTRACTOR AFTER STREET IMPROVEMENTS ARE COMPLETED.

34. ALL TRENCHES ON MAJOR AND COLLECTOR STREETS AND CROSS TRENCHES ON ALL STREETS SHALL BE PAVED WITH TEMPORARY PAVING THE SAME DAY THE PAVEMENT CUT IS MADE PER STANISLAUS COUNTY STANDARDS AND SPECIFICATIONS.

35. IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN THE PLANS OR SPECIFICATIONS. THE ENGINEER'S INTERPRETATION OR CORRECTION THEREOF SHALL BE CONCLUSIVE.

36. FOR ALL WORK WITHIN PUBLIC RIGHT–OF–WAYS, THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT AND SHALL PRESERVE THE INTEGRITY AND LOCATION OF ANY AND ALL PUBLIC UTILITIES, STREET IMPROVEMENTS AND PROVIDE NECESSARY CONSTRUCTION TRAFFIC CONTROL. THE CONTRACTOR SHALL GO THROUGH THE ENCROACHMENT PERMIT PROCESS, VERIFY WITH THE STANISLAUS COUNTY THE NEED FOR ANY DETOUR PLAN. IF A PLAN IS REQUIRED, CONTRACTOR SHALL PROVIDE PLAN AND RECEIVE APPROVAL PRIOR TO CONSTRUCTION.

37. THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL–SIZE RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL IMPROVEMENTS REPRESENTED BY THE PROJECT PLANS AND SPECIFICATIONS. RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR.

38. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER, ONE SET OF NEATLY MARKED RECORD DRAWINGS INCLUDING THE INFORMATION REQUIRED ABOVE. RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE RECORD DRAWINGS SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITIONED TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL CITY ACCEPTANCE. THE ENGINEER SHALL PROVIDE THE CITY WITH A COMPLETE REPRODUCIBLE RECORD DRAWING SET.

39. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

40. CONSTRUCTION STAKING SHALL BE DONE BY THE CITY. THE CONTRACTOR SHALL NOTIFY THE CITY SURVEYOR FORTY–EIGHT (48) HOURS IN ADVANCE OF THE NEED FOR STAKING. ANY STAKING REQUESTED BY THE CONTRACTOR OR HIS SUB–CONTRACTORS THAT IS ABOVE AND BEYOND NORMAL STANDARD SUBDIVISION STAKING NEEDS, MAY BE SUBJECT TO AN EXTRA WORK CHARGE.

41. THE CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.

42. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL CURRENT STANDARDS FOR THE CITY OF MODESTO ARE FOLLOWED AS WELL AS TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (USA) 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING THE TOLL FREE NUMBER (800) 642–2444. THE CONTRACTOR SHALL RECORD THE U.S.A. ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER PRIOR TO ANY EXCAVATION. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE DEVELOPMENT.

43. WHENEVER PAVEMENT IS BROKEN OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE SPECIFICATIONS. THE PAVEMENT SHALL BE REPLACED, AFTER PROPER BACKFILLING, WITH PAVEMENT MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL PAVING. THE FINISHED PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY INSPECTOR.

44. WE CALL YOUR ATTENTION TO TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540 (A) (1) OF THE CONSTRUCTION SAFETY ORDERS ISSUED BY THE OCCUPATION SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONS SAFETY AND HEALTH ACT OF 1973 AS AMENDED WHICH STATES: (1) PRIOR TO OPENING AND EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS; I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING; AND, WHEN IT IS UNCOVERED ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 72 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION.

ABOVE GROUND ELECTRICAL, CABLE & COMMUNICATIONS FACILITIES NOTES

1. CONTRACTOR SHALL EXERCISE CAUTION AROUND ALL OVERHEAD ITEMS INCLUDING, BUT NOT LIMITED TO, POWER AND TELEPHONE LINES, TEMPORARY TRAFFIC SIGNALS, TRAFFIC SIGNAL MAST ARMS, OVERHEAD SIGN BRIDGES, SIGN SUPPORT SPAN WIRES, SIGNS, STREET LIGHTS, HIGH VOLTAGE POWER LINES AND TOWERS, AND SUPPORT WIRES. OBSERVE THE LOCATION OF THESE OVERHEAD FACILITIES, PLAN AND CONDUCT WORK OPERATIONS ACCORDINGLY. CONTRACTOR TO TAKE PRECAUTIONS TO PROTECT AND AVOID DAMAGE TO ALL OVERHEAD FACILITIES.

2. DO NOT RELOCATE FACILITIES UNLESS REQUIRED BY THE UTILITY COMPANY (MUST MEET ALL THE UTILITY COMPANY REQUIREMENTS – CONTRACTOR TO WORK DIRECTLY WITH THE UTILITY COMPANY).

3. OBSERVE AND INVESTIGATE THE PRESENCE OF FACILITIES THAT MAY BE AFFECTED BY THE WORK. CONSULT WITH THE UTILITY OWNERS AND OPERATORS TO DETERMINE THE EXTENT OF ANY HAZARDS AND TAKE REQUIRED MEASURES AND FOLLOW APPROVED SAFETY PROCEDURES DURING THE WORK.

4. COORDINATE SUPPORT OF POLES AT RISK OF BEING UNDERMINED BY WORKING WITH THE UTILITY OWNER.

5. FOR 50 KV LINES AND LESS, AT NO TIME SHALL PERSONNEL OR EQUIPMENT APPROACH CLOSER THAN 10 FEET TO ANY ENERGIZED PRIMARY CONDUCTORS. FOR WORK BEING CONDUCTED WITHIN 50 FEET OF 50 KV OVERHEAD LINES OR GREATER, CONTACT THE MODESTO IRRIGATION DISTRICT AT LEAST 2 WEEKS PRIOR FOR SPECIFIC INSTRUCTIONS.

6. COMPLY WITH ALL REQUIREMENTS AND MANDATORY DISTANCE FROM OVERHEAD POWER LINES AND TOWERS AS SPECIFIED BY THE UTILITY OWNER.

MONUMENT PRESERVATION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL SURVEY MONUMENTATION AND REFERENCE POINTS WHICH MAY BE LOST OR DISTURBED AS A RESULT OF THE WORK.

2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF MONUMENTATION WHICH MAY BE DISTURBED. HE SHALL BE RESPONSIBLE FOR THE PRESERVATION OR REPLACEMENT OF ALL SUCH MONUMENTATION ON COMPLIANCE WITH 8711 OF THE BUSINESS AND PROFESSIONS CODE AND SECTIONS 732.5, 1492.5, AND 1810.5 OF THE CALIFORNIA STREETS AND HIGHWAY CODE.

3. THE CONTRACTOR SHALL EMPLOY A LICENSED SURVEYOR TO SET TIES TO ANY MONUMENT THAT MAY BE DISTURBED OR LOST DURING THE COURSE OF THE WORK. SUCH TIES SHALL BE SET IN A LOCATION THAT WILL NOT OTHERWISE BE DISTURBED.

4. THE CONTRACTOR SHALL BEAR ALL COST OF SURVEY, RE–SURVEY, REFERENCE TIES, REPLACEMENT CORNERS, CORNER RECORDS, MAPPING, AND CHECKING AND RECORDING FEES WHICH MAY BE REQUIRED AS A RESULT OF LOSS OR DISTURBANCE OF MONUMENTATION WHICH MAY OCCUR DURING THE COURSE OF THE WORK.

SURVEY:

1. CONSTRUCTION CENTERLINES: THE CONSTRUCTION CENTERLINES SHOWN ON THESE PROJECT PLANS ARE BASED ON A "BEST FIT" APPROXIMATION BETWEEN EXISTING PROPERTY LINES. UNDER NO CIRCUMSTANCES SHALL THE CONSTRUCTION CENTERLINE BE CONSTRUED TO BE, OR BE USED AS, THE TRUE CENTERLINE OF THE STREET.

2. PROPERTY LINES: THE LOT LINES AND RIGHT–OF–WAY LINES SHOWN ON THESE PROJECT PLANS ARE APPROXIMATE. THEY ARE NOT FIELD VERIFIED AND DO NOT REPRESENT A BOUNDARY SURVEY.

CONTRACTOR RESPONSIBILITIES

1. THE LOCATION OF THE EXISTING UNDERGROUND STRUCTURES AND UTILITIES HAVE BEEN LOCATED IN THE FIELD OR OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL ASSUME THE SOLE RESPONSIBILITY FOR DETERMINING OR CONFIRMING THE EXACT LOCATIONS OF THESE FACILITIES AND PROTECTING SAME FROM DAMAGE.

2. CONTRACTOR SHALL NOTIFY AND COORDINATE ALL RELATED WORK WITH THE FOLLOWING AGENCIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. AGENCIES PROVIDED BELOW ARE FOR REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND CONFIRM UTILITIES AND CONTACTS.

   CITY OF MODESTO
   (CONSTRUCTION ADMINISTRATION)
   1010 TENTH STREET
   MODESTO, CA 95353
   PHONE: (209) 577–5452
   FAX: (209) 577–4302

   CITY OF MODESTO (TRAFFIC)
   CONTACT: SCOTT COLLINS
   PHONE: (209) 577–5431

   CITY OF MODESTO (WATER)
   CONTACT: JEFF DANIELS
   PHONE: (209) 342–4585
   FAX: (209) 577–4983

   CITY OF MODESTO (WASTEWATER)
   CONTACT: JACK COOKE
   PHONE: (209) 577–6234
   FAX: (209) 342–2288

   CITY OF MODESTO (STORM WATER)
   CONTACT: BOB EUSEBIO
   PHONE: (209) 577–6239
   FAX: (209) 491–4390

   PACIFIC GAS & ELECTRIC COMPANY
   1524 N. CARPENTER ROAD
   MODESTO, CA 95351
   CONTACT: DAVE LOOMIS
   PHONE: (209) 576–6606
   FAX: (209) 576–6618

   STANISLAUS COUNTY
   DEPARTMENT OF PUBLIC WORKS
   1010 TENTH STREET
   MODESTO, CA 95353
   CONTACT: FREDERIC CLARK
   PHONE: (209) 525–4130

   MODESTO IRRIGATION DISTRICT
   (IRRIGATION)
   1231 ELEVENTH STREET
   MODESTO, CA 95354
   CONTACT: SEYLIN SAVY
   PHONE: (209) 557–1351

   MODESTO IRRIGATION DISTRICT
   (ELECTRICAL)
   CONTACT: LINH NGUYEN
   PHONE: (209) 526–7438

   COMCAST
   6505 TAM O'SHANTER DRIVE
   STOCKTON, CA 95210
   CONTACT: KRIS COOK
   PHONE: (209) 329–4743

   LEVEL 3 COMMUNICATIONS
   1025 EL DORADO BLVD
   BROOMFIELD, CO 80021
   CONTACT: MATHEW PRINK
   PHONE: (720) 888–2639

   AT&T
   1116 M STREET, ROOM 200
   MODESTO, CA 95354
   CONTACT: ROBERT KNECHT
   PHONE: (209) 578–7037

3. CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS AND/OR RESIDENTS OF PROPERTY LOCATED ADJACENT TO PROPOSED WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, PRIOR TO THE START OF WORK.

4. THE CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS OR BENCHMARKS WITHOUT THE CONSENT OF THE CITY. THE CONTRACTOR ALSO SHALL BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT OR RESETTING SHALL BE DONE ONLY BY THE CITY.

SANITARY SEWER & STORM DRAIN:

1. CONTRACTOR TO PROTECT EXISTING SEWER AND STORM DRAIN IMPROVEMENTS, WHICH MAY INCLUDE (BUT NOT LIMITED TO) EXISTING SEWER LINES, MANHOLES, CLEANOUTS, AND LATERALS, EXISTING STORM DRAIN LINES, MANHOLES, CATCH BASINS AND ROCKWELLS.

WATER:

1. ALL WATER IMPROVEMENTS SHALL CONFORM TO THE CONTRACT DOCUMENTS.

2. CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING WATER IMPROVEMENTS.

3. CONTRACTOR TO PROTECT EXISTING WATER IMPROVEMENTS, WHICH MAY INCLUDE (BUT NOT LIMITED TO) EXISTING WATER LINES, THRUST BLOCKS, FIRE HYDRANTS AND LATERALS.

4. LOCATIONS OF EXISTING UTILITIES TO INDIVIDUAL PARCELS ARE NOT SHOWN ON PLANS. CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND SUPPORTING ALL UTILITY SERVICES.

5. WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

6. CITY TO MAKE ALL CONNECTIONS TO EXISTING MAINS. PROVIDE 72 HOURS NOTICE. AFTER NEW WATER MAIN IS COMPLETED, ALL EXISTING WATER LINES ARE TO REMAIN IN SERVICE UNTIL ABANDONED. EXISTING WATER MAINS TO BE ABANDONED AS SHOWN ON PLANS.

7. ALL VALVES, TEES AND CROSSES TO BE FLANGED TO THEIR RESPECTIVE FITTINGS.

8. 8–INCH MAINS SHALL UTILIZE GATE VALVES. 12–INCH AND 16–INCH MAINS SHALL UTILIZE BUTTERFLY VALVES.

9. ALL VALVE STEMS MUST BE BROUGHT TO A MINIMUM OF FOUR FEET BELOW FINISH GRADE WITH STEM EXTENSION UNITS.

10. ANY WATER VALVE BOXES IN DIRT OR UNPAVED AREAS SHALL HAVE 10–INCH CONCRETE ENCASEMENT POURED TO GRADE (NO AC) AS PER CITY OF MODESTO STANDARD SPECIFICATIONS. SEE DETAIL SHEET C7.0.

11. WHEN NEW WATER MAIN CROSSING EXISTING WATER MAIN ARE AT THE SAME DEPTH, THE NEW WATER MAIN SHALL DIP BELOW EXISTING WATER MAIN.

12. THRUST BLOCKS SHALL BE PROVIDED AT ALL REQUIRED LOCATIONS ON WATER LINES IN ACCORDANCE WITH THE CITY OF MODESTO SPECIFICATIONS AND DETAILS.

13. CONTRACTOR SHALL FURNISH AND INSTALL 6–INCH FIRE HYDRANT ASSEMBLY PER CITY OF MODESTO STANDARD SPECIFICATIONS WHERE INDICATED ON THE PLANS. ALL HYDRANTS NOT IN CURB AND SIDEWALK AREA SHALL BE 3–FEET FROM PROPERTY LINE IN THE RIGHT OF WAY. ALL PROPOSED FIRE HYDRANT ASSEMBLY IMPROVEMENTS SHALL CONFORM ALSO TO THE REQUIREMENTS OF THE STANISLAUS CONSOLIDATED FIRE PROTECTION DISTRICT.

14. CONTRACTOR SHALL FURNISH AND INSTALL TRACER WIRE PER CITY OF MODESTO STANDARD SPECIFICATIONS, SEE DETAIL SHEET C7.0.

15. CONTRACTOR SHALL FURNISH AND INSTALL 1–INCH OR 2–INCH SERVICE PIPE, METER AND METER BOX TO ALL LOTS, UNLESS DESCRIBED OTHERWISE IN THE CONTRACT DOCUMENTS. ALL METER BOXES SHALL BE LOCATED IN THE PUBLIC RIGHT OF WAY. METER BOXES SHALL NOT BE LOCATED IN VEHICULAR PUBLIC TRAFFIC AREAS.

16. ALL WATER SERVICES SHALL BE 1–INCH MINIMUM. WATER SERVICE SHALL BE CONNECTED TO WATER MAINS WITH TWO–STRAP BRONZE SADDLES.

17. ALL WATER SERVICE LINES 2–INCHES OR SMALLER SHALL BE BORED UNDER CORRESPONDING STREET, OPEN TRENCHING IS ALLOWED AT THE APPROVAL OF THE ENGINEER OF RECORD AND AT CONTRACTOR'S OPTION AT NO ADDITIONAL COST TO CITY.

18. ALL WATER LINES SHALL BE PRESSURE TESTED, DISINFECTED, FLUSHED AND TESTED FOR BACTERIA IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND THE CITY OF MODESTO SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE BY THE CITY.

19. ALL NEW WATER VALVE BOXES ARE TO BE "MARK V" HEAVY TRAFFIC VALVE BOX, OR APPROVED EQUAL.

20. CITY WILL OPERATE ALL EXISTING WATER VALVES. CONTRACTOR SHALL MAKE ARRANGEMENTS IN ADVANCE WITH THE CITY INSPECTOR. PROVIDE 72 HOURS NOTICE.

WATER PIPE MATERIALS:

REFER TO CITY OF MODESTO STANDARD SPECIFICATIONS CHAPTER 6 FOR STANDARD WATER PIPE MATERIALS.
- PVC DR18
- PVC DR14 (WHERE NOTED)

WORK SEQUENCE:

1. TRENCHING, LAYING OF WATER DISTRIBUTION LINES AND APPURTENANCES, AND BACKFILLING SHALL BE CONSTRUCTED AS DESCRIBED IN THE CONTRACT DOCUMENTS.

GEOTECHNICAL NOTES:

1. ALL GRADING ACTIVITIES SHALL BE COMPLETED IN STRICT ACCORDANCE WITH GEOTECHNICAL REPORT, "DRAFT GEOTECHNICAL MEMORANDUM RIVERDALE PARK TRACT WATERLINE PROJECT" DATED JULY 2020.

TRAFFIC CONTROL NOTES

1. ALL TRAFFIC CONTROL (INCLUDING, BUT NOT LIMITED TO CONSTRUCTION SIGNING, LIGHTS, FLAGMEN, BARRICADING, AND TRAFFIC DELINEATION) SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH CALIFORNIA SUPPLEMENT, CURRENT CALTRANS STANDARDS, CURRENT STANISLAUS COUNTY STANDARD SPECIFICATIONS, AND THE PROJECT SPECIFICATIONS. WHERE THESE STANDARDS ARE IN CONFLICT, THE PROJECT SPECIFICATIONS WILL GOVERN, FOLLOWED BY THE COUNTY STANDARD SPECIFICATIONS, THEN THE CALTRANS STANDARDS, AND FINALLY THE MUTCD.

2. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO ENSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA.

3. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION STAGING PLAN FOR WORK SHOWN ON THESE PLANS TO THE COUNTY FOR REVIEW AND APPROVAL.

4. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

5. STREET CLOSURE OR LANE CLOSURE WILL REQUIRE A TRAFFIC CONTROL PLAN AND THE DESIGNATION OF A QUALIFIED INDIVIDUAL FOR ITS IMPLEMENTATION AND SAFE MAINTENANCE.

6. CONTRACTOR SHALL MAINTAIN ACCESS FOR LOCAL TRAFFIC AT ALL TIMES AND SHALL COMPLY WITH THE REQUIREMENTS THE LATEST EDITION OF THE STANISLAUS COUNTY STANDARD SPECIFICATIONS, GENERAL PROVISIONS, SECTION 7.12 "PUBLIC CONVENIENCE AND SAFETY".

7. THE COST TO COMPLY WITH TRAFFIC CONTROL REQUIREMENTS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF BID AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED THEREFORE.

STRIPING AND SIGNAGE NOTES

1. ALL STRIPING AND SIGNAGE SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH CALIFORNIA SUPPLEMENT, CURRENT CALTRANS STANDARDS, CURRENT STANISLAUS COUNTY STANDARD SPECIFICATIONS, AND THE PROJECT SPECIFICATIONS. WHERE THESE STANDARDS ARE IN CONFLICT, THE PROJECT SPECIFICATIONS WILL GOVERN, FOLLOWED BY THE STANISLAUS COUNTY STANDARD SPECIFICATIONS, THEN THE CALTRANS STANDARDS, AND FINALLY THE MUTCD.

2. "STRIPING" SHALL INCLUDE STOP BARDS, CENTERLINE STRIPING OR MARKERS, CROSSWALKS, ARROWS, PAINTED WORDS AND LEGENDS, AND ALL OTHER PAVEMENT MARKINGS REQUIRED BY THE COUNTY TRAFFIC ENGINEER.

3. ALL STRIPING SHALL BE THERMOPLASTIC, UNLESS NOTED OTHERWISE. SEE PLAN SHEETS AND SPECIFICATIONS FOR EXCEPTIONS. ALL STRIPING SHALL BE AT LEAST SIX INCHES (6") WIDE PER CALTRANS STANDARDS.

4. RAISED PAVEMENT MARKERS SHALL BE CERAMIC, REFLECTIVE MARKERS SHALL BE GLASS–FACED, AND BITUMINOUS MARKERS SHALL BE FLEXIBLE TYPE.

5. ANY CURB REPLACED SHALL BE PAINTED TO MATCH EXISTING CONDITIONS IF NEEDED AND SHALL BE DONE SO IN ITS ENTIRETY.

6. LOCATION OF STRIPING AND SIGNAGE TO BE INSPECTED BY THE STANISLAUS COUNTY PUBLIC WORKS TRAFFIC PRIOR TO BEING INSTALLED. CONTRACT TO COORDINATE.

7. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING STRIPING OR SIGNAGE, SUCH STRIPING OR SIGNAGE (REGARDLESS OF CONDITION PRIOR TO CONSTRUCTION) SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE COUNTY TRAFFIC ENGINEER AND ANY APPLICABLE STANDARDS AS REFERENCED IN NOTE #1 ABOVE.

8. WHERE PORTIONS OF EXISTING THERMOPLASTIC STRIPING (ARROW, LIMIT LINE, ETC) ARE DAMAGED DUE TO CONSTRUCTION, THE ENTIRE AFFECTED STRIPING ITEM SHALL BE GROUND OFF AND REAPPLIED.

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING
1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
odellengineering.com

DRAWN BY:	EH/JJB
CHECKED BY:	MTP
RECORD DRAWING BY:	

REV	DATE	DESCRIPTION	BY

CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION, CALL "UNDERGROUND SERVICE ALERT" (U.S.A.), (TOLL FREE 800-642-2444) PRIOR TO TRENCHING, GRADING, EXCAVATION, DRILLING, PIPE PUSHING, PLANTING TREES, DIGGING POST HOLES FOR FENCES, ETC. (U.S.A.) WILL SUPPLY INFORMATION OR LOCATE AND MARK ANY UNDERGROUND FACILITIES.

CALL BEFORE YOU DIG — U.S.A. — 800-642-2444

City of Modesto UTILITIES DEPARTMENT
UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

NOTES

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)

SHEET NO. C2.0
OF 23 PAGES

VAULT NO. 8D-XXX

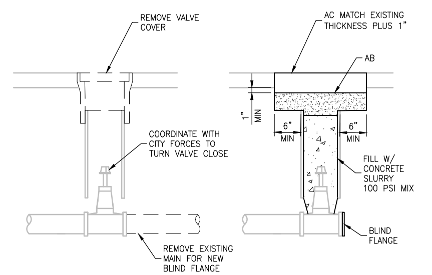
File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-NT.dwg Date: 11/24/2015

LEGEND

-W/W- EXISTING WATERLINE TO BE ABANDONED IN PLACE ONCE ALL SERVICES HAVE BEEN SWITCHED OVER TO NEW MAIN. ABANDONMENT SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAILS A & B.

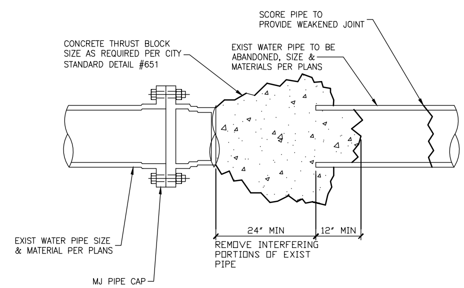
UTILITY NOTES

1. EXISTING WATER METERS TO BE ABANDONED IN PLACE. EXISTING SERVICE TO BE CAPPED AT PROPERTY LINE. (TYPICAL)



A ABANDON EXISTING VALVE AND VALVE BOX

NOT TO SCALE



NOTES:
1. DRAIN WATERLINE COMPLETELY BEFORE PLUGGING. ALL WATER DRAINED FROM PIPELINE SHALL BE DISCHARGED INTO A SEWAGE SYSTEM.
2. ABANDONED WATERLINE IS TO BE FILLED WITH CLEAN SAND OR SLURRY.

B CUT AND PLUG DETAIL

NOT TO SCALE

N

0 40 80 160

SCALE: 1" = 80'

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

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UTILITY ABANDONMENT PLAN

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

City of Modesto UTILITIES DEPARTMENT

UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CALL "UNDERGROUND SERVICE ALERT" (USA), (TOLL FREE 800-642-2444) PRIOR TO TRENCHING, GRADING, EXCAVATION, DRILLING, PIPE PUSHING, PLANTING TREES, DIGGING POST HOLES FOR FENCES, ETC. (USA) WILL SUPPLY INFORMATION OR LOCATE AND MARK ANY UNDERGROUND FACILITIES.

CALL BEFORE YOU DIG 800-642-2444

REV	DATE	DESCRIPTION	BY

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

JOB NO. 101212 (36800)
SHEET NO. C3.0 OF 23 PAGES
VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-AP.dwg Date: 11/24/2015

LEGEND

EXISTING WATERLINE TO BE ABANDONED IN PLACE ONCE ALL SERVICES HAVE BEEN SWITCHED OVER TO NEW MAIN. ABANDONMENT SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAILS A & B.

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ORDER OF WORK:

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City of Modesto UTILITIES DEPARTMENT

UTILITIES DEPARTMENT

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UTILITY ABANDONMENT PLAN

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)

SHEET NO. C3.1 OF 23 PAGES

VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-AP.dwg Date: 11/24/2015

N

0 100 200 400
SCALE: 1" = 200'

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

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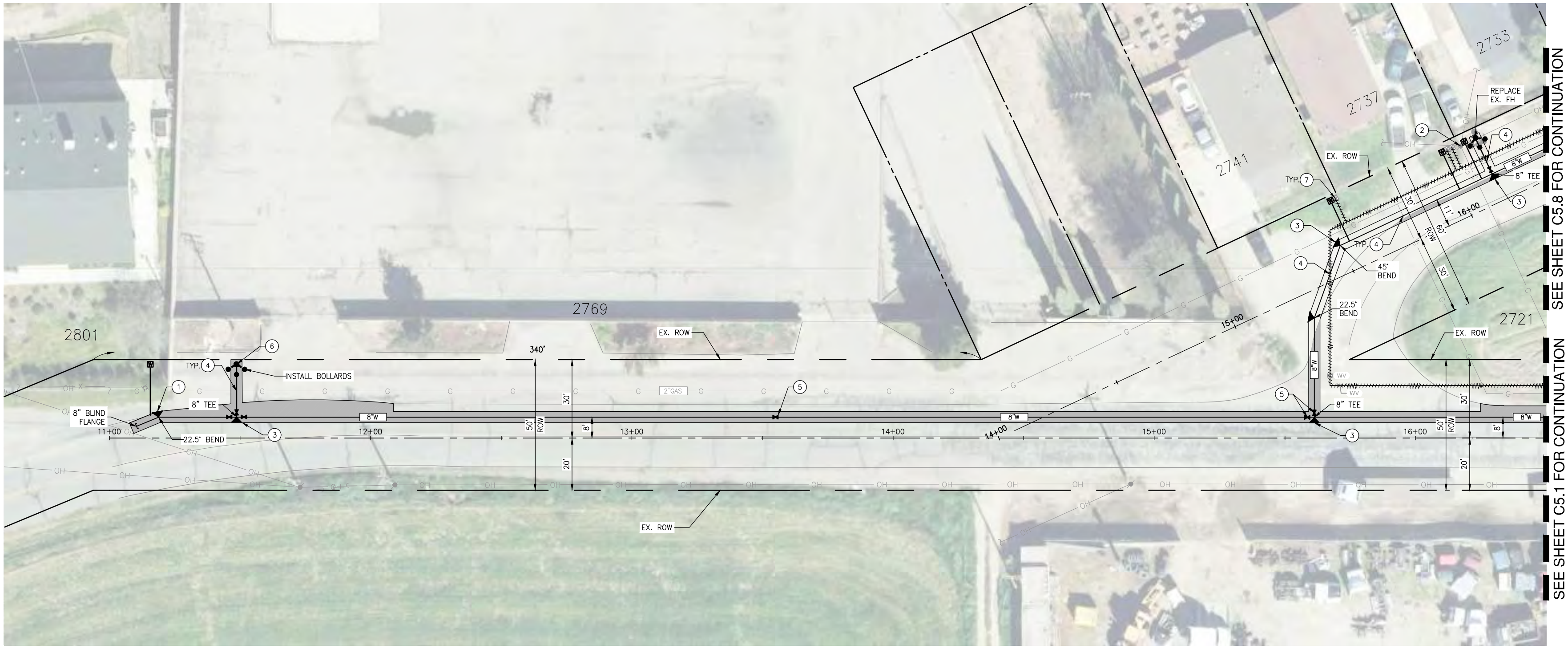
INDEX SHEET

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)
SHEET NO. C4.0
OF 23 PAGES
VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-IN.dwg Date: 11/24/2015



W HATCH RD

STATION: 11+00-16+50

KEY MAP

N.T.S.

LEGEND

(shaded box)	HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
-/////-W-/////-	EX. WATER LINE TO BE ABANDONED
——W——	EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
——G——	EX. GAS LINE TO BE PROTECTED IN PLACE
——C——	EX. COMMUNICATIONS LINE TO BE PROTECTED IN PLACE

UTILITY NOTES

1. CITY OF MODESTO FORCES TO CONNECT TO EXISTING WATER LINE. CONTRACTOR TO PROVIDE 72 HOUR NOTICE PRIOR TO CONNECTION.
2. PROTECT EX. UTILITIES IN PLACE
3. INSTALL THRUST BLOCK SEE DETAILS 650 & 651 ON SHEET C7.0.
4. EXISTING UTILITY CROSSING WITH NEW WATER MAIN PER DETAIL 1 ON SHEET C8.0.. CONTRACTOR TO POTHOLE TO VERIFY PRIOR TO CONSTRUCTION
5. INSTALL 8" WATER GATE VALVE OR 12" BUTTERFLY VALVE SEE DETAIL 622 ON SHEET C7.0.
6. INSTALL FIRE HYDRANT SEE DETAILS 630 & 631 ON SHEET C7.0.
7. INSTALL 1" WATER SERVICE WITHIN 2' AND WATER METER BOX PER DETAIL 2 ON SHEET C8.0.
8. WATER LINE PREVIOUSLY ABANDONED PER 1987 AS-BUILTS

NOTES

1. ALL WATER SERVICES ARE 1" DIAMETER PER CITY STANDARDS UNLESS NOTED OTHERWISE.
2. FIELD VERIFY LINE SIZES AND LOCATIONS OF MAINS, LATERALS FOR FIRE HYDRANTS AND DOMESTIC CONNECTIONS, AND PRESSURE REDUCING ASSEMBLIES PRIOR TO TRENCHING.
3. FOR ALL NEW AND ABANDONED FIRE HYDRANTS: IF DAMAGED, CONTRACTOR SHALL REPLACE EXISTING SIDEWALK, CURB AND GUTTER TO NEAREST COLD JOINT.
4. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY PRIOR TO CONSTRUCTION. EX. UTILITY TO BE PROTECTED IN PLACE.
5. CONTRACTOR TO MAINTAIN ALL DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

N

0 10 20 40

SCALE: 1" = 20'

ORDER OF WORK:

SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

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RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION, CALL "UNDERGROUND SERVICE ALERT" (U.S.A.), (TOLL FREE 800-642-2444) PRIOR TO TRENCHING, GRADING, EXCAVATION, DRILLING, PIPE PUSHING, PLANTING TREES, DIGGING POST HOLES FOR FENCES, ETC. (U.S.A.) WILL SUPPLY INFORMATION OR LOCATE AND MARK ANY UNDERGROUND FACILITIES.

CALL BEFORE YOU DIG U.S.A. 800-642-2444

UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

City of Modesto UTILITIES DEPARTMENT

UTILITY PLAN - W. HATCH RD - STATION 11+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

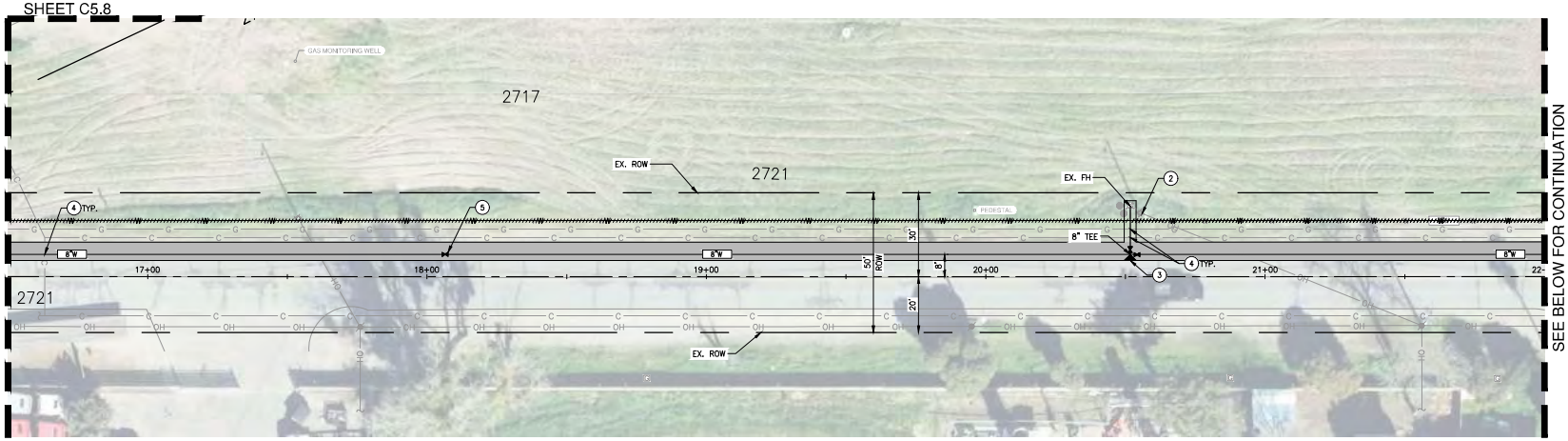
JOB NO. 101212 (36800)

SHEET NO. C5.0 OF 23 PAGES

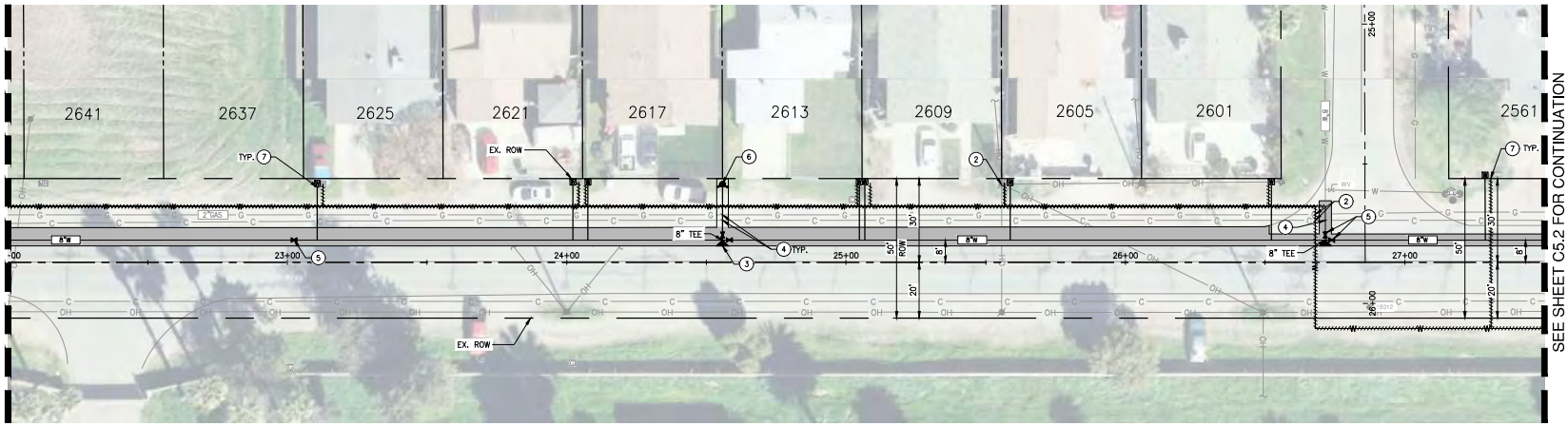
VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015

PARKDALE AVE
SHEET C5.8

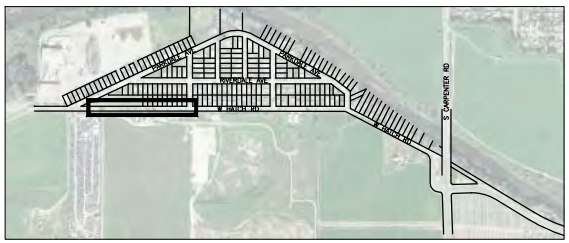


S ROSEMORE AVE



W HATCH RD

STATION: 16+50-27+50



KEY MAP

N.T.S.

LEGEND

- HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
- W EX. WATER LINE TO BE ABANDONED
- W EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
- G EX. GAS LINE TO BE PROTECTED IN PLACE
- C EX. COMMUNICATIONS LINE TO BE PROTECTED IN PLACE

UTILITY NOTES

1. CITY OF MODESTO FORCES TO CONNECT TO EXISTING WATER LINE. CONTRACTOR TO PROVIDE 72 HOUR NOTICE PRIOR TO CONNECTION.
2. PROTECT EX. UTILITIES IN PLACE
3. INSTALL THRUST BLOCK SEE DETAILS 650 & 651 ON SHEET C7.0.
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7. INSTALL 1" WATER SERVICE WITHIN 2' AND WATER METER BOX PER DETAIL 2 ON SHEET C8.0.
8. WATER LINE PREVIOUSLY ABANDONED PER 1987 AS-BUILTS

NOTES

1. ALL WATER SERVICES ARE 1" DIAMETER PER CITY STANDARDS UNLESS NOTED OTHERWISE.
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5. CONTRACTOR TO MAINTAIN ALL DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

N

0 10 20 40
SCALE: 1" = 20'

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

CONTRACTOR SHALL VERIFY ACTUAL LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION ITEM. CALL UNDERGROUND SERVICE ALERT (USA) AT 811 TOLL FREE 800-642-6442 PRIOR TO DRILLING, PIPE PUSHING, PLANTING TREES, SIGNS, FENCES, ETC. USA WILL SUPPLY ANY UNDERGROUND FACILITIES.

CALL BEFORE YOU DIG 811 or 800-642-6442

UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th ST. SUITE 4300
MODESTO, CA 95353
p(209) 577-5462

City of Modesto UTILITIES DEPARTMENT

UTILITY PLAN - W. HATCH RD - STATION 16+50

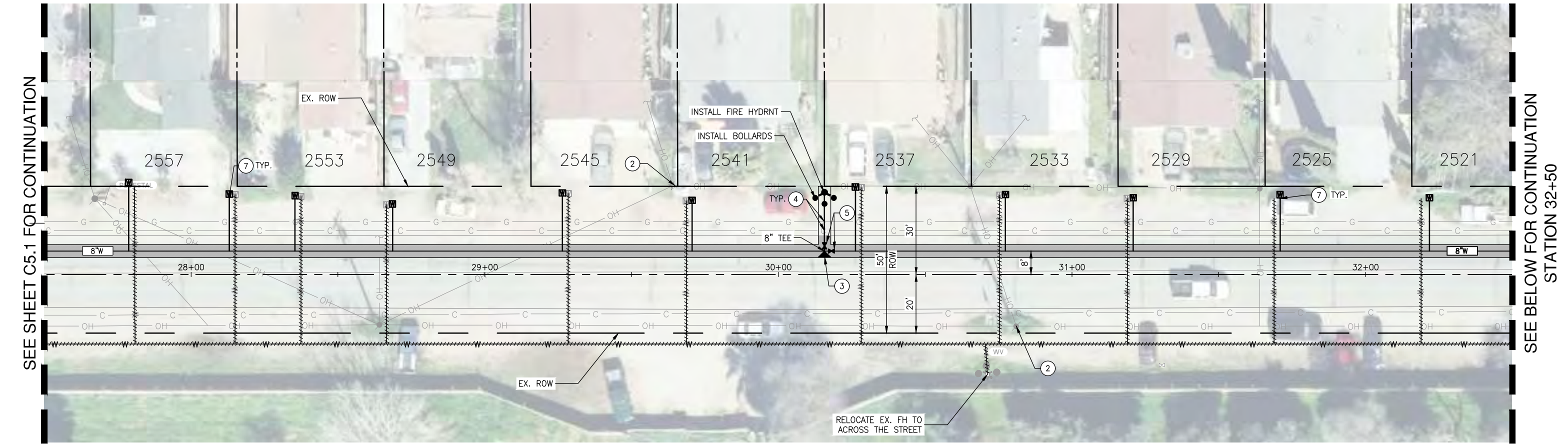
RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph: 209.571.1765
Fax: 209.571.2466
odellengineering.com

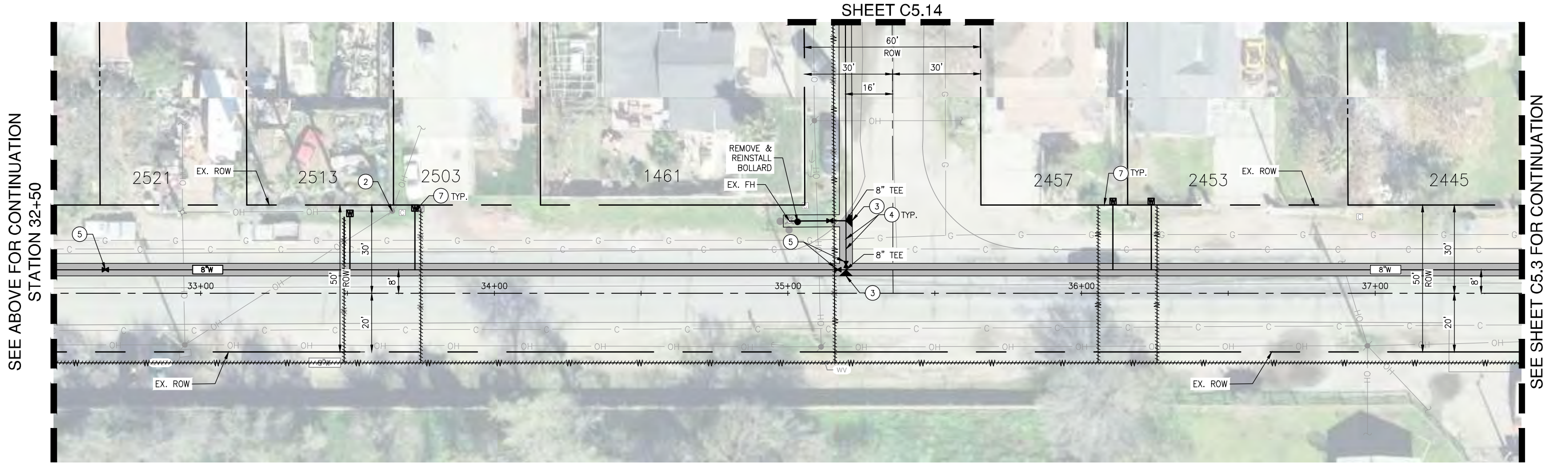
ODELL ENGINEERING

JOB NO. 101212 (36800)
SHEET NO. C5.1
OF 23 PAGES
VAULT NO. 8D-XXX

File: I:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015



WOODLANE AVE
SHEET C5.14



W HATCH RD

STATION: 27+50-37+50

LEGEND

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KEY MAP

N.T.S.

SCALE: 1" = 20'

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING
1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
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UTILITY PLAN - W. HATCH RD - STATION 27+50
RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

City of Modesto
UTILITIES DEPARTMENT
P.O. BOX 642
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p:(209) 577-5462

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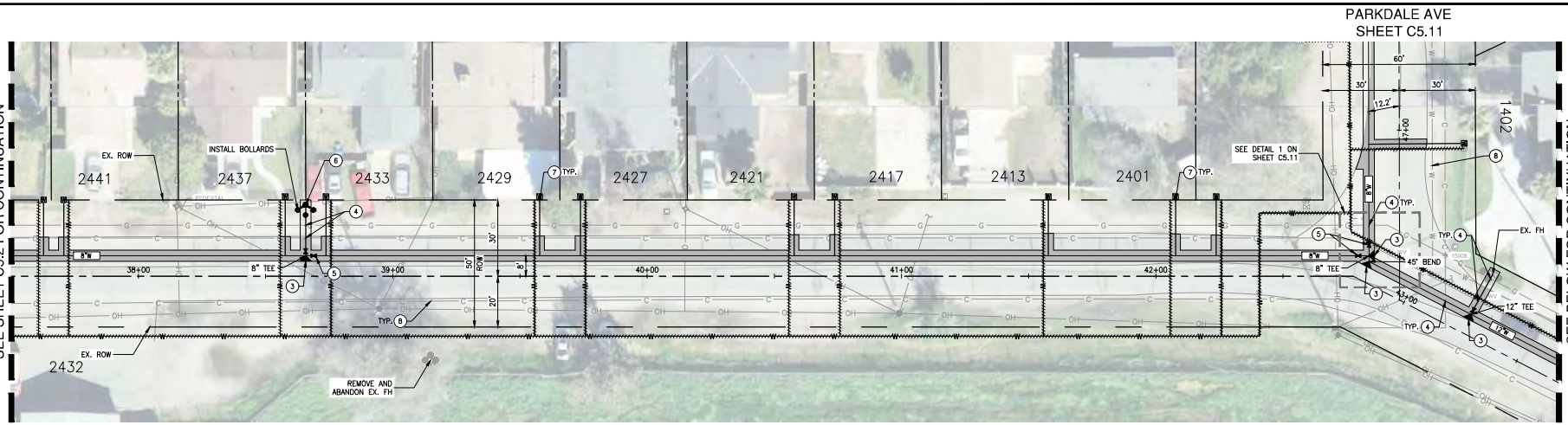
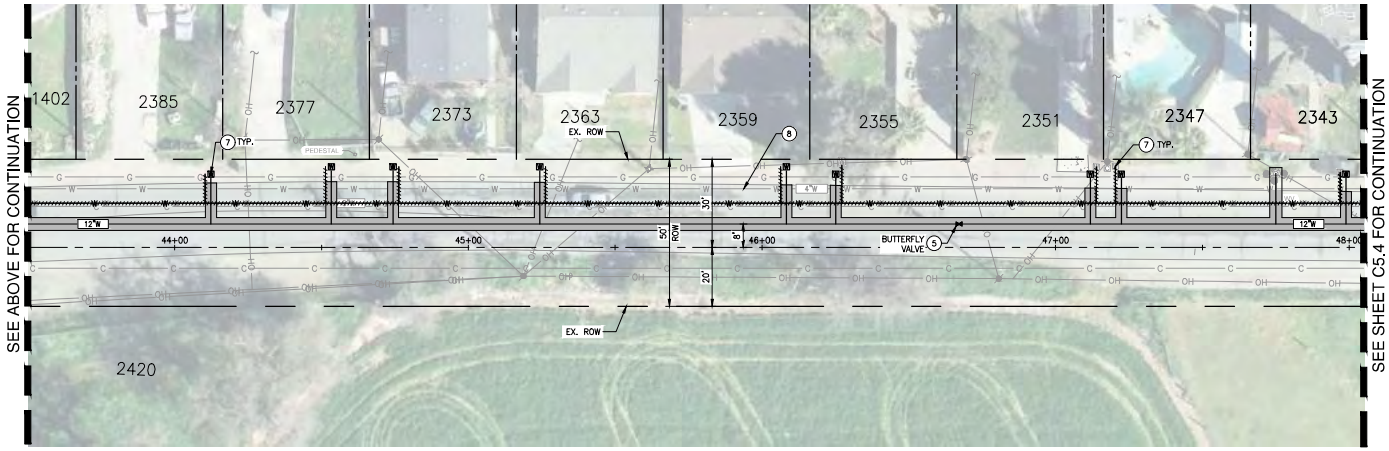
CALL BEFORE YOU DIG 800-642-2444

REV	DATE	DESCRIPTION	BY

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

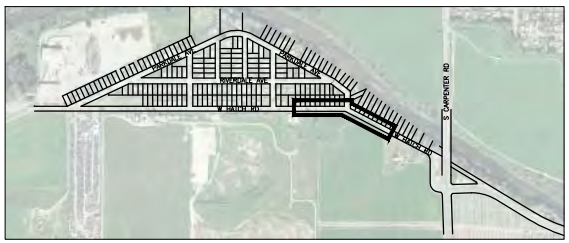
JOB NO. 101212 (36800)
SHEET NO. C5.2 OF 23 PAGES
VAULT NO. 8D-XXX





W HATCH RD

STATION: 37+50-48+00



KEY MAP

N.T.S.

LEGEND

- HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
- EX. WATER LINE TO BE ABANDONED
- EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
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N

0 10 20 40
SCALE: 1" = 20'

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

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UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th ST, SUITE 5300
MODESTO, CA 95353
p(209) 577-5462

City of Modesto UTILITIES DEPARTMENT

UTILITY PLAN - W. HATCH RD - STATION 37+50

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

O'DELL ENGINEERING
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odellengineering.com

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SHEET NO. C5.3 OF 23 PAGES
VAULT NO. 8D-XXX

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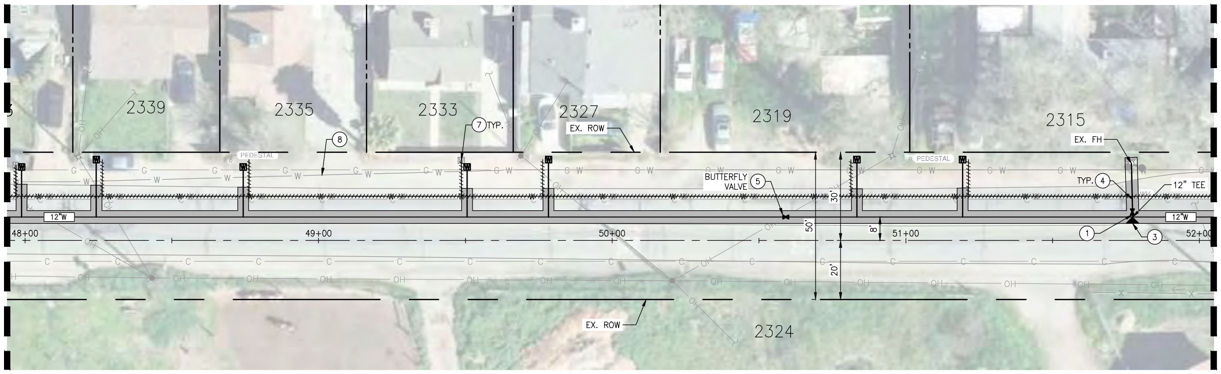
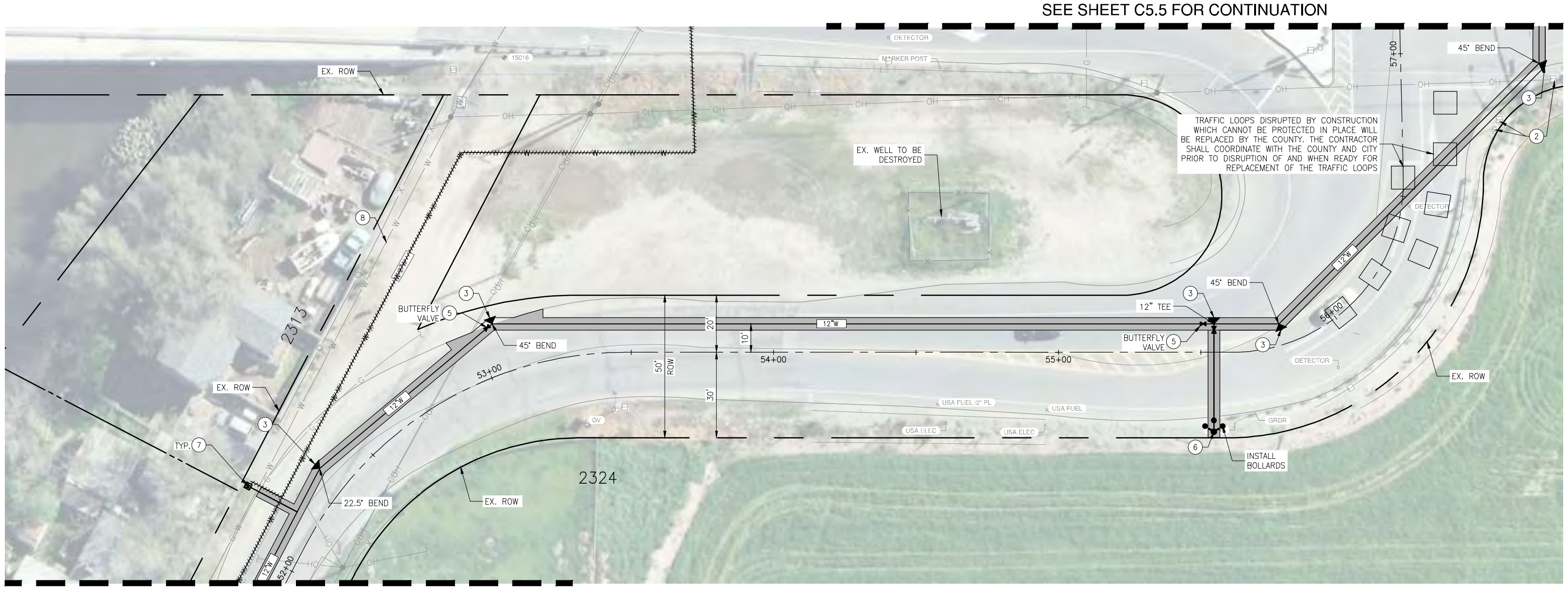
SEE SHEET C5.3 FOR CONTINUATION



SEE BELOW FOR CONTINUATION

SCALE: 1" = 20'

SEE SHEET C5.5 FOR CONTINUATION



SEE ABOVE FOR CONTINUATION

SCALE: 1" = 20'

KEY MAP

N.T.S.

W HATCH RD

STATION: 48+00 - 57+00

LEGEND

(shaded box)	HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
—W— (hatched)	EX. WATER LINE TO BE ABANDONED
—W—	EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
—G—	EX. GAS LINE TO BE PROTECTED IN PLACE
—C—	EX. COMMUNICATIONS LINE TO BE PROTECTED IN PLACE

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ORDER OF WORK:
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O'DELL ENGINEERING
1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
odellengineering.com

UTILITY PLAN - W. HATCH RD - STATION 48+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

City of Modesto UTILITIES DEPARTMENT
UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

CALL BEFORE YOU DIG U.S.A. 800-642-2444

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REV	DATE	DESCRIPTION	BY

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JOB NO. 101212 (36800)

SHEET NO. C5.4
OF 23 PAGES

VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015

W HATCH RD

STATION: 57+00–62+00

KEY MAP

N.T.S.

LEGEND

- HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
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N

0 2.5 5 20

SCALE: 1" = 5'

ORDER OF WORK:

SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING

1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
odellengineering.com

DRAWN BY: EH/JJB

CHECKED BY: MTP

RECORD DRAWING BY:

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City of Modesto UTILITIES DEPARTMENT

UTILITIES DEPARTMENT

P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

UTILITY PLAN - W. HATCH RD - STATION 57+00

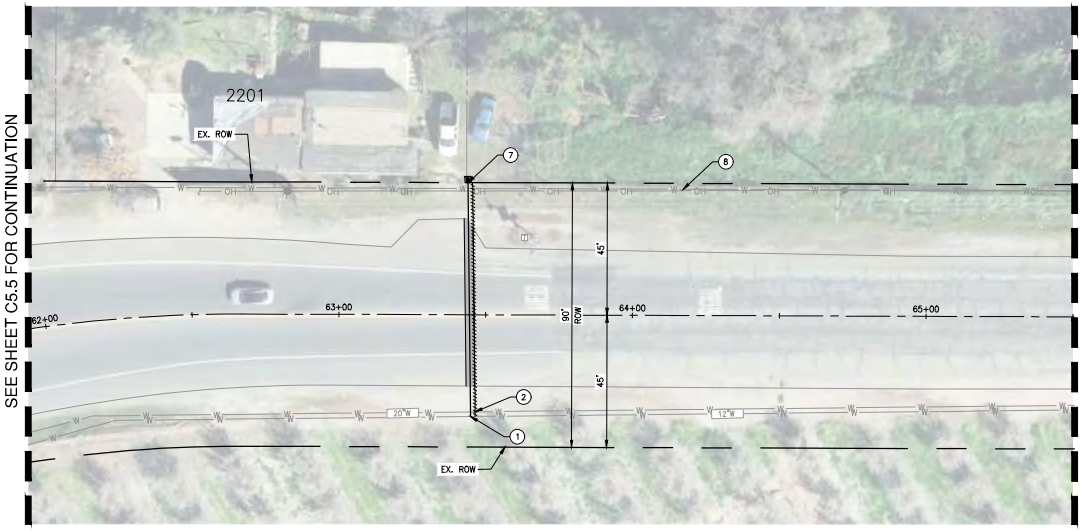
RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)

SHEET NO. C5.5 OF 23 PAGES

VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015



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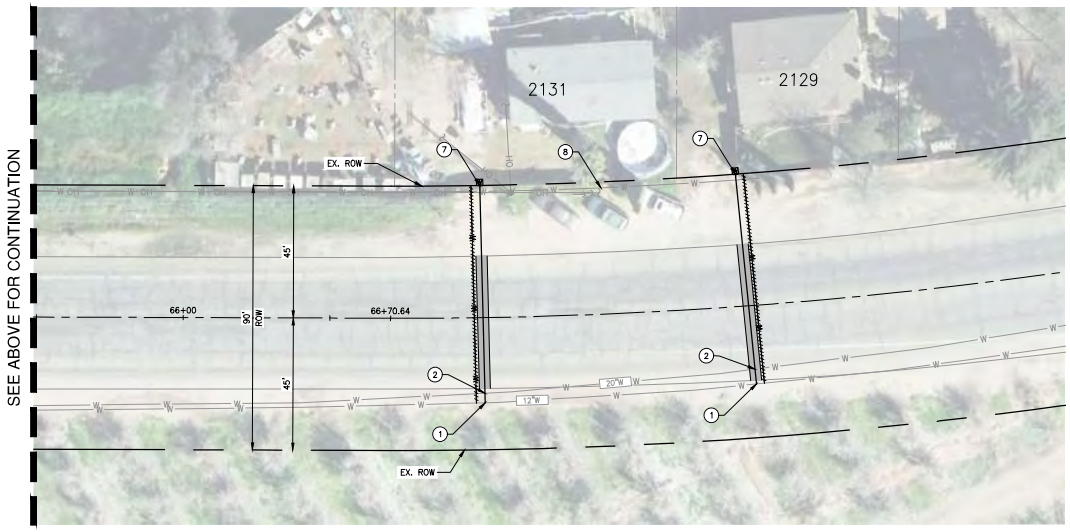
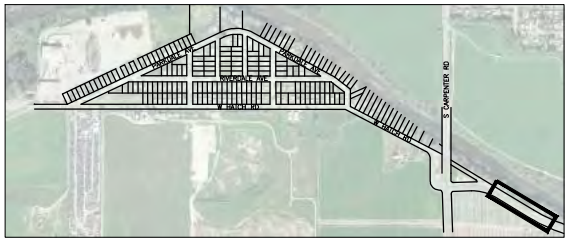


W HATCH RD
STATION: 62+00-70+00



KEY MAP N.T.S.

N
0 2.5 5 20
SCALE: 1" = 5'

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING
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odellengineering.com

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

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1010 10th STREET
MODESTO, CA 95353
p<209) 577-5462

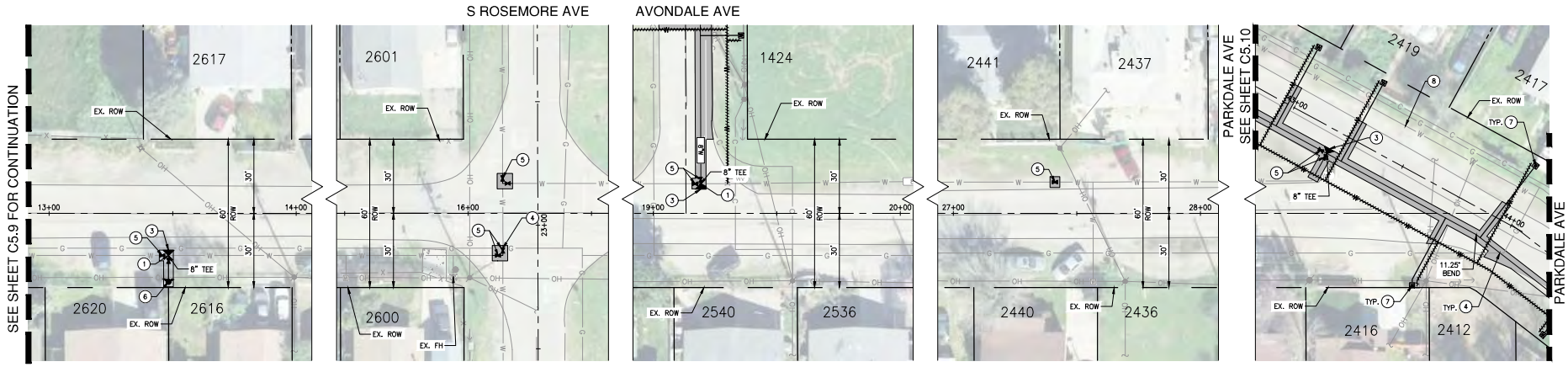
City of Modesto UTILITIES DEPARTMENT

UTILITY PLAN - W. HATCH RD - STATION 62+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)
SHEET NO. C5.6 OF 23 PAGES
VAULT NO. 8D-XXX

File: I:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015

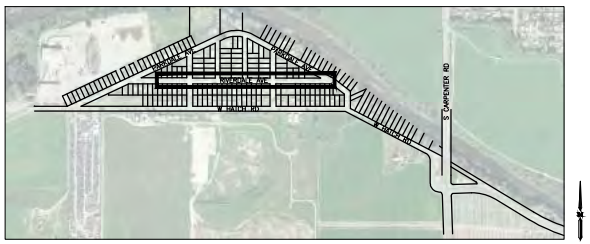


RIVERDALE AVE

STATION: 13+00-31+00

N

SCALE: 1" = 20'



KEY MAP N.T.S.

LEGEND

- HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
- EX. WATER LINE TO BE ABANDONED
- EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
- EX. GAS LINE TO BE PROTECTED IN PLACE
- EX. COMMUNICATIONS LINE TO BE PROTECTED IN PLACE

UTILITY NOTES

1. CITY OF MODESTO FORCES TO CONNECT TO EXISTING WATER LINE. CONTRACTOR TO PROVIDE 72 HOUR NOTICE PRIOR TO CONNECTION.
2. PROTECT EX. UTILITIES IN PLACE
3. INSTALL THRUST BLOCK SEE DETAILS 650 & 651 ON SHEET C7.0.
4. EXISTING UTILITY CROSSING WITH NEW WATER MAIN PER DETAIL 1 ON SHEET C8.0.. CONTRACTOR TO POTHOLE TO VERIFY PRIOR TO CONSTRUCTION
5. INSTALL 8" WATER GATE VALVE OR 12" BUTTERFLY VALVE SEE DETAIL 622 ON SHEET C7.0.
6. INSTALL FIRE HYDRANT SEE DETAILS 630 & 631 ON SHEET C7.0.
7. INSTALL 1" WATER SERVICE WITHIN 2' AND WATER METER BOX PER DETAIL 2 ON SHEET C8.0.
8. WATER LINE PREVIOUSLY ABANDONED PER 1987 AS-BUILTS

NOTES

1. ALL WATER SERVICES ARE 1" DIAMETER PER CITY STANDARDS UNLESS NOTED OTHERWISE.
2. FIELD VERIFY LINE SIZES AND LOCATIONS OF MAINS, LATERALS FOR FIRE HYDRANTS AND DOMESTIC CONNECTIONS, AND PRESSURE REDUCING ASSEMBLIES PRIOR TO TRENCHING.
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5. CONTRACTOR TO MAINTAIN ALL DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

ORDER OF WORK:
SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING
1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
odellengineering.com

DRAWN BY: EH/JJB
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RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

CONTRACTOR SHALL VERIFY ACTUAL LOCATION OF ALL UTILITIES PRIOR TO EXISTING UTILITIES PRIOR TO CONSTRUCTION ITEM. CALL UNDERGROUND SERVICE ALERT (USA) AT 811 OR TOLL FREE: 800-642-5440 PRIOR TO DRILLING, PIPE PUSHING, PLANTING TREES, FENCES, ETC (USA) WILL SUPPLY ANY UNDERGROUND FACILITIES.

UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p(209) 577-5462

City of Modesto UTILITIES DEPARTMENT

UTILITY PLAN - RIVERDALE AVE

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)

SHEET NO. C5.7 OF 23 PAGES

VAULT NO. BD-XXX

File: I:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015

SEE SHEET C5.0 FOR CONTINUATION

SEE SHEET C5.9 FOR CONTINUATION

W HATCH RD
SHEET C5.1

PARKDALE AVE

STATION:14+00-20+00

SCALE: 1" = 20'

KEY MAP

N.T.S.

LEGEND

(gray box)	HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
-////-W-////-	EX. WATER LINE TO BE ABANDONED
——W——	EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
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RECORD DRAWING BY:

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CALL BEFORE YOU DIG U S A 800-642-2444

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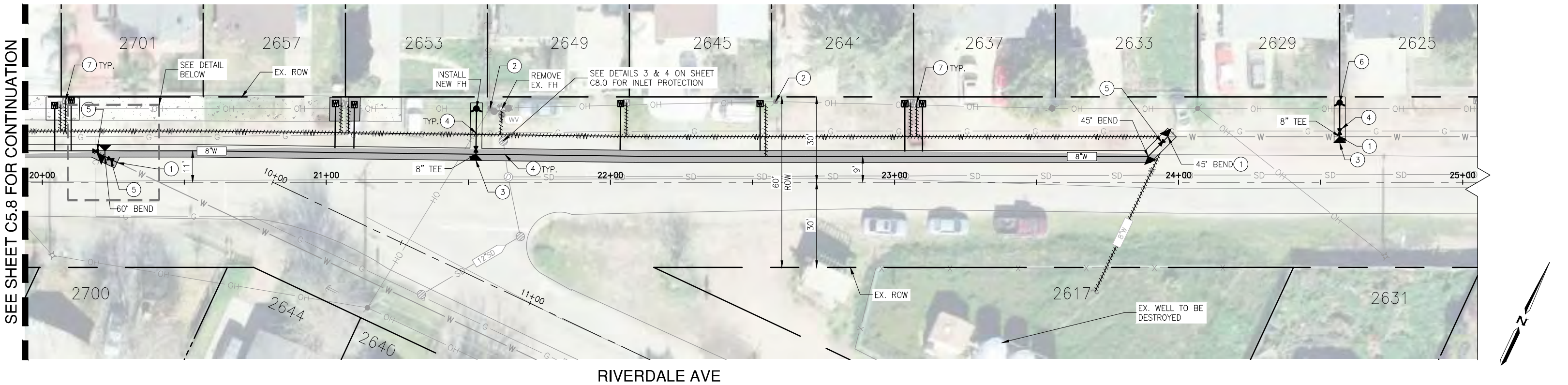
City of Modesto UTILITIES DEPARTMENT

UTILITY PLAN - PARKDALE AVE - STATION 14+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

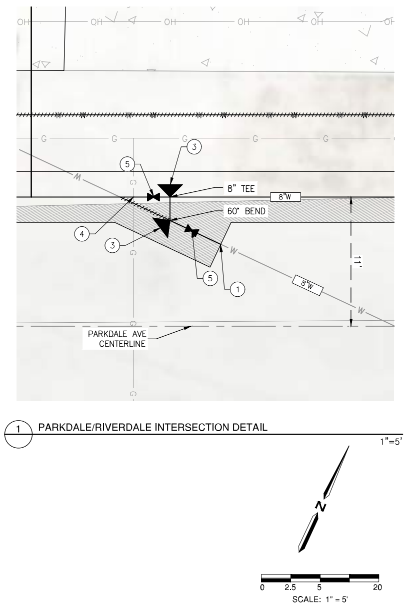
JOB NO. 101212 (36800)
SHEET NO. C5.8
OF 23 PAGES
VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015



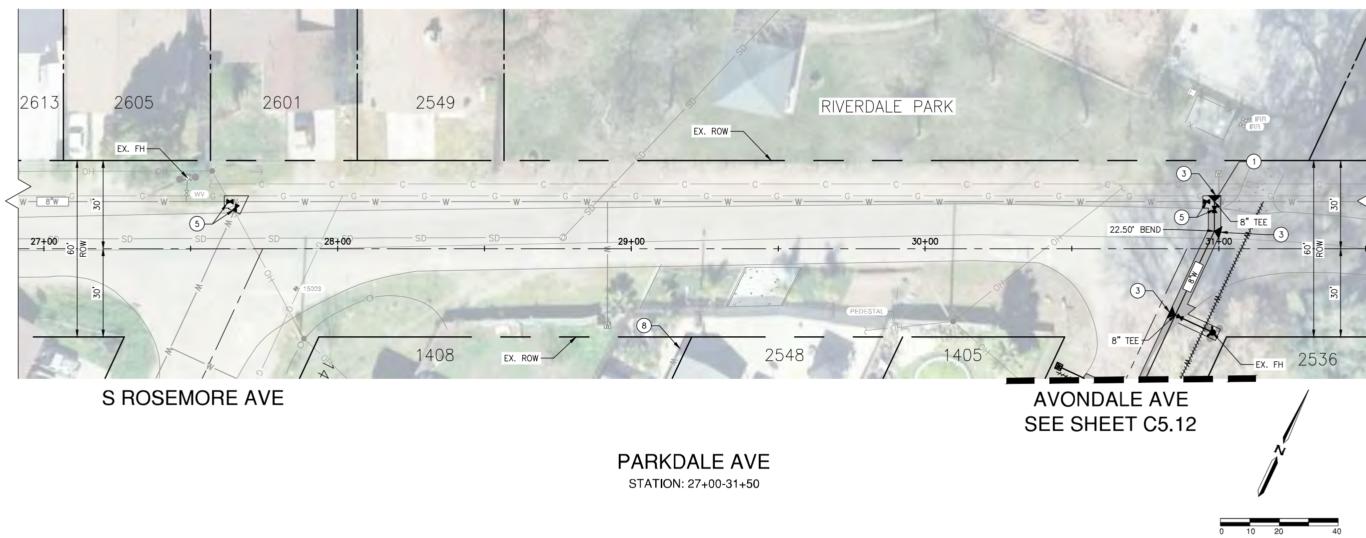
PARKDALE AVE

STATION: 20+00-25+00



1 PARKDALE/RIVERDALE INTERSECTION DETAIL

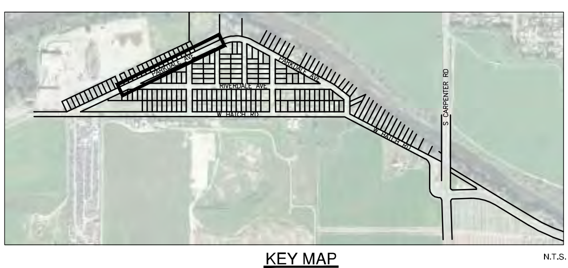
1"=5'



SEE SHEET C5.10 FOR IMPROVEMENTS STARTING AT 33+50

PARKDALE AVE

STATION: 27+00-31+50



KEY MAP

N.T.S.

LEGEND

(shaded box)	HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
—W— (hatched)	EX. WATER LINE TO BE ABANDONED
—W—	EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
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UTILITY NOTES

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UTILITY PLAN - PARKDALE AVE - STATION 20+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

City of Modesto UTILITIES DEPARTMENT

UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

CALL BEFORE YOU DIG U.S.A. 800-642-2444

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REV	DATE	DESCRIPTION	BY

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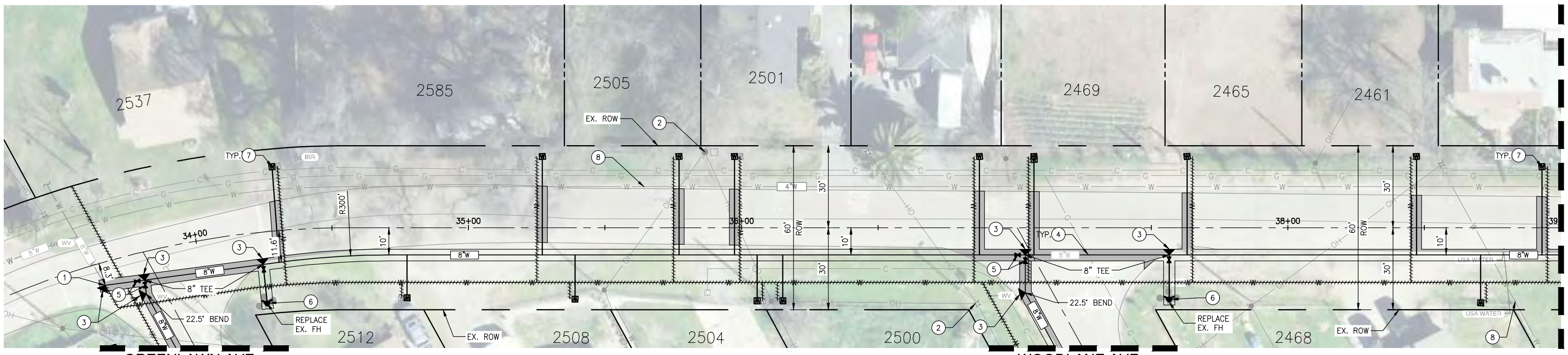
RECORD DRAWING BY:

JOB NO. 101212 (36800)

SHEET NO. C5.9 OF 23 PAGES

VAULT NO. 8D-XXX



GREENLAWN AVE
SHEET C5.13

WOODLANE AVE
SHEET C5.14

RIVERDALE AVE

PARKDALE AVE
STATION: 33+50-44+50

SCALE: 1" = 20'

KEY MAP

N.T.S.

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1165 Scenic Drive, Suite B
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UTILITY PLAN - PARKDALE AVE - STATION 33+50

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

City of Modesto
UTILITIES DEPARTMENT

UTILITIES DEPARTMENT
P.O. BOX 642
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MODESTO, CA 95353
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OF 23 PAGES

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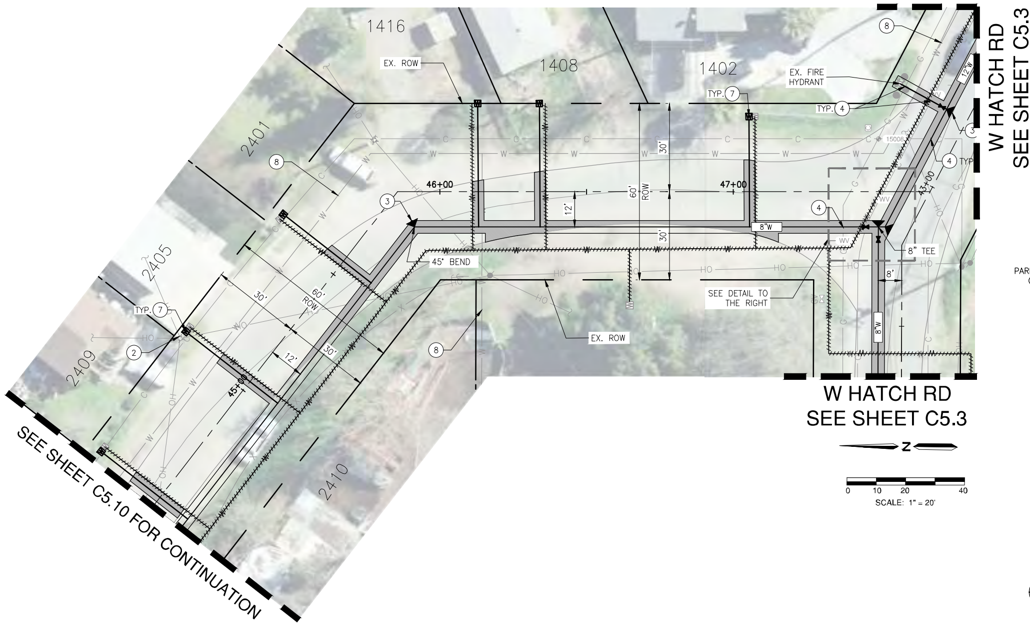
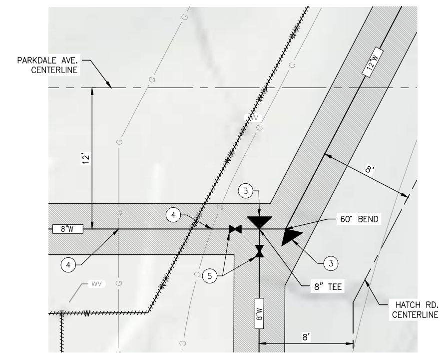


PARKDALE AVE

STATION: 44+50-47+66.93



1 HATCH/PARKDALE INTERSECTION DETAIL 1"=5'

KEY MAP

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UTILITY PLAN - PARKDALE AVE - STATION 44+50

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)
SHEET NO. C5.11 OF 23 PAGES
VAULT NO. 8D-XXX

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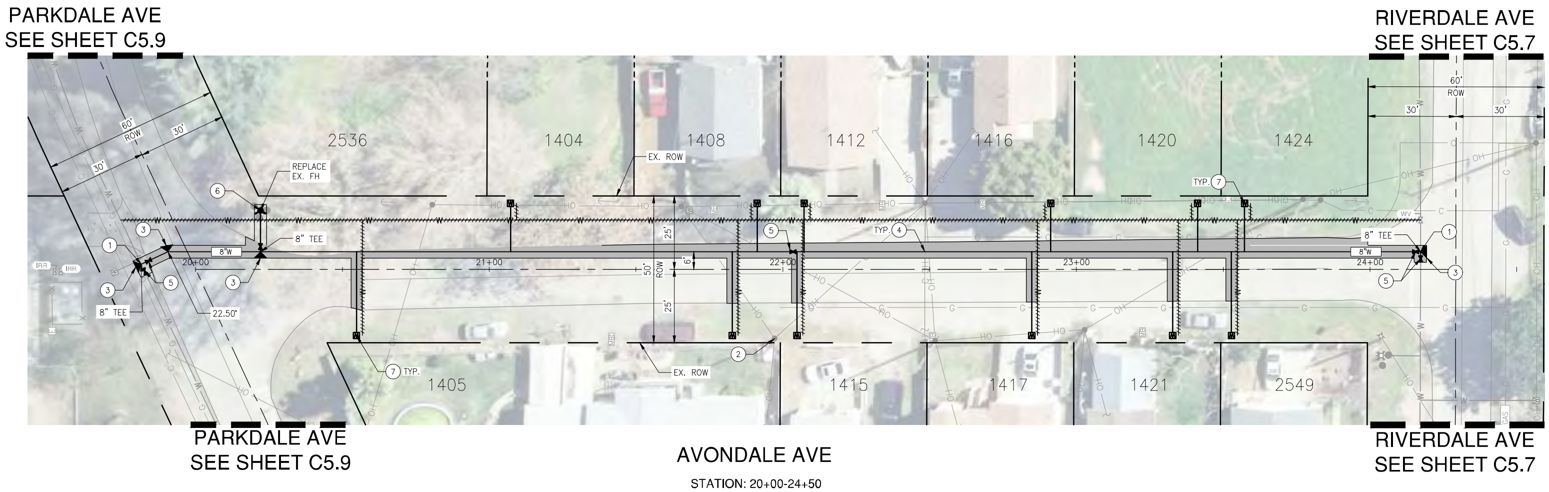

AVONDALE AVE

STATION: 20+00-24+50

SCALE: 1" = 20'

LEGEND

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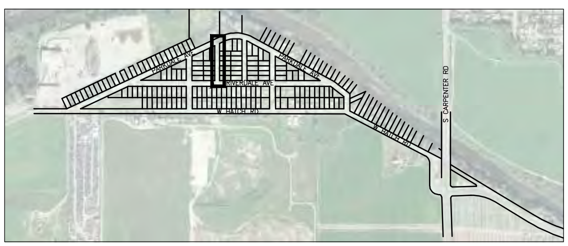

KEY MAP

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UTILITY PLAN - AVONDALE - STATION 20+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

City of Modesto UTILITIES DEPARTMENT

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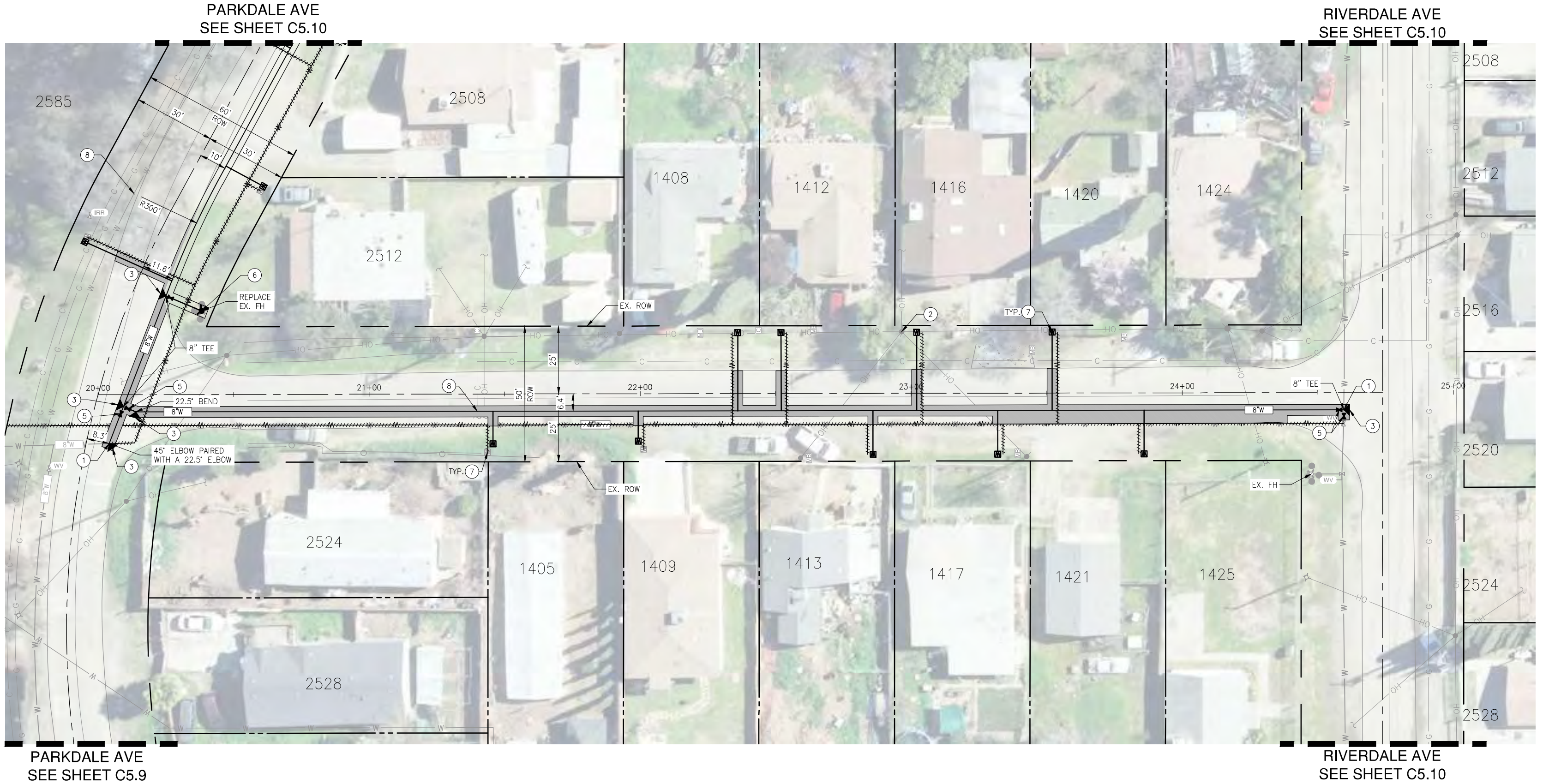

GREENLAWN AVE

STATION: 20+00-24+74

KEY MAP

LEGEND

Symbol	Description
(shaded box)	HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
—W— (hatched)	EX. WATER LINE TO BE ABANDONED
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—C—	EX. COMMUNICATIONS LINE TO BE PROTECTED IN PLACE

UTILITY NOTES

1. CITY OF MODESTO FORCES TO CONNECT TO EXISTING WATER LINE. CONTRACTOR TO PROVIDE 72 HOUR NOTICE PRIOR TO CONNECTION.
2. PROTECT EX. UTILITIES IN PLACE
3. INSTALL THRUST BLOCK SEE DETAILS 650 & 651 ON SHEET C7.0.
4. EXISTING UTILITY CROSSING WITH NEW WATER MAIN PER DETAIL 1 ON SHEET C8.0.. CONTRACTOR TO POTHOLE TO VERIFY PRIOR TO CONSTRUCTION
5. INSTALL 8" WATER GATE VALVE OR 12" BUTTERFLY VALVE SEE DETAIL 622 ON SHEET C7.0.
6. INSTALL FIRE HYDRANT SEE DETAILS 630 & 631 ON SHEET C7.0.
7. INSTALL 1" WATER SERVICE WITHIN 2' AND WATER METER BOX PER DETAIL 2 ON SHEET C8.0.
8. WATER LINE PREVIOUSLY ABANDONED PER 1987 AS-BUILTS

NOTES

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3. FOR ALL NEW AND ABANDONED FIRE HYDRANTS: IF DAMAGED, CONTRACTOR SHALL REPLACE EXISTING SIDEWALK, CURB AND GUTTER TO NEAREST COLD JOINT.
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5. CONTRACTOR TO MAINTAIN ALL DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

ORDER OF WORK:

SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

O'DELL ENGINEERING
1165 Scenic Drive, Suite B
Modesto, CA 95350
Ph 209.571.1765
Fax 209.571.2466
odellengineering.com

DRAWN BY: EH/JJB
CHECKED BY: MTP
RECORD DRAWING BY:

REV	DATE	DESCRIPTION	BY

CALL BEFORE YOU DIG U.S.A. 800-642-2444

CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CALL "UNDERGROUND SERVICE ALERT" (U.S.A.), (TOLL FREE 800-642-2444) PRIOR TO TRENCHING, GRADING, EXCAVATION, DRILLING, PIPE PUSHING, PLANTING TREES, DIGGING POST HOLES FOR FENCES, ETC. (U.S.A.) WILL SUPPLY INFORMATION OR LOCATE AND MARK ANY UNDERGROUND FACILITIES.

City of Modesto UTILITIES DEPARTMENT
UTILITIES DEPARTMENT
P.O. BOX 642
1010 10th STREET
MODESTO, CA 95353
p:(209) 577-5462

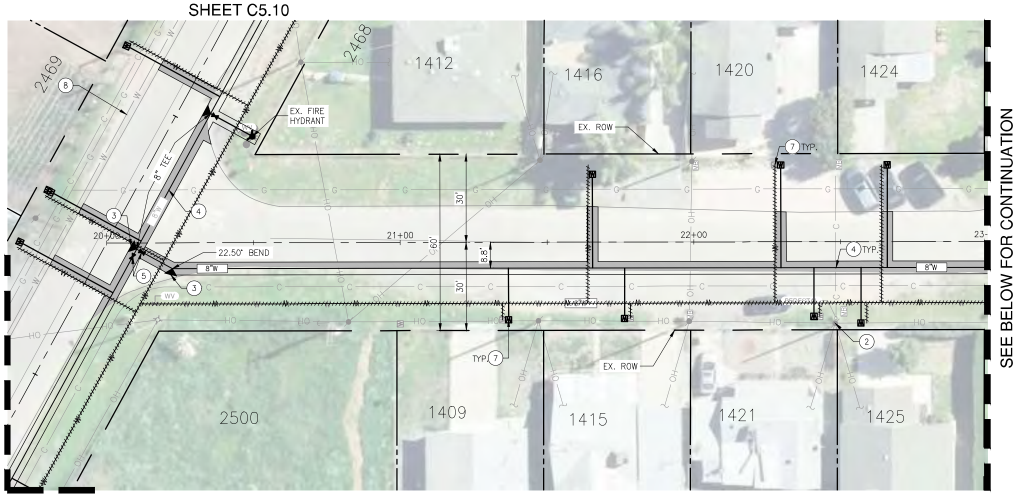
UTILITY PLAN - GREENLAWN AVE - STATION 20+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)
SHEET NO. C5.13
OF 23 PAGES
VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015

PARKDALE AVE SEE SHEET C5.10



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LEGEND

Symbol	Description
(shaded box)	HMA/AB PAVEMENT SECTION SEE TABLE ON SHEET C8.0
-W- (hatched)	EX. WATER LINE TO BE ABANDONED
—W—	EX. WATER LINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE STATED
—G—	EX. GAS LINE TO BE PROTECTED IN PLACE
—C—	EX. COMMUNICATIONS LINE TO BE PROTECTED IN PLACE

SCALE: 1" = 20'

RIVERDALE AVE

W HATCH RD SEE SHEET C5.2

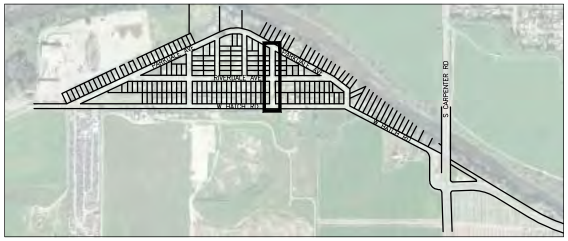
RIVERDALE AVE

W HATCH RD SEE SHEET C5.2

SCALE: 1" = 20'

WOODLANE AVE

STATION: 20+00-26+19



KEY MAP

N.T.S.

ORDER OF WORK: SEE SPECIFICATIONS FOR "WORK REQUIREMENTS."

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-UP.dwg Date: 11/24/2015

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CALL BEFORE YOU DIG USA 800-642-2444

UTILITIES DEPARTMENT
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MODESTO, CA 95353
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City of Modesto UTILITIES DEPARTMENT

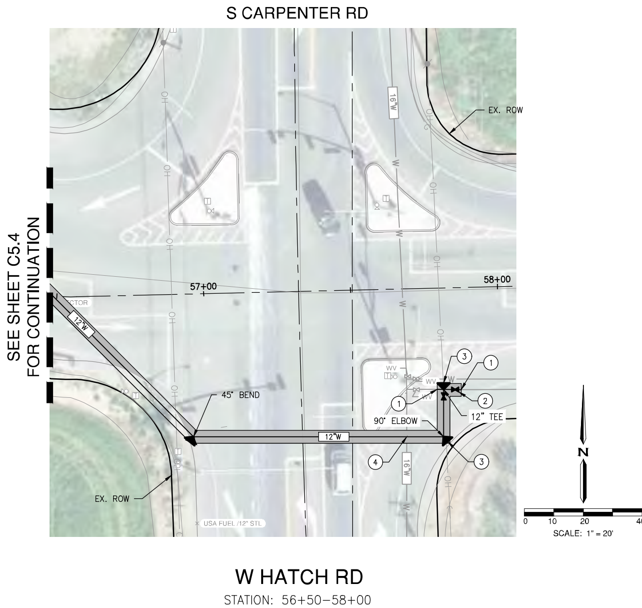
UTILITY PLAN - WOODDALE AVE - STATION 20+00

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)

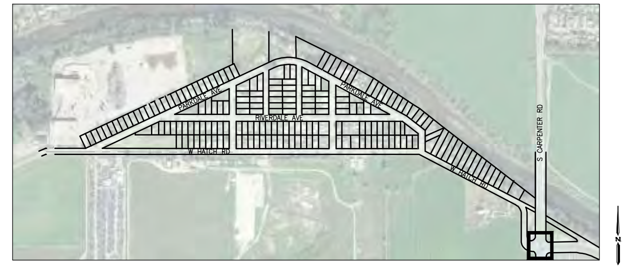
SHEET NO. C5.14 OF 23 PAGES

VAULT NO. 8D-XXX



W HATCH RD

STATION: 56+50–58+00



KEY MAP

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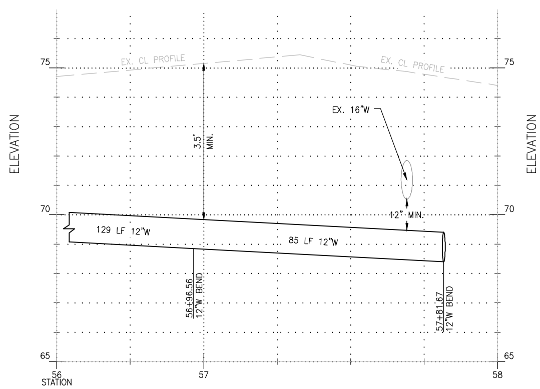
SCALE:
1"=1' VERTICAL
1"=20' HORIZONTAL



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City of Modesto UTILITIES DEPARTMENT

PLAN & PROFILE - W. HATCH RD & S CARPENTER RD

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)
SHEET NO. C6.0 OF 23 PAGES
VAULT NO. 8D-XXX

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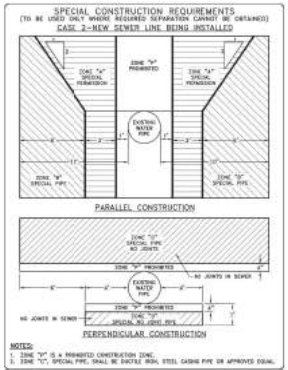
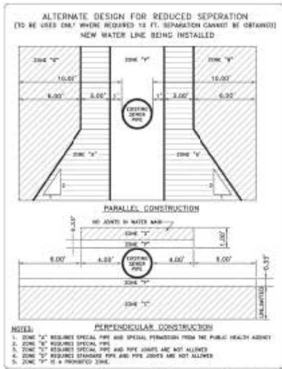
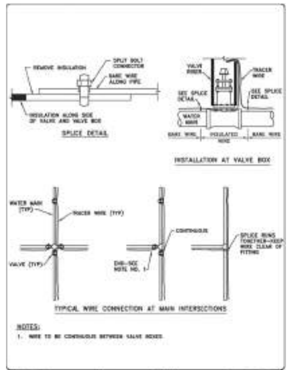


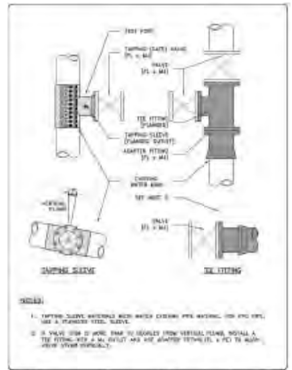
SANITARY SEWER
CALIFORNIA HEALTH DEPARTMENT REQUIREMENTS
DETAIL NO. 500



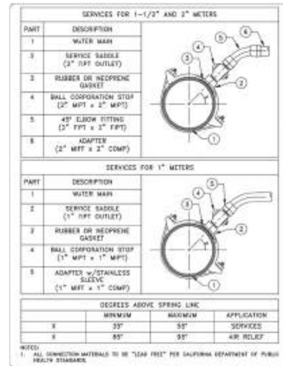
WATER
WATER MAIN SEPARATION REGULATIONS
DETAIL NO. 600



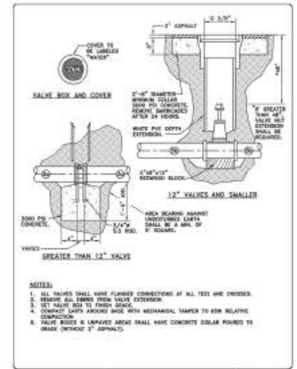
WATER
FIRE LOCATING WIRE
DETAIL NO. 601



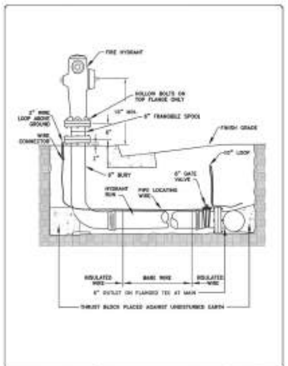
WATER
NEW WATER MAIN TO EXISTING WATER MAIN CONNECTION
DETAIL NO. 611



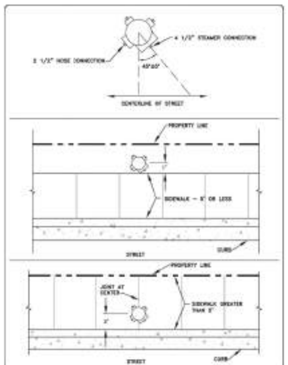
WATER
1" AND 2" WATER CONNECTION
DETAIL NO. 612



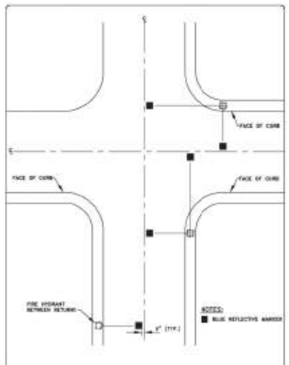
WATER
VALVE BOX
DETAIL NO. 622



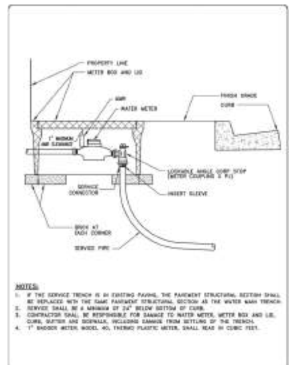
WATER
FIRE HYDRANT SECTION
DETAIL NO. 630



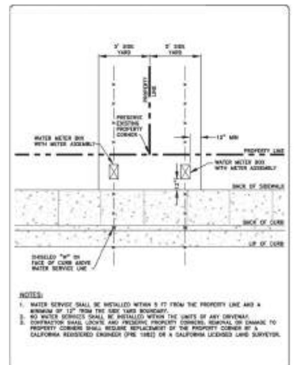
WATER
FIRE HYDRANT LOCATION
DETAIL NO. 631



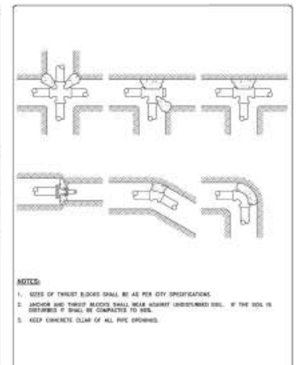
WATER
BLUE REFLECTIVE MARKER PLACEMENT
DETAIL NO. 632



WATER
WATER SERVICE WITH METER
DETAIL NO. 640



WATER
RESIDENTIAL WATER SERVICE METER BOX LOCATION
DETAIL NO. 641



WATER
THRUST BLOCK LOCATION
DETAIL NO. 650

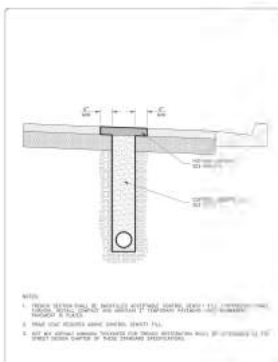
MINIMUM THRUST BLOCK AREAS
(IN SQUARE FEET)

PIPE SIZE	TEE/TAPPING SLEEVE	90° BEND	45° BEND	22 1/2° BEND	DEAD END
4"	1.5	2	1.5	1	1.5
6"	3	4.5	2.5	1.5	3
8"	5	7	4	2	5
10"	6.5	11.5	6.5	3.5	8.5
12"	11.5	16.5	9	4.5	11.5

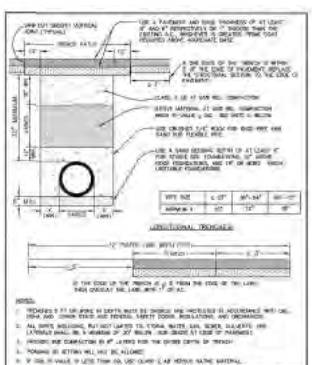
NOTES:

1. AREAS ARE FOR 150 POUNDS PER SQUARE INCH WATER PRESSURE AND SANDY SOIL. AREAS SHALL BE DOUBLED FOR CLAYEY SOIL.
2. BLOCKING SHALL BE MADE OF CONCRETE AND SHALL BE PLACED BETWEEN UNDISTURBED GROUND AND THE FITTING TO BE ANCHORED. THE BLOCKING SHALL BE PLACED SO THAT THE JOINTS OF THE PIPE AND FITTINGS WILL BE ACCESSIBLE FOR REPAIR.
3. THRUST BLOCKS SHALL BE CONSTRUCTED AT PIPE DIAMETER CHANGES AND AT OTHER FITTINGS NOT LISTED, AND SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

WATER
THRUST BLOCKING AREAS
DETAIL NO. 651



UTILITIES
POTHOLING FOR DESIGN AND CONSTRUCTION
DETAIL NO. 602



TRENCHING REQUIREMENTS IN EXISTING STREETS
COUNTY OF STANISLAUS

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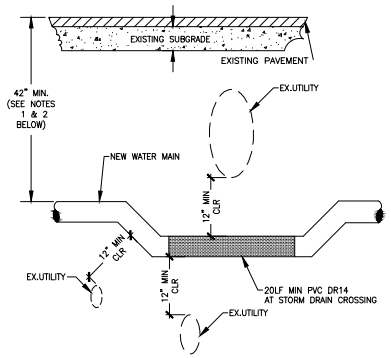
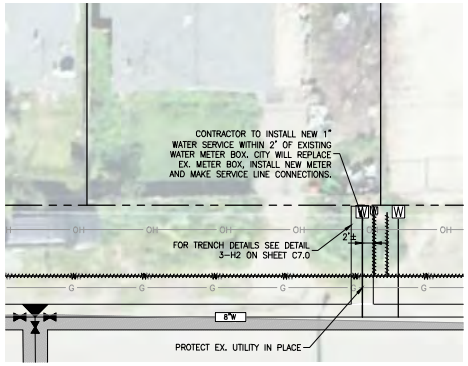


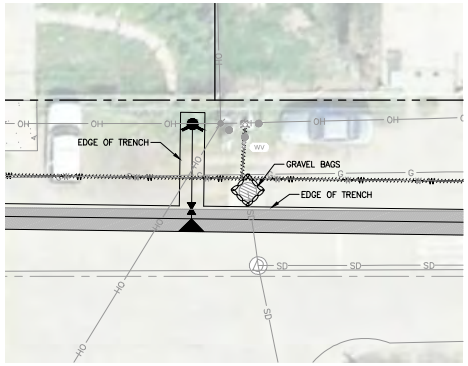
NOTES:

1. WATER MAINS AND SERVICES SHALL BE INSTALLED AT A DEPTH WHICH WILL PROVIDE A MINIMUM OF 42" FROM THE TOP OF THE PIPE TO FINISHED GRADE OR A MINIMUM OF 24" FROM THE TOP OF PIPE TO THE STREET SUBGRADE, WHICH EVER IS GREATER.
2. ADDITIONAL VERTICAL ALLOWANCE BETWEEN EXISTING FINISHED GRADE AND WATER MAIN MAY BE NECESSARY TO ACCOMODATE ANY VERTICAL OFFSET OF SERVICE LATERAL FROM WATER MAIN AND MAINTAIN 12-INCHES MINIMUM VERTICAL CLEARANCE FROM PROPOSED SERVICE LINE CROSSING ANY EXISTING GAS MIN. CLEARANCE WITH GAS SERVICES SHALL BE 6".

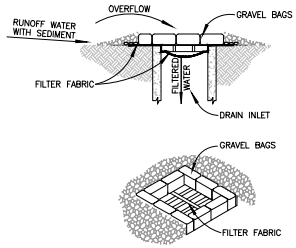
1 EXISTING UTILITY CROSSING (UNDER/OVER CLEARANCE)
NOT TO SCALE



2 TYPICAL WATER SERVICE DETAIL
NOT TO SCALE



3 INLET PROTECTION - SITE SPECIFIC
NOT TO SCALE



SEDIMENT CONTROL DEVICE @ STORM DRAIN INLET
N.T.S.

4 INLET PROTECTION - STANDARD DETAIL

POTHOLING TABLE

SHEET	STREET	APPROXIMATED STATION	EX. UTILITY
C5.0	W. HATCH ROAD	11+48	GAS
C5.1	W. HATCH ROAD	16+63, 20+52, 24+56, 26+72	GAS/CABLE
C5.2	W. HATCH ROAD	30+16, 35+20	GAS/CABLE
C5.3	W. HATCH ROAD	38+86, 42+85, 43+14, 43+25, 47+75	GAS/CABLE
C5.4	W. HATCH ROAD	51+78	CABLE
C5.7	RIVERDALE AVENUE	16+14	GAS
C5.8	PARKDALE AVENUE	15+76, 16+08	GAS/CABLE
C5.9	PARKDALE AVENUE	20+19, 21+53	GAS
C5.10	PARKDALE AVENUE	37+21, 44+03	GAS
C5.11	PARKDALE AVENUE	47+37	GAS
C5.12	AVONDALE AVENUE	22+48	CABLE
C5.13	GREENLAWN AVENUE	21+40	CABLE
C5.14	WOODLANE AVENUE	22+48, 23+45, 26+00, 26+04	GAS/CABLE

PAVEMENT SECTION TABLE (RV=50)

STREET	PAVEMENT SECTION
CARPENTER ROAD INTERSECTION	0.45' HMA/0.55' AB
HATCH ROAD	0.35' HMA/0.50' AB
RIVERDALE AVENUE	0.35' HMA/0.50' AB
WOODLANE AVENUE	0.35' HMA/0.50' AB
GREENLAWN AVENUE	0.25' HMA/0.35' AB
AVONDALE AVENUE	0.25' HMA/0.35' AB

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UTILITIES DEPARTMENT
P.O. BOX 642
1010 10TH ST, SUITE 5300
MODESTO, CA 95353
(209) 577-5462

City of Modesto UTILITIES DEPARTMENT

DETAILS SHEET

RIVERDALE PARK TRACT
STRENGTHEN AND REPLACE WATER MAINS
MODESTO, CALIFORNIA

JOB NO. 101212 (36800)
SHEET NO. C8.0 OF 23 PAGES
VAULT NO. 8D-XXX

File: H:\36800 Riverdale Tract Strengthen Replace Waterline\Civil\ConstPlans\36800-DT.dwg Date: 11/24/2015

APPENDIX B

Air Quality Modeling

Note: The Section 508 amendment of the Rehabilitation Act of 1973 requires that the information in federal documents be accessible to individuals with disabilities. The City of Modesto has made every effort to ensure that the information in the *Initial Study/Mitigated Negative Declaration for the Riverdale Park Tract Community Services District Water System Consolidation Project, Modesto, Stanislaus County, California* is accessible. However, this appendix is not fully compliant with Section 508, and readers with disabilities are encouraged to contact Jim Alves as the City of Modesto at jalves@modestogov.com or (209) 571-5557 if they would like access to the information.

Riverdale Park Tract Water System Consolidation Project

Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	2,672.84	1000sqft	61.36	2,672,840.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Riverdale Park Tract Water System Consolidation Project - Air District, Annual

Project Characteristics - Estimated start date

Land Use - Total Project area = 61.36 acres (2,672,840 sf)

Construction Phase - Estimates from City of Modesto

Off-road Equipment - Estimates from the City of Modesto

Off-road Equipment - Estimates from City of Modesto

Off-road Equipment - Estimates from City of Modesto

Off-road Equipment - Estimates from City of Modesto

Grading - Estimates from the City of Modesto - 1.62 acres of grading

Demolition - Estimates from the City of Modesto (2.03 tons/cubic yard x 440 cubic yards)

Trips and VMT - Estimates from City of Modesto

On-road Fugitive Dust - Defaults used

Vehicle Trips - Conservatively assumes 2 trips/month, 24/year, 5 miles traveled. (0.0000246/size/day)

Road Dust - All paved roads

Woodstoves - N/A

Consumer Products - N/A

Area Coating - No operational architectural coatings

Landscape Equipment -

Energy Use - Operation would not result in new energy use

Water And Wastewater - Operation would not result in new water/wastewater

Solid Waste - Operation would not result in solid waste

Stationary Sources - Emergency Generators and Fire Pumps - Operation would not require use of stationary sources

Construction Off-road Equipment Mitigation - No MM

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	1.62
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	RoadPercentPave	0	100

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2779	2.8914	1.9343	3.7600e-003	0.0253	0.1327	0.1580	5.4800e-003	0.1226	0.1280	0.0000	330.7943	330.7943	0.0982	0.0000	333.2492
2022	6.3600e-003	0.0588	0.0803	1.3000e-004	1.2600e-003	2.9900e-003	4.2500e-003	3.3000e-004	2.7500e-003	3.0900e-003	0.0000	11.5669	11.5669	3.4300e-003	0.0000	11.6526
Maximum	**0.2779**	**2.8914**	**1.9343**	**3.7600e-003**	**0.0253**	**0.1327**	**0.1580**	**5.4800e-003**	**0.1226**	**0.1280**	**0.0000**	**330.7943**	**330.7943**	**0.0982**	**0.0000**	**333.2492**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2779	2.8913	1.9343	3.7600e-003	0.0253	0.1327	0.1580	5.4800e-003	0.1226	0.1280	0.0000	330.7939	330.7939	0.0982	0.0000	333.2488
2022	6.3600e-003	0.0588	0.0803	1.3000e-004	1.2600e-003	2.9900e-003	4.2500e-003	3.3000e-004	2.7500e-003	3.0900e-003	0.0000	11.5669	11.5669	3.4300e-003	0.0000	11.6525
Maximum	**0.2779**	**2.8913**	**1.9343**	**3.7600e-003**	**0.0253**	**0.1327**	**0.1580**	**5.4800e-003**	**0.1226**	**0.1280**	**0.0000**	**330.7939**	**330.7939**	**0.0982**	**0.0000**	**333.2488**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2021**	**8-31-2021**	1.7139	1.7139
2	**9-1-2021**	**11-30-2021**	1.3465	1.3465
3	**12-1-2021**	**2-28-2022**	0.1484	0.1484
		Highest	1.7139	1.7139

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	12.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**12.2971**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	12.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**12.2971**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Riverdale Park Tract Water System Consolidation Project - Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	9/6/2021	5	70	
2	Site Preparation	Site Preparation	6/1/2021	7/26/2021	5	40	
3	Grading	Grading	6/28/2021	11/26/2021	5	110	
4	Pipeline Construction	Building Construction	8/1/2021	7/30/2021	5	1110	
5	Paving	Paving	8/16/2021	1/31/2022	5	121	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.62

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating - sqft)

OffRoad Equipment

Riverdale Park Tract Water System Consolidation Project - Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	1	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Construction	Cranes	1	7.00	231	0.29
Pipeline Construction	Forklifts	1	8.00	89	0.20
Pipeline Construction	Generator Sets	1	8.00	84	0.74
Pipeline Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Construction	Welders	1	8.00	46	0.45
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Construction	0	1,123.00	438.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.7100e-003	0.0000	9.7100e-003	1.4700e-003	0.0000	1.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0581	0.5657	0.3844	7.0000e-004		0.0284	0.0284		0.0266	0.0266	0.0000	60.9694	60.9694	0.0147	0.0000	61.3376
Total	**0.0581**	**0.5657**	**0.3844**	**7.0000e-004**	**9.7100e-003**	**0.0284**	**0.0381**	**1.4700e-003**	**0.0266**	**0.0280**	**0.0000**	**60.9694**	**60.9694**	**0.0147**	**0.0000**	**61.3376**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	7.1000e-004	7.4100e-003	2.0000e-005	2.2400e-003	2.0000e-005	2.2500e-003	5.9000e-004	1.0000e-005	6.1000e-004	0.0000	1.9403	1.9403	5.0000e-005	0.0000	1.9416
Total	**1.0900e-003**	**7.1000e-004**	**7.4100e-003**	**2.0000e-005**	**2.2400e-003**	**2.0000e-005**	**2.2500e-003**	**5.9000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.9403**	**1.9403**	**5.0000e-005**	**0.0000**	**1.9416**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.7100e-003	0.0000	9.7100e-003	1.4700e-003	0.0000	1.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0581	0.5657	0.3844	7.0000e-004		0.0284	0.0284		0.0266	0.0266	0.0000	60.9694	60.9694	0.0147	0.0000	61.3375
Total	**0.0581**	**0.5657**	**0.3844**	**7.0000e-004**	**9.7100e-003**	**0.0284**	**0.0381**	**1.4700e-003**	**0.0266**	**0.0280**	**0.0000**	**60.9694**	**60.9694**	**0.0147**	**0.0000**	**61.3375**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	7.1000e-004	7.4100e-003	2.0000e-005	2.2400e-003	2.0000e-005	2.2500e-003	5.9000e-004	1.0000e-005	6.1000e-004	0.0000	1.9403	1.9403	5.0000e-005	0.0000	1.9416
Total	**1.0900e-003**	**7.1000e-004**	**7.4100e-003**	**2.0000e-005**	**2.2400e-003**	**2.0000e-005**	**2.2500e-003**	**5.9000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.9403**	**1.9403**	**5.0000e-005**	**0.0000**	**1.9416**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0247	0.2573	0.1260	2.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	20.4707	20.4707	6.6200e-003	0.0000	20.6362
Total	**0.0247**	**0.2573**	**0.1260**	**2.3000e-004**	**0.0000**	**0.0129**	**0.0129**	**0.0000**	**0.0119**	**0.0119**	**0.0000**	**20.4707**	**20.4707**	**6.6200e-003**	**0.0000**	**20.6362**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.6000e-004	2.6400e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6930	0.6930	2.0000e-005	0.0000	0.6934
Total	**3.9000e-004**	**2.6000e-004**	**2.6400e-003**	**1.0000e-005**	**8.0000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6930**	**0.6930**	**2.0000e-005**	**0.0000**	**0.6934**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0247	0.2573	0.1260	2.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	20.4706	20.4706	6.6200e-003	0.0000	20.6362
Total	**0.0247**	**0.2573**	**0.1260**	**2.3000e-004**	**0.0000**	**0.0129**	**0.0129**	**0.0000**	**0.0119**	**0.0119**	**0.0000**	**20.4706**	**20.4706**	**6.6200e-003**	**0.0000**	**20.6362**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.6000e-004	2.6400e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6930	0.6930	2.0000e-005	0.0000	0.6934
Total	**3.9000e-004**	**2.6000e-004**	**2.6400e-003**	**1.0000e-005**	**8.0000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6930**	**0.6930**	**2.0000e-005**	**0.0000**	**0.6934**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.6000e-004	0.0000	8.6000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1565	1.7406	1.0088	2.1200e-003		0.0744	0.0744		0.0685	0.0685	0.0000	186.5101	186.5101	0.0603	0.0000	188.0181
Total	**0.1565**	**1.7406**	**1.0088**	**2.1200e-003**	**8.6000e-004**	**0.0744**	**0.0753**	**9.0000e-005**	**0.0685**	**0.0685**	**0.0000**	**186.5101**	**186.5101**	**0.0603**	**0.0000**	**188.0181**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7800e-003	1.8200e-003	0.0189	5.0000e-005	5.7200e-003	4.0000e-005	5.7600e-003	1.5200e-003	4.0000e-005	1.5600e-003	0.0000	4.9548	4.9548	1.3000e-004	0.0000	4.9580
Total	**2.7800e-003**	**1.8200e-003**	**0.0189**	**5.0000e-005**	**5.7200e-003**	**4.0000e-005**	**5.7600e-003**	**1.5200e-003**	**4.0000e-005**	**1.5600e-003**	**0.0000**	**4.9548**	**4.9548**	**1.3000e-004**	**0.0000**	**4.9580**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.6000e-004	0.0000	8.6000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1565	1.7406	1.0088	2.1200e-003		0.0744	0.0744		0.0685	0.0685	0.0000	186.5099	186.5099	0.0603	0.0000	188.0179
Total	**0.1565**	**1.7406**	**1.0088**	**2.1200e-003**	**8.6000e-004**	**0.0744**	**0.0753**	**9.0000e-005**	**0.0685**	**0.0685**	**0.0000**	**186.5099**	**186.5099**	**0.0603**	**0.0000**	**188.0179**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7800e-003	1.8200e-003	0.0189	5.0000e-005	5.7200e-003	4.0000e-005	5.7600e-003	1.5200e-003	4.0000e-005	1.5600e-003	0.0000	4.9548	4.9548	1.3000e-004	0.0000	4.9580
Total	**2.7800e-003**	**1.8200e-003**	**0.0189**	**5.0000e-005**	**5.7200e-003**	**4.0000e-005**	**5.7600e-003**	**1.5200e-003**	**4.0000e-005**	**1.5600e-003**	**0.0000**	**4.9548**	**4.9548**	**1.3000e-004**	**0.0000**	**4.9580**

3.5 Pipeline Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Pipeline Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Pipeline Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0314	0.3230	0.3663	5.7000e-004		0.0169	0.0169		0.0156	0.0156	0.0000	50.0587	50.0587	0.0162	0.0000	50.4635
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0314**	**0.3230**	**0.3663**	**5.7000e-004**		**0.0169**	**0.0169**		**0.0156**	**0.0156**	**0.0000**	**50.0587**	**50.0587**	**0.0162**	**0.0000**	**50.4635**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9200e-003	1.9100e-003	0.0198	6.0000e-005	6.0000e-003	4.0000e-005	6.0400e-003	1.5900e-003	4.0000e-005	1.6300e-003	0.0000	5.1973	5.1973	1.4000e-004	0.0000	5.2007
Total	**2.9200e-003**	**1.9100e-003**	**0.0198**	**6.0000e-005**	**6.0000e-003**	**4.0000e-005**	**6.0400e-003**	**1.5900e-003**	**4.0000e-005**	**1.6300e-003**	**0.0000**	**5.1973**	**5.1973**	**1.4000e-004**	**0.0000**	**5.2007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0314	0.3230	0.3663	5.7000e-004		0.0169	0.0169		0.0156	0.0156	0.0000	50.0586	50.0586	0.0162	0.0000	50.4634
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0314**	**0.3230**	**0.3663**	**5.7000e-004**		**0.0169**	**0.0169**		**0.0156**	**0.0156**	**0.0000**	**50.0586**	**50.0586**	**0.0162**	**0.0000**	**50.4634**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9200e-003	1.9100e-003	0.0198	6.0000e-005	6.0000e-003	4.0000e-005	6.0400e-003	1.5900e-003	4.0000e-005	1.6300e-003	0.0000	5.1973	5.1973	1.4000e-004	0.0000	5.2007
Total	**2.9200e-003**	**1.9100e-003**	**0.0198**	**6.0000e-005**	**6.0000e-003**	**4.0000e-005**	**6.0400e-003**	**1.5900e-003**	**4.0000e-005**	**1.6300e-003**	**0.0000**	**5.1973**	**5.1973**	**1.4000e-004**	**0.0000**	**5.2007**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7900e-003	0.0584	0.0766	1.2000e-004		2.9800e-003	2.9800e-003		2.7400e-003	2.7400e-003	0.0000	10.5145	10.5145	3.4000e-003	0.0000	10.5995
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7900e-003**	**0.0584**	**0.0766**	**1.2000e-004**		**2.9800e-003**	**2.9800e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**10.5145**	**10.5145**	**3.4000e-003**	**0.0000**	**10.5995**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.6000e-004	3.8000e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0524	1.0524	3.0000e-005	0.0000	1.0531
Total	**5.7000e-004**	**3.6000e-004**	**3.8000e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0524**	**1.0524**	**3.0000e-005**	**0.0000**	**1.0531**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7900e-003	0.0584	0.0766	1.2000e-004		2.9800e-003	2.9800e-003		2.7400e-003	2.7400e-003	0.0000	10.5145	10.5145	3.4000e-003	0.0000	10.5995
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7900e-003**	**0.0584**	**0.0766**	**1.2000e-004**		**2.9800e-003**	**2.9800e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**10.5145**	**10.5145**	**3.4000e-003**	**0.0000**	**10.5995**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.6000e-004	3.8000e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0524	1.0524	3.0000e-005	0.0000	1.0531
Total	**5.7000e-004**	**3.6000e-004**	**3.8000e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0524**	**1.0524**	**3.0000e-005**	**0.0000**	**1.0531**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	5.00	0.00	0.00	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	12.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	12.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8583					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	10.4388					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**12.2971**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8583					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	10.4388					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**12.2971**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

Special-Status Species Lists

Note: The Section 508 amendment of the Rehabilitation Act of 1973 requires that the information in federal documents be accessible to individuals with disabilities. The City of Modesto has made every effort to ensure that the information in the *Initial Study/Mitigated Negative Declaration for the Riverdale Park Tract Community Services District Water System Consolidation Project, Modesto, Stanislaus County, California* is accessible. However, this appendix is not fully compliant with Section 508, and readers with disabilities are encouraged to contact Jim Alves as the City of Modesto at jalves@modestogov.com or (209) 571-5557 if they would like access to the information.

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 affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (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 office(s) with jurisdiction in the defined 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

Stanislaus County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

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 influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow 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 effects to species, additional site-specific and project-specific 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 office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official 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 fisheries 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.

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

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

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 should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

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 find 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 off 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, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus* — 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 offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Lawrence's Goldfinch *Carduelis 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

Nuttall's Woodpecker *Picoides 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

Rufous Hummingbird *selasphorus rufus* — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher *Limnodromus griseus* — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae 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/4243	Breeds Apr 15 to Jul 20
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 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 and understand the FAQ "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 effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort 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.

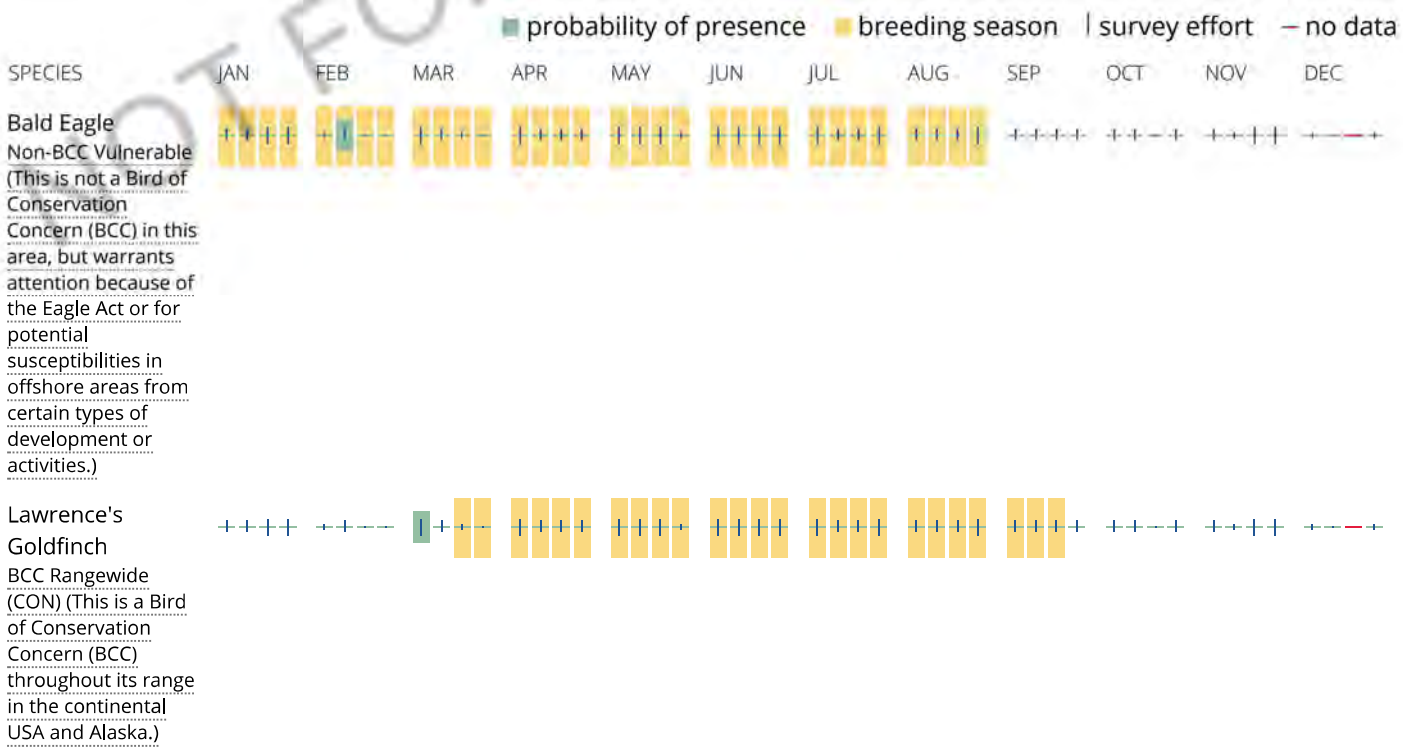
Breeding Season (▬)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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 effort 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 off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

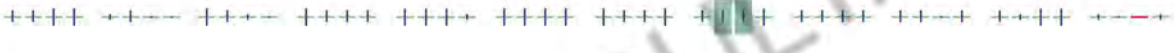


Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

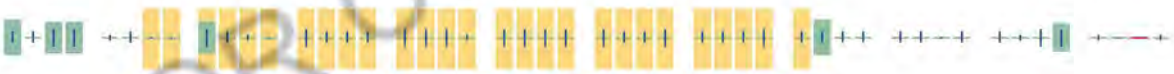
Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



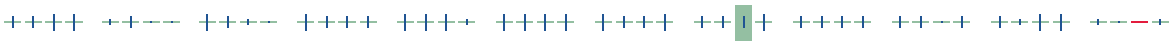
Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



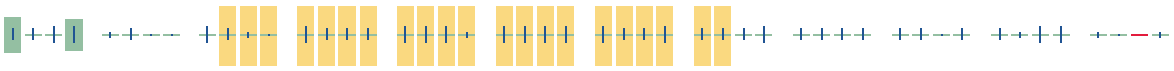
Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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 and/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 migratory birds potentially occurring in my specified 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 filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified 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 offshore 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 AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified 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, migrating or present year-round in my project 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 refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. 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 specified. 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 Pacific 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 offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts 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 affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers 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 files 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 specified 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 effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort 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 confirm 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 confirmed. 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 FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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.

THERE ARE NO KNOWN 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 identified 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 classification 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 verification 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 field work. There may be occasional differences in polygon boundaries or classifications 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 tuberficid 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 define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define 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 modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

National Marine Fisheries Service ESA list for Quad Name **Brush Lake**

Quad Number **37121-E1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Ripon (3712162) OR Salida (3712161) OR Riverbank (3712068) OR Westley (3712152) OR Brush Lake (3712151) OR Ceres (3712058))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex subtilis subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Lasthenia chrysantha alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta moesta moestan blister beetle	IICOL4C020	None	None	G2	S2	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC
Neotoma fuscipes riparia riparian (=San Joaquin Valley) woodrat	AMAFF08081	Endangered	None	G5T1Q	S1	SSC
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Sphenopholis obtusata prairie wedge grass	PMPOA5T030	None	None	G5	S2	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sylvilagus bachmani riparius riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S1	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

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