

Del Rey Community Services District  
TCP Wellhead Treatment for Wells 4, 5, 6 and 7  
Initial Study/Mitigated Negative Declaration

State Clearinghouse No. 2019120518

September 2021

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Del Rey Community Services District

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Responsible Agency:  
California State Water Resources Control Board

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## ACRONYMS AND OTHER ABBREVIATIONS

AB 32	Assembly Bill 32 (California Global Warming Solutions Act of 2006)
APN	Assessor's Parcel Number
BMP	best management practices
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CMU	concrete masonry unit
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalents
DBCP	1,2-Dibromo-3-chloropropane
Del Rey CSD	Del Rey Community Services District
District	Del Rey Community Services District
GAC	granular activated carbon
GHG	greenhouse gas
lb/day	pounds per day
MCL	maximum contaminant levels
mg/L	milligram per liter
MT	metric ton
OSHA	Occupational Safety and Health Administration
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
PHG	public health goal
PM	particulate matter
PM <sub>10</sub>	PM equal to or less than 10 micrometers in diameter
PM <sub>2.5</sub>	PM equal to or less than 2.5 micrometers in diameter
ROG	reactive organic gases
SB	Senate Bill
SCADA	Supervisory control and data acquisition
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO <sub>x</sub>	oxides of sulfur
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TCP	1,2,3-Trichloropropane
TPY	tons per year
ug/L	microgram per liter
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
VOC	volatile organic compounds



# 1 INTRODUCTION

## 1.1 BACKGROUND

The community of Del Rey is in Fresno County, approximately 7 miles southeast of the city of Fresno (Figure 1). The Del Rey Community Services District (District) owns and operates the water system that provides water service to the developed parcels in the community, including residential, commercial, and industrial customers within an approximately 1.5 square mile area.

The District's water system is supplied from three active wells (Wells 4, 6, and 7), shown on Figure 2. Wells 4 and 6 have been in service since 1993; Well 7 was constructed in 2005. There are two other wells (Wells 3 and 5) in the District that are currently on standby due to contaminants such as 1,2-Dibromo-3-chloropropane (DBCP) and uranium. They were previously over the maximum contaminant levels (MCL) as regulated by the California Department of Public Health (CDPH).

In August 2009, the California Office of Environmental Health Hazard Assessment established a California public health goal (PHG) for the synthetic organic compound 1,2,3-Trichloropropane (TCP) of 0.0007 µg/L (0.7 parts per trillion) based on carcinogenicity. This is the second lowest California PHG among all drinking water contaminants. In July 2017, the California State Water Resources Control Board adopted a regulation establishing a maximum contaminant level (MCL) for TCP of 0.005 µg/L (5 parts per trillion), which is equivalent to the current detection limit for purposes of reporting (DLR). The regulation took effect on October 1, 2017 and public water systems were required to meet the standard beginning in May 31, 2021. TCP is not currently regulated at the federal level.

TCP has been detected in wells 3, 4, 5, 6, and 7 – all of the District's active and standby production wells. Levels in the contaminated wells have ranged from approximately 0.006 to 0.79 µg/L (8 to over 1,128 times the PHG). The District retained Provost & Pritchard Consulting Group to evaluate alternatives to mitigate the impact of the TCP contamination on the water system and to determine the cost to implement the most feasible mitigation alternative.

Non-wellhead treatment alternatives including well abandonment, blending of sources, consolidation, well replacement, well modification, and treating surface water were considered and determined to not be viable solutions. Wellhead treatment alternatives including air stripping, reverse osmosis, advanced oxidation, sorbents, biological treatment, and granular activated carbon (GAC) were also evaluated.

It was determined that the most feasible means of satisfying the District's mitigation objective is to treat the contaminated wells using GAC. GAC is the most economical treatment solution and, other than biological treatment, is also the only technologically viable alternative that can reliably reduce the TCP concentration to below the PHG.

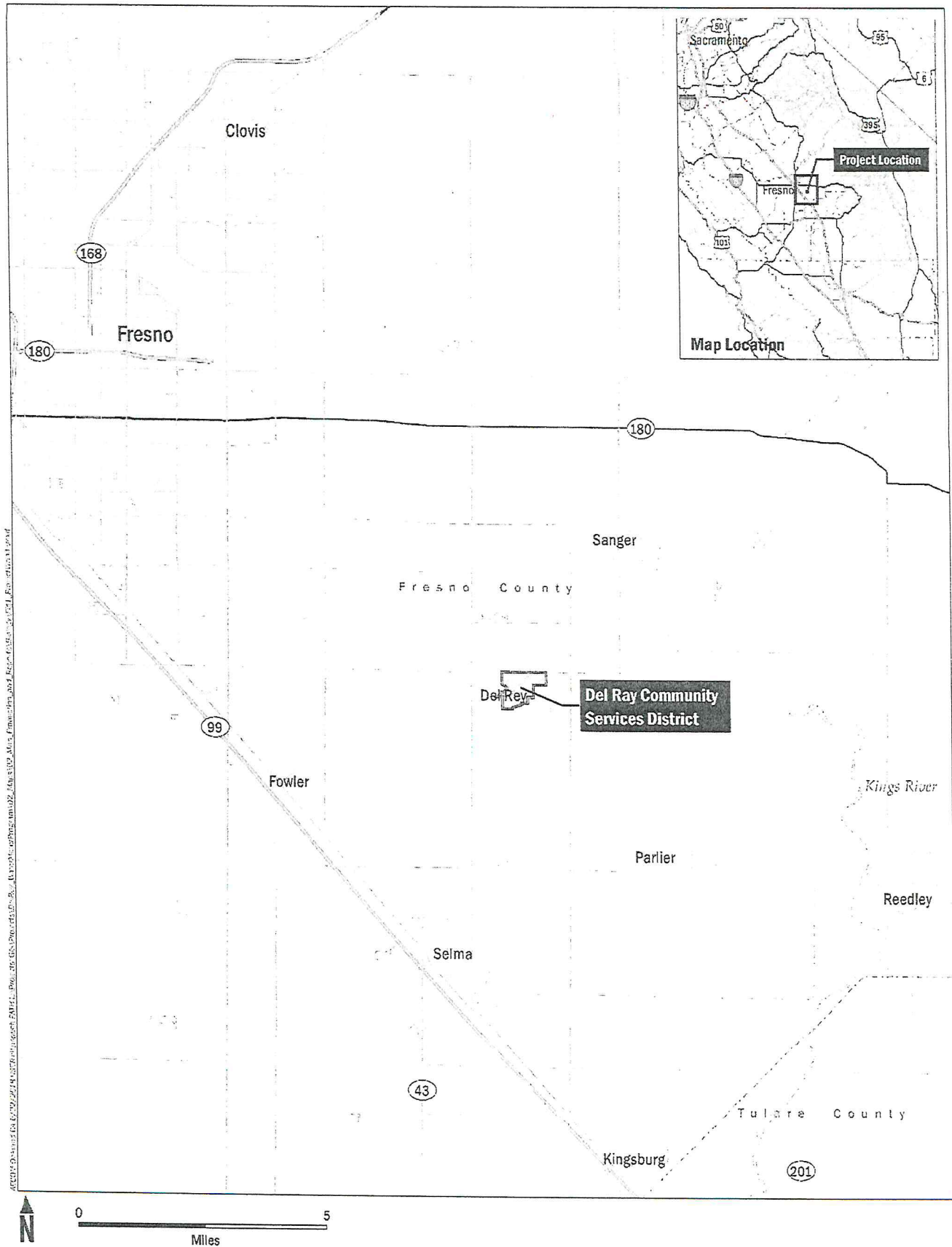
## 1.2 PROJECT OBJECTIVE

The objective of the TCP Wellhead Treatment for Wells 4, 5, 6 and 7 project (the project) is to reduce TCP concentrations in the District's drinking water supply to below the maximum contaminate level (MCL).

### 1.3 OTHER REQUIRED PERMITS AND APPROVALS

The following permits and approvals are required for the project:

- State Water Resources Control Board Division of Drinking Water: Permit to Operate Treatment Facilities
- San Joaquin Valley Air Pollution Prevention District: Permit to Install/Operate Standby Generator
- County of Fresno: Encroachment Permit for installation of pipeline within County streets
- Pacific Gas & Electric: Review of and coordination for electrical service.



**Figure 1: Project Vicinity**



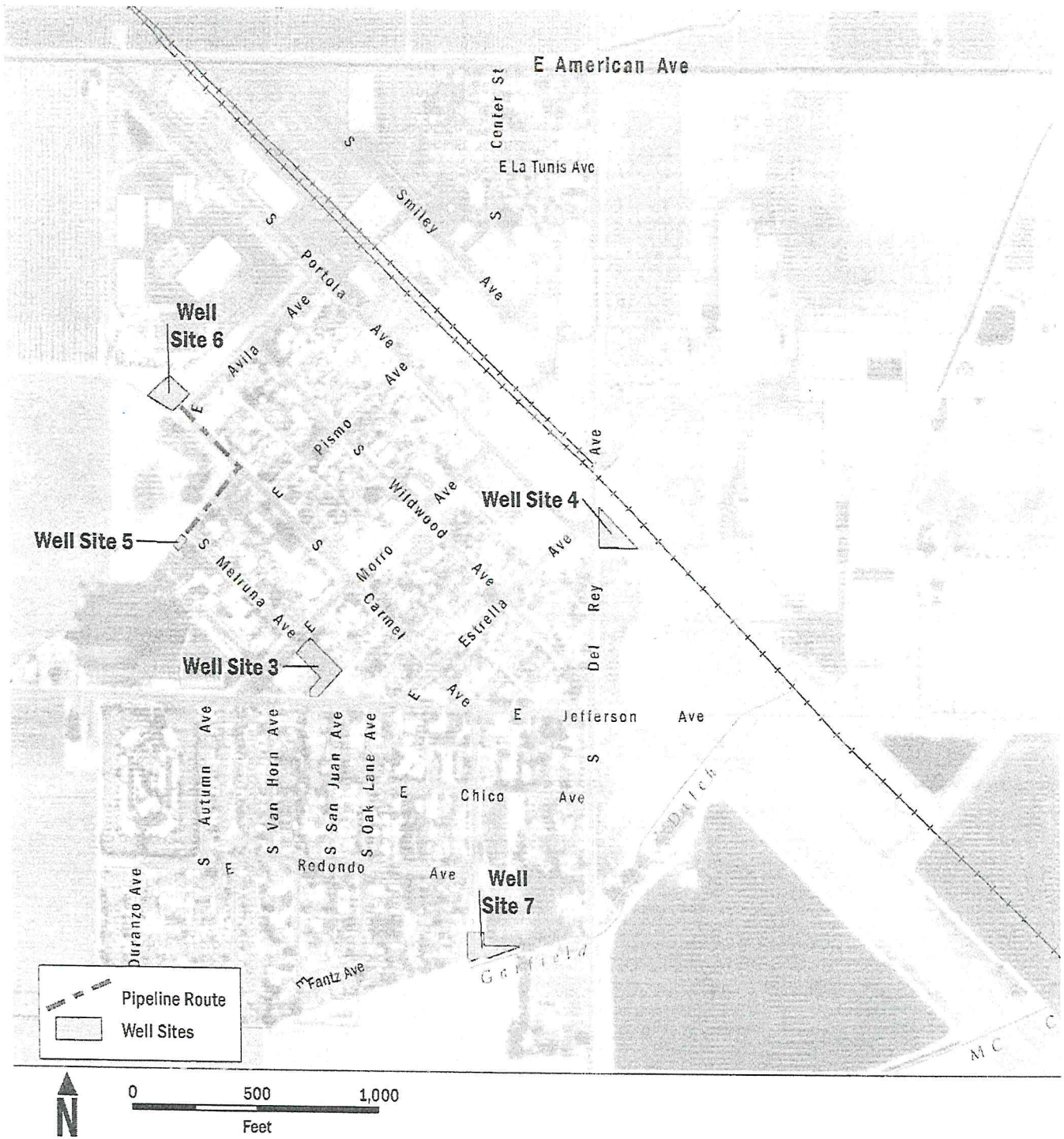


Figure 2: Map of Del Rey showing Existing Well Sites and Proposed Pipeline Route

## 2 PROJECT DESCRIPTION

### 2.1 PROJECT LOCATION

The community of Del Rey is in Fresno County, approximately 7 miles southeast of the city of Fresno (Figure 1). The Del Rey Community Services District (District) owns and operates the water system that provides water service to the developed parcels in the community, including residential, commercial, and industrial customers within an approximately 1.5 square mile area.

The proposed project would involve construction at the District's existing well sites 4, 6, and 7, as well as modifications to existing infrastructure at existing well site 5 and installation of a pipeline within County right-of-way along East Pismo Avenue and South Carmel Avenue between well sites 5 and 6 (Figure 2). The total area of the project site is approximately 0.823 acres (area of the four well sites plus a 5-foot width along the proposed pipeline route).

The Assessor's Parcel Number (APN) and nearest cross-streets for each well site are:

- Well Site 4: APN 350-230-16T S Del Rey / Estrella Avenues
- Well Site 5: APN 350-080-11 Lot 28 S Melruna / E Pismo Avenues
- Well Site 6: APN 350-080-80 ST S Carmel / E Avila Avenues
- Well Site 7: APN 350-180-6T S Carmel / E Redondo Avenues

### 2.2 DESCRIPTION OF THE PROPOSED PROJECT

#### 2.2.1 PROJECT COMPONENTS

The project proposes installation of GAC treatment systems at existing well sites 4, 6, and 7 as well as a buried pipeline connecting the well at existing well site 5 to the treatment system at existing well site 6. No project activities are proposed for existing well site 3.

The following design components are anticipated to be included in the construction:

1. Civil site improvements and grading. Approximately 0.75 acres would be disturbed during project construction, with a total of approximately 1,440 cubic yards of soil excavated across all project sites.
2. GAC treatment equipment and foundations utilizing 20,000-lb carbon vessels operating in series.
3. Sodium hypochlorite storage and feed system housed within a block building at well sites 4, and 6. (Note: well site 7 already has this system for disinfection although it is not currently in use.)
4. Backwash water recovery tank and recycle pumping appurtenances at well sites 4, 6 and 7.
5. Process piping and valving.
6. Piping to connect the treatment facilities at well site 6 to the nearby well site 5.
7. Plant control, monitoring, telemetry, and alarm systems as required at well sites 4, 6, and 7 to accommodate the new treatment equipment. New or upgraded supervisory control and data acquisition (SCADA) cellular connections will be made at all GAC treatment sites.



8. Site electrical and lighting upgrades necessary to support new equipment.
9. Landscaping improvements at well sites 6 and 7.

More details for each site are provided in Tables 2-1a through 2-1d, below.

**Table 2-1 a. Proposed Project Elements – Well Site 4**

Project Element	Details
<b>Anticipated Excavation Volume</b>	<b>657 cubic yards total excavation</b>
- Gravel excavation volume	153 cubic yards
- Asphalt excavation volume	413 cubic yards
- Concrete excavation volume	91 cubic yards
<b>New Site Components</b>	-
- GAC Treatment Vessels	Four vessels, each approximately 12 feet in diameter and up to 16 feet in height
- Backwash Tank	One aboveground tank, approximately 22 feet in diameter and 16 feet in height
- Chemical Building	Concrete Masonry Unit (CMU) block building approximately 12 x 8 feet, up to 9 feet in height, with 200-gallon sodium hypochlorite tank.
- Standby Generator	125 kW diesel driven generator with double-walled 300-gallon diesel tank underneath
- Pipes and Valves	To connect new and existing components.
<b>Modifications to Existing Components</b>	-
- Diesel Engine	Existing engine and drive on concrete pad to be decommissioned
- Electrical Panel	Existing electrical panel on concrete pad to be removed
- Well #4	Existing well pump to be inspected, cleaned and/or replaced.
- Electrical, lighting, and control systems	To be modified/upgraded as needed.
- Pipes and Valves	Existing pipework to be modified to connect with new.

Note: "-" indicates blank cell

**Table 2-1 b. Proposed Project Elements – Well Site 5**

Project Element	Details
<b>New Site Components</b>	-
- Pipeline	12-inch influent waterline connecting Well 5 to Well 6 treatment facilities, installed underground along County right-of-way along Pismo and Carmel Avenues.
<b>Modifications to Existing Components</b>	-
- Well #5	Existing well pump to be inspected, cleaned and/or replaced.
- Pipes and Valves	Modifications to discharge piping & connection of new pipeline to existing.

**Table 2-1 c. Proposed Project Elements – Well Site 6**

Project Element	Details
<b>Anticipated Excavation Volumes</b>	<b>293 cubic yards total excavation</b>
- Gravel excavation volume	160 cubic yards
- Asphalt excavation volume	116 cubic yards
- Concrete excavation volume	117 cubic yards
<b>New Site Components</b>	-
- GAC Treatment Vessels	Four vessels, each approximately 12 feet in diameter and up to 16 feet in height. Two additional vessels may be installed in the future.
- Backwash Tank	One aboveground tank, approximately 22 feet in diameter and 16 feet in height
- Chemical Building	Concrete Masonry Unit (CMU) block building approximately 12 x 8 feet, up to 9 feet in height with 200-gallon sodium hypochlorite tank.
- Pipes and Valves	To connect new and existing components.
<b>Modifications to Existing Components</b>	-
- Electrical, lighting, and control systems	To be modified/upgraded as needed.
- Pipes and Valves	Existing pipework to be modified to connect with new. Existing 8-inch watermain connecting to Avila Avenue to be abandoned.

Note: "-" indicates blank cell

**Table 2-1 d. Proposed Project Elements – Well Site 7**

Project Element	Details
<b>Anticipated Excavation Volumes</b>	<b>395 cubic yards total excavation</b>
- Asphalt excavation volume	325 cubic yards
- Concrete excavation volume	70 cubic yards
<b>New Site Components</b>	-
- GAC Treatment Vessels	Four vessels, each approximately 12 feet in diameter and up to 16 feet in height.
- Backwash Tank	One aboveground tank, approximately 22 feet in diameter and 16 feet in height
- Pipes and Valves	To connect new and existing components.
- Fencing	New chain link fencing around GAC vessels and backwash tank.
<b>Modifications to Existing Components</b>	-
- Chemical Building	Remove existing 350-gallon sodium hypochlorite tank and replace with 200-gallon tank.
- Electrical, lighting, and control systems	To be modified/upgraded as needed.
- Pipes and Valves	Existing pipework to be modified to connect with new.
- Fencing	Remove fence between existing well site and adjacent District storage area.

Note: "-" indicates blank cell



## **2.2.2 CONSTRUCTION PHASING AND SCHEDULE**

Construction of the proposed project is anticipated to take approximately 8 months, and work on all sites is anticipated to occur concurrently. Construction hours would be standard – no nighttime construction would be required.

## **2.2.3 OPERATION AND MAINTENANCE**

Operation of the wellhead treatment systems would be similar to existing operations at the well sites, except that well water would pass through proposed GAC treatment system. Operational activities would require, on average, one additional well site visit per week by Del Rey CSD employees, and approximately one additional truck trip per year to the site to deliver new carbon and pick up the spent carbon material for disposal.

## **2.2.4 ENVIRONMENTAL PROTECTION MEASURES**

The following environmental protection measures and best management practices (BMPs) would be incorporated into the project to avoid or minimize effects on the environment. These measures will be included in contractor specifications and will be implemented during construction.

### **2.2.4.1 General BMPs**

1. The number and size of access routes and staging areas and the total area of the disturbance will be limited to the minimum necessary to achieve the projects' purpose and goals.
2. Before work begins, the contractor will clearly delineate (e.g., stake, fence, or flag) the disturbance boundaries at the well sites.
3. The contractor will confine all equipment to designated work zones (including access roads and staging areas) in the project footprint.
4. Vehicle equipment maintenance or fueling will occur in designated staging areas. Prior to initiating any onsite work, the contractors will prepare a Hazardous Material Spill Prevention, Control, and Countermeasure Plan. This plan will minimize the potential for, and the effects of, spills of hazardous, toxic, or petroleum substances. All fencing, flagging, debris, trash, and materials from work areas and access roads will be removed following completion of project activities each season.
5. Biodegradable erosion control measures will be used whenever possible. Synthetic erosion control material, including monofilament and plastics, will not be used.
6. All project contractors must take measures to minimize fugitive dust and dirt emissions resulting from the project activities and implement measures to minimize any project effects on nearby aquatic and other sensitive habitats.

### **2.2.4.2 Erosion and Sediment Controls**

Prior to initiation of onsite project activities, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared to prevent erosion, sedimentation, and the discharge of runoff that violates agency-specified

water quality standards. Erosion and sediment control measures will include, but are not limited to, those outlined below.

1. Access roads will be maintained throughout onsite project activities. Temporary roads and project footprint entrances will be stabilized using nontoxic materials to minimize tracking of mud and dirt.
2. Erosion and sedimentation controls will be tailored to the site and project.
3. Stockpiled soils will be protected from wind and rain.
4. Silt fences, mulches, hydro-mulches, fiber rolls, erosion control fabrics, and other necessary erosion control devices will be properly installed and maintained.