



# Country Club Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant

Final Initial Study – Mitigated Negative Declaration

*prepared by*

**Soquel Creek Water District**

5180 Soquel Drive  
Soquel, California 95073

Contact: Michael Wilson, P.E.

*prepared with the assistance of*

**Rincon Consultants, Inc.**

2511 Garden Road, Suite C250  
Monterey, California 93940

**December 2021**

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**RINCON CONSULTANTS, INC.**

Environmental Scientists | Planners | Engineers

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# Table of Contents

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Initial Study.....	1
1. Project Title.....	1
2. Lead Agency Name and Address.....	1
3. Contact Person and Phone Number.....	1
4. Project Site.....	1
5. Surrounding Land Uses and Setting.....	2
6. Project Sponsor’s Name and Address.....	5
7. General Plan Designation.....	5
8. Zoning.....	5
9. Description of Project.....	5
10. Other Public Agencies Whose Approval is Required.....	13
Environmental Factors Potentially Affected.....	15
Determination.....	16
Environmental Checklist.....	17
1 Aesthetics.....	17
2 Agriculture and Forestry Resources.....	21
3 Air Quality.....	23
4 Biological Resources.....	35
5 Cultural Resources.....	45
6 Energy.....	51
7 Geology and Soils.....	55
8 Greenhouse Gas Emissions.....	63
9 Hazards and Hazardous Materials.....	69
10 Hydrology and Water Quality.....	75
11 Land Use and Planning.....	81
12 Mineral Resources.....	83
13 Noise.....	85
14 Population and Housing.....	103
15 Public Services.....	105
16 Recreation.....	107
17 Transportation.....	109
18 Tribal Cultural Resources.....	113
19 Utilities and Service Systems.....	117
20 Wildfire.....	121
21 Mandatory Findings of Significance.....	123
References.....	127
Bibliography.....	127
List of Preparers.....	131

## Tables

Table 1	Existing Site Infrastructure.....	2
Table 2	Health Effects Associated with Non-Attainment Criteria Pollutants.....	24
Table 3	Air Quality Thresholds of Significance.....	25
Table 4	Estimated Maximum Daily Construction Emissions (lbs/day) <sup>1</sup> .....	30
Table 5	Estimated Maximum Daily Operational Emissions (lbs/day).....	30
Table 6	Estimated Fuel Consumption during Construction.....	52
Table 7	Estimated Project Annual Operational Energy Consumption.....	53
Table 8	Estimated Construction GHG Emissions.....	67
Table 9	Combined Annual GHG Emissions.....	67
Table 10	AASHTO Maximum Vibration Levels for Preventing Damage.....	87
Table 11	Vibration Annoyance Potential Criteria.....	88
Table 12	Project Site Vicinity Sound Level Monitoring Results.....	90
Table 13	Maximum Construction Noise Levels by Construction Phase.....	94
Table 14	Maximum Construction Noise Levels by Construction Phase - Mitigated.....	99
Table 15	Vibration Levels at Sensitive Receivers.....	100

## Figures

Figure 1	Regional Project Location.....	3
Figure 2	Project Site Location.....	4
Figure 3	Preliminary Project Site Plan.....	7
Figure 4	Preliminary Project Rendering – Aerial View.....	8
Figure 5	Preliminary Project Rendering – Street View with Initial Landscaping.....	9
Figure 6	Preliminary Project Rendering – Street View with Trees at 10-Year Growth.....	10
Figure 7	Representative Elevations of Water Treatment Plant.....	19
Figure 8	Geologic Units and Paleontological Sensitivity of the Project Site.....	59
Figure 9	Noise Measurement Locations.....	89
Figure 10	Acceptable through Unacceptable Ranges of Noise Exposure by Land Use.....	91

## Appendices

Appendix A	Project Plans
Appendix B	Air Quality and Greenhouse Gas Modeling
Appendix C	Biological Resources Assessment
Appendix D	Cultural Resources Assessment
Appendix E	Energy Calculations
Appendix F	Geotechnical Investigation
Appendix G	Paleontological Resources Assessment
Appendix H	Noise Data and Modeling
Appendix I	Sewer Availability Letter

# Initial Study

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## 1. Project Title

Country Club Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant

## 2. Lead Agency Name and Address

Soquel Creek Water District  
5180 Soquel Drive  
Soquel, California 95073

## 3. Contact Person and Phone Number

Michael Wilson, P.E., Associate Engineer  
831-475-8501  
michaelw@soquelcreekwater.org

## 4. Project Site

The project site is an approximately 0.27-acre parcel that is located at 251 Baltusrol Drive (Assessor's Parcel Number 053-221-11) in the town of Aptos in unincorporated Santa Cruz County. The parcel is owned by Soquel Creek Water District (SqCWD). The project site is mostly enclosed by a series of fences and walls, including a wood perimeter fence ranging in height from three to five feet on the southern and eastern boundaries, a three-foot-high wood split rail fence on the northern and western boundaries, and a short wall segment on the northern boundary. A paved driveway on the northwestern corner provides access to the site, leading to a short gravel access road that runs along the northern portion of the site between the driveway and the existing water infrastructure. Table 1 summarizes existing aboveground and subsurface infrastructure on the project site. Existing aboveground infrastructure at the project site is primarily located in the northeastern corner while existing subsurface infrastructure is primarily located on the northern half of the project site. The remainder of the site is vacant and contains low-lying vegetation along with three pepper trees with multiple stems ranging from four to nine inches diameter at breast height (DBH), one walnut tree with two stems ranging from approximately 18 to 21 inches DBH, and four coast live oak saplings with stems less than four inches in diameter.<sup>1</sup> The site slopes gently to the southwest. Figure 1 shows the project site in a regional context, and Figure 2 shows the project site in a local context.

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<sup>1</sup> Tree measurements were conducted by Rincon Consultants, Inc. as part of the biological resources reconnaissance survey (Appendix C).

**Table 1 Existing Site Infrastructure**

Type	Aboveground Features	Subsurface Features
Well Infrastructure	Well pump enclosure (including a variable frequency drive, remote terminal unit, and chlorine analyzer)	Country Club well (northeastern corner)
	Chemical feed enclosure	Sand separator
Water Conveyance	None	Six-inch treated water distribution pipeline on the northern portion of the site (continues from Baltusrol Drive through the project site to an easement in private property adjacent to the eastern boundary of the project site and connects to existing water infrastructure in Clubhouse Drive to the east)
		Four-inch pump-to-waste pipeline that discharges to Bush Gulch (approximately 400 feet east of the project site boundary)
		Six-inch finished water discharge pipeline <sup>2</sup> that runs from the well pump enclosure to the six-inch treated water distribution pipeline on the eastern side of the project site
Electrical	PG&E service panel	PG&E electricity line
		Electrical ductbank between the service panel and the well pump enclosure
Other	Six-foot-high chain link fence surrounding the approximately 1,280-square-foot well pump enclosure area and a wooden fence surrounding the property	None

PG&E = Pacific Gas and Electric

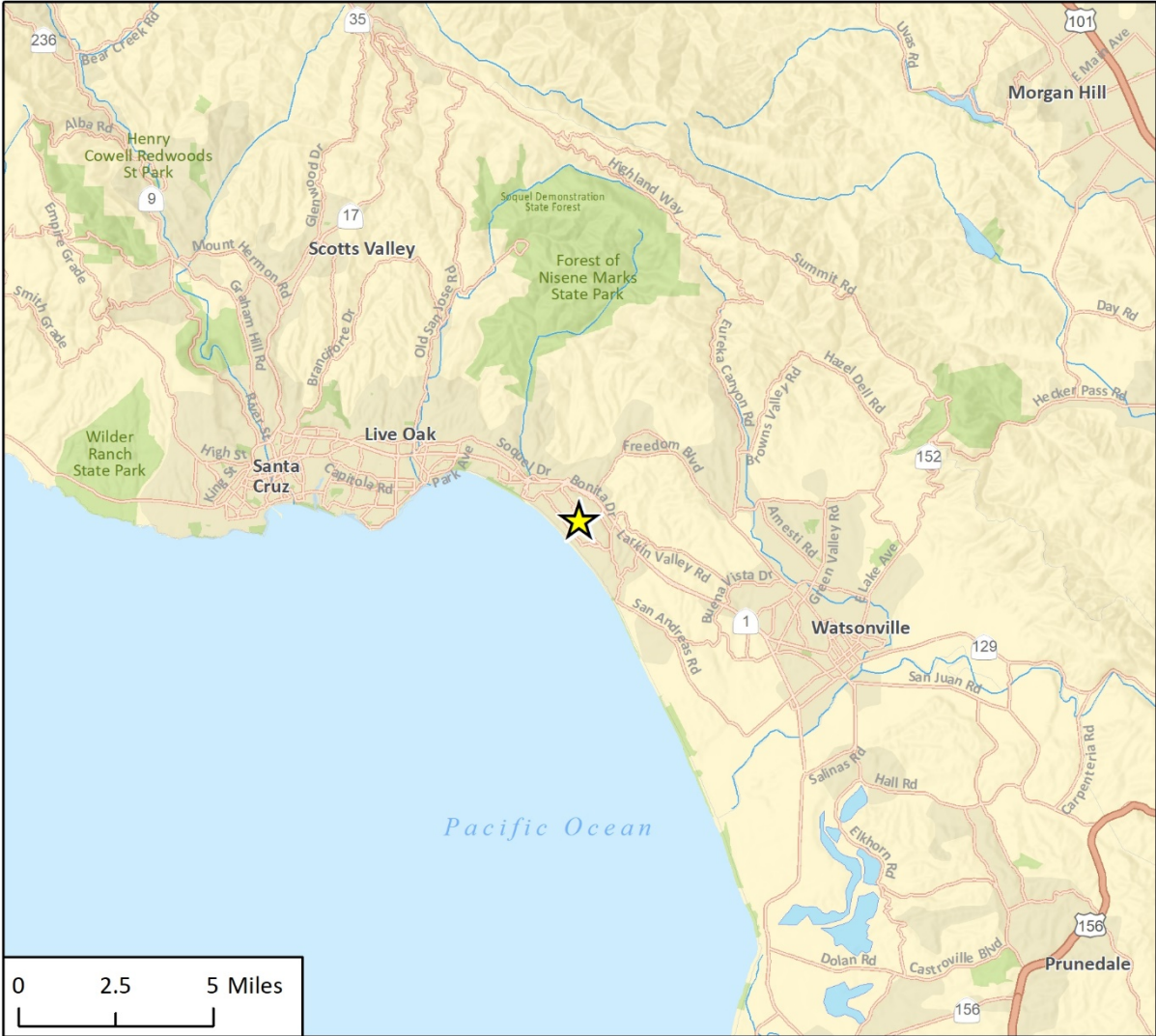
<sup>1</sup> Finished water refers to potable water distributed by SqCWD and includes treated water as well as water that is not treated through a treatment plant.

## 5. Surrounding Land Uses and Setting

The project site is adjacent to single-family residences to the north, east, and south and Baltusrol Drive to the west. Additional single-family residences are located immediately to the west across Baltusrol Drive. The larger community surrounding the project site consists of a single-family residential neighborhood. Other nearby features of note include Bush Gulch, located approximately 400 feet to the east of the project site boundary; Rio Del Mar Elementary School, located approximately 600 feet southeast of the project site boundary; and the Seascape Golf Club, located approximately 1,180 feet south of the project site boundary.

<sup>2</sup> Finished water refers to potable water distributed by SqCWD and includes treated water as well as water that is not treated through a treatment plant.

Figure 1 Regional Project Location



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★ Project Location

N



Fig 1 Regional Location



Figure 2 Project Site Location



## 6. Project Sponsor's Name and Address

Soquel Creek Water District  
5180 Soquel Drive  
Soquel, California 95073

## 7. General Plan Designation

County of Santa Cruz - R-UL (Urban Low-Density Residential); Coastal Zone

## 8. Zoning

County of Santa Cruz - R-1-10 (Single-Family Residential with a minimum net size area of 10,000 square feet per dwelling unit); Coastal Zone

## 9. Description of Project

The proposed project consists of a replacement well for the existing Country Club well, a 1,2,3-trichloropropane (1,2,3-TCP) removal water treatment plant (herein referred to as “water treatment plant”), and associated on-site and off-site improvements. SqCWD recently completed an extensive process, including a pilot test and feasibility analysis, to determine the most appropriate treatment technology for 1,2,3-TCP for raw water produced from the existing Country Club well on the project site (Corona Environmental Consulting 2018 and 2019). The chemical compound 1,2,3-TCP is a probable human carcinogen found in industrial areas due to its use as an industrial solvent and agricultural areas due to its presence as an impurity in pesticides and nematicides. Issues of 1,2,3-TCP in drinking water are pervasive across the state. According to the State Water Resources Control Board (SWRCB), nearly seven percent of active and standby public water supply wells across the state have had at least one detection of 1,2,3-TCP above the maximum contaminant level (MCL) since 2007. The project site’s historical use as agricultural land is likely related to the presence of 1,2,3-TCP in the groundwater. Concentrations of 1,2,3-TCP at the Country Club Well have been detected as high as 15 parts per trillion; therefore, treatment is required (Corona Environmental Consulting 2019). Because of the elevated levels of 1,2,3-TCP, the existing Country Club well ceased to provide water for domestic potable use in 2017. In addition, SqCWD is proposing to install a replacement well for the existing Country Club well as part of this project, which would be brought online when the existing well fails due to its age and outdated materials (SqCWD may also bring the replacement well online sooner if it is found to have better performance and/or water quality than the existing well during well development). The replacement well is proposed to be installed at this time because installation would be difficult after the water treatment plant is in place. Each component of the proposed project is described below. See Figure 3 for the preliminary proposed site plan.

### **Country Club Replacement Well**

The proposed replacement well would be a replacement for the existing Country Club well. The target pumping capacity for the replacement well is 500 gallons per minute; however, SqCWD plans to pump at an average of 400 gallons per minute, similar to how the existing well would be operated once the water treatment plant is brought online. The well would be located on the

## Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant

western portion of the project site and would be drilled to a depth of approximately 530 to 540 feet. Similar to the existing Country Club well, the replacement well would be screened in both the Aromas Red Sands aquifer and the Purisima Formation (specifically Unit F).<sup>3</sup> The well would have an approximately four-foot-tall aboveground discharge manifold and be surrounded by removable bollards. The well would connect to the water treatment plant via piping under the on-site driveway. The existing Country Club well would remain in place and operational until it fails, at which time the replacement well would be brought online and the existing well would be destroyed. With regard to well destruction, SqCWD would follow the requirements of California Well Standards Bulletin 74-90 Section 23 and Bulletin 74-81 Section 23, which require the well casing to be perforated or punctured before filling with grout. Until ~~then~~ the destruction of the existing Country Club well occurs, the replacement well would be capped. In either scenario, the existing and replacement wells would not simultaneously operate as groundwater extraction wells, although SqCWD may use the replacement well as a monitoring well while using the existing well as a groundwater extraction well.

### 1,2,3-TCP Removal Water Treatment Plant

The water treatment plant would consist of a granular activated carbon (GAC) adsorption treatment plant located in an approximately 1,862-square-foot building that would be approximately 28 feet in height. The exterior of the building would be covered in either panel siding or stucco. Figure 4 displays a preliminary design rendering of the water treatment plant building from an aerial view. Figure 5 displays a preliminary design rendering from the street view with the initial landscaping, and Figure 6 displays a preliminary design rendering from the street view with the landscaping after 10 years of growth. The water treatment plant would include dual treatment vessels (10 feet in diameter with a straight side height of 12 feet) for reliability and redundancy as well as pipelines, stormwater retention, and related appurtenances. The water treatment plant would also include chemical feed storage. The treatment plant would also include a restroom for use by SqCWD staff.

The objective of the treatment system is to remove 1,2,3-TCP to levels below the MCL of 0.005 micrograms per liter (equivalent to 5 parts per trillion) established by the SWRCB. Upon completion of the water treatment plant, groundwater extraction via the existing Country Club well would recommence. This would not represent a new source of groundwater for potable use but rather would enable SqCWD to continue utilizing an existing source of groundwater, the use of which has been temporarily suspended since 2017 due to elevated concentrations of 1,2,3-TCP. The proposed project would not result in a change in the amount of groundwater extracted by SqCWD from the underlying Mid-County Groundwater Basin under its appropriative right.

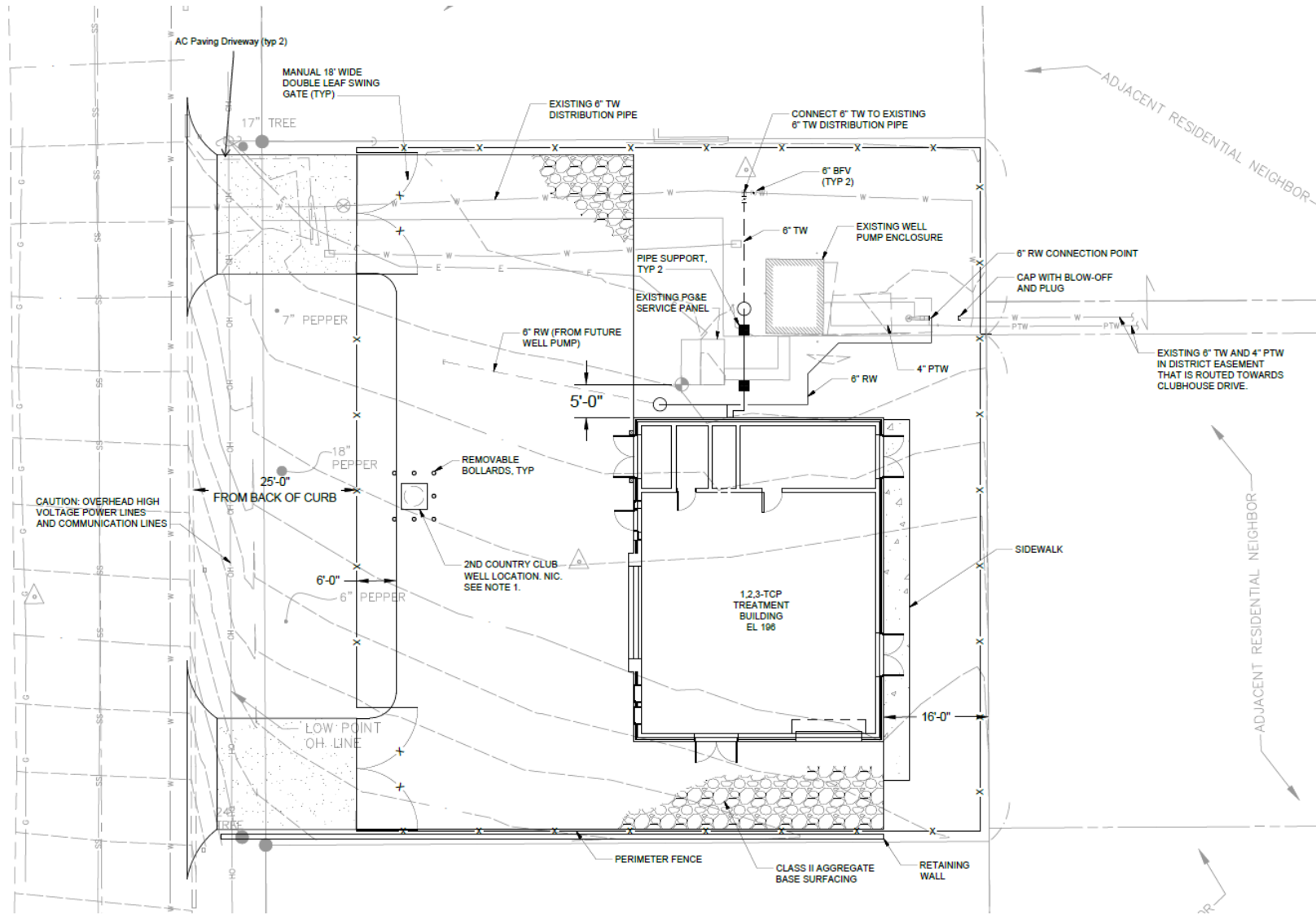
### Hexavalent Chromium Treatment Contingency Planning

The SWRCB is in the process of reestablishing an MCL for hexavalent chromium. At this point, a range of concentrations are being considered for the MCL; however, if the regulated level was determined to be less than 10 micrograms per liter, treatment for this constituent may be warranted at the existing well and the proposed replacement well. To accommodate this potential need, space would be reserved in the water treatment plant for single use anion exchange. Single use anion exchange utilizes synthetic resin beads housed in pressure vessels to remove a target contaminant, such as hexavalent chromium. Water passes through the resin beads, which contain receptor sites that receive and bind hexavalent chromium ions, thereby removing it from the water.

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<sup>3</sup> The Purisima Formation is a collection of distinct geologic units that have been assigned identification letters AA through F with Unit AA being the deepest and oldest unit and Unit F being the shallowest and youngest unit.

Figure 3 Preliminary Project Site Plan



Source: Black & Veatch 2021



**Figure 4 Preliminary Project Rendering – Aerial View**



Source: Black & Veatch 2021



**Figure 5 Preliminary Project Rendering – Street View with Initial Landscaping**



Source: Black & Veatch 2021



**Figure 6 Preliminary Project Rendering – Street View with Trees at 10-Year Growth**



Source: Black & Veatch 2021

In exchange, the resin beads release chloride ions into the water. This process is similar to that used by a home water softener to remove calcium and magnesium. Spent single-use resin would be characterized for hazardous contaminants and then sent to an appropriate waste receiving facility. Depending on raw water quality and resin performance, the exhausted resin may result in a hazardous waste due to the accumulation of hexavalent chromium on the resin material. However, the accumulation of hexavalent chromium to hazardous concentrations may be avoided operationally (e.g., by monitoring and replacing the resin before hazardous concentrations are reached) or by selecting a resin with less affinity for hexavalent chromium.

## Other Site Improvements

The project would include re-paving the existing driveway on the northwestern corner of the project site and construction of a new driveway on the southwestern corner of the project site. A wrought iron, double-leaf swing or slide gate would be installed at each driveway. The majority of the site would be covered with Class II aggregate base surfacing. A new six-foot-high wrought iron perimeter fence would be installed around the entirety of the project site, and a retaining wall would be constructed along the southern boundary of the project site if needed to raise the elevation of the site along this boundary. Additional below-grade six-inch treated water pipelines would be installed on the site to connect the existing and replacement wells to the water treatment plant. The antenna on the existing well pump enclosure would potentially be replaced if radio transmission is working poorly, and the replacement antenna may be up to 31 feet in height. The replacement antenna would be placed at ground level near the water treatment building. Additional landscaping would be planted around the perimeter of the site and would include a variety of trees, shrubs, and groundcover including *Prunus ilicifolia* (holly leaf cherry), *Quercus agrifolia* (coast live oak), *Ceanothus x 'Ray Hartman'* (Ray Hartman wild lilac), *Heteromeles arbutifolia* (toyon), *Ceanothus x 'Concha'* (Concha wild lilac), *Achillea millefolium* (common yarrow), *Muhlenbergia rigens* (deer grass), *Baccharis pilularis 'Twin Peaks'* (Twin Peaks coyote brush), and *Arctostaphylos uva-ursi* (kinnikinnick).

## Off-site Improvements

The proposed project would include construction of a sewer lateral connection from the chorine analyzer in the well pump enclosure and the restroom in the proposed water treatment plant to the Santa Cruz County Sanitation District's existing six-inch sewer main line in Baltusrol Drive.

## Stormwater Drainage

A stormwater retention system would retain the site's stormwater with an on-site retention pipe in the southern driveway sized in accordance with County of Santa Cruz design requirements. The remaining stormwater runoff would flow onto Baltusrol Drive and ultimately enter the existing storm drain approximately 1,000 feet south of the project site.

## Construction Activities

Construction activities are planned to commence around March 2022 and continue over the course of approximately 15 months, concluding around June 2023. Construction activities for the replacement well would occur from 8:00 a.m. to 8:00 p.m., Monday through Friday except for three nonconsecutive weeks during which well drilling would require 24-hour drilling activities, Monday through Sunday. Construction of the water treatment plant would occur from 8:00 a.m. to 5:00 p.m. on Monday through Friday. Temporary construction lighting would be required for 24-hour well



**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

drilling activities; lighting would be directed downwards towards the project site and away from adjacent residences. Construction staging would primarily be on site; however, some equipment may be stored on a disturbed portion of the Seascope Golf Club golf course along Clubhouse Drive.

To accommodate the proposed project, the existing chemical feed enclosure (approximately one cubic yard of concrete pad material along with building materials that may be coated in lead-based paint), approximately 20 feet of six-inch pipeline (a portion of which is made of asbestos cement), and approximately 485 feet of fencing would be demolished. The remaining existing infrastructure would be left in place. For the replacement well, approximately 300 cubic yards of soil would be exported. For the water treatment plant, approximately 410 cubic yards of soil would be exported, and approximately 500 cubic yards of aggregate base, general fill, and compacted crushed rock would be imported. Approximately 80 cubic yards of concrete would be transported to the site for construction of entrance curbs, a sidewalk, foundations, and a floor slab. Project construction would require excavation and recompaction of most of the project site to depths ranging from two to five feet. Construction equipment would be staged on site and potentially at the Seascope Golf Club along the western side of Clubhouse Drive, approximately 0.2 mile to the south of the project site. Construction worker parking would occur on the project site and along its frontage on Baltusrol Drive. Vehicles that cannot be accommodated on the project site or along its frontage would be parked at off-site locations, such as nearby parking lots and vacant disturbed areas, that would be secured by the construction contractor(s). Construction may require the removal of three pepper trees with multiple stems ranging from four to nine inches DBH, one walnut tree with two stems ranging from approximately 18 to 21 inches DBH, four coast live oak saplings with stems less than four inches in diameter, and one non-native ornamental tree.

Project construction would require groundwater pumping activities during well development, which would produce approximately 1.5 million gallons of water. Produced water would be placed in baker tanks on site to settle out solids, then disposed of via the existing pump-to-waste pipeline that discharges to Bush Gulch (approximately 400 feet to the east of the project site), which eventually discharges to the Pacific Ocean at a point approximately 0.7 mile south of the project site. During start-up and testing of the water treatment plant, water used for testing and initial backwashing of the GAC vessels would be routed to on-site baker tanks to settle out solids, dechlorinate, and reduce turbidity prior to being disposed of via the existing pump-to-waste pipeline that discharges to Bush Gulch. All water discharged to Bush Gulch would comply with SqCWD's existing National Pollutant Discharge Elimination System (NPDES) permit requirements (Order WQ 2014-0194-DWQ, General Order No. CAG14001, Waste Discharge Identification Number 4DW0118).<sup>4</sup>

Project construction would include implementation of stormwater control best management practices (BMPs) as outlined in the California Department of Transportation (Caltrans; 2017) *Construction Site Best Management Practices (BMP) Manual* (or their equivalents), including silt fences (Detail SC-1), fiber rolls (Detail SC-5), stabilized construction entrances/exits (Detail TC-1), storm drain inlet protection (Detail SC-10), wind erosion control (Detail WE-1), stockpile management (Detail WM-3), and materials storage and vehicle and equipment cleaning, fueling, and maintenance procedures that minimize the discharge of spills and leaks (Details NS-8, NS-9, NS-10, and WM-1). The project would also implement the identified geotechnical design recommendations included in the *Geotechnical Investigation for 251 Baltusrol Drive, Aptos, Santa Cruz County, California APN 053-21-11* (April 2021) and *Addendum to Geotechnical Report* (May 2021), both prepared by CMAG Engineering Inc. Furthermore, the project would implement various

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<sup>4</sup> The existing statewide NPDES permit under which SqCWD has coverage is formally expired; however, the SWRCB has indicated that until the statewide NPDES permit is renewed, SqCWD's existing permit is administratively extended and continues to be in effect.

measures to address potential safety conflicts between project construction activities and local residents who often park along Baltusrol Drive and Baltusrol Way and walk to drop off and pick up students at Rio del Mar Elementary School, which are described further in Section 17, *Transportation*.

## Operation and Maintenance

Ongoing project operation and maintenance would generate employee trips to the project site; however, no new SqCWD employees would be required. An SqCWD operator would visit the project site daily on weekdays, and an SqCWD staff member would conduct water quality visits to the site on a weekly or monthly basis. Sodium hypochlorite, which would continue to be used as a disinfection agent for water extracted from the existing and replacement wells, would be delivered to the site once a week. General site maintenance, including landscaping, would occur on a weekly or bi-monthly basis. The GAC media would be replaced approximately every two-and-a-half to three years, and the spent GAC media would be hauled away for disposal or reactivation by the company delivering the replacement media. During a replacement event, one to two SqCWD operators would be on site for approximately 14 hours. If treatment for hexavalent chromium is installed in the water treatment plant in the future, it is anticipated resin replacement would occur approximately every six months. Daily SqCWD operator visits, weekly sodium hypochlorite deliveries, and weekly to bi-monthly site maintenance visits occurred during operation of the existing Country Club well and therefore are not net new vehicle trips to the site as compared to baseline conditions (i.e., conditions at the time the existing well was online in 2017). An SqCWD staff member also conducted quarterly water quality visits (as opposed to weekly or monthly) to the existing Country Club well under baseline conditions; therefore, this visit would increase in frequency under the proposed project.

Similar to the existing Country Club well, the replacement well and water treatment plant would operate for approximately seven hours or less per day between the hours of 7:00 a.m. to 7:00 p.m. As with the existing Country Club well, the replacement well and water treatment plant may infrequently operate for longer hours or outside the hours of 7:00 a.m. to 7:00 p.m. in the event that other infrastructure in the service area is offline or during an emergency. The site would be secured with the new perimeter fencing and access gates discussed previously as well as security cameras with motion detectors. In addition, motion-sensing security lighting would likely be installed pursuant to the SWRCB Division of Drinking Water requirements.

## 10. Other Public Agencies Whose Approval is Required

Other public agencies whose approval may be required include:

- **Central Coast Regional Water Quality Control Board/SWRCB Division of Drinking Water:** amendment of Domestic Water Supply Permit
- **County of Santa Cruz:** coastal development permit, significant tree removal permit, site access and encroachment permit, well drilling permit, well destruction permit
- **Santa Cruz County Sanitation District:** sewer connection and discharge permits

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## Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                                   |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Energy  |
| <input checked="" type="checkbox"/> Geology and Soils    | <input type="checkbox"/> Greenhouse Gas Emissions           | <input type="checkbox"/> Hazards and Hazardous Materials               |
| <input type="checkbox"/> Hydrology and Water Quality     | <input checked="" type="checkbox"/> Land Use and Planning   | <input type="checkbox"/> Mineral Resources                             |
| <input checked="" type="checkbox"/> Noise                | <input type="checkbox"/> Population and Housing             | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                      | <input type="checkbox"/> Transportation                     | <input type="checkbox"/> Tribal Cultural Resources                     |
| <input type="checkbox"/> Utilities and Service Systems   | <input type="checkbox"/> Wildfire                           | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

## Determination

Based on 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 to 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 “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
\_\_\_\_\_  
Signature

Michael J. Wilson  
\_\_\_\_\_  
Printed Name

10-20-2021  
\_\_\_\_\_  
Date

Associate Engineer  
\_\_\_\_\_  
Title

# Environmental Checklist

## 1 Aesthetics

	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 a 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

According to the County’s General Plan, the vistas from designated scenic roads, ocean views, agricultural fields, wooded forests, open meadows, and mountain hillside views are considered to be scenic amenities (County of Santa Cruz 1994). The nearest designated scenic roads are State Route 1 and Sand Dollar Drive, which are County-designated scenic roads located approximately 0.8 mile east of the project site and 3 miles southeast of the project site, respectively. State Route 156 is the nearest State-designated scenic highway, located approximately 15 miles southeast of the project site (County of Santa Cruz 1994; Caltrans 2021). Given these distances, the project site would not be visible from State Route 1, Sand Dollar Drive, or State Route 156. Similarly, mountain hillside views, agricultural fields, and open meadows are not located near the project site, and the project would not block views of these scenic vistas during construction and operational activities at the project site, disturbance footprint of off-site improvements, and the potential construction staging area at Seascape Golf Club. Although the nearest wooded forest is approximately 320 feet

east of the project site, intervening residential uses block views of this forest from the project site and surrounding area. Therefore, the project would have no impact to scenic vistas.

**NO IMPACT**

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

According to Caltrans, there are no officially designated State scenic highways within the vicinity of the project site (Caltrans 2021). The nearest eligible State scenic highway is State Route 1, approximately 0.8 mile east of the project site; however, the project site, disturbance footprint of off-site improvements, and the potential construction staging area at Seascape Golf Club are not visible from the highway due to the surrounding neighborhood and wooded open space between the project site and this highway. The nearest officially designated scenic highway is Route 156 near Castroville, which is located approximately 15 miles southeast of the project site. Because the project site, disturbance footprint of off-site improvements, and the potential construction staging area at Seascape Golf Club are not located near a designated State scenic highway, no impact to scenic resources within view of a state scenic highway would occur.

**NO IMPACT**

- c. *Would the project, 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 a 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 site is located in an urbanized area developed primarily with residential land uses. Therefore, this analysis considers whether the project would conflict with applicable zoning and other regulations governing scenic quality. The site is zoned as Single-Family Residential in the Coastal Zone. Although the project itself does not include residential uses, this zoning allows for community facilities, and the project would be designed to aesthetically match the neighboring residences (see Figure 7).

No zone change or General Plan Amendment is required to accommodate the project. Although the project would be required to obtain a significant tree removal permit, this permit does not specifically relate to scenic quality. Although the removal of trees along Baltusrol Drive would eliminate the current vegetative screening of the project site from the roadway, the project would include landscaping that would prioritize vegetative screening around the perimeter of the site. To minimize operational impacts to aesthetic quality, the replacement well would be powered by a submersible motor (rather than an external motor), and the water treatment plant would be within a structure that is visually similar to the nearby residences (see Figure 4 through Figure 6 under *Description of Project*, and Figure 7 above). In addition, the project has been designed to be consistent with the height, setback, and lot coverage requirements for R-1 districts in Santa Cruz County Code Section 13.10.323. Furthermore, the project site is not within an area for which the County has special scenic area design criteria or community design criteria, as described in Santa Cruz County Code Chapter 13.20. Therefore, the project would not conflict with applicable zoning and other regulations regarding scenic quality during construction and operational activities at the

**Figure 7 Representative Elevations of Water Treatment Plant**



**Elevation 1.** Northwest Perspective (View from Baltusrol Drive, Facing Project Site)



**Elevation 2.** Southeast Perspective (View from Rear of Project Site, Facing Baltusrol Drive)



project site, disturbance footprint of off-site improvements, and the potential construction staging area at Seascope Golf Club, and impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

Construction would primarily occur during the daytime hours and generally would not require the use of lighting. However, construction lighting may be required during the early morning hours in the late fall and early winter months. In this case, lights may be visible from surrounding roadways and residential and other land uses. In addition, nighttime construction lighting would be required during the 24-hour well drilling activities. However, as described in the Project Description under *Construction Activities*, the lighting would not face toward adjacent uses and would be directed down towards construction activities. Nighttime construction lighting would not be used at the potential construction staging area at Seascope Golf Club. In addition, 24-hour well drilling would be temporary and would last for three non-consecutive weeks. Furthermore, the location of the well would be at least 40 feet away from the nearest residences on all sides. Therefore, construction activities would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the vicinity of the project sites. Upon completion of construction, none of the proposed project components would produce glare. Although there would be motion-sensing security lighting for additional nighttime security, the lighting would not be activated unless trespassing or wildlife movement on the fenced site occurred. Wildlife movement and trespassing on site would be unlikely given that the project site would be secured with an approximately six-foot-high wrought-iron perimeter fence. In addition, people walking along Baltusrol Drive would not trigger the motion-sensing lighting given the substantial setback of the water treatment plant from the roadway. Furthermore, Santa Cruz County Code Section 13.11.074(D) requires that all site, building, security, and landscape lighting to be directed onto the site and away from adjacent properties and that light sources must not be visible from adjacent properties. Therefore, the motion-sensing security lighting would not be a new source of substantial nighttime light. Therefore, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views during construction and operational activities at the project site, disturbance footprint of off-site improvements, and the potential construction staging area at Seascope Golf Club. Impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

# 2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- 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))?*

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

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

Although the project site was historically used for agricultural purposes, residential development in the surrounding community was built as early as 1953. By 1958, residential development surrounded the project site, and the greater residential community was fully built-out by 1982 (Appendix D). The project site is currently developed with water infrastructure and supporting facilities and is located in a residential area of the county. The site is designated as Urban Low-Density Residential and is zoned Single-Family Residential (R-1-10). According to the California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program, the project site is designated as Urban and Built Up Land (DOC 2021). The surrounding parcels are also designated and zoned for residential land uses and are currently developed with single-family homes. As such, the project would not convert land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. The project site is not zoned for agricultural use, timberland or forest land and is not under a Williamson Act Contract. The project site is in a residential area and is not located adjacent to farmland or forestland; therefore, the project would not lead to the conversion of these types of land to non-agricultural or non-forest uses, respectively. No impact to agriculture and forestry resources would occur.

**NO IMPACT**

### 3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),<sup>5</sup> nitrogen oxides (NO<sub>x</sub>), particulate matter with diameters of ten microns or less (PM<sub>10</sub>) and 2.5 microns or less (PM<sub>2.5</sub>), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between VOC and NO<sub>x</sub>. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

<sup>5</sup> CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this IS-MND.

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

**Air Quality Standards and Attainment**

The project site is located in the North Central Coast Air Basin, which is under the jurisdiction of the Monterey Bay Air Resources District (MBARD). As the local air quality management agency, the MBARD is required to monitor air pollutant levels to ensure that the NAAQS and CAAQS are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the North Central Coast Air Basin is classified as being in “attainment” or “nonattainment.” In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants are already occurring in that area as part of the environmental baseline condition. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The NCCAB is currently designated nonattainment-transitional for the ozone CAAQS and nonattainment for the PM<sub>10</sub> CAAQS but is either unclassified or designated attainment for all other NAAQS and CAAQS (CARB 2019).<sup>6</sup> The health effects associated with criteria pollutants for which the NCCAB is in non-attainment are described in Table 2.

**Table 2 Health Effects Associated with Non-Attainment Criteria Pollutants**

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM <sub>10</sub> )	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).

Source: U.S. EPA 2018

<sup>6</sup> A region is designated nonattainment-transitional for ozone when the standard has not been exceeded on more than three days at any one location during the last year.

## Air Quality Management

The California Clean Air Act requires each air district with jurisdiction over a nonattainment area in the state to adopt a plan showing how the CAAQS for ozone will be met. Most recently, the MBARD adopted the 2012-2015 Air Quality Management Plan (2015 AQMP) to demonstrate a pathway for the region to make progress toward meeting the ozone CAAQS. Reducing NO<sub>x</sub> emissions is crucial for reducing ozone formation and given that the primary sources of NO<sub>x</sub> emissions are mobile sources, the 2015 AQMP primarily includes measures to reduce NO<sub>x</sub> emissions, focusing on on-road and off-road vehicles.

## Air Pollutant Emission Thresholds

The MBARD (2008) *CEQA Air Quality Guidelines* provide a list of construction and operational air pollutant emissions thresholds as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds. The following sections summarize MBARD’s project-level significance thresholds for various pollutants.

### *Criteria Air Pollutants and Carbon Monoxide Hotspots*

Table 3 presents MBARD’s project-level significance thresholds for construction and operational criteria air pollutant and precursor emissions. These represent levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the NCCAB’s existing air quality conditions. For the purposes of this analysis, the project would result in a significant impact if combined construction or operational emissions from development facilitated by the project would exceed the thresholds shown in Table 3.

**Table 3 Air Quality Thresholds of Significance**

Pollutant	Source	Threshold of Significance
<b>Construction Impacts</b>		
PM <sub>10</sub>	Direct	82 lbs/day <sup>1</sup>
<b>Operational Impacts</b>		
VOC	Direct and Indirect	137 lbs/day
NO <sub>x</sub>	Direct and Indirect	137 lbs/day
PM <sub>10</sub>	On-site	82 lbs/day <sup>2</sup>
CO	N/A	LOS at intersection/road segment degrades from LOS D or better to LOS E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more
	Direct	550 lbs/day <sup>3</sup>
SO <sub>x</sub> , as SO <sub>2</sub>	Direct	150 lbs/day

Notes: lbs/day = pounds per day; PM<sub>10</sub> = particulate matter with a diameter of 10 microns or less; VOC = volatile organic compounds (also referred to as ROG, or reactive organic gases); NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = oxides of sulfur; SO<sub>2</sub> = sulfur dioxide; LOS = level of service, V/C = volume-to-capacity

<sup>1</sup> This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM<sub>10</sub> emissions may occur if a project uses equipment that is not “typical construction equipment” as specified in Section 5.3 of the MBARD (2008) *CEQA Air Quality Guidelines*.

<sup>2</sup> The District’s operational PM<sub>10</sub> threshold of significance applies only to on-site emissions, such as project-related vehicle trips along on-site unpaved roads. These impacts are generally less than significant. However, for large development projects, even if almost all travel is on paved roads, entrained road dust from vehicular travel can exceed the significance threshold.

<sup>3</sup> Modeling should be undertaken to determine if the project would cause or substantially contribute (550 lbs/day) to exceedance of the carbon monoxide ambient air quality standards. If not, the project would not have a significant impact.

Source: MBARD 2008

The carbon monoxide thresholds provided by MBARD as presented in Table 3 are designed to screen out from further analysis projects that would have a less-than-significant impact related to carbon monoxide emissions; however, projects that exceed these thresholds would not necessarily result in a carbon monoxide hotspot. Stringent vehicle emission standards in California have reduced the level of carbon monoxide emissions generated by vehicles over time such that carbon monoxide hotspots are rarely a concern except for roadways with very high traffic volumes. The adjacent Bay Area Air Quality Management District (BAAQMD) has established a volume of 44,000 vehicles per hour as the level above which traffic volumes may contribute to a violation of carbon monoxide standards (BAAQMD 2017). The NCCAB and the San Francisco Bay Area Air Basin (the jurisdiction of the BAAQMD, which is the air district immediately adjacent to MBARD to the north) are both in attainment for the federal and state standards for carbon monoxide and have not reported exceedances of the carbon monoxide standard at local monitoring stations for the last two decades (U.S. EPA 2021; BAAQMD 2017). Therefore, given the similar ambient air quality conditions for carbon monoxide in both air basins, it is appropriate to use the BAAQMD threshold in this analysis. In the absence of an MBARD threshold that establishes a specific vehicle volume for carbon monoxide hotspot impacts, the BAAQMD bright-line threshold for vehicle volume is applied in the carbon monoxide hotspot impact analysis to determine whether the project would result in an exceedance of carbon monoxide standards.

### *Odors*

The MBARD (2008) *CEQA Air Quality Guidelines* state that odor impacts would be significant if the project would result in the emission of substantial concentrations of pollutants that produce objectionable odors, causing injury, nuisance, or annoyance to a considerable number of persons, or endangering the comfort, health, or safety of the public. If construction or operation of the project would emit pollutants associated with odors in substantial amounts, the analysis should assess the impact on existing or reasonably foreseeable sensitive receptors (MBARD 2008).

### *Toxic Air Contaminants*

According to the MBARD (2008) *CEQA Air Quality Guidelines*, a project would have a significant impact if it would site a sensitive receptor near an unregulated source of toxic air contaminant (TAC) emissions (e.g., diesel-fuel internal combustion engines, parking areas for diesel fueled heavy duty trucks and buses, gasoline stations, and dry cleaners) that would result in an exceedance of health risk public notification thresholds adopted by MBARD in Rule 1000. The *CEQA Air Quality Guidelines* also set forth the following thresholds, which are the same as the public notification thresholds (MBARD 2008):

- The hazard index is greater than one for acute or chronic impacts; or
- The cancer risk is greater than 10 in one million for long-term operational emissions or one per 100,000 population for temporary construction-related emissions.

### *Air Quality Management Plan Consistency*

The proposed project would be inconsistent with the 2015 AQMP, and would therefore have a cumulatively considerable (significant) contribution to significant cumulative air quality impacts, if it would result in either of the following (MBARD 2008; Duymich 2018):

- Population growth generated by the project would cause the population of unincorporated Santa Cruz County to exceed the population forecast for the appropriate five-year increment utilized in the 2015 AQMP; or<sup>7</sup>
- Construction and operational emissions of ozone precursors would exceed the significance thresholds established by MBARD, which are intended to set the allowable limit that a project can emit without impeding or conflicting with the 2015 AQMP's goal of attainment ambient air quality standards.

### *Cumulative Impacts*

MBARD requires an evaluation of cumulative ozone, carbon monoxide, and PM<sub>10</sub> impacts. Cumulative ozone impacts are evaluated based on the project's consistency with the 2015 AQMP, while cumulative carbon monoxide and PM<sub>10</sub> impacts are evaluated using the same thresholds as the project-level analysis because air quality impacts are cumulative in nature. The cumulative CO hotspot analysis should account for cumulative traffic volumes to assess cumulative carbon monoxide impacts.

### **Methodology**

Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod uses project-specific information, including the project's land uses, square footages for different uses, and location, to model a project's construction and operational emissions. The analysis reflects the construction and operation of the project as described under *Description of Project*.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the construction schedule and construction equipment list provided by the project's engineering and design team. It is assumed all construction equipment would be diesel-powered. The replacement well and water treatment plant would not be constructed concurrently; the water treatment plant would be constructed after completion of the replacement well. Construction of the replacement well would occur over the course of approximately four months with work occurring Monday through Friday for initial and final site work and Monday through Sunday for well drilling activities. Approximately 300 cubic yards of soil would be exported, and material deliveries would require approximately two one-way trips per day during the well installation phase. An average of four construction workers would be on site daily. Construction of the water treatment plant would occur over the course of approximately seven months with work occurring Monday through Friday. Approximately 410 cubic yards of soil would be exported, and approximately 500 cubic yards of aggregate base, general fill, and compacted crushed rock would be imported. Material deliveries would require approximately two one-way trips per day during the building construction phase. Approximately 80 cubic yards of concrete would be transported to the site for construction of entrance curbs, a sidewalk, foundations, and a floor slab. Concrete transport would require approximately 10 roundtrip truck trips, which would equate to approximately one roundtrip truck trip per day during the aggregate base surfacing phase (Trex 2021). An average of eight construction workers would be on site daily. This analysis assumes the project would comply with all

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<sup>7</sup> In Monterey County, consistency with population forecasts is based on comparing a project's population with countywide forecasts to avoid confusion related to declining population forecasts for cities on the Monterey Peninsula (MBARD 2008).



applicable regulatory standards. In particular, the project would comply with MBARD Rule 426 (Architectural Coatings).

Operational emissions modeled include area source emissions and mobile source emissions (i.e., vehicle emissions).<sup>8</sup> Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coatings. Mobile source emissions are generated by vehicle trips to and from the project site. For the air quality analysis, it was assumed maximum daily emissions would be generated on a day during which the daily SqCWD operator visit, weekly sodium hypochlorite delivery, weekly site maintenance visit, weekly water quality visit, semi-annual hexavalent chromium resin replacement visit, and GAC media replacement visit by two staff coincide, which would equate to 14 roundtrip vehicle trips. In this scenario of maximum daily trips, approximately 71.4 percent of trips would be made using a light-duty truck (the SqCWD operator visit, water quality visit, site maintenance visit, and GAC media replacement visits) and approximately 28.6 percent of trips would be made using a medium-duty truck (the sodium hypochlorite and hexavalent chromium resin replacement visit). It is highly unlikely that this scenario of maximum daily trips would occur; however, it is used in this analysis to provide a conservative estimate of project impacts. In addition, although a small number of other existing SqCWD staff may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, these vehicle trips would not be new to the air basin because they are currently occurring in the service area as staff complete their duties and use restroom facilities at other locations. Therefore, these vehicle trips are not included in the analysis because they would not represent a source of new air pollutant emissions associated with the project.

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

A project could be inconsistent with the 2015 AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the 2015 AQMP. MBARD uses growth forecasts provided by the Association of Monterey Bay Area Governments (AMBAG) to project population-related emissions, which are used in developing the AQMP for the NCCAB. AMBAG is the regional planning agency for Monterey, San Benito, and Santa Cruz counties and addresses regional issues relating to transportation, economy, community development, and environment. The 2015 AQMP utilizes the 2014 Regional Growth Forecasts adopted by the AMBAG Board in June 2014 as the basis for emissions forecasting and the land use and transportation control portions of the 2015 AQMP (MBARD 2017).<sup>9</sup>

The proposed project does not include housing and therefore would not directly result in population growth. In addition, project operation would not require additional SqCWD employees. Furthermore, the project consists of a replacement well and water treatment plant that would not represent a new water supply source but would rather provide treatment of an existing water supply source that was taken offline due to contamination concerns. The project would enable

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<sup>8</sup> CalEEMod only calculates direct emissions of criteria pollutants from energy sources that combust on site, such as natural gas used in a building (California Air Pollution Control Officers Association 2021). The project would not include natural gas usage. In addition, CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the U.S. EPA, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users. Therefore, air pollutant emissions from energy usage were not quantified (California Air Pollution Control Officers Association 2021).

<sup>9</sup> On June 13, 2018, AMBAG's Board of Directors adopted the 2018 Regional Growth Forecast. However, the 2015 AQMP was adopted prior to this date and relies on the demographic and growth forecasts of the 2014 Regional Growth Forecast; therefore, the 2014 forecasts are utilized in the analysis of the project's consistency with the 2015 AQMP.

SqCWD to continue providing its existing customers with a safe, reliable water supply and would not serve additional customers. Moreover, as described under checklist question (b) below, project emissions would not exceed MBARD's construction or operational ozone precursor thresholds. Therefore, the project would be within the population forecasts used in the 2015 AQMP and would not generate air pollutant emissions that would impede or conflict with the AQMP's goal of achieving attainment of the ozone CAAQS. As a result, the project would not conflict with the implementation of the 2015 AQMP. No impact would occur.

**NO IMPACT**

- 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 NCCAB is designated nonattainment for the ozone and PM<sub>10</sub> CAAQS. The following subsections discuss criteria pollutant emissions associated with construction and operation of the proposed project.

**Construction Emissions**

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and exhaust emissions from heavy construction equipment and construction vehicles in addition to VOC emissions that would be released during the drying phase of architectural coating. Table 4 summarizes the estimated maximum daily emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed MBARD thresholds. Therefore, project construction would not 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. Impacts would be less than significant.

**Table 4 Estimated Maximum Daily Construction Emissions (lbs/day)<sup>1</sup>**

Construction Year	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Replacement Well</b>						
2022	4	36	40	< 1	2	2
<b>Maximum Emissions</b>	<b>4</b>	<b>36</b>	<b>40</b>	<b>&lt; 1</b>	<b>2</b>	<b>2</b>
MBARD Thresholds	n/a	n/a	n/a	n/a	82 <sup>2</sup>	n/a
Threshold Exceeded?	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>No</b>	<b>n/a</b>
<b>Water Treatment Plant</b>						
2022	4	44	38	< 1	9	5
2023	5	49	47	< 1	3	2
<b>Maximum Emissions</b>	<b>5</b>	<b>49</b>	<b>47</b>	<b>&lt; 1</b>	<b>9</b>	<b>5</b>
MBARD Thresholds	n/a	n/a	n/a	n/a	82 <sup>2</sup>	n/a
Threshold Exceeded?	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>No</b>	<b>n/a</b>

lbs/day = pounds per day; VOC = volatile organic compounds, NO<sub>x</sub> = nitrogen oxides, CO = carbon monoxide, SO<sub>2</sub> = sulfur dioxide, PM<sub>10</sub> = particulate matter 10 microns in diameter or less, PM<sub>2.5</sub> = particulate matter 2.5 microns or less in diameter

Notes: All emissions modeling was completed made using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from “mitigated” results, which account for compliance with regulations (including MBARD Rule 426). Emissions presented are the highest of the winter and summer modeled emissions.

<sup>1</sup> The replacement well and water treatment plant would not be constructed concurrently; therefore, construction air quality impacts are evaluated separately for each project component.

<sup>2</sup> This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM<sub>10</sub> emissions may occur if a project uses equipment that is not “typical construction equipment” as specified in Section 5.3 of the MBARD (2008) *CEQA Air Quality Guidelines*.

## Operational Emissions

Operation of the project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment) and mobile sources (i.e., vehicle trips to and from the project site). Table 5 summarizes the project’s maximum daily operational emissions by emission source. As shown therein, even when evaluating a highly conservative scenario in which maximum daily trips the project site occur, operational emissions would be far below MBARD thresholds for criteria pollutants. Therefore, project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, and impacts would be less than significant.

**Table 5 Estimated Maximum Daily Operational Emissions (lbs/day)**

Emissions Source	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	< 1	< 1	< 1	< 1	< 1	< 1
Mobile	< 1	< 1	< 1	< 1	< 1	< 1
<b>Total</b>	<b>&lt; 1</b>	<b>&lt; 1</b>	<b>&lt; 1</b>	<b>&lt; 1</b>	<b>&lt; 1</b>	<b>&lt; 1</b>
MBARD Thresholds	137	137	550	150	82	n/a
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>n/a</b>

lbs/day = pounds per day; VOC = volatile organic compounds, NO<sub>x</sub> = nitrogen oxides, CO = carbon monoxide, SO<sub>2</sub> = sulfur dioxide, PM<sub>10</sub> = particulate matter 10 microns in diameter or less, PM<sub>2.5</sub> = particulate matter 2.5 microns or less in diameter

Notes: All emissions modeling was completed made using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from “mitigated” results, which account for compliance with regulations (including MBARD Rule 426). Emissions presented are the highest of the winter and summer modeled emissions.

## LESS THAN SIGNIFICANT IMPACT

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

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Therefore, most sensitive receptor locations are schools, hospitals, and residences. Sensitive receptors in the project vicinity include single-family residences located immediately north, south, and east of the project site as well as single-family residences to the west across Baltusrol Drive. In addition, Rio Del Mar Elementary School is located approximately 600 feet southeast of the project site. Localized air quality impacts to sensitive receptors typically result from carbon monoxide hotspots and TACs, which are discussed in the following subsections.

### **Carbon Monoxide Hotspots**

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the one-hour NAAQS of 35.0 ppm or the eight-hour NAAQS and CAAQS of 9.0 ppm (CARB 2016). As discussed under *Air Emission Thresholds* above, a significant carbon monoxide impact would occur if project-generated traffic would increase the traffic volume to 44,000 vehicles per hour or greater. The project site is located in a residential neighborhood with low existing levels of traffic. Baltusrol Drive north of Baltusrol Way serves as the primary local access roadway for approximately 10 single-family residences. According to the Institute of Transportation Engineers (~~2017~~ 2021) *Trip Generation Handbook, 10<sup>th</sup> Edition* 11<sup>th</sup> Edition, single-family residences generate approximately ~~9.44~~ 9.43 average daily trips; therefore, existing daily traffic volumes on this segment of Baltusrol Drive are approximately 94 average daily trips for local residents, in addition to a minor number of daily vehicle trips that may travel through from other areas of the neighborhood and ancillary vehicles such as mail delivery and garbage collection trucks. The project would require a daily visit from an SqCWD operator on weekdays, weekly deliveries of sodium hypochlorite, weekly or monthly water quality visits by SqCWD staff, weekly or bi-monthly visits for site maintenance, and infrequent visits to replace the GAC media every two-and-a-half to three years. This level of additional vehicular traffic would not be sufficient to cause traffic volumes on Baltusrol Drive and other area roadways to exceed the 44,000 vehicles-per-hour threshold set by BAAQMD (2017). Therefore, the project would not expose sensitive receptors to substantial carbon monoxide concentrations, and impacts would be less than significant.

### **Toxic Air Contaminants**

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

#### *Construction*

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, well drilling, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2021) and is therefore the focus of this analysis.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 11 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the total duration of proposed construction activities (i.e., 11 months) is approximately three percent of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2017).

The maximum PM<sub>10</sub> and PM<sub>2.5</sub> emissions would occur during demolition, site preparation, grading, and well drilling activities. These activities would last for approximately two months. PM emissions would decrease for the remaining construction period because construction activities such as building construction and architectural coating would require less intensive construction equipment. While the maximum DPM emissions associated with demolition, site preparation, grading, and well drilling activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent less than one percent of the total 30-year exposure period for health risk calculation. Given the aforementioned discussion, DPM generated by project construction would not create conditions where the probability is greater than one in 100,000 of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a chronic or acute Hazard Index greater than one for the Maximally Exposed Individual. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

### *Operation*

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The CARB guidelines recommend siting distances both for the development of sensitive land uses in proximity to TAC sources and for the addition of new TAC sources in proximity to existing sensitive land uses. Water supply and treatment infrastructure are not considered land uses that generate substantial TAC emissions based on review of the air toxic sources listed in CARB's guidelines. Furthermore, none of the project components would generate TAC emissions, such as DPM emissions. Therefore, project operation would not result in the exposure of off-site sensitive receptors to significant amounts of carcinogenic or toxic air contaminants. No impact would occur.

### **LESS THAN SIGNIFICANT IMPACT**

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

The project would generate oil and diesel fuel odors during construction from equipment as well as odors related to asphalt paving. These odors would be limited to the construction period and would be intermittent and temporary. Furthermore, these odors would dissipate rapidly with distance from in-use construction equipment and therefore would not adversely affect a substantial number of people. The proposed project involves a replacement groundwater well and a water treatment plant, which do not include components with the potential to produce odors. Therefore, the project would not result in other emissions, such as those leading to odors, adversely affecting a substantial number of people. Impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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# 4 Biological Resources

	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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Regulatory authority over biological resources is shared by federal, State, and local authorities under a variety of statutes and guidelines. Primary authority for general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the County of Santa Cruz). The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the State under CEQA and also has direct jurisdiction under the California Fish and Game Code (CFGC). Under the California and federal Endangered Species Acts (CESA/ESA), the CDFW and the United States Fish and Wildlife Service (USFWS) also have direct regulatory authority over species formally listed as threatened or endangered and species protected by the Migratory Bird Treaty Act (MBTA).

The following analysis is based primarily on the Biological Resources Assessment prepared for the project by Rincon Consultants, Inc. (Rincon), which is included as Appendix C. As part of the Biological Resources Assessment, Rincon conducted a field reconnaissance survey of the project site and the disturbance footprint of the off-site improvements in April 2021.

- 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 Wildlife or U.S. Fish and Wildlife Service?*

### **Special-status Plant Species**

Direct impacts to special-status plant species typically occur due to removal of individuals or crushing by heavy equipment if they are present in a project's disturbance footprint. No special-status plant species were incidentally observed during the reconnaissance-level field survey, which was conducted during the spring blooming period when many species are identifiable. In addition, based on the developed nature of the site, lack of natural vegetation communities, and habitat requirements of special-status plant species, none of the 48 special-status plant species known to occur in the region were determined to have the potential to occur on the project site, within the disturbance footprint of off-site improvements, or at the potential construction staging area at Seascape Golf Club. Therefore, given the developed nature of the project site, disturbance footprint of off-site improvements, and the potential construction staging area as well as existing surrounding development and the lack of potential for special-status plant species to occur, the project would not result in adverse effects to special-status plant species. Impacts would be less than significant.

### **Special-status Wildlife Species**

No federal or State-listed or other special-status wildlife species were incidentally observed during the field survey. Of the 35 species evaluated, Rincon determined that pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*) have a moderate potential to occur at the project site, the disturbance footprint of the off-site improvements, and the potential construction staging area at Seascape Golf Club as well as in the surrounding area. Both species are species of special concern (SSC) but are not listed as endangered or threatened under the ESA and CESA. Although the project site is surrounded by existing development on all four sides, potential roosting and foraging habitat is present on and adjacent to the project site. Thus, there is a moderate potential for these two species to roost in trees and existing well pump enclosure on the project site. In addition, the project site contains suitable nesting habitat for resident and migratory birds, including a variety of native avian species common to urban areas, including northern mockingbird (*Mimus polyglottos*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), and black phoebe (*Sayornis nigricans*) (Appendix C).

If nesting birds protected by the CFGC or MBTA or bat maternity colonies protected by the CFGC are present on or near the project site during construction, direct effects could include injury or mortality from construction activity, and indirect effects could include nest and roost abandonment from construction noise, dust, and other project activities. Therefore, impacts to special-status bat species would be potentially significant, and implementation of Measure BIO-1 would be required to minimize the potential for project impacts. The loss of active bird nests would be a violation of the MBTA and CFGC Sections 3503 and 3513; however, the loss of common avian species does not constitute a significant impact under CEQA. Nevertheless, implementation of Mitigation Measure BIO-2 would be required for the project to maintain compliance with federal and State laws related to all avian species.

Bush Gulch, located approximately 400 feet to the east of the project site, has a high potential for Santa Cruz long toed salamander. During well development and startup/testing, groundwater would be produced, which would be placed in baker tanks to settle out solids. Groundwater would then be disposed of via SqCWD's existing pump-to-waste pipeline that discharges to Bush Gulch. All water discharged to Bush Gulch would be required to comply with SqCWD's existing NPDES permit (Order WQ 2014-0194-DWQ, General Order No. CAG14001, Waste Discharge Identification Number 4DW0118), which includes requirements for effluent and receiving water limitations and implementation of BMPs to minimize sediment discharge, turbidity, and color impacts. In addition, SqCWD's existing NPDES permit only allows discharges if they do "not cause or contribute to exceedance of a water quality objective or standard in the receiving water, other than water quality objectives or standards for parameters that have been granted an exception under the State Water Board Resolution 2014-0067 and are not part of a TMDL [Total Daily Maximum Load], and at minimum shall not cause or contribute to an occurrence of the following in the receiving water.....Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."<sup>10</sup> In addition, according to the federal Agency of Toxic Substances and Disease Registry (a division of the Centers for Disease Control and Prevention), 1,2,3-TCP breaks down when exposed to sunlight, evaporates from surface water, and "is not expected to build up in fish or plants" (Agency of Toxic Substances and Disease Registry 2021). Furthermore, the United States Environmental Protection Agency states that that 1,2,3-TCP is "unlikely to become concentrated in plants, fish or other aquatic organisms because it has a low estimated bioconcentration factor range" (U.S. EPA 2017).<sup>11</sup> Moreover, in a separate toxicological review, the U.S. EPA indicated that previous studies showed 1,2,3-TCP became adversely toxic to guppies (*Poecilia reticulata*) and medaka (*Oryzias latipes*) at concentrations ranging from 4.5 to 18 milligrams per liter, or approximately 4,500,000,000 to 18,000,000,000 parts per trillion, during continuous exposure periods ranging from 6 to 16 months (U.S. EPA 2009). As stated under *Description of Project*, concentrations of 1,2,3-TCP at the Country Club Well have been detected as high as 15 parts per trillion, which is substantially below the level of aquatic toxicity observed for guppies and medaka. Also, groundwater discharge would only occur over three non-consecutive weeks during well development and testing in the construction phase. As a result, even if 1,2,3-TCP did not evaporate from the groundwater discharged to Bush Gulch, concentrations would not likely reach a level that could significantly harm aquatic species such as the Santa Cruz long-toed salamander. Therefore, due to the SqCWD's compliance with its existing NPDES permit, the properties of 1,2,3-TCP, and the temporary nature of the groundwater discharge to Bush Gulch, the 1,2,3-TCP contained in groundwater discharged to Bush Gulch during well

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<sup>10</sup> 1,2,3-TCP has not been granted an exception under the State Water Board Resolution 2014-0067; therefore, this performance standard is applicable to the proposed discharge to Bush Gulch.

<sup>11</sup> The bioconcentration factor is the ratio of the concentration of a substance in an organism to the concentration in water and is used as a measure of a chemical substance's tendency to accumulate in a living organism (ScienceDirect 2021).

development and testing would not result in significant adverse impacts to Santa Cruz long-toed salamander. Therefore, this groundwater discharge would not result in a significant impact to the Santa Cruz long-toed salamander.

No other special-status species are expected to occur on the project site due to a lack of species-specific habitat requirements on site and the overall lack of suitable habitat, such as natural vegetation communities or natural wetland habitats (e.g., marshes or seeps). The project site is relatively small and isolated from any natural habitats by existing development. As such, it does not support a prey base for larger predators/raptors and lacks connectivity to regional populations of special-status species (Appendix C). In summary, the project would result in potentially significant impacts to special-status bats as well as nesting birds that may be present on or near the project site, and implementation of Mitigation Measures BIO-1 and BIO-2 would be required.

## **Mitigation Measures**

### *BIO-1 Implementation of Roosting Bat Surveys and Protection Plan*

Prior to tree removal or structure demolition, a qualified biologist shall conduct a focused survey of all trees within the project boundaries and the existing well pump enclosure, to determine whether active roosts of special-status bats are present on site. If tree removal or structure demolition is planned for the fall or winter, the survey shall be conducted in September to ensure tree removal would have adequate time to occur outside periods of hibernation and during seasonal periods of bat activity (March 1 to April 15, September 1 to October 15, or in any month when evening temperatures rise above 45 degrees Fahrenheit and/or no more than 0.5 inch of rainfall within 24 hours occurs, as described below). If tree removal is planned for the spring, then the survey shall be conducted during the earliest feasible time in March to allow for suitable conditions for the detection of bats, and subsequent tree removal. Trees containing suitable potential bat roost habitat features shall be clearly marked or identified. If day roosts are found to be potentially present, the biologist shall prepare a site-specific roosting bat protection plan to be implemented by the contractor following SqCWD's approval. The plan shall incorporate the following guidance as appropriate:

- When feasible, removal of trees and structures identified as suitable roosting habitat shall be seasonally timed to avoid disturbance during the hibernation and breeding seasons, including the following:
  1. Between September 1 and about October 15, or before evening temperatures fall below 45 degrees Fahrenheit and/or more than 0.5 inch of rainfall within 24 hours occurs.
  2. Between March 1 and April 15, or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than 0.5 inch of rainfall within 24 hours occurs.
- If a tree or structure must be removed during the breeding season and is identified as potentially containing a maternity roost, then a qualified bat biologist shall conduct visual or acoustic emergence surveys or implement other appropriate methods as determined by the bat biologist to further evaluate if the roost is an active maternity roost. If it is determined that an active maternity roost of a colonial roosting species is present, the roost shall not be disturbed during the breeding season (April 15 to August 31). If it is determined to not be an active maternity roost, the tree or structure may be removed under the guidance of the qualified bat biologist.

- Potential non-colonial hibernation roosts shall only be removed during seasonal periods of bat activity outside the hibernation and breeding seasons. Potential non-colonial roosts that cannot be avoided shall be removed on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly. Appropriate methods as determined by the qualified bat biologist shall be used to minimize the potential harm to bats during tree or structure removal. For trees, such methods may include using a two-step tree removal process. This method is conducted over two consecutive days and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (i.e., no excavators or other heavy machinery) on the first day with the remainder of tree removal occurring on the second day.<sup>12</sup>

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Retain a qualified biologist to conduct a focused tree and structure survey for active roosts and review survey results	1. Prior to tree removal or structure demolition	1. Once	Soquel Creek Water District
2. Review site-specific roosting bat protection plan	2. Prior to tree removal or structure demolition	2. Once	
3. Field verify compliance with any avoidance requirements, as needed	3. During initial site disturbance activities, as needed, until trees are removed	3. Periodically	

*BIO-2 Implementation of Nesting Bird Surveys and Avoidance Buffers*

To avoid disturbance of nesting and special-status birds or migratory species protected by the MBTA and CFGC Sections 3503, 3503.5, and 3513, activities related to the project, including but not limited to vegetation and/or tree removal, shall occur outside of the bird breeding season (February 1 through August 30) if feasible. If ground disturbance, vegetation removal, or heavy equipment work must begin within the breeding season, then a pre-construction nesting bird survey shall be conducted no more than 14 days prior to the start of construction. The pre-construction nesting bird survey shall be conducted by a qualified biologist within the disturbance footprint and a 300-foot buffer, using binoculars where access is limited.

If nests are found, an avoidance buffer shall be established by a qualified biologist. The buffer shall be established on the project site to ensure nesting activity is not disturbed by project construction activity and shall be determined by the qualified biologist based on the species’ known tolerances, the proposed work activity, and existing disturbances associated with land uses outside of the site. The buffer shall be demarcated by the biologist on the project site with bright construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No construction activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting has completed, and the young have fledged the nest, or the nest has become otherwise inactive. Encroachment into the buffer shall occur only at the discretion of the qualified biologist. If construction activities at the project site cease for more than 14 days during the bird nesting season, an additional survey shall be conducted for the work area. If active nests are located, the aforementioned buffer zone measures shall be implemented.

<sup>12</sup> In Rincon’s experience, the noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed to not return to the roost that night.

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Retain a qualified biologist to conduct a preconstruction nesting bird survey and review survey results	1. Within 14 days prior to initial ground disturbance	1. Once	Soquel Creek Water District
2. Field verify compliance with any avoidance requirements, as needed	2. During initial site disturbance activities, as needed, until nests are inactive	2. Weekly, as needed	

**Significance After Mitigation**

Implementation of Mitigation Measure BIO-1 would minimize the potential for project construction activities to disturb active roosts of special-status bat species through tree and structure surveys, implementation of a site-specific roosting bat protection plan if day roosts are found, and schedule limitations on tree removal and structure demolition. Implementation of Mitigation Measure BIO-2 would reduce the potential for project construction activities to result in the loss of active bird nests through a pre-construction nesting bird survey and establishment of avoidance buffers around active nests, if present. Implementation of these measures would reduce project impacts to special-status wildlife species to a less-than-significant level.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

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

No CDFW-listed sensitive natural communities or riparian habitats are present within the project site, disturbance footprint of off-site improvements, or potential construction staging area at Seascape Golf Club (Appendix C). Groundwater would be discharged to Bush Gulch via SqCWD's existing pump-to-waste pipeline during well development and start-up/testing of the replacement well. Bush Gulch is mapped as a riverine water feature in the USFWS (2021) National Wetlands Inventory. However, all water discharged to Bush Gulch would be required to comply with SqCWD's existing NPDES permit requirements (Order WQ 2014-0194-DWQ, General Order No. CAG14001, Waste Discharge Identification Number 4DW0118). The permit includes the following requirements that would minimize the potential for adverse impacts to riparian habitats:

- Effluent and receiving water limitations;
- Requirements to implement BMPs to prevent riparian erosion and hydromodification through flow dissipation, erosion control, and hydromodification prevention measures;
- Requirements to implement BMPs to minimize sediment discharge, turbidity and color impacts; and
- Monitoring and reporting provisions to regulate compliance.

Therefore, with NPDES permit compliance, impacts to sensitive natural communities or riparian habitats would be less than significant.

#### **LESS THAN SIGNIFICANT IMPACT**

- 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?*

No jurisdictional features occur within the project site, disturbance footprint of off-site improvements, or potential construction staging area at Seascape Golf Club (Appendix C). Groundwater would be discharged to Bush Gulch via SqCWD's existing pump-to-waste pipeline during well development and start-up/testing of the replacement well. Bush Gulch is mapped as a riverine water feature in the USFWS (2021) National Wetlands Inventory. However, all water discharged to Bush Gulch would comply with SqCWD's existing NPDES permit requirements (Order WQ 2014-0194-DWQ, General Order No. CAG14001, Waste Discharge Identification Number 4DW0118). The permit includes the following requirements that would minimize the potential for adverse impacts to wetlands:

- Effluent and receiving water limitations;
- Requirements to implement BMPs to prevent riparian erosion and hydromodification through flow dissipation, erosion control, and hydromodification prevention measures;
- Requirements to implement BMPs to minimize sediment discharge, turbidity and color impacts; and
- Monitoring and reporting provisions to regulate compliance.

Therefore, with NPDES permit compliance, impacts to wetlands would be less than significant.

#### **LESS THAN SIGNIFICANT IMPACT**

- 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?*

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

The project site, disturbance footprint of off-site improvements, and potential construction staging area at Seascape Golf Club are not within any Essential Connectivity Areas or Natural Landscape Blocks (Appendix C). Additionally, these areas are surrounded by existing development and do not provide connectivity opportunities for local wildlife movement. In addition, Bush Gulch, where groundwater would be discharged during well development and start-up/testing of the replacement well, is an ephemeral drainage that does not serve as an aquatic wildlife movement corridor or provide fish passage. As such, the proposed groundwater discharge would not affect a wildlife movement corridor or fish passage. Therefore, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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

Eight trees are located within the project site, and no trees are located within the disturbance footprint of off-site improvements or the potential construction staging area at Seascape Golf Club. These trees consist of four coast live oak saplings with stems less than four inches in diameter, three pepper trees with multiple stems ranging from four to nine inches DBH, and one black walnut tree with two stems each ranging from approximately 18 to 21 inches DBH. Construction activities may require the removal of all trees on the project site. Pursuant to Santa Cruz County Code Chapter 16.34 (Significant Trees), the black walnut tree is considered a “significant tree” for which a significant tree removal permit may be required. However, according to Section 16.34.090(C), any tree removal authorized pursuant to a valid discretionary permit approved pursuant to Chapter 13.10 (Zoning Regulations), Chapter 13.20 (Coastal Zone Regulations), Chapter 14.01 (Subdivision Regulations), Chapter 16.20 (Grading Regulations), Chapter 16.22 (Erosion Control), Chapter 16.30 (Riparian Corridor and Wetlands Protection), Chapter 16.32 (Sensitive Habitat Protection), or Chapter 16.54 (Mining Regulations) is exempt from the code requirements for significant tree removal permits. The County of Santa Cruz has confirmed that the project would be exempt from applying for a significant tree removal permit because the tree removal would be authorized pursuant to a valid discretionary permit approved pursuant to Santa Cruz County Code Chapter 13.20 (Ditmars 2021).

The project site is within the Coastal Zone; however, the project would not involve development within sensitive habitat areas. Therefore, the project would be consistent with Santa Cruz County Code Chapter 16.32 (Sensitive Habitat Protection) and Policies 5.1.2 and 5.1.6 of the County’s

General Plan/Local Coastal Program (LCP), which pertain to the protection of sensitive habitats in the Coastal Zone (Appendix C). As discussed under checklist item (a), the project would potentially result in impacts to special-status roosting bat species; therefore, implementation of Mitigation Measure BIO-1 would be required to minimize the potential for project impacts. In addition, the project would be required to comply with the provisions of the MBTA and CFGC Sections 3503 and 3513 to protect nesting birds, and implementation of Mitigation Measure BIO-2 is required to maintain compliance with federal and State laws related to all avian species. With implementation of Measures BIO-1 and BIO-2, the project would be consistent with Policy 5.1.10 of the County's General Plan and LCP, which requires protection of rare, endangered, and threatened species. Therefore, with the County's approval of the significant tree removal permit and coastal development permit and implementation of Mitigation Measures BIO-1 and BIO-2, no conflicts with local ordinance or policies would occur. Impacts would be less than significant with mitigation incorporated.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

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

The project site, disturbance footprint of off-site improvements, and potential construction staging area at Seascape Golf Club are outside Habitat Conservation Plan and Natural Community Conservation Plan Areas. Therefore, no conflicts with state, regional, or local habitat conservation plans would occur.

**NO IMPACT**



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# 5 Cultural Resources

	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This section provides an analysis of the project’s impacts on cultural resources, including historical and archaeological resources, as well as human remains. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In July 2021, Rincon prepared a Cultural Resources Assessment, which is included as Appendix D, in support of the CEQA analysis for this project. The report included a cultural resources records search at the California Historical Resources Information System Northwest Information Center (NWIC); a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search; a pedestrian field survey; and historical topographic map and aerial imagery review.

The NWIC records search was performed to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. Rincon received the NWIC cultural resources records search results on April 15, 2021. Also reviewed were the National Register of Historic Places, the CRHR, the Office of Historic Preservation Historic Properties Directory, the California Inventory of Historic Resources, the Archaeological Determinations of Eligibility list, and historical maps.

The NWIC records search identified five cultural resources studies conducted within a 0.5-mile radius of the project site and disturbance footprint of the off-site improvements, none of which evaluated portions of the project site or the disturbance footprint of the off-site improvements. The NWIC search identified one previously recorded cultural resource within the 0.5-mile radius surrounding the project site and disturbance footprint of the off-site improvements, which is a historic-period, flagstone-capped concrete trestle footing.

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

One historic-period structure was identified by Rincon within the project site - a mechanical well and associated water distribution features (i.e., the existing Country Club well and well pump enclosure). This well would eventually be destroyed as part of the proposed project, and the existing chemical feed enclosure, approximately 20 feet of six-inch pipeline, and approximately 485 feet of fencing associated with the well pump enclosure would be removed. The well and associated features were constructed in 1953 by Capitola Berry Farms (also known as Reiter Berry Farms) as an agricultural well and improved with a mechanical pump, prefabricated pumphouse, and other well appurtenances by 1961. Capitola Berry Farms sold water from the well to the Monterey Bay Water Company for distribution to its Aptos-Rio del Mar water distribution system. In April 1964, the recently established SqCWD municipal water utility purchased the subject well from Capitola Berry Farms and the portion of the subject property consisting of the fenced-in well area and the driveway leading to Baltusrol Drive (Appendix D). The historical resources evaluation completed as part of the Cultural Resources Assessment (Appendix D) recommended that the mechanical well at 251 Baltusrol Drive is ineligible for listing in the National Register of Historic Places or the CRHR and ineligible for designation as a historic resource in the County of Santa Cruz Historic Resource Inventory because it lacks historical or architectural significance and distinction as an engineered structure. Additionally, no available evidence suggests the well would be eligible for designation as a contributor to any historical district, such as one representing the wider Monterey Bay Water Company or SqCWD water distribution systems. Neither water district is strongly associated with significant events or the important contributions of any individual, and neither system is regarded as important for its overall design (Appendix D). No other historic-aged resources occur within the

project site, disturbance footprint of off-site improvements, or potential construction staging area at Seascope Golf Club. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. No impact would occur.

**NO IMPACT**

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

Construction activities at the project site and within the disturbance footprint of off-site improvements would require excavation and recompaction of most of the project site to depths ranging from two to five feet, which could have the potential to impact archaeological resources if present. Potential off-site construction staging at the Seascope Golf Club would not result in subsurface ground disturbance; therefore, this activity would not have the potential to impact archaeological resources.

Historical topographic maps from 1912 to 1932 depict the project site and surrounding area as undeveloped east of Soquel Cove (USGS 2021; NETR Online 2021). By 1940, a road (currently Clubhouse Drive) is depicted south-southeast of the project site (USGS 2021). Aerial imagery shows that, between 1953 and 1956, limited residential development began southwest of the project area (University of California, Santa Cruz 1953 and 1956; NETR Online 2021). By 1968, that development began to surround the project site, with full build-out of the residential community by 1982. However, the subject property has remained undeveloped to this day, with the exception of the existing Country Club Well (NETR Online 2021). The background research and pedestrian field survey completed by Rincon did not identify archaeological resources within the project site. In addition, no archaeological resources were observed during review of the geotechnical samples. Furthermore, the soils underlying the project site are Pleistocene-aged coastal terrace deposits. Although human occupation did occur during the terminal Pleistocene, archaeological sites dating to this period are extremely rare. The age of the underlying soils at the project site and disturbance footprint of off-site improvements suggests that if any archaeological resources were present at the project site, they would likely be near or at the ground surface.

Given the age of soils underlying the project site and disturbance footprint of off-site improvements, subsurface archaeological resources are unlikely. Additionally, the area has been heavily disturbed due to its previous cultivation as a berry farm and construction of the existing Country Club well in the 1950s and subsequent development of the surrounding residential community. Given the negative results of the background research, the negative results of previous cultural resources studies in the vicinity, and the negative results of the pedestrian survey of the project site completed in 2021, the archaeological sensitivity of the project site and disturbance footprint of off-site improvements is considered to be low.

Although no archaeological resources are known to exist within the project site, unanticipated discoveries are a possibility during ground disturbance given that subsurface conditions are not fully known until excavation commences. If unanticipated archaeological resources are present underground, ground-disturbing construction activities could result in the damage or destruction of these resources. Therefore, in the unlikely event of an unanticipated discovery, impacts to unknown archaeological resources would be potentially significant and mitigation measures would be required.

## Mitigation Measures

The following mitigation measures would reduce impacts to a less-than-significant level.

### CR-1 *Unanticipated Archaeological Resources*

In the unlikely event archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall be halted and an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, then a local Native American representative shall also be contacted to participate in the evaluation of the find. Impacts to the find shall be avoided to the extent feasible; methods of avoidance may include, but shall not be limited to, capping, or fencing, or project redesign. If necessary, the archaeologist may be required to prepare a treatment plan for archaeological testing in consultation with the local Native American representative. If the discovery proves to be eligible for the CRHR and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Retain an archaeologist meeting the Secretary of Interior’s Professional Qualifications Standards, if needed	During ground-disturbing activities, as needed and if cultural resource is identified	As needed	Soquel Creek Water District
2. Field verify required evaluation of the identified resource			
3. If avoidance is infeasible, prepare plan to reduce impacts to less than significant and conduct required consultation, if needed			

## Significance After Mitigation

Implementation of Mitigation Measure CR-1 would require implementation of avoidance measures for and evaluation of any unanticipated discoveries of cultural resources, which would reduce potential impacts to archeological resources to a less-than-significant level.

### LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

No cemeteries are known to exist within the project site or the disturbance footprint of off-site improvements. However, although unlikely, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are unexpectedly found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner would be notified immediately. If the human remains are determined to be prehistoric, the coroner would notify the NAHC, which would determine and notify a most likely descendant. The most likely descendant would complete the inspection of the site within 48 hours of being granted access to

the site. With adherence to existing regulations, impacts to human remains would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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# 6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

As a state, California is one of the lowest per capita energy users in the United States, ranked 48<sup>th</sup> in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2021). Electricity and natural gas are primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. Most of California’s electricity is generated in state with approximately 28 percent imported from the Northwest and Southwest in 2019; however, the state relies on out-of-state natural gas imports for nearly 90 percent of its supply (California Energy Commission [CEC] 2021a and 2021b). In addition, approximately 32 percent of California’s electricity supply comes from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2021a). In 2018, Senate Bill 100 accelerated the state’s Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy and zero-carbon resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Electricity would be supplied to the project by Pacific Gas and Electric.

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (CEC 2021c). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 15.4 billion gallons sold in 2019 (CEC 2020). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 1.8 billion gallons sold in 2019 (CEC 2020).

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project’s energy consumption are discussed in detail in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.



**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

- 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 proposed project would use nonrenewable and renewable resources for construction and operation of the project. The anticipated use of these resources is detailed in the following subsections. Information provided by the project’s engineering and design team and the CalEEMod outputs for the air pollutant and GHG emissions modeling (Appendix B) were used to estimate energy consumption associated with the proposed project.

**Construction Energy Demand**

The project would require removal of existing site components; site preparation and grading, including hauling material on- and off-site; well drilling; building construction; architectural coating; aggregate base surfacing; and landscaping. During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. As shown in Table 6, project construction would require approximately 1,664 gallons of gasoline and approximately 45,679 gallons of diesel fuel. These construction energy estimates are conservative because they assume that the construction equipment used in each phase of construction is operating every day of construction.

**Table 6 Estimated Fuel Consumption during Construction**

Source	Fuel Consumption (gallons)	
	Gasoline	Diesel
<b>Replacement Well</b>		
Construction Equipment & Vendor/Hauling Trips	–	13,914
Construction Worker Vehicle Trips	241	–
<b>Water Treatment Plant</b>		
Construction Equipment & Vendor/Hauling Trips	–	31,765
Construction Worker Vehicle Trips	1,423	–
<b>Total</b>		
Construction Equipment & Vendor/Hauling Trips	–	45,679
Construction Worker Vehicle Trips	1,664	–

See Appendix E for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as 2019 California Green Building Standards Code (CALGreen), the project would comply with construction waste management practices to divert a minimum of 65 percent of construction debris. These practices would result in efficient use of energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or

unnecessary. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and construction impacts related to energy consumption would be less than significant.

### Operational Energy Demand

Operation of the project would contribute to regional energy demand by consuming electricity and gasoline and diesel fuels. Electricity would be used for groundwater pumping, water treatment, lighting, and water and wastewater conveyance, among other purposes. Gasoline and diesel consumption would be associated with vehicle trips generated by SqCWD operators, material deliveries, and site maintenance staff. Table 7 summarizes estimated operational energy consumption for the proposed project. As shown therein, project operation would require approximately 172 gallons of gasoline for transportation fuels and 160 megawatt-hours of electricity per year.

**Table 7 Estimated Project Annual Operational Energy Consumption**

Source	Energy Consumption <sup>1</sup>	
Transportation Fuels (Gasoline) <sup>2</sup>	172 gallons	18.9 MMBtu
Electricity <sup>3</sup>	160 MWh	545.9 MMBtu

MMBtu = million metric British thermal units; MWh = megawatt-hours

<sup>1</sup> Energy consumption is converted to MMBtu for each source.

<sup>2</sup> Although a small number of other existing SqCWD staff may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, these vehicle trips would not be new to the region because they are currently occurring in the service area as staff complete their duties and use restroom facilities at other locations. Therefore, these vehicle trips are not included in the analysis because they would not represent a source of new energy consumption associated with the project.

<sup>3</sup> Calculated based on electricity consumption for similar existing groundwater well and treatment plants in the SqCWD service area. See Appendix E for transportation energy calculation sheets and Appendix B for CalEEMod output results for electricity usage.

The project would be required to comply with all standards set in the latest iteration of the California Building Standards Code (California Code of Regulations Title 24), which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. CALGreen (California Code of Regulations Title 24, Part 11) requires implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6) require newly constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. In addition, per CALGreen, all plumbing fixtures used for the proposed project (for the restroom within the proposed water treatment plant) would be high-efficiency fixtures, which would minimize the potential the inefficient or wasteful consumption of energy related to water and wastewater. Moreover, the replacement well would operate more efficiently than the existing Country Club well, and electricity usage associated with the water treatment plant would be necessary to treat groundwater to meet the MCL for 1,2,3-TCP, thus enabling SqCWD to continue providing safe, potable water to its service area. Furthermore, in the interest of cost efficiency, SqCWD would not utilize electricity for groundwater pumping or the treatment process in a manner that is wasteful or inefficient. Therefore, project operation would

not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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

SqCWD does not have any specific renewable energy or energy efficiency plans with which the project could comply. Objective 5.17 (Energy Conservation) of the County of Santa Cruz General Plan and LCP (1994) includes policies related to promoting the use of renewable energy sources; designing structures with environmentally sound active and passive heating and cooling and/or natural daylighting design principles; encouraging solar access orientation for new development; protecting solar access for existing development; requiring energy efficiency and weatherization features; and restricting the use of electricity and fossil fuels to power decorative features (except where such restriction affects public safety), among other policies not specifically related to the proposed project. The project would incorporate renewable energy and energy efficiency features in accordance with the 2019 Building Energy Efficiency Standards. No heating or air conditioning equipment would be installed because the structure would not be continuously occupied; therefore, the incorporation of active and passive heating and cooling and/or natural daylighting design principles is not necessary. The proposed water treatment plant would be two stories in height and would not adversely affect the solar access of adjacent residences, which are also two stories in height (see Figure 4 under *Description of Project*). In addition, the only lighting installed for the project would be motion-sensing security lighting pursuant to the SWRCB Division of Drinking Water requirements, which would be for public safety purposes. Therefore, the project would not conflict with or obstruct with state or local plans for renewable energy and energy efficiency, and no impact would occur.

**NO IMPACT**

# 7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	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?	□	■	□	□

This analysis is based primarily on a Geotechnical Investigation report dated April 2021 prepared by CMAG Engineering, Inc. The Geotechnical Investigation is included as Appendix F of this document.

- a.1. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?*
- a.2. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

Like much of California, the project site is located in a seismically active region. The United States Geological Survey defines active faults as those that have had surface displacement within the Holocene period (approximately the last 11,000 years). Potentially active faults are those that have had surface displacement during the last 1.6 million years, and inactive faults have not had surface displacement within that period. The project site is not located within an earthquake fault zone (Appendix F, Figure 4; DOC 2020). Nevertheless, because most of California is susceptible to strong ground shaking from severe earthquakes, development of the project could expose SqCWD employees and project structures to strong seismic ground shaking. However, the project would be designed and constructed in accordance with state and local building codes to reduce the potential for exposure of structures to seismic risks to the maximum extent feasible. The project would be required to comply with the seismic safety requirements in the latest iteration of the California Building Standards Code. Compliance with such requirements would reduce seismic ground shaking impacts to the maximum extent practicable with current engineering practices. Furthermore, the project would not increase or exacerbate seismic ground shaking hazards at adjacent properties. Therefore, impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

- a.3. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*
- a.4. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*
- 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?*

Subsidence occurs when a large portion of the land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Although the project would involve pumping groundwater at the same volume as when the existing County Club well was online prior to 2017, no

subsidence has been historically recorded in the local area and thus is not expected to occur as a result of this project. Therefore, the potential for soil instability due to subsidence is low.

The project site is not located within or near a liquefaction zone or a landslide zone (DOC 2020). Therefore, the potential for the project to exacerbate existing liquefaction or landslide hazards would be low. Lateral spreading on the ground surface during a seismic activity usually occurs along the weak shear zones within a liquefiable soil layer and has been observed to generally take place towards a free face (i.e., retaining wall, slope, or channel), and to lesser extent, on ground surfaces with a very gentle slope. Due to the relatively flat slope of the project site, the likelihood of lateral spread is low. Furthermore, the project does not include components that would exacerbate any existing hazard related to lateral spreading, if present. In addition, although the Geotechnical Investigation indicates that on-site soils are moderately compressible and may experience intolerable differential settlements, the project would implement the identified geotechnical design recommendations to address this issue. Therefore, impacts related to soil instability would be less than significant.

### **LESS THAN SIGNIFICANT IMPACT**

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

Ground-disturbing activities associated with project implementation may result in the removal of some topsoil to construct the proposed replacement well and water treatment plant. However, as discussed under *Description of Project*, standard construction stormwater control BMPs would be implemented to avoid or minimize soil erosion associated with ground-disturbing activities, such as silt fences, fiber rolls, stabilized construction entrances/exits, storm drain inlet protection, wind erosion control, stockpile management, and materials storage and vehicle and equipment cleaning, fueling, and maintenance procedures that minimize the discharge of spills and leaks. In addition, SqCWD would be required to comply with its existing NPDES permit requirements (Order WQ 2014-0194-DWQ, General Order No. CAG14001, Waste Discharge Identification Number 4DW0118) during discharge of groundwater to Bush Gulch via the existing pump-to-waste pipeline during well development and start-up/testing of the replacement well. The permit includes requirements to implement BMPs to prevent riparian erosion and hydromodification through flow dissipation, erosion control, and hydromodification prevention measures as well as requirements to implement BMPs to minimize sediment discharge, turbidity, and color impacts by implementing sediment, turbidity, erosion, and color control measures. Additionally, construction of the water treatment plant would be required to adhere to the County of Santa Cruz's Construction Site Stormwater Pollution Control BMP Manual, which contains construction standards to control erosion, sediment, and stormwater pollution for projects that require a building permit (County of Santa Cruz 2011). Adherence to the NPDES permit requirements and the BMP Manual would minimize the potential for soil erosion to occur during construction activities. Therefore, construction impacts related to soil erosion would be less than significant.

Upon completion, the project site would be covered with aggregate surfacing, which would reduce the potential for erosion to occur due to precipitation or high-wind events. Project operation would have minimal potential to result in erosion because staff vehicles would utilize the paved project driveways. In addition, the project includes installation of an on-site stormwater retention pipe that would be designed to retain runoff from a two-year, two-hour storm and detain runoff from a ten-year, 15-minute storm. The pipe would drain through an outflow structure and discharge into a riprap area, which would minimize potential erosion before stormwater runoff exits the site and

enters the street (Black & Veatch 2021). As such, operational impacts related to soil erosion would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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

Expansive soils are highly compressible, clay-based soils that tend to expand as they absorb water and shrink as water is drawn away. Expansive soils can result in structural damage when foundations are not designed to account for soil expansion potential. The Geotechnical Investigation indicates that near-surface soils at the project site possess a very low expansion potential (Appendix F). Therefore, impacts related to expansive soil would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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

The proposed project would not include the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

**NO IMPACT**

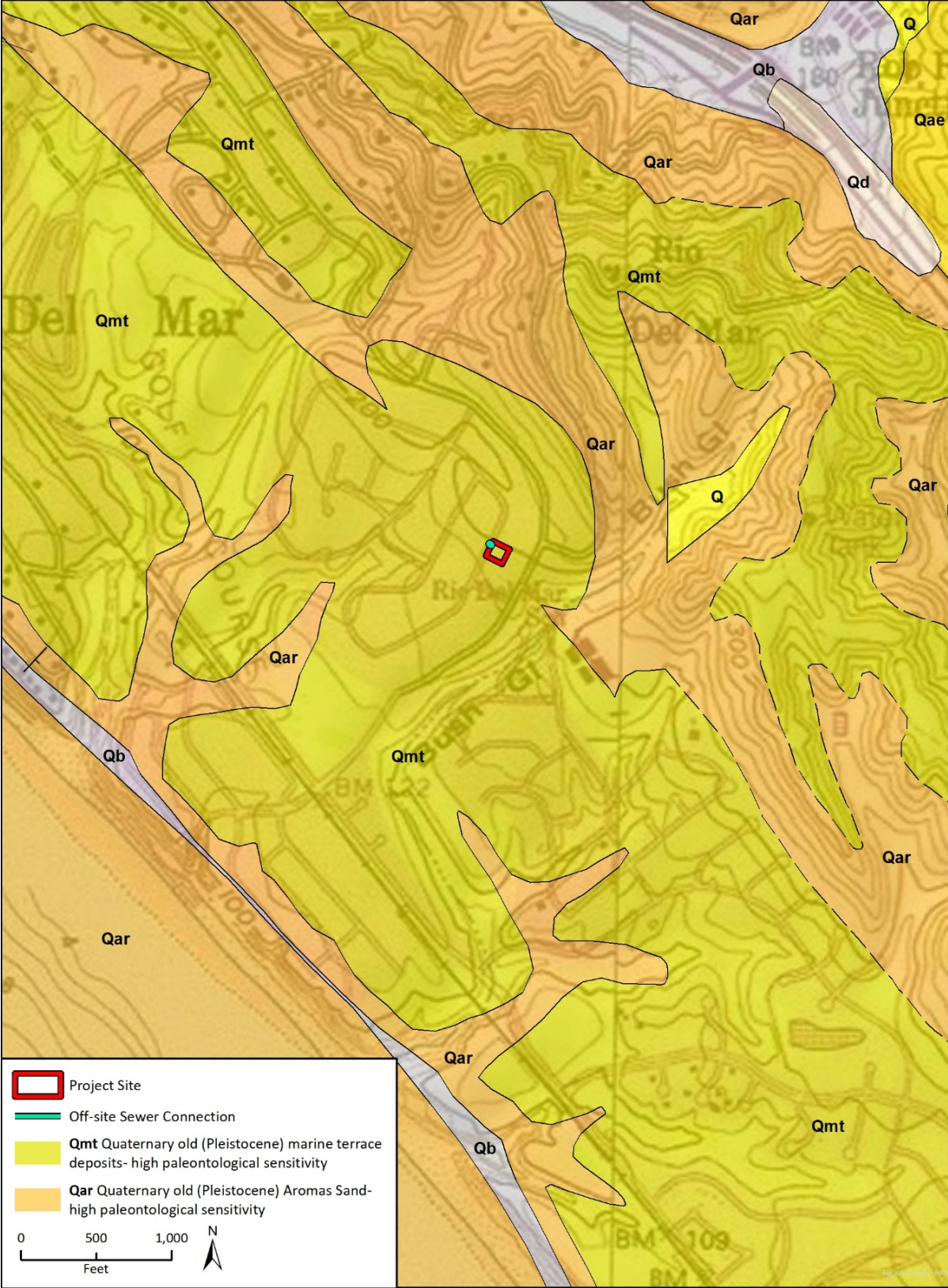
- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Rincon completed a Paleontological Resources Assessment in July 2021, which evaluated the paleontological sensitivity of the geologic units underlying the site and the potential for project impacts. Potential off-site construction staging at the Seascape Golf Club would not result in subsurface ground disturbance; therefore, this activity would not have the potential to affect paleontological resources and was not analyzed in the study. The following analysis is based on the findings of the Paleontological Resources Assessment, which is included in Appendix G.

The paleontological sensitivity of the geologic units underlying the project site and disturbance footprint of off-site improvements were determined in accordance with criteria set forth by the Society of Vertebrate Paleontology (2010) based on the geologic map review, literature review, and review of online databases containing paleontological collections. Figure 8 depicts the surficial geologic units at the project site and in the surrounding area as well as the corresponding paleontological sensitivities.

Pleistocene marine terrace deposits (Qmt), which underlie the project site from the surface to approximately 15 feet below ground surface, were assigned a high paleontological sensitivity due to their potential to preserve scientifically significant fossils. Pleistocene Aromas Sand (Qar), which underlies the project from approximately 15 to 310 feet below ground surface, also has the potential to contain buried intact paleontological resources at moderate depths because of the age of these aeolian sediments (Paleobiology Database 2021; UCMP 2021). Consequently, Pleistocene Aromas Sand (Qar) were also assigned a high paleontological sensitivity. Pliocene Purisima Formation (Ppu), which underlies the project site from approximately 310 to 750 feet below ground surface, has also yielded scientifically important paleontological resources within Santa Cruz County; therefore, this unit was assigned a high paleontological sensitivity as well (Appendix G).

Figure 8 Geologic Units and Paleontological Sensitivity of the Project Site



Geologic map provided by Wagner, Greene, Saucedo, and Pridmore, 2002, Geologic Map of the Monterey 30' x 60' Quadrangle and Adjacent Areas, California.



The project site has been previously developed; however, extensive excavations associated with the proposed project components would likely extend below the boundary between fill (i.e., previously disturbed) sediments and native (i.e., previously undisturbed) sedimentary deposits of Pleistocene age (Qmt). Ground disturbance associated with the proposed replacement well would reach a maximum depth of approximately 730 feet below ground surface with borehole diameters ranging from approximately 24 to 50 inches. In addition, grading and excavation at the site would extend to depths of approximately two to five feet. These ground-disturbing activities would occur in portions of the project site underlain by previously undisturbed (intact/native) geologic units with a high paleontological sensitivity (i.e., Pleistocene marine terrace deposits [Qmt] and Aromas Sand [Qar] and Pliocene Purisima Formation [Ppu]). Project impacts to paleontological resources would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data. As such, project activities including well drilling, grading, excavation, and other activities that disturb substantial quantities of the subsurface geologic units with a high paleontological sensitivity would result in potentially significant impacts to paleontological resources, if present in the underlying geologic units. Therefore, implementation of Mitigation Measures GEO-1 and GEO-2 during project construction would be required.

## **Mitigation Measures**

### *GEO-1 Prepare and Implement a Paleontological Mitigation and Monitoring Plan*

Prior to initial ground-disturbing construction activity, SqCWD shall retain a Qualified Paleontologist to design a Paleontological Mitigation and Monitoring Program (PMMP). The PMMP shall include Worker Environmental Awareness Program (WEAP) training to be delivered at a preconstruction meeting for all on-site construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction personnel. A qualified professional paleontologist is defined by the SVP (2010) standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years.

The PMMP shall include the requirement for monitoring by a qualified paleontological monitor for excavations that have the potential to impact intact (native) Quaternary old (Pleistocene) marine terrace deposits (Qmt), Aromas Sand (Qar), and Pliocene Purisima Formation (Ppu). Ground disturbing activities less than five feet in depth or into previously disturbed sediments (fill) do not require paleontological monitoring. The duration and timing of the monitoring shall be determined by the Qualified Paleontologist in consideration of the location and extent of ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is not warranted based on the specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. A qualified paleontological monitor is defined as an individual who meets the minimum qualifications per standards set forth by the SVP (2010), which includes a Bachelor of Science or Bachelor of Arts degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources. If no resources are discovered during construction, no further mitigation is required. If a paleontological resource is discovered, Mitigation Measure GEO-2 shall be implemented.

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Retain a Qualified Paleontologist	1. Prior to initial ground-disturbing construction activities	1. Once	Soquel Creek Water District
2. Review and approve Paleontological Mitigation and Monitoring Program	2. Prior to initial ground-disturbing construction activities	2. Once	
3. Verify implementation of Worker Environmental Awareness Program training	3. Prior to initial ground-disturbing construction activities	3. Once	
4. Verify presence of qualified paleontological monitor during ground disturbing activities in native soils greater than five feet in depth	4. During initial ground-disturbing construction activities	4. Periodically	

*GEO-2 Fossil Discovery, Preparation, Curation, and Reporting*

If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert construction equipment around the find, when doing so is safe and does not compromise the structural integrity of the construction work, until the find is assessed for scientific significance and collected in a safe and timely manner.

Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in an approved scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps.

At the conclusion of laboratory work and museum curation for scientifically significant fossils discovered at the site, a positive findings report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If no fossils are discovered during the project, a negative findings report shall be prepared to describe the results of the paleontological mitigation monitoring efforts. The final report shall be submitted to SqCWD and responsible agencies (e.g., the County of Santa Cruz). If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Field verify required evaluation of the identified resource	1. During ground-disturbing construction activities	1. As needed	Soquel Creek Water District
2. If identified resource is a scientifically significant fossil, review and approve positive findings report	2. After completion of ground-disturbing construction activities	2. Once, if scientifically significant fossils are found	
3. If no scientifically significant fossils are found, review and approve negative findings report	3. After completion of ground-disturbing construction activities	3. Once, if no scientifically significant fossils are found	
4. Verify submittal of report to appropriate agencies	4. After completion of ground-disturbing construction activities	4. Once	

**Significance After Mitigation**

Implementation of Mitigation Measures GEO-1 and GEO-2 would reduce potential impacts to paleontological resources to a less-than-significant level by providing for the recovery, identification, and curation of previously unrecovered fossils. Impacts would be less than significant with mitigation.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

# 8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Overview of Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the “greenhouse effect,” a natural occurrence which takes place in Earth’s atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth’s surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO<sub>2</sub>) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO<sub>2</sub>e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than CO<sub>2</sub> on a molecule per molecule basis (Intergovernmental Panel on Climate Change 2014).<sup>13</sup>

Anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the concentration of GHGs in the atmosphere that trap heat. Since the late 1700s, estimated concentrations of CO<sub>2</sub>, methane, and

<sup>13</sup> The Intergovernmental Panel on Climate Change’s (2014) *Fifth Assessment Report* determined that methane has a GWP of 28. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change’s (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (United States Environmental Protection Agency 2020). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

## **Regulatory Framework**

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the California Air Resources Board (CARB) adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (discussed further below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO<sub>2</sub>e by 2030 and two MT of CO<sub>2</sub>e by 2050 (CARB 2017).

Other relevant state laws and regulations include:

- **SB 100:** Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.
- **California Building Standards Code (California Code of Regulations Title 24):** The California Building Standards Code consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2019 Title 24 standards. Part 6 is the Building Energy Efficiency Standards, which establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. Part 12 is the California Green Building Standards Code (CALGreen), which includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures.

## **Methodology**

GHG emissions associated with project construction and operation were estimated using CalEEMod, version 2020.4.0, with the assumptions described under Section 3, *Air Quality*, in addition to the following:

- **Amortization of Construction Emissions.** Project-related construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project. Therefore, construction-related GHG emissions were amortized over a 30-year period (i.e., the assumed life of the project) to determine the annual construction-related GHG emissions over the life of the project, which were then added to annual operational emissions to determine the project's total annual emissions.
- **Electricity.** As shown in Table 7 in Section 6, *Energy*, the project would consume approximately 191 megawatt-hours of electricity. GHG emissions associated with this electricity consumption were estimated outside CalEEMod using Pacific Gas and Electric's energy intensity factors (i.e., the amount of CO<sub>2</sub>, methane, and nitrous oxide produced per megawatt-hour) as reported in CalEEMod.
- **Vehicle Trips.** It was assumed the project would generate approximately 422 roundtrip vehicle trips per year with 260 trips for daily SqCWD operator visits, 52 trips for weekly water quality visits, 52 trips for weekly site maintenance, 52 trips for weekly sodium hypochlorite deliveries, two trips for semi-annual hexavalent chromium resin replacement, and up to four trips for GAC media replacement (two staff, occurs approximately every two-and-a-half to three years).<sup>14</sup> In addition, although a small number of other existing SqCWD staff may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, these vehicle trips would not be new to the region because they are currently occurring in the service area as staff complete their duties and use restroom facilities at other locations. Therefore, these vehicle trips are not included in the analysis because they would not represent a source of new GHG emissions associated with the project.
- **Fleet Mix.** It was assumed 87.2 percent of annual vehicle trips would be made using a light-duty truck (the SqCWD operator visit, water quality visit, site maintenance visit, and GAC media replacement visits) and 12.8 percent of annual vehicle trips would be made using a medium-duty truck (the sodium hypochlorite delivery and hexavalent chromium resin replacement).

## Significance Thresholds

Individual projects do not generate sufficient GHG emissions to influence climate change directly. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

CEQA Guidelines Section 15064.4(b) states:

A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

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<sup>14</sup> Water quality site visits would be conducted on a weekly basis for the first approximately three months of operation of the water treatment plant, then monthly thereafter. However, to provide a conservative estimate of project impacts, this analysis assumes that water quality site visits would be conducted weekly for at least one full year of project operation.

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The State of California and County of Santa Cruz have not adopted quantitative GHG emissions thresholds. Where MBARD is the lead agency, it has adopted a threshold of 10,000 MT of CO<sub>2</sub>e per year for stationary source projects or compliance with an adopted GHG Reduction Plan/Climate Action Plan (MBARD 2016). The proposed project does not fall within this classification because it would not include stationary on-site sources of GHG emissions that would require a discretionary MBARD permit to operate; therefore, the stationary-source threshold is not applicable. However, MBARD does not have formally adopted thresholds for projects where it is not the lead agency. Furthermore, the County of Santa Cruz Climate Action Strategy does not apply to SqCWD projects because it only addresses emissions generated by land use development and County of Santa Cruz facilities, but not SqCWD facilities. As a result, this analysis qualitatively evaluates the significance of the project's GHG emissions in light of the checklist questions from Appendix G of the CEQA Guidelines as well as CEQA Guidelines Sections 15064.4(b)(1) and 15064.4(b)(3). GHG emissions are quantified for informational purposes only in the interest of public disclosure.

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

Construction and operation of the proposed project would generate GHG emissions. This analysis considers the combined impact of GHG emissions from both construction and operation. Calculations of CO<sub>2</sub>, methane, and nitrous oxide emissions are provided to identify the magnitude of potential project effects. Construction of the proposed project would generate temporary GHG emissions primarily as a result of operation of construction equipment on site as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport building materials and soil export. As shown in Table 8, construction of the proposed project would generate an estimated total of 459 MT of CO<sub>2</sub>e. Amortized over a 30-year period (the assumed project lifetime), construction of the proposed project would generate an estimated 15 MT of CO<sub>2</sub>e per year.

**Table 8 Estimated Construction GHG Emissions**

Year	Emissions (MT of CO <sub>2</sub> e)
Replacement Well	155
Water Treatment Plant	304
<b>Total</b>	<b>459</b>
<b>Amortized over 30 years</b>	<b>15</b>

MT = metric tons; CO<sub>2</sub>e = carbon dioxide equivalents

Notes: Emissions modeling was completed using CalEEMod. See Appendix B for modeling results.

Operation of the proposed project would generate GHG emissions associated with area sources (e.g., landscape maintenance), energy and water usage, vehicle trips, and wastewater and solid waste generation. As shown in Table 9, annual operational emissions generated by the proposed project combined with amortized construction emissions would total approximately 36 MT of CO<sub>2</sub>e per year.

**Table 9 Combined Annual GHG Emissions**

Emission Source	Annual Emissions (MT of CO <sub>2</sub> e per year)
<b>Construction</b>	15
<b>Operational</b>	
Area	< 1
Energy	18
Mobile	1
Solid Waste	1
Water	1
<b>Total Emissions</b>	<b>36</b>

Notes: Emissions modeling was completed using CalEEMod and a separate calculation of energy emissions related to the project's estimated electricity usage and Pacific Gas and Electric's energy intensity factors. See Appendix B for modeling results.

One of the primary sources of GHG emissions associated with the pumping, conveyance, treatment, and distribution of water and wastewater is the use of energy. The 2017 Scoping Plan acknowledges that "the water-energy nexus provides opportunities for conservation of these natural resources as well as reductions of GHG emissions" (CARB 2017). The 2017 Scoping Plan also points to groundwater remediation as a means of "meeting new water demands and sustaining prosperity" (CARB 2017). Statewide emissions reduction strategies for the water sector are aimed at reducing the energy intensity of water, which is "the amount of energy required to take a unit of water from its origin (such as a river or aquifer) and extract and convey it to its end use" (CARB 2017).

The following goals from the 2017 Scoping Plan would be applicable to the proposed project:

- Develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system with a focus on actions that provide direct GHG reductions.
- Reduce the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy.



**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

The proposed project would include remediation of local groundwater supplies, which would enable SqCWD to continue providing its existing customers with a safe, reliable water supply. In doing so, the project would reduce the potential that SqCWD would need to compensate for the loss of local groundwater supplies due to water quality degradation by importing additional water to meet its water supply demands, which would have a greater energy and GHG emissions intensity than utilizing existing, local groundwater supplies. Furthermore, as shown in Table 9, the majority of project-related GHG emissions would be generated by electricity used to power the treatment process. Therefore, as the requirements of the Renewables Portfolio Standard continue to phase in through 2045, annual GHG emissions generated by project operation would decrease correspondingly. As a result, the project would be consistent with the State's long-term climate goals and strategies as outlined in the 2017 Scoping Plan, and project-related GHG emissions would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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

MBARD and SqCWD have not adopted any plans, policies, or regulations for the purpose of reducing GHG emissions. In addition, the County of Santa Cruz Climate Action Strategy does not apply to SqCWD projects because it only addresses emissions generated by land use development and County of Santa Cruz facilities, but not SqCWD facilities. However, as discussed under checklist item (a), the project would be consistent with the State's 2017 Scoping Plan and its goal to use groundwater remediation as a way of reducing the energy intensity (and corresponding GHG emissions intensity) of water supplies. Therefore, no impact would occur.

**NO IMPACT**

# 9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

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

Construction of the proposed project would temporarily increase the transport and use of hazardous materials during the use of construction vehicles and equipment. Construction activities could cause an upset or accident condition. If such conditions result in a release of hazardous materials into the environment, potential impacts could occur. Limited quantities of miscellaneous hazardous substances, such as diesel fuel, oil, solvents, and other similar materials, would be brought onto the project site, used, and stored during the construction period. These materials would be disposed off-site in accordance with applicable laws pertaining to the handling and disposal of hazardous waste. The transport, use, and storage of hazardous materials during construction would be conducted in accordance with applicable federal and State laws, such as the Hazardous Materials Transportation Act, California Hazardous Material Management Act, and California Code of Regulations, Title 22.

The approximately 20 feet of existing on-site six-inch pipeline on the northern portion of the project site that would be removed to accommodate the proposed project is known to be made of asbestos cement, and the building materials surrounding the existing chemical feed enclosure to be removed may have a lead-based paint coating. MBARD Rule 424 (Asbestos Renovation & Demolition) would apply to the removal of asbestos cement pipeline. Compliance with MBARD Rule 424 requires that the owner or operator of any demolition or renovation activity have an asbestos survey performed prior to demolition, notification of MBARD prior to demolition activities, and implementation of asbestos containment procedures. In addition, lead-based materials exposure is regulated by California Occupational Safety and Health Administration (CalOSHA) regulations. SqCWD would be required to comply with California Code of Regulations, Section 1532.1, which requires testing, monitoring, containment, and disposal of lead-based materials such that exposure levels do not exceed CalOSHA standards. As such, project construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or 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. Impacts would be less than significant.

Upon completion of construction, operational activities at the project site would consist of groundwater extraction and treatment for 1,2,3-TCP and potentially for hexavalent chromium. The water treatment plant would use GAC media to remove 1,2,3-TCP from groundwater. The GAC media is not considered a hazardous material or hazardous waste (Water & Wastes Digest 2021). As discussed under *Description of Project*, the water treatment plant may also include a single use anion exchange treatment process for hexavalent chromium if the SWRCB establishes an MCL of less than 10 micrograms per liter. Depending on raw water quality and resin performance, the exhausted resin from the single use anion exchange process may result in a hazardous waste due to the accumulation of hexavalent chromium on the resin material. However, the accumulation of hexavalent chromium to hazardous concentrations may be avoided operationally (e.g., by monitoring and replacing the resin before hazardous concentrations are reached) or by selecting a resin with less affinity for hexavalent chromium. Nevertheless, if a hazardous waste is produced by the single use anion exchange process, it would be stored and disposed of in accordance with applicable federal and State laws, such as the Hazardous Materials Transportation Act, California

Hazardous Material Management Act, and California Code of Regulations, Title 22. Furthermore, there would be low potential for the exhausted resin to result in a release of hazardous materials into the environment because it would be contained in a vessel inside the water treatment plant and would only be handled and removed during a replacement event every six months. Small quantities of sodium hypochlorite, which is also a hazardous material, would be delivered once a week and stored on site for use in the treatment process. However, similar to the exhausted resin for hexavalent chromium treatment, transport and use would be conducted in accordance with applicable federal and State laws, and sodium hypochlorite would be stored in vessels inside the water treatment plant. Furthermore, sodium hypochlorite was delivered to and stored at the project site during operation of the existing Country Club well before it was taken offline in 2017. Therefore, the transport and storage of sodium hypochlorite at the project site is not new in comparison to baseline conditions (i.e., conditions at the time the existing well was online in 2017). In addition, these materials do not produce hazardous air emissions under normal operating conditions when handled properly by trained personnel (i.e., the SqCWD operator) that would have the potential to affect nearby residents. As such, there would be low likelihood for exposure of the public or the environment to these materials either during normal operations or reasonably foreseeable upset or accident conditions. As such, operation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or introduce 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. Impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The nearest school is Rio Del Mar Elementary School, located approximately 600 feet southwest of the project site. As discussed under checklist items (a) and (b), the transport, use, and storage of hazardous materials during construction and operation of the project would be conducted in accordance with applicable State and federal laws. Furthermore, due to the distance of the project site from Rio Del Mar Elementary School and intervening development, there is low potential for the use of hazardous materials on the project site to result in adverse impacts to this school. Therefore, impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

- d. *Would the project be located on a site that is included on a list of hazardous material 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?*

The following databases and listings compiled pursuant to Government Code Section 65962.5 were reviewed on May 16, 2021, for known hazardous materials contamination at the project site:

- **State Water Resources Control Board**
  - GeoTracker search for leaking underground storage tanks (LUST) and other cleanup sites (SWRCB 2021)

▪ **California Department of Toxic Substances Control**

- EnviroStor database for hazardous waste facilities or known contamination sites (Department of Toxic Substances Control 2021)
- Cortese list of Hazardous Waste and Substances Sites

The project site is not listed in the above environmental databases, and no other listed sites are located within 1,000 feet of the project site. Furthermore, the purpose of the proposed project is to treat groundwater extracted from the underlying basin that contains elevated levels of 1,2,3-TCP, which would reduce public exposure to hazardous materials. Therefore, the project would not create a significant hazard to the public or the environment related to location on a hazardous materials site. No impact would occur.

**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 closest public airport to the project is the Watsonville Municipal Airport, located approximately 5 miles southeast of the project site. Therefore, the site is not located in an area covered by an airport land use plan and within two miles of a public or public use airport and would not result in a safety hazard or excessive noise for people working at the project site during construction or operation. No impact would occur.

**NO IMPACT**

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

As discussed in Section 17, *Transportation*, the proposed project would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Although there would be construction-related vehicle trips associated with the project, equipment staging would occur on site and potentially at the Seascape Golf Club. Construction worker parking would occur on site, along Baltusrol Drive, and at off-site locations when parking is no longer available near the project site. Collectively, this would reduce the potential for congestion in any one specific area and result in minimal trips.

The project does not include changes to the existing street system that could result in inadequate emergency access, and project operation and maintenance would not introduce new activities or substantial operational traffic with the potential to result in inadequate emergency access. Rather, the addition of a driveway at the project site would provide an additional ingress/egress option for emergency responders and evacuation orders. Therefore, no impacts related to emergency response plans and emergency evacuation plans would occur.

**NO IMPACT**

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

As discussed in Section 20, *Wildfire*, the project site is not located in a State Responsibility Area or designated as a Very High Fire Hazard Severity Zone (California Department of Forestry and Fire Protection [CALFIRE] 2020). Furthermore, the project site is surrounded by residential development

and is not adjacent to wildlands. The project does not include components that would pose a substantial risk of wildfire ignition. Therefore, no impacts related to wildland fires would occur.

**NO IMPACT**

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# 10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

Project construction would include earthwork activities and soil disturbance that could potentially impact downstream water quality, if disturbed soils are left unsecured such that it may be conveyed via wind or stormwater flows to leave the project site. The project’s proposed disturbance area would be less than one acre and therefore is not subject to the requirements of the NPDES Construction General Permit for preparation of a Stormwater Pollution Prevention Plan. However, as discussed under *Description of Project*, standard construction stormwater control BMPs would be implemented to avoid or minimize soil erosion associated with ground-disturbing activities, such as silt fences, fiber rolls, stabilized construction entrances/exits, storm drain inlet protection, wind erosion control, stockpile management, and materials storage and vehicle and equipment cleaning, fueling, and maintenance procedures that minimize the discharge of spills and leaks. These BMPs would effectively minimize or avoid potentially adverse impacts to water quality resulting from project activities. Furthermore, groundwater discharged to Bush Gulch via SqCWD’s existing pump-to-waste pipeline during well development and start-up/testing of the replacement well would be required to comply with SqCWD’s existing NPDES permit requirements (Order WQ 2014-0194-DWQ, General Order No. CAG14001, Waste Discharge Identification Number 4DW0118). These requirements include effluent and receiving water limitations and BMPs to minimize sediment discharge, turbidity, and color impacts. Additionally, construction of the water treatment plant would be required to adhere to the County of Santa Cruz’s Construction Site Stormwater Pollution Control BMP Manual, which contains construction standards to control erosion, sediment, and stormwater pollution for projects that require a building permit (County of Santa Cruz 2011).

As discussed under *Description of Project*, the proposed replacement well would extract groundwater from the same aquifer formations as the existing well and would not result in a change in the amount of groundwater extracted by SqCWD from the underlying Mid-County Groundwater Basin under its appropriative right. Therefore, the project would not result in an adverse change in groundwater quality related to seawater intrusion as compared to baseline conditions (i.e., conditions at the time the existing well was online in 2017) because groundwater pumping characteristics at this location would remain the same.<sup>15</sup> In addition, once complete, the project would include aggregate base surfacing of the majority of the project site, which would minimize the potential for soil erosion due to precipitation or high wind events. Project operation would have minimal potential to result in erosion because staff vehicles would utilize the paved project driveways. Moreover, the project includes installation of an on-site stormwater retention pipe that would be designed to retain runoff from a two-year, two-hour storm and detain runoff from a ten-year, 15-minute storm. The pipe would drain through an outflow structure and discharge into a

<sup>15</sup> For additional information related to seawater intrusion, please refer to the *Final Environmental Impact Report for Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project* (SqCWD 2018).

riprap area, which would minimize potential erosion before stormwater runoff exits the site and enters the street (Black & Veatch 2021). Furthermore, although the replacement well would be located within 50 feet of the proposed sewer lateral on site, the sewer lateral would be installed as a double-contained pipeline so that the outer pipeline would contain potential unanticipated leaks from the sewer lateral in the unlikely event they occur, thereby minimizing the potential for impacts to groundwater quality. Therefore, potential impacts would be less than significant.

#### LESS THAN SIGNIFICANT IMPACT

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*
- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

As discussed under checklist item (a), implementation of stormwater control BMPs and compliance with NPDES permit requirements would ensure the proposed project would not degrade surface or groundwater quality during construction and operation. Consequently, the project would not conflict with or obstruct implementation of a water quality control plan.

The project site overlies the Santa Cruz Mid-County Groundwater Basin (California Department of Water Resources Bulletin 118 Number 3-001), which is designated as a high-priority groundwater basin under the Sustainable Groundwater Management Act (SGMA) and as critically over-drafted (California Department of Water Resources 2020). The Santa Cruz Mid-County Groundwater Management Agency manages the basin and has adopted the *Santa Cruz Mid-County Groundwater Basin Groundwater Sustainability Plan* (2019) to guide its efforts.

The project site is currently largely undeveloped and pervious apart from the existing Country Club well and associated features on the northeastern corner of the project site. Although the project would increase impervious surfaces on the project site by constructing the water treatment plant, replacement well, and second access driveway, it would also cover the majority of the site with aggregate base surfacing, which would be relatively permeable and allow for some stormwater infiltration. The proposed on-site stormwater retention pipe would also allow for some infiltration of stormwater runoff (Black & Veatch 2021). In addition, the project site is relatively small (0.27 acre), and the increase in impervious surfaces would have a minimal effect on overall recharge of the underlying groundwater basin. Therefore, the project would not interfere substantially with groundwater recharge.

As discussed under *Description of Project*, the proposed project would not result in a change in the amount of groundwater extracted by SqCWD from the underlying Mid-County Groundwater Basin under its appropriative right. Therefore, no new additional demands would be placed on the underlying groundwater basin.

The Mid-County Groundwater Basin is comprised of two separate water-bearing formations, the Aromas Red Sands, and the Purisima Formation. Below the project site, the Aromas Red Sands aquifer overlies the Purisima Formation aquifer (SqCWD 2021). The existing Country Club well is drilled to a depth of approximately 500 feet and is screened in both the Aromas Red Sands aquifer and the Purisima Formation (specifically Unit F),<sup>16</sup> meaning that it extracted water from both

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<sup>16</sup> The Purisima Formation is a collection of distinct geologic units that have been assigned identification letters AA through F with Unit AA being the deepest and oldest unit and Unit F being the shallowest and youngest unit.

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

formations when it was online. The replacement well drilled under the proposed project would be drilled to a depth of 530 to 540 feet, which would be slightly greater in depth than the existing Country Club well and would also be screened in both the Aromas Red Sands aquifer and the Purisima Unit F aquifer. The total amount of groundwater extracted by SqCWD via the replacement well would remain the same as under baseline conditions (i.e., conditions at the time the existing well was online in 2017). Therefore, groundwater extraction under the proposed project would be similar to that of baseline conditions and would not substantially decrease groundwater supplies or conflict with implementation of the *Santa Cruz Mid-County Groundwater Basin Groundwater Sustainability Plan* (2019).

In summary, the addition of impervious surface to the project site would have a minimal effect on groundwater recharge and the project would not increase groundwater extraction or change the nature of groundwater extraction as compared to baseline conditions (i.e., conditions at the time the existing well was online in 2017). Accordingly, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The project would not conflict with or obstruct implementation of the *Santa Cruz Mid-County Groundwater Basin Groundwater Sustainability Plan*. Impacts to groundwater supplies, recharge, and management plans would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

- c.(i) 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 result in substantial erosion or siltation on- or off-site?*
- c.(ii) 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- c.(iii) 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 that would 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?*
- c.(iv) 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 impede or redirect flood flows?*

The existing drainage pattern of the project site conveys stormwater flows from the higher elevations in the northeast corner of the project site toward Baltusrol Drive. Water then flows south along the street until it enters the existing storm drain approximately 1,000 feet south of the project site. While the project would increase impervious surfaces on the project site by constructing the water treatment plant, replacement well, and second access driveway, it would also cover the majority of the project site with a relatively permeable aggregate base surfacing. This surfacing would allow for some continued stormwater infiltration. In addition, the project would include a storm water retention system with an on-site retention pipe in the southern driveway. This pipe would be sized in accordance with County of Santa Cruz design requirements to retain runoff from a two-year, two-hour storm and detain runoff from a ten-year, 15-minute storm and would drain

through an outflow structure and discharge into a riprap area, which would minimize potential erosion before stormwater runoff exits the site and enters the street. The proposed on-site stormwater retention pipe would also allow for some infiltration of stormwater runoff (Black & Veatch 2021). The stormwater retention system would thus minimize the potential for the project to result in substantial erosion and siltation, a substantial increase in surface runoff, or an exceedance of the capacity of existing stormwater drainage system (Black & Veatch 2021). Furthermore, the project site does not include any streams or rivers and is not located within a 100 Year Flood Zone or 500 Year Flood Zone (County of Santa Cruz 2021). As such, the addition of impervious surfaces would not result in substantial erosion or siltation; substantial increase the rate or amount of surface runoff; exceed stormwater drainage systems or increase polluted runoff; nor impede or redirect flood flows. Impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

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

According to the National Oceanic and Atmospheric Administration, seiches occur in semi- or fully enclosed bodies of water when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other (National Oceanic and Atmospheric Administration 2021). The nearest body of water that could be subject to seiches is the San Luis Reservoir, approximately 42.5 miles east of the project site. Given this distance, the project site is not at risk of inundation due to seiches. Although the project site is approximately 0.6 mile from the Pacific Ocean, it is not located in a tsunami hazard zone as delineated by the County of Santa Cruz (DOC 2009; County of Santa Cruz 2021). Additionally, the project site is not located within a flood hazard zone (County of Santa Cruz 2021). Therefore, the project site is not at risk of inundation and therefore would have no impact related to the release of pollutants due to project inundation.

**NO IMPACT**

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# 11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project physically divide an established community?*

The project consists of the construction of water infrastructure facilities and associated on- and off-site improvements on a site currently developed with water infrastructure in a residential area of unincorporated Santa Cruz County. The project would not divide the community because the project site is an infill site bounded by Baltusrol Drive to the west, and residential development to the north, east, and south. Additionally, the off-site improvement would consist of a sewer lateral connection to the sewer line in Baltusrol Drive adjacent to the project site, which would also not have the potential to divide the established community. Therefore, the project would not include components that would divide or disrupt the arrangement of the established community. No impact would occur.

**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 project would include construction of a replacement groundwater well and water treatment plant on a parcel designated Urban Low-Density Residential (R-UL) and zoned Single-family Residential (R-1-10). Pursuant to Santa Cruz County Code Section 13.10.322(B), community facilities, including public structures and facilities, are allowed in the R-1 district with a Level 5 coastal development permit. As such, the project would not require a zone change or General Plan Amendment. The project has been designed in accordance with the lot coverage, setback, height, and other applicable development standards for R-1 districts contained in Santa Cruz County Code Section 13.10.323(B).

The County of Santa Cruz General Plan and LCP includes Objective 7.18a for domestic water service, which states that it is the objective of the County “to ensure a dependable supply of high-quality domestic water to meet the needs of communities that obtain water service from municipal water systems, County water districts and small water systems” (County of Santa Cruz 1994). In furtherance of this, Policy 7.18.4 states the County will “support water system improvement

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

programs for storage, treatment and distribution facilities to meet necessary water supply and fire suppression requirements.” In addition, Policy 7.18.5 states the County will “promote water management in the Pajaro Valley and Santa Margarita groundwater basins and the Soquel-Aptos area to protect the long-term security of water supplies and to safeguard groundwater quality and maintain stream baseflows.” The proposed project would enable SqCWD to continue providing its existing customers with a safe, reliable water supply by providing a replacement groundwater well and water treatment plant to treat groundwater to meet the MCL for 1,2,3-TCP. Therefore, the project would further implementation of Objective 7.18a and Policies 7.18.4 and 7.18.5 by construction of water system improvements to meet necessary water supply requirements, protect the long-term security of water supplies, and safeguard groundwater quality.

As discussed in Section 4, *Biological Resources*, the project would not involve development within sensitive habitat areas, and SqCWD would be required to obtain a significant tree removal permit prior to removal of the black walnut tree on site and comply with its associated conditions of approval. Therefore, with compliance with the requirements of the significant tree removal permit, the project would be consistent with Santa Cruz County Code Chapter 16.32 (Sensitive Habitat Protection) and Chapter 16.34 (Significant Trees) as well as Policies 5.1.2 and 5.1.6 of the County’s General Plan and LCP, which pertain to the protection of sensitive habitats in the Coastal Zone (Appendix C). Furthermore, with implementation of Measures BIO-1 and BIO-2 for pre-construction surveys for roosting bats and nesting birds, the project would be consistent with Policy 5.1.10 of the County’s General Plan and LCP, which requires protection of rare, endangered, and threatened species.

As discussed in Section 13, *Noise*, construction noise associated with the proposed project would exceed the daytime and nighttime standards contained in the Santa Cruz County Code. However, with incorporation of Mitigation Measure N-1 for construction noise reduction, these impacts would be reduced to comply with the standards.

For all other issue areas, the project would result in no impact, less than significant impacts, or less than significant impacts with the incorporation of mitigation measures, as detailed throughout this Initial Study. As such, the project would not cause a significant environmental impact due to a conflict with the land use plans, policies, and regulations of the County of Santa Cruz adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant with mitigation incorporated.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

# 12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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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?

*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?*

*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?*

The project site and surrounding properties are located in a residential area of Santa Cruz County. According to the DOC Mineral Land Classification Maps, the project site is in an area with a Mineral Resource Zone 4 designation, indicating that information is inadequate for assignment to a different Mineral Resource Zone (DOC 1999). There are no known mineral resources on the project site and the disturbance footprint of the off-site improvements or their vicinity. Additionally, the surrounding residential land uses are not compatible with mineral extraction activities. Therefore, the project would result in no impact on the availability or recovery of mineral resources.

**NO IMPACT**



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# 13 Noise

	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Overview of Noise and Vibration

### Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

### HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

### **SOUND PROPAGATION AND SHIELDING**

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions.

Sound levels are described as either a “sound power level” or a “sound pressure level,” which are two distinct characteristics of sound. Both share the same unit of measurement, the dB. However, sound power (expressed as  $L_{pw}$ ) is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers, such as an eardrum or microphone, which is the sound pressure level. Sound measurement instruments only measure sound pressure, and noise level limits are typically expressed as sound pressure levels.

Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA’s guidance indicates that modern building construction generally provides an exterior-to-interior noise level reduction of 10 dBA with open windows and an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011).

### **DESCRIPTORS**

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptors used for this study are the equivalent noise level ( $L_{eq}$ ), Day-Night Average Level (DNL; may also be symbolized as  $L_{dn}$ ), and the community noise equivalent level (CNEL; may also be symbolized as  $L_{den}$ ).

$L_{eq}$  is one of the most frequently used noise metrics; it considers both duration and sound power level. The  $L_{eq}$  is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The  $L_{max}$  is the highest noise level within the sampling period, and the  $L_{min}$  is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA  $L_{eq}$  range; ambient noise levels greater than 65 dBA  $L_{eq}$  can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (DNL or  $L_{DN}$ ), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Community noise can also be measured using Community Noise Equivalent Level (CNEL or  $L_{DEN}$ ), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013).<sup>17</sup> The relationship between the peak-hour  $L_{eq}$  value and the  $L_{DN}$ /CNEL depends on the distribution of noise during the day, evening, and night; however, noise levels described by  $L_{DN}$  and CNEL usually differ by 1 dBA or less. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 CNEL, while areas near arterial streets are in the 50 to 60+ CNEL range (FTA 2018).

### *Groundborne Vibration*

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 10.

**Table 10 AASHTO Maximum Vibration Levels for Preventing Damage**

Type of Situation	Limiting Velocity (in/sec)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2020

<sup>17</sup> Because DNL and CNEL are typically used to assess human exposure to noise, the use of A-weighted sound pressure level (dBA) is implicit. Therefore, when expressing noise levels in terms of DNL or CNEL, the dBA unit is not included.

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 11.

**Table 11 Vibration Annoyance Potential Criteria**

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/ Frequent Intermittent Sources <sup>1</sup>
Severe	2.0	0.40
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

<sup>1</sup> Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

## Project Noise Setting

### SENSITIVE RECEIVERS

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The County of Santa Cruz General Plan and LCP Noise Element identifies noise-sensitive land uses as residential uses, schools, and hospitals. The Noise Element also states that certain other uses are planned and designed to ensure appropriate sound levels, including churches, convalescent care facilities, and hotels (County of Santa Cruz 1994). The nearest noise-sensitive receivers are single-family residences located immediately north, south, and east of the project site as well as single-family residences to the west across Baltusrol Drive. In addition, Rio Del Mar Elementary School is located approximately 600 feet southeast of the project site.

### NOISE MEASUREMENTS

The most prevalent source of noise in the project site vicinity is vehicular traffic on Baltusrol Drive immediately west of the project site. To characterize ambient sound levels at and near the project site, two 15-minute sound level measurements were conducted on Monday, August 16, 2021, between 4:50 p.m. and 5:30 p.m. An Extech, Model 407780A, ANSI Type 2 integrating sound level meter was used to conduct the measurements. Figure 9 shows the noise measurement locations, and Table 12 summarizes the results of the noise measurements. Detailed sound level measurement data are included in Appendix H.

Figure 9 Noise Measurement Locations



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**Table 12 Project Site Vicinity Sound Level Monitoring Results**

Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L <sub>eq</sub> (dBA)	L <sub>min</sub> (dBA)	L <sub>max</sub> (dBA)	
NM-1	225 Baltusrol Drive	4:50 – 5:05 p.m.	15 feet to the centerline of Baltusrol Drive	53	38	70
NM-2	840 Clubhouse Drive	5:14 – 5:28 p.m.	15 feet to the centerline of Clubhouse Drive	58	39	82

L<sub>eq</sub> = average noise level equivalent; dBA = A-weighted decibel; L<sub>min</sub> = minimum instantaneous noise level; L<sub>max</sub> = maximum instantaneous noise level

Detailed sound level measurement data are included in Appendix H.

## Regulatory Setting

### *County of Santa Cruz General Plan Public Safety and Noise Element*

The Noise Element of the County of Santa Cruz General Plan and LCP (2020) contains the following policies that are applicable to the proposed project:

**Policy 9.2.1** Require acoustical studies for all new development projects that may affect the existing noise environment affecting sensitive land uses and receptors and that may not conform to the Normally Acceptable Noise Exposure in Table 9-2 (reproduced herein as Figure 10).

**Policy 9.2.2** Require site-design and noise reduction measures for any project, including transportation projects, that would cause significant degradation of the noise environment due to project effects that could:

(a) Increase the noise level at existing noise-sensitive receptors or areas by 5 dB or more, where the post-project CNEL or DNL will remain equal to or below 60 dB;

(b) Increase the noise level at existing noise-sensitive receptors or areas by 3 dB or more, where the post-project CNEL or DNL would exceed 60 dB.

This policy shall not be interpreted in a manner that would limit the ability of the County to require noise-related mitigation measures or conditions of approval for projects that may generate lesser increases than the above. Special consideration may also be applied to special events or activities subject to permit requirements, or to land use development permits for uses and activities exempted from County noise control regulations.

**Policy 9.2.3** Incorporate noise considerations into the site plan review process, particularly with regard to parking and loading areas, ingress/egress points and refuse collection areas.

**Policy 9.2.5** The following noise mitigation strategies are preferable to construction of conventional masonry noise barriers where these strategies are a feasible option to reduce impacts on sensitive uses:

- Avoid placement of noise sensitive uses in noisy areas.
- Avoid placement of significant noise generators in noise sensitive areas.



- Increase setbacks between noise generators and noise sensitive uses.
- Orient buildings such that the noise sensitive portions of a project (e.g., bedrooms) are shielded from noise sources (such as through careful design of floor plan).
- Use sound-attenuating architectural design and building features.
- Employ technologies that reduce noise generation, such as alternate pavement materials on roadways, when appropriate.
- Employ traffic calming measures where appropriate.

**Policy 9.2.6** Require mitigation and/or best management practices to reduce construction noise as a condition of project approvals, particularly if noise levels would exceed 75 dB at neighboring sensitive land uses or if construction would occur for more than seven days.

**Figure 10 Acceptable through Unacceptable Ranges of Noise Exposure by Land Use**

LAND USE		COMMUNITY NOISE EXPOSURE DNL or CNEL, dB					
		55	60	65	70	75	80
		A	Residential/Lodging – Single Family, Duplex, Mobile Home, Multi Family,				
B	Schools, Libraries, Religious Institutions, Meeting Halls, Hospitals						
C	Outdoor Sports Arena or Facility, Playgrounds, Neighborhood Parks						
D	Office Buildings, Business Commercial and Professional						
E	Industrial, Manufacturing, Utilities, Agriculture						
<b>NORMALLY ACCEPTABLE:</b>		Specific land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements, and can meet the indoor noise standards.					
<b>CONDITIONALLY ACCEPTABLE:</b>		New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design to meet interior and exterior noise standards, where applicable.					
<b>NORMALLY UNACCEPTABLE:</b>		New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design to meet interior and exterior noise standards, where applicable.					
<b>CLEARLY UNACCEPTABLE:</b>		New construction or development should generally not be undertaken.					
Based on Draft General Plan Guidelines published by the California State Office of Planning and Research, 2014.							



### *Santa Cruz County Noise Ordinance*

Chapter 8.30 of the Santa Cruz County Code states that no person shall make, cause, suffer, or permit to be made any offensive noise, which can include construction. According to Section 8.30.010(C)(1)(a), noise that occurs during daytime and evening hours (8:00 a.m. to 10:00 p.m.) is considered to be offensive if one or more of the following occurs:

- Noise is clearly discernable at a distance of 150 feet from the property line of the property from which the sound is broadcast
- Noise is in excess of 75 dBA at the property line of the property from which the sound is broadcast

According to Section 8.30.010(C)(2)(b) of the Santa Cruz County Code, noise that occurs during nighttime hours (10:00 p.m. to 8:00 a.m.) is considered offensive if one or more of the following occurs:

- Noise is made within 100 feet of a building regularly used for sleeping
- Noise is clearly discernable at 100 feet from the property line of the property from which the sound is broadcast
- Noise is in excess of 60 dBA at the property line from which the sound is broadcast

However, Section 8.30.010 of the Santa Cruz County Code also states that the necessity of the noise shall be considered when determining if a violation of the noise ordinance exists and specifically lists permitted construction activities as an example of necessary noise.

Additionally, Chapter 13.10.345(A)(6) of the Santa Cruz County Code states that no use except for temporary construction operation shall be permitted which creates vibration detectable by the human senses beyond the boundaries of a site in an M-1 industrial district or beyond the boundaries of an M-2 industrial district.

### *Noise Level Increases Over Ambient Noise Levels*

The operational and construction noise limits used in this analysis are set at reasonable levels at which a substantial noise level increase as compared to ambient noise levels would occur. Operational noise limits are lower than construction noise limits because continuous, permanent operational noise sources typically result in adverse community reaction associated with a smaller increase in ambient noise levels. In comparison, the magnitude of an increase in ambient noise levels associated with temporary, daytime construction activities typically results in a less adverse reaction. Furthermore, these noise limits are tailored to specific land uses; for example, the noise limits for residential land uses are lower than those for commercial land uses. The difference in noise limits for each land use indicates that the noise limits inherently account for typical ambient noise levels associated with each land use. Therefore, an increase in ambient noise levels that exceeds these absolute limits would also be considered a substantial increase above ambient noise levels. As such, a separate evaluation of the magnitude of noise level increases over ambient noise levels would not provide additional analytical information regarding noise impacts and therefore is not included in this analysis.

- 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 Noise

Construction activity would generate temporary noise in the project site vicinity, exposing surrounding sensitive receivers to increased noise levels. Project construction noise would be generated by heavy-duty diesel construction equipment used for demolition, site preparation, grading, well drilling, building construction, aggregate base surfacing, pump testing, and site restoration activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the more equipment-intensive phases of initial construction (i.e., demolition, site preparation, grading, and well drilling activities) and would be lower during the later construction phases (i.e., building construction, aggregate base surfacing, and site restoration).

Construction noise was estimated using reference noise levels and equipment use factors from the FHWA Roadway Construction Noise Model (RCNM; 2006). Noise impacts from construction equipment are typically assessed from the center of the equipment activity area (e.g., construction site, well drilling location) over the period of a construction day. Due to the relatively small size of the project site, modeling conservatively assumes simultaneous operation of the three loudest pieces of construction equipment during each phase of construction because this is the number of equipment that would reasonably be expected to be operating simultaneously. To evaluate construction noise impacts, the noise level limits contained in Chapter 8.30 of the Santa Cruz County Code were utilized. For construction activities occurring during daytime and evening hours (8:00 a.m. to 10:00 p.m.), construction noise impacts would be significant if noise levels exceed 75 dBA at the property line (Santa Cruz County Code Section 8.30.010[C][1][a]). For construction activities occurring during nighttime hours (10:00 p.m. to 8:00 a.m.), construction noise impacts would be significant if noise levels exceed 60 dBA at the property line (Santa Cruz County Code Section 8.30.010[C][2][b]).

Table 13 summarizes estimated construction noise levels during each phase of construction for the replacement well and water treatment plant. As shown therein, construction noise levels during construction of the replacement well would exceed the County's daytime threshold of 75 dBA  $L_{eq}$  during the demolition, site preparation/grading, and well drilling phases as well as the County's nighttime threshold of 60 dBA  $L_{eq}$  during the well drilling phase at the nearest sensitive receivers. Assuming a standard distance attenuation of 6 dBA per doubling of distance, noise levels during one or more phases of replacement well construction would exceed the County's daytime threshold at sensitive receivers within an approximately 160-foot radius from the center of the project site. Construction noise levels during the well drilling phase would exceed the County's nighttime threshold at sensitive receivers within an approximately 630-foot radius. Construction noise levels during construction of the water treatment plant would also exceed the County's daytime threshold of 75 dBA  $L_{eq}$  during all phases at the nearest sensitive receivers. Assuming a standard distance attenuation of 6 dBA per doubling of distance, construction noise levels during one or more phases of water treatment plant construction would exceed the County's daytime threshold at sensitive receivers within an approximately 315-foot radius from the center of the project site. Therefore, construction noise impacts would be potentially significant, and implementation of Mitigation Measure NOI-1 would be required.

**Table 13 Maximum Construction Noise Levels by Construction Phase**

Construction Phase <sup>1</sup>	Construction Equipment	Estimated Noise at Nearest Sensitive Receptors (dBA L <sub>eq</sub> )	Daytime/Evening Threshold <sup>2</sup>	Threshold Exceeded?	Nighttime Threshold <sup>3</sup>	Threshold Exceeded?
<b>Replacement Well<sup>4</sup></b>						
Demolition	Drill Rig, Concrete Saw, Dozer	91 <sup>5</sup>	75	Yes	N/A	N/A
Site Preparation/Grading	Drill Rig, Backhoe, Forklift	79 <sup>6</sup>	75	Yes	N/A	N/A
Well Drilling	Bore/Drill Rig, Generator, Pump	82 <sup>6</sup>	75	Yes	60	Yes
Site Restoration	Roller	73 <sup>6</sup>	75	No	N/A	N/A
<b>Water Treatment Plant<sup>7</sup></b>						
Site Preparation	Concrete Saw, Dozer, Grader	86 <sup>8</sup>	75	Yes	N/A	N/A
Grading	Dozer, Grader, Scraper	84 <sup>8</sup>	75	Yes	N/A	N/A
Building Construction and System Installation	Concrete Saw, Crane, Generator	84 <sup>8</sup>	75	Yes	N/A	N/A
Aggregate Base Surfacing	Dozer, Grader, Scraper	84 <sup>8</sup>	75	Yes	N/A	N/A
Architectural Coating	Aerial Lift, Air Compressor, Generator	79 <sup>8</sup>	75	Yes	N/A	N/A

See Appendix H for RCNM data sheets.

<sup>1</sup> The replacement well and water treatment plant would not be constructed concurrently; therefore, construction noise impacts are evaluated separately for each project component.

<sup>2</sup> Santa Cruz County Code Section 8.30.010(C)(1)(a)

<sup>3</sup> Santa Cruz County Code Section 8.30.010(C)(2)(b)

<sup>4</sup> Demolition, site preparation, and grading activities for the replacement well would occur from 8:00 a.m. to 8:00 p.m. Therefore, these activities would only be subject to the daytime/evening threshold, which applies to noise generated between 8:00 a.m. and 10:00 p.m. Well drilling activities would occur for 24 hours a day; therefore, these activities would be subject to both the daytime/evening and nighttime thresholds.

<sup>5</sup> Measured at a distance of 25 feet, which is the distance from the center of the demolition area to the property line of the nearest residence.

<sup>6</sup> Measured at a distance of 50 feet, which is the distance from the center of the well construction area to the property line of the nearest residence.

<sup>7</sup> Construction activities for the water treatment plant would occur from 8:00 a.m. to 5:00 p.m. Therefore, these activities would only be subject to the daytime/evening threshold.

<sup>8</sup> Measured at a distance of 50 feet, which is the distance from the center of the construction site to the property line of the nearest residence.

## On-site Operational Noise

The existing Country Club well has an aboveground motor that generates noise while in operation. However, the replacement well would include a submersible motor that would not generate perceptible noise. Therefore, the project would reduce noise levels associated with groundwater pumping activities at the project site as compared to baseline conditions when the existing well was operational.

The primary source of noise associated with the proposed water treatment plant would be five wall-mounted exhaust fans that would provide ventilation to the building. The fans would normally operate intermittently between 7:00 a.m. and 7:00 p.m., which are during the County's daytime and evening hours (between 8:00 a.m. to 10:00 p.m.). The exhaust fans would vent out openings on the north, south, and east elevations of the building; therefore, the main sensitive receivers that would be affected by fan noise would be the residences located immediately north, east, and south of the project site. According to manufacturer specifications (included in Appendix H),<sup>18</sup> an individual exhaust fan would produce a sound power level of 66 dBA, which equates to a sound pressure level of approximately 54 dBA  $L_{eq}$  at five feet. Accordingly, the combined noise level of five exhaust fans would be 61 dBA  $L_{eq}$  at five feet.<sup>19</sup> The exhaust fans would be distributed throughout the 1,862-square-foot building; however, to provide a conservative estimate of project impacts, it was assumed that all five exhaust fans would be located at the point of the building closest to the property line, which is the southern elevation located approximately 15 feet from the property line. At this distance, exhaust fan noise would be approximately 42 dBA  $L_{eq}$ , assuming a standard distance attenuation of 6 dBA per doubling of distance. This noise level would not exceed the County's general noise level standard of 75 dBA during daytime and evening hours (Santa Cruz County Code Section 8.30.010[C][1][a]). Furthermore, even if the exhaust fans operated continuously from 8:00 a.m. to 10:00 p.m., 24-hour noise levels at the property line would be approximately 41 CNEL, which would not exceed the community noise exposure standard of 60 CNEL for single-family residential land uses pursuant to Table 9-2 in the Santa Cruz County General Plan and LCP (2020).

Although typical operations would occur during daytime and evening hours, operation of the exhaust fans may occur during nighttime hours (10:00 p.m. and 8:00 a.m.) if other water infrastructure in the service area is offline or during an emergency. However, even in these infrequent events of nighttime operation, combined exhaust fan noise of approximately 42 dBA  $L_{eq}$  at the property line would not exceed the County's general noise level standard of 60 dBA during nighttime hours (Santa Cruz County Code Section 8.30.010[C][1][b]) or the County's noise level standard for stationary noise sources of 45 dBA  $L_{eq}$  for nighttime hours pursuant to Policy 9.2.4 and Table 9-3 in the Santa Cruz County General Plan and LCP (2020). Furthermore, even if the exhaust fans operated continuously during all hours, 24-hour noise levels at the property line would be approximately 49 CNEL, which would not exceed the community noise exposure standard of 60 CNEL for single-family residential land uses pursuant to Policy 9.2.4 and Table 9-2 in the Santa Cruz County General Plan and LCP (2020). Therefore, operational noise impacts would be less than significant.

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<sup>18</sup> Manufacturer specifications for a Greenheck sidewall cast aluminum belt drive fan (model SBCE-3H24-5) were utilized.

<sup>19</sup> Noise levels are represented in decibels, which are measured on a logarithmic scale (similar to the Richter scale used to measure earthquake magnitudes), rather than a linear scale. Because of this, adding together two noise sources with the same noise level does not result in double the noise level. Rather, this results in a 3 dB increase as compared to the noise level of an individual noise source. For example, the combined noise level of two exhaust fans, each producing a noise level of 54 dBA  $L_{eq}$ , is 57 dBA  $L_{eq}$  (54 dBA  $L_{eq}$  + 3 dB).

## Off-site Roadway Noise

As discussed under *Overview of Noise and Vibration*, the average healthy ear can barely perceive an increase of up to 3 dBA in noise levels, and a change of 5 dBA is readily perceptible. Based on this information, off-site traffic noise impacts would be significant if project-related traffic would result if the project would increase off-site traffic noise levels by 3 dBA or greater. Generally, a doubling of traffic (i.e., a doubling of the sound energy) would result in a 3 dBA increase (Caltrans 2013).

Baltusrol Drive north of Baltusrol Way serves as the primary local access roadway for approximately 10 single-family residences. According to the Institute of Transportation Engineers (~~2017~~ 2021) *Trip Generation Handbook, 10<sup>th</sup> Edition 11<sup>th</sup> Edition*, single-family residences generate approximately ~~9.44~~ 9.43 average daily trips; therefore, existing daily traffic volumes on this segment of Baltusrol Drive are approximately 94 average daily trips for local trips, conservatively not including vehicle trips that may travel through from other areas of the neighborhood and ancillary vehicles such as mail delivery and garbage collection trucks. During normal operations, an SqCWD operator would travel to the project site daily on weekdays, which would result in two additional one-way vehicle trips on Baltusrol Drive and other area roadways. Maximum daily vehicle trips would be generated on a day during which the daily SqCWD operator visit, weekly water quality visit, weekly sodium hypochlorite delivery, weekly/bi-monthly site maintenance visit, semi-annual hexavalent chromium resin replacement visit, and GAC media replacement visit (two staff) occur on the same day, which would equate to 14 one-way vehicle trips. In addition, a small number of other existing SqCWD staff (anticipated to be no more than one to five staff daily) may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, which would incrementally increase vehicle trips on Baltusrol Drive by another two to 10 one-way trips for a maximum total of 24 one-way vehicle trips. Even in this scenario of maximum daily trips, the project would not double existing traffic volumes on Baltusrol Drive north of Baltusrol Way, which are currently approximately 94 average daily trips, such that a perceptible increase in traffic noise levels would occur. Therefore, impacts related to off-site traffic noise would be less than significant.

## Summary

In summary, project construction would result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of County standards, and impacts would be potentially significant. Implementation of Mitigation Measure N-1 would be required to address this impact. However, on-site operational and off-site roadway noise impacts would be less than significant.

## Mitigation Measures

### N-1 Construction Noise Reduction Plan

SqCWD shall implement a Construction Noise Reduction Plan prior to and during construction activities for both the replacement well and water treatment plant. A disturbance coordinator shall be designated for the project to implement the provisions of the plan. At a minimum, the Construction Noise Reduction Plan shall include the following requirements:

- Whenever feasible, construction activities shall be scheduled to avoid operating several pieces of equipment simultaneously.

- Maximum physical separation, as far as practicable, shall be maintained between construction equipment and adjacent residences.
- All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.
- All equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained critical grade mufflers consistent with manufacturers' standards.
- Portable sound enclosures shall be used for all generators and air compressors that provide at least a 10-dBA reduction in noise levels.
- The SqCWD shall include construction specification requirements for installation and maintenance of temporary sound barriers and/or blankets during construction activities. The temporary sound barriers and/or blankets shall be installed around the construction site boundaries. The temporary barriers/blankets shall have a minimum sound transmission loss of 21 dB and noise reduction coefficient of 0.75. Additionally, the temporary barriers/blankets shall be of sufficient height to intercept the line of sight between the noise-generating source of the construction equipment (i.e., the exhaust) and nearby residential receivers. If temporary blankets are used instead of a barrier, they shall be of sufficient height to extend from the top of the temporary construction fence and drape on the ground or be sealed at the ground. The temporary barriers/blankets shall be a minimum of 11 feet in height. The temporary barriers/blankets shall have grommets along the top edge with exterior grade hooks, and loop fasteners along the vertical edges with overlapping seams, with a minimum overlap of 2 inches.
- The SqCWD shall offer to provide hotel accommodations for all residents within 100 feet of the project site for the duration of 24-hour well drilling activities.
- A non-automated "hotline" telephone number for registering construction noise complaints shall be posted at construction site and shall be provided to all residences within 630 feet of the project site along with the estimated construction schedule. The disturbance coordinator shall determine the cause of noise complaints and institute actions warranted to correct the issue. All complaints shall be logged noting the date, time, complainant's name, nature of the complaint, and any corrective action taken.
- At least two weeks prior to well drilling activities, but no more than one month in advance, written notification shall be provided to residents located within 500 feet of the project site identifying the type, duration, and frequency of 24-hour well drilling construction activities.

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Include construction noise measures in construction contractor specifications	1. Prior to the start of construction of each project component	1. Once	Soquel Creek Water District
2. Offer hotel accommodations for all residents within 100 feet of the project site for the duration of 24-hour well drilling activities	2. Prior to the start of 24-hour well drilling activities	2. Once before each period of 24-hour well drilling	
3. Provide non-automated telephone number for local residents to submit complaints	3. Prior to the start of construction	3. Once	
4. Provide written notification of 24-hour well drilling activities for local residents	4. Between two weeks and one month prior to well drilling activities	4. Once	
5. Field verify compliance with construction noise reduction measures	5. During construction	5. Periodically	

**Significance After Mitigation**

Implementation of Mitigation Measure N-1 would entail the use of several noise reduction measures, including mufflers and temporary sound barriers. Use of critical grade mufflers would reduce engine noise levels from mobile construction equipment by at least 10 dBA in comparison to industrial grade mufflers, and installation of portable sound enclosures for generators and air compressors would reduce noise levels by at least 10 dBA (Diesel Service & Supply 2021; Echo Barrier 2019).<sup>20</sup> Temporary sound barriers would reduce noise levels from well drilling activities by approximately 13 dBA (see Appendix H for barrier calculations). As shown in Table 14, implementation of Mitigation Measure N-1 would reduce daytime and nighttime construction noise levels during construction of the replacement well and water treatment plant at nearby sensitive receivers below the County’s daytime and nighttime exterior noise thresholds. Nearby residences along Zanzibar Drive are located along a ridge and thus would not be shielded from construction equipment on site by the required temporary sound barrier/blankets because these residences are higher in elevation than the project site. However, the closest elevated residence along Zanzibar Drive is approximately 1,800 feet from the project site boundary, which is well outside the 160-, 315-, and 630-foot radii of sensitive receivers that would be affected by project construction noise during construction of the replacement well and water treatment plant. Therefore, implementation of Mitigation Measure N-1 would reduce construction noise impacts to a less-than-significant level.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

<sup>20</sup> Portable sound enclosures are capable of reducing noise levels by up to 99 percent (Echo Barrier 2019). Mitigation Measure N-1 requires the use of enclosures that reduce noise levels by approximately 10 dBA, which would represent a 50 percent reduction in noise levels from these pieces of equipment.

**Table 14 Maximum Construction Noise Levels by Construction Phase - Mitigated**

Construction Phase <sup>1, 2</sup>	Construction Equipment	Estimated Noise at Nearest Sensitive Receptors (dBA L <sub>eq</sub> )	Daytime/ Evening Threshold <sup>3</sup>	Threshold Exceeded?	Nighttime Threshold <sup>4</sup>	Threshold Exceeded?
<b>Replacement Well<sup>5</sup></b>						
Demolition	Drill Rig, Concrete Saw, Dozer	68 <sup>6</sup>	75	No	N/A	N/A
Site Preparation/Grading	Drill Rig, Backhoe, Forklift	56 <sup>7</sup>	75	No	N/A	N/A
Well Drilling	Bore/Drill Rig, Generator, Pump	59 <sup>7</sup>	75	No	60	No
Site Restoration	Roller	50 <sup>7</sup>	75	No	N/A	N/A
<b>Water Treatment Plant<sup>8</sup></b>						
Site Preparation	Concrete Saw, Dozer, Grader	63 <sup>9</sup>	75	No	N/A	N/A
Grading	Dozer, Grader, Scraper	61 <sup>9</sup>	75	No	N/A	N/A
Building Construction and System Installation	Concrete Saw, Crane, Generator	61 <sup>9</sup>	75	No	N/A	N/A
Aggregate Base Surfacing	Dozer, Grader, Scraper	61 <sup>9</sup>	75	No	N/A	N/A
Architectural Coating	Aerial Lift, Air Compressor, Generator	56 <sup>9</sup>	75	No	N/A	N/A

See Appendix H for RCNM data sheets.

<sup>1</sup> The replacement well and water treatment plant would not be constructed concurrently; therefore, construction noise impacts are evaluated separately for each project components.

<sup>2</sup> Includes a 10-dBA reduction for portable sound enclosures around stationary equipment, a 10-dBA reduction for critical grade mufflers on mobile equipment, and a 13-dBA reduction for the temporary sound barrier/blankets.

<sup>3</sup> Santa Cruz County Code Section 8.30.010(C)(1)(a)

<sup>4</sup> Santa Cruz County Code Section 8.30.010(C)(2)(b)

<sup>5</sup> Demolition, site preparation, and grading activities for the replacement well would occur from 8:00 a.m. to 8:00 p.m. Therefore, these activities would only be subject to the daytime/evening threshold, which applies to noise generated between 8:00 a.m. and 10:00 p.m. Well drilling activities would occur for 24 hours a day; therefore, these activities would be subject to both the daytime/evening and nighttime thresholds.

<sup>6</sup> Measured at a distance of 25 feet, which is the distance from the center of the demolition area to the property line of the nearest residence.

<sup>7</sup> Measured at a distance of 50 feet, which is the distance from the center of the well construction area to the property line of the nearest residence.

<sup>8</sup> Construction activities for the water treatment plant would occur from 8:00 a.m. to 5:00 p.m. Therefore, these activities would only be subject to the daytime/evening threshold.

<sup>9</sup> Measured at a distance of 50 feet, which is the distance from the center of the construction site to the property line of the nearest residence.



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

**Construction**

Project construction would not involve activities typically associated with excessive groundborne vibration such as pile driving or blasting. The equipment utilized during project construction that would generate the highest levels of vibration would include rollers, loaded trucks, and bulldozers. Chapter 13.10.345(A)(6) of the Santa Cruz County Code states that no use except for temporary construction shall be permitted which creates vibration detectable by the human senses beyond the boundaries of a site in an M-1 industrial district or beyond the boundaries of an M-2 industrial district. The County of Santa Cruz has not adopted standards to assess vibration impacts during construction activities. However, Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources. The thresholds of significance used in this analysis to evaluate vibration impacts are based on these impact criteria, as summarized in Table 10 and Table 11.

Project construction would require operation of vibratory equipment such as a bore/drill rig, loaded trucks, and small bulldozers. The bore/drill rig would operate at the location of the replacement well, which is approximately 75 feet from the nearest residence. Loaded trucks would travel along Baltusrol Drive within approximately 45 feet of the nearest residence (as measured from the centerline of the nearest travel lane). Bulldozers would travel throughout the site and would operate as close as 15 feet from the nearest residence. As shown in Table 15, vibration levels from individual pieces of construction equipment would not exceed the structural damage threshold for residential structures or the human annoyance threshold for transient vibration sources. Therefore, construction vibration impacts would be less than significant.

**Table 15 Vibration Levels at Sensitive Receivers**

<b>Equipment</b>	<b>Distance from Nearest Building</b>	<b>Estimated PPV at Nearest Building (in/sec)</b>
Bore/Drill Rig <sup>1</sup>	75 feet	0.03
Small Bulldozer	15 feet	0.04
Loaded Truck	45 feet	0.01
<b>Threshold for Structural Damage<sup>2</sup></b>	–	<b>0.3</b>
Threshold Exceeded?	–	No
<b>Threshold for Human Annoyance<sup>3</sup></b>	–	<b>0.4</b>
Threshold Exceeded?	–	No

PPV = peak particle velocity; in/sec = inches per second

<sup>1</sup> Vibration levels measured for caisson drilling were used to approximate vibration levels from well drilling using a bore/drill rig.

<sup>2</sup> The threshold for structural damage is based on the maximum vibration level for preventing damage to residential building with plastered walls (see Table 10).

<sup>3</sup> The threshold for human annoyance is based on the level of vibration from transient sources that is severe (see Table 11).

See Appendix H for vibration analysis worksheets.

## **Operation**

As a groundwater well and water treatment plant, the proposed project would not generate significant stationary sources of vibration, such as manufacturing or heavy equipment operations. No operational vibration impact would occur.

### **LESS THAN SIGNIFICANT IMPACT**

- 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 closest public airport to the project is the Watsonville Municipal Airport, located approximately 5.3 miles southeast of the project site. Therefore, the project would not be located within the vicinity of a private airstrip or an airport land use plan or within two miles of a public airport or public use airport. No impact would occur.

### **NO IMPACT**

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# 14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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)?*

The proposed project would not result in the construction of new homes and therefore would not directly induce substantial unplanned population growth. The project consists of a replacement well and water treatment plant that would not represent a new water supply source but would rather provide treatment of an existing water supply source that was taken offline due to contamination concerns. The proposed project would not be utilized to increase the amount of water currently being supplied to existing customers or to provide water to areas currently not serviced by the SqCWD. Rather, the project would enable SqCWD to continue providing its existing customers with a safe, reliable water supply. Additionally, the existing well and replacement well would not operate in tandem. Either the existing Country Club well would remain operational until it fails or SqCWD would bring the replacement well online earlier if it is found to have better performance and/or water quality than the existing well. When the existing well is no longer operational, it would be destroyed. As such, the proposed project would not increase water supply such that it would facilitate the development of land that previously could not be developed due to water service constraints. In addition, project operation would not require additional SqCWD employees. Therefore, the project would not induce substantial unplanned population growth in the area, either directly or indirectly. No impact would occur.

**NO IMPACT**

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

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

The proposed project consists of a replacement well and water treatment plant and associated on- and off-site improvements on a site the currently contains water infrastructure facilities. The project would not include demolition of existing housing. As such, the project would not displace people or housing, and no impact related to displacement of people or housing would occur.

**NO IMPACT**

# 15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1	Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.1. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

a.2. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

a.3. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

a.4. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

*a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

As discussed in Section 14, *Population and Housing*, the proposed project would not directly or indirectly induce population growth that may increase demand for fire protection services, police protection services, schools, parks, or other public facilities. The proposed project would not include features or facilities requiring additional or unusual fire protection resources during operation. In the event of the unexpected need for fire protection for the project, the closest fire station is the Central Fire District's Aptos/La Selva Fire Station No. 2, located approximately 0.9 mile to the northwest of the project site. Additionally, the project would include security measures that would minimize the need for additional police protection services, such as new perimeter fencing and access gates as well as security cameras with motion detectors. Therefore, no impact to public services would occur.

**NO IMPACT**

# 16 Recreation

	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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?*

As discussed in Section 14, *Population and Housing*, the proposed project would neither directly nor indirectly induce population growth that would increase demand for parks and recreational facilities. In addition, the proposed project does not include recreational facilities, nor does it require the construction or expansion of recreational facilities. Therefore, the project would not 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 or include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. No impacts related to recreation would occur.

**NO IMPACT**



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# 17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

The project site is located on a local residential street with no bicycle, pedestrian, or transit facilities along the project site frontage. The nearest bicycle and pedestrian facilities are the protected bicycle lane and sidewalk located approximately 125 feet southeast of the project site along Clubhouse Drive. Additionally, the nearest transit facility is the Clubhouse Drive and Pinehurst Drive bus stop for the Santa Cruz Metropolitan Transit District, which is also located approximately 125 feet southeast of the project site along Clubhouse Drive.

Project construction would require construction-related vehicle trips including construction workers traveling to and from the project site, haul trucks (including for export of demolished and excavated materials), and other trucks associated with equipment, material, and concrete deliveries. Heavy-duty equipment would primarily be staged at the project site, reducing the need for daily vehicle trips, as well as potentially at the Seascope Golf Club approximately 0.2 mile away. The number of vehicle trips would be minimal with approximately four construction workers on site daily during construction of the replacement well and approximately eight construction workers on site daily during construction of the water treatment plant. Approximately two to three delivery and haul truck trips would occur per day during construction. Construction-related traffic would be short-term and would cease upon completion of construction activities. From prior experience completing construction projects in the project site vicinity, SqCWD has observed that parents or caregivers of students at Rio Del Mar Elementary School often park along Baltusrol Drive and Baltusrol Way during school pick-up and drop-off times. Potential safety conflicts could arise between project construction activities and local residents walking to and from parked vehicles on these roadways if

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

heavy truck traffic is traveling to and from the project site during these hours. However, these trips would be infrequent, and drivers would be required to comply with local traffic control measures (e.g., stop signs) and posted speed limits. Furthermore, project construction activities would occur primarily within the boundaries of the project site, and the construction contractor would be required to implement appropriate traffic safety control measures during construction of the sewer lateral connection within Baltusrol Drive.

Operational activities of the replacement well and water treatment plant would require a daily SqCWD operator visit, a weekly water quality visit, a weekly sodium hypochlorite delivery, a weekly/bi-monthly site maintenance visit, semi-annual hexavalent chromium resin replacement visits, and GAC media replacement visits by two staff every two-and-a-half to three years. In addition, a small number of other existing SqCWD staff (anticipated to be one to five staff) may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, which would incrementally increase vehicle trips on Baltusrol Drive by another two to 10 one-way trips for a total of 24 one-way vehicle trips. At most, the project would generate 24 daily trips if weekly site maintenance, a semi-annual hexavalent chromium resin replacement visit, and the GAC media replacement visits occur on the same day along with maximum anticipated restroom usage by other SqCWD staff.<sup>21</sup>

Given the minimal number of trips generated, construction and operational impacts related to adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities would be less than significant.

**Voluntary Measure**

Although project impacts associated with programs, plans, ordinances, and policies addressing the circulation system would be less than significant, SqCWD has voluntarily elected to include the following measure to address potential safety conflicts between project construction activities and local residents who often park along Baltusrol Drive and Baltusrol Way and walk to drop off and pick up students at Rio del Mar Elementary School.

*T-1 Address Potential Transportation Safety Conflicts*

SqCWD shall include a requirement for the western edge of the construction site to be fenced and a prohibition on heavy-duty construction equipment and haul trucks entering/exiting the project site during school pick-up and drop-off times (typically between 7:15 and 8:10 a.m. on weekdays, between 1:45 and 2:30 p.m. on Mondays, Tuesdays, Thursdays, and Fridays; and between 12:00 and 12:40 p.m. on Wednesdays during the school year) in the construction contractor specifications. SqCWD shall also inform Rio del Mar Elementary School and the Pajaro Valley Unified School District of the anticipated construction timeframe at least two weeks in advance of the start of construction activities so that Rio del Mar Elementary School and/or the Pajaro Valley Unified School District may notify parents and guardians of students of the potential for transportation safety conflicts along Baltusrol Drive and Baltusrol Way. In addition, at the project's pre-construction meeting(s), SqCWD shall inform its construction contractor(s) and their personnel of the potential safety conflicts associated with school-related parking along Baltusrol Drive and Baltusrol Way.

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<sup>21</sup> It is highly unlikely that this scenario of maximum daily trips would occur; however, it is used in this analysis to provide a conservative estimate of project impacts.

Action Required	Monitoring Timing	Monitoring Frequency	Responsible Agency
1. Include requirements to address potential transportation safety conflicts in construction contractor specifications	1. Prior to the start of construction for each project component	1. Once	Soquel Creek Water District
2. Inform Rio del Mar Elementary School and the Pajaro Valley Unified School District of the anticipated construction timeframe	2. At least two weeks prior to the start of construction activities for each project component	2. Once	
3. Inform construction contractor(s) and personnel of potential safety conflicts and communicate the need for elevated safety awareness during school pick-up and drop-off times	3. At the pre-construction meeting for each project component	3. Once	

**LESS THAN SIGNIFICANT IMPACT**

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the State CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic.

A VMT calculation is typically conducted on a daily or annual basis to determine operational usage of a project. Construction of the proposed project would result in a minimal, short-term increase in local traffic as a result of construction-related worker traffic, material and equipment deliveries, and construction activities. VMT generated from construction-related traffic would cease once construction is completed.

The Governor’s Office of Planning and Research *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) states, “Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant VMT impact.” Project operation and maintenance would generate employee trips to the project site. As discussed under checklist item (a), regular operation would generate a maximum of 14 daily trips if the daily SqCWD operator visit, the weekly water quality visit, the weekly site maintenance visit, a semi-annual hexavalent chromium resin replacement visit, and the GAC media replacement visits occur on the same day. This level of daily traffic would not exceed the VMT screening level of 110 trips per day. In addition, although a small number of other existing SqCWD staff may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, these vehicle trips would not be new to the region because they are currently occurring in the service area as staff complete their duties and use restroom facilities at other locations. Therefore, these vehicle trips would not represent a source of new VMT associated with the project and may result in reduced VMT because staff would be able to utilize restroom facilities in closer proximity to the locations of other SqCWD infrastructure than under existing conditions. As a result, impacts associated with VMT would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

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

The proposed project would involve the construction of an additional driveway at the project site along Baltusrol Drive. The turn onto the driveway would have a slight curve, typical of those found at intersections, and would comply with the safety standards for sight distance and road widths found within the County's (2019) *Design Criteria Containing Standards for the Construction of Streets, Storm Drains, Sanitary Sewer, Water Systems, Driveways within the Unincorporated Portion of Santa Cruz County*. Additionally, no sharp curves or dangerous intersections are proposed. The driveway would be utilized by SqWCD staff and delivery vehicles and would not be open to the public. Therefore, the project would not substantially increase hazards due to a geometric design feature or incompatible use. No impact would occur.

**NO IMPACT**

- d. *Would the project result in inadequate emergency access?*

Although worker vehicles would be parked along the frontage of Baltusrol Drive during construction activities, construction of the proposed project would not cause any temporary lane closures that could impede emergency access. In addition, the project would not substantially alter site access. Currently, the project site is accessed via one driveway on Baltusrol Drive. The proposed project would include buildout of an additional driveway on the southwestern corner of the project site along Baltusrol Drive. The addition of a driveway would provide an additional ingress/egress option in the event of an emergency. Therefore, the project would not result in inadequate emergency access. Impacts would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

# 18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or 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:</p>				
<p>a. 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)?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

California AB 52 expanded CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. 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

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

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 Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Rincon contacted the NAHC on March 9, 2021, to request a SLF search of the project site and surrounding area. As part of this request, Rincon asked the NAHC to provide a list of Native American groups and/or individuals culturally affiliated with the area who may have knowledge of tribal heritage resources at the project site and/or in the vicinity. The NAHC emailed a response on March 19, 2021, stating the SLF search was positive and including a contact list. As part of the AB 52 consultation process, SqCWD sent consultation letters on March 24, 2021, and follow-up emails on May 5, 2021, to the following seven Native American tribes that are traditionally and culturally affiliated with the project site:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Ohlone Rumsen-Mutsun Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the SF Bay Area
- Canyon Band of Costanoan Ohlone People
- Rumšen Am:a Tur:ataj Ohlone

The results of the AB 52 consultation form the basis for the following analysis of project impacts to tribal cultural resources. Rincon also sent letters to these seven Native American contacts on March 25, 2021, to request information regarding their knowledge of tribal heritage resources in the vicinity that may be affected by the proposed project.

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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?*

Kanyon Sayers-Roods, Creative Director and Tribal Monitor for the Canyon Band of Costanoan Ohlone People, responded to Rincon’s outreach letter via email on March 26, 2021, stating that the project site is near and/or overlapping a previously recorded and potentially eligible cultural site. In her email to Rincon, Ms. Sayers-Roods recommended Native American and archaeological monitoring for the project, as well as cultural sensitivity training. In addition, on May 11, 2021, Ms.

Sayers-Roods responded to SqCWD's AB 52 consultation letter and requested consultation for the project. In a virtual consultation meeting on May 19, 2021, Ms. Sayers-Roods stated she would be comfortable without construction monitoring if an "augering" program and/or review of "geotech" samples did not identify cultural resources. As a result, SqCWD invited Ms. Sayers-Roods to review geotechnical samples taken from the project site. On June 4, 2021, a Rincon archaeologist and Ms. Sayers-Roods reviewed previously excavated soil samples collected as part of the Geotechnical Investigation conducted for the project (Appendix F). Soils observed in the geotechnical samples generally consisted of reddish-brown silty sand with no inclusions. One sample contained dark, organic soils similar in color and consistency to midden soils; however, no cultural resources were observed in any of the samples. On June 14, 2021, SqCWD sent a follow up email to Ms. Sayers-Roods stating that consultation was concluded, and that monitoring would not be included as mitigation for the project because the excavated soils for the geotechnical study did not contain cultural resources.

Because the AB 52 consultation with Native American groups and/or individuals culturally affiliated with the area did not identify tribal cultural resources that would be affected by the project, no impacts to tribal cultural resources would occur.

**NO IMPACT**



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# 19 Utilities and Service Systems

	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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?*

## Water

The proposed project would involve the construction of water supply and treatment infrastructure, the environmental effects of which are analyzed in this document. Consequently, no additional impact related to water facilities would occur beyond the impacts identified herein.

## **Wastewater Treatment**

The proposed project would include the construction of a restroom within the water treatment plant, which would connect to the existing sewer system operated by the Santa Cruz County Sanitation District. Wastewater from the project would be treated at the Santa Cruz Wastewater Treatment Facility, which currently treats approximately 12 million gallons of wastewater per day and has a design capacity of 17 million gallons per day (Santa Cruz County Sanitation District 2021; City of Santa Cruz 2021). Because employee site visits would primarily consist of weekday maintenance checks by a single SqCWD operator, the amount of wastewater generated would be minimal and would not have the potential to cause an exceedance of the Santa Cruz Wastewater Treatment Facility's capacity. Furthermore, although a small number of other existing SqCWD staff may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, these staff members would not generate a new source of wastewater because they are currently utilizing other restroom facilities in the service area, which is currently treated by the Santa Cruz Wastewater Treatment Facility. In addition, according to the Sewer Availability Letter provided by the Santa Cruz County Sanitation District (Appendix I), adequate sewer capacity is available to serve the proposed project. As such, the project would not require relocation or construction of new wastewater facilities, and impacts would be less than significant.

## **Stormwater Drainage**

As discussed in Section 10, *Hydrology and Water Quality*, the project would minimally alter drainage patterns on site. The project would utilize aggregate base surfacing, which would allow for some continued stormwater infiltration. In addition, the proposed stormwater retention system would retain the site's stormwater with an on-site retention pipe in the southern driveway. The retention system would be sized in accordance with County of Santa Cruz design requirements to retain runoff from a two-year, two-hour storm and detain runoff from a ten-year, 15-minute storm, which would minimize the potential for the project to result in a substantial increase in stormwater runoff. The proposed on-site stormwater retention pipe would also allow for some infiltration of stormwater runoff (Black & Veatch 2021). This would minimize the potential for stormwater runoff from the project site to exceed the capacity of the existing stormwater drainage system. Therefore, the project would not require new or expanded stormwater drainage infrastructure. Impacts related to stormwater drainage infrastructure would be less than significant.

## **Electric Power**

As discussed in Section 6, *Energy*, project operation would increase electricity consumption at the project site by approximately 191 MWh. However, no new or expanded electric power facilities beyond what is currently installed at the project site would be required. Therefore, impacts would be less than significant.

## **Natural Gas**

The project would not involve any components requiring natural gas service and would not involve the relocation of existing natural gas facilities. Therefore, no impact related to natural gas facilities would occur.

## Telecommunications

The proposed project would involve the replacement of the on-site antenna used for radio transmission, the environmental effects of which are analyzed in this document. Consequently, no additional impact related to telecommunications facilities would occur.

### LESS THAN SIGNIFICANT IMPACT

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

As discussed in Section 9, *Description of Project*, the proposed project would not result in a change in the amount of groundwater extracted by SqCWD from the underlying Mid-County Groundwater Basin under its appropriative right. Therefore, no new additional demands would be placed on the underlying groundwater basin, and no impact to water supplies would occur.

### NO IMPACT

- 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?*

Sewer service would be provided to the project site by the Santa Cruz County Sanitation District. As discussed under checklist item (a), the project would generate an increase in wastewater through the addition of a restroom in the water treatment plant. However, because employee site visits would primarily consist of weekday maintenance checks by a single SqCWD operator, the amount of wastewater generated would be minimal and would not have the potential to cause an exceedance of the Santa Cruz Wastewater Treatment Facility's capacity. Furthermore, although a small number of other existing SqCWD staff may visit the project site to use the restroom in the proposed water treatment plant over the course of their regular duties in the SqCWD service area, these staff members would not generate a new source of wastewater because they are currently utilizing other restroom facilities in the service area, which is currently treated by the Santa Cruz Wastewater Treatment Facility. In addition, according to the Sewer Availability Letter provided by the Santa Cruz County Sanitation District (Appendix I), adequate sewer capacity is available to serve the proposed project in addition to its existing commitments. Therefore, impacts would be less than significant.

### LESS THAN SIGNIFICANT IMPACT

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

The Buena Vista Drive Sanitary Landfill (Buena Vista Landfill), operated by the County of Santa Cruz Public Works Department, would receive solid waste generated by the proposed project. This landfill has a permitted capacity of 7.5 million cubic yards and a maximum permitted throughput of 838 tons per day. As of March 2018, the remaining capacity at the landfill was approximately 2.2 million cubic yards. Buena Vista Landfill accepts a variety of waste, including wood waste, tires, sludge (biosolids), mixed municipal, metals, inert, industrial, green materials, dead animals,

contaminated soil, construction/demolition, and agricultural (California Department of Resources Recycling and Recovery 2021).

Project construction would temporarily generate solid waste. Construction activities would generate approximately 710 cubic yards of excavated soil, one cubic yard of concrete pad material, approximately 20 feet of six-inch pipeline, and approximately 485 feet of fencing to be exported from the project site. Construction-generated solid waste would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. Given the minimal level of demolition debris, the Buena Vista Landfill would have the capacity to accept non-hazardous solid waste generated by project construction activities. In addition, the six-inch pipeline, which is known to be made of asbestos cement, and the building materials for the existing chemical feed enclosure, which may have a lead-based paint coating, would be disposed of at a licensed hazardous waste disposal facility. Once constructed, solid waste produced by project operation would primarily include spent GAC media and spent hexavalent chromium resin. This solid waste would be minimal and would be generated infrequently; therefore, the Buena Vista Landfill would also have the capacity to accept solid waste generated by project operation. The project would not generate solid waste in excess of state or local standards, and would comply with all federal, State, and local management statutes and regulations, including those for hazardous waste in the event that hexavalent chromium spent resin is determined to be hazardous waste. Disposal of hazardous waste would occur at licensed hazardous waste disposal facilities. The project would not impair the attainment of solid waste reduction goals. Therefore, impacts to solid waste would be less than significant.

**LESS THAN SIGNIFICANT IMPACT**

## 20 Wildfire

	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

**Country Club Well Replacement Well and 1,2,3-Trichloropropane Removal Water Treatment Plant**

- 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 downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site is not located within or near land classified as a Very High Fire Hazard Severity Zone or within a state responsibility area (CALFIRE 2020). The closest Very High Fire Hazard Severity Zone is located approximately 6.2 miles northeast of the project site. Therefore, the project would not have the potential to result in wildfire impacts, including those related to emergency response and emergency evacuation plans, the exacerbation of wildfire hazards and risks, the exposure of project occupants to wildfire hazards and risks, and the construction of infrastructure related to wildfire risk reduction. No impact would occur.

**NO IMPACT**

# 21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Does the project:

- |  |                          |                                     |                                     |                                     |
|--|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <p>a. 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?</p> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <p>b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?</p>   | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| <p>c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p>  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |

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

The proposed project would be constructed on a parcel that is largely undeveloped except for the existing Country Club well and associated facilities. As discussed in Section 4, *Biological Resources*, the proposed project would not substantially reduce the habitat of fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. In addition, as discussed in Section 5, *Cultural Resources*, the project would not eliminate important



examples of the major periods of California history or prehistory because none are known to be present in the project area. No impact would occur.

**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)?*

As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment. All anticipated impacts associated with project construction and operation would be either less than significant or less than significant with mitigation incorporated. This is largely because project construction activities would be temporary, and project operational activities would not significantly alter the environmental baseline condition.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as construction of the proposed project, combined noise and transportation impacts may be greater than at the project-level.

The residential community in which the project site is located is entirely built out; therefore, no specific future development projects in the immediate vicinity are anticipated to occur in the same timeframe as the proposed project. The impacts of the proposed project on existing localized environmental conditions is detailed throughout this Initial Study, and the project would not combine with other existing and future projects to create cumulative impacts related to localized issues such as aesthetics, biological resources, cultural resources, geology and soils, noise, and transportation.

The project’s potential to contribute to the cumulative impacts of existing and future development at a regional level are evaluated for the following issues areas of note, assuming buildout of the County of Santa Cruz General Plan and LCP (consistent with CEQA Guidelines Section 15130(b)(1)(B)):

- **Air Quality.** Ongoing development in the region emits criteria air pollutants during construction and operational activities. Because the NCCAB is currently designated nonattainment-transitional for the ozone CAAQS and nonattainment for the PM<sub>10</sub> CAAQS, there are existing cumulative air quality impacts for these pollutants. However, as discussed in the Section 3, *Air Quality*, the project would be consistent with MBARD’s 2015 AQMP, which is intended to address cumulative air quality impacts in the NCCAB, and project emissions would not exceed MABRD thresholds during construction and operation, which are set at the levels at which project impacts would be cumulatively considerable. Therefore, the project’s contribution to cumulative air quality impacts would not be cumulatively considerable.
- **Greenhouse Gas Emissions.** Ongoing development in the region also emits GHGs during construction and operational activities. GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a

result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 8, *Greenhouse Gas Emissions*, project impacts would be less than significant and would therefore not be cumulatively considerable.

- **Hydrology/Water Quality.** Cumulative development would have the potential to adversely impact surface water quality in nearby surface water bodies, such as Bush Gulch, during construction activities due to potential erosion and sedimentation. However, as with the proposed project, cumulative development would also be required to adhere to all applicable state and local regulations designed to control erosion and protect water quality, including the NPDES Construction General Permit and the County of Santa Cruz's Construction Stormwater Pollution Control BMP Manual. Regulatory compliance would therefore reduce the risk of water degradation on- and off-site from soil erosion and other pollutants. Furthermore, as with the proposed project, cumulative development would be required to comply with the County's stormwater retention requirements to reduce the potential for a substantial increase in surface runoff that could result in flooding or exceedances of the capacity of the existing stormwater system. Therefore, no cumulative impacts to hydrology and water quality would occur.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact. Impacts would be less than significant.

#### **LESS THAN SIGNIFICANT IMPACT**

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

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in Section 3, *Air Quality*, the project would not result, either directly or indirectly, in substantial adverse effects related to air quality. As discussed in Section 9, *Hazards and Hazardous Materials*, compliance with applicable rules and regulations would reduce potential impacts on human beings related to hazards and hazardous materials to a less-than-significant level. As discussed in Section 13, *Noise*, implementation of Mitigation Measure N-1 would reduce potential impacts on human beings related to noise to a less-than-significant level. Therefore, impacts to human beings would be less than significant with mitigation incorporated.

#### **LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

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