Reservoir Retrofit and Replacement Project

Addendum No. 1 to the Final Initial Study-Mitigated Negative Declaration

SCH#2021060200

prepared by

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1 Introduction

The Montecito Water District (District) has prepared this Addendum in accordance with the California Environmental Quality Act (CEQA) and the 2021 CEQA Guidelines. This document serves as an Addendum to the previously approved 2021 Final Initial Study-Mitigated Negative Declaration (2021 Final IS-MND) for the Reservoir Retrofit and Replacement Project (Original Project), approved on July 27, 2021 by the District's Board of Directors (State Clearinghouse [SCH] #2021060200). The District is the lead agency under CEQA for the certified 2021 Final IS-MND and is the CEQA lead agency having prepared this Addendum No. 1 to the 2021 Final IS-MND.

This Addendum addresses proposed minor modifications in relation to the previous environmental review document prepared for the Original Project. Section 15164 of the CEQA Guidelines states the following with respect to an Addendum to a Negative Declaration:

(b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent Environmental Impact Report (EIR) or negative declaration have occurred.

(c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.

(d) The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.

(e) A brief explanation of the decision not to prepare a subsequent EIR [or subsequent MND] pursuant to Section 15162 should be included in an addendum to an EIR [or MND], the lead agency's findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.

The background and purpose for Addendum No. 1 is discussed below, followed by a description of the Modified Project and an overview of changes between the Modified Project and the Original Project. As described within this document, substantial evidence demonstrates that the minor design changes to the Original Project would not result in any new significant environmental impacts or a substantial increase in the severity of the impacts identified in the 2021 Final IS-MND. Therefore, preparation of a Subsequent IS-MND is not warranted.

1.1 Background and Purpose of the IS-MND Addendum

The 2021 Final IS-MND for the Original Project (SCH #2021060200) was certified in July 2021 and consists of the text of the Draft IS-MND and responses to public and agency comments received on the Draft IS-MND. The 2021 Final IS-MND is accompanied by a Mitigation Monitoring and Reporting Program (MMRP), which provides guidance for implementation of the mitigation measures developed for the Original Project. Information and technical analyses from the certified 2021 Final IS-MND are utilized or referenced throughout this Addendum. The certified 2021 Final IS-MND is available for review at the District's offices located at 583 San Ysidro Road in Montecito, California.

In conjunction with certification of the 2021 Final IS-MND, the District adopted the MMRP and approved the Original Project.

Purpose of the Addendum

The District now proposes minor design modifications to the Original Project, which were developed following certification of the 2021 Final IS-MND and approval of the Original Project. The Original Project with these proposed modifications is referred to in this Addendum as the "Modified Project." This document is an Addendum to the previously certified 2021 Final IS-MND and has been prepared by the District to evaluate the potential environmental impacts of the proposed Modified Project. This Addendum has been prepared in accordance with the relevant provisions of CEQA and Section 15164 of the CEQA Guidelines. A detailed description of the Modified Project is provided in Section 2, *Project Description*, of this Addendum.

1.2 Basis and Rationale for the Addendum

When a Final IS-MND has been certified and a project is modified or otherwise changed after adoption, additional CEQA review may be necessary. The key considerations in determining the need for the appropriate type of additional CEQA review following adoption of a Final IS-MND are outlined in Section 21166 of the Public Resources Code (CEQA Statute) and Sections 15162 and 15164 of the CEQA Guidelines. Section 15162(a) of the CEQA Guidelines provides that a Subsequent Negative Declaration is not required in response to project modifications unless the following occurs:

(1) Substantial changes are proposed in the project which will require major revisions of the previous…negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous…negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information, which was not known and could not have been known at the time…the negative declaration was adopted as complete, shows any of the following:

    (A) The project will have one or more significant effects not discussed in the previous…negative declaration;

    (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.

An Addendum to the adopted 2021 Final IS-MND is appropriate to address the proposed Modified Project because the proposed modifications do not meet the conditions of Section 15162(a) for preparation of a Subsequent IS-MND, as listed above. The proposed Modified Project would not result in new or more severe impacts related to: 1) substantial changes to the Original Project which requires major revisions to the 2021 Final IS-MND; 2) substantial changes to the circumstances under which the Original Project are being undertaken which will require major revisions to the 2021 Final IS-MND; or 3) new information of substantial importance showing significant effects not previously examined.

The Project Description provided in Section 2 and the Impact Analysis provided in Section 3 demonstrate that the Modified Project would not result in substantial changes to the 2021 Final IS-MND and would not alter impact characterizations presented in the 2021 Final IS-MND. Potential impacts would be the same or comparable to impacts as described in the 2021 Final IS-MND. The 2021 Final IS-MND and this Addendum No. 1 to the 2021 Final IS-MND serve as informational documents to inform decision-makers and the public of the potential environmental consequences of approving the proposed Modified Project. This Addendum neither controls nor determines the ultimate decision for approval of the proposed Modified Project. This Addendum No. 1 to the adopted 2021 Final IS-MND will be considered by the District's Board of Directors at a publicly noticed meeting.

2 Project Description

This Addendum has been prepared to assess potential impacts of the Modified Project compared to the impacts of the Original Project as provided in the Final IS-MND. Project design changes included under the Modified Project are specific to portions of the Romero Reservoir, Terminal Reservoir, Park Lane Reservoir, Cold Springs Reservoir, Hot Springs Reservoir, and Buena Vista Reservoir; no changes to project design for the Doulton Reservoir and Bella Vista Reservoir are proposed.

2.1 Project Site

As described in the adopted Final IS-MND for the Original Project, the Reservoir Retrofit and Replacement Project involves seismic retrofits, repairs, and replacements at eight of the District's nine existing water storage reservoirs: Doulton, Romero, Terminal, Bella Vista, Park Lane, Cold Springs, Hot Springs, and Buena Vista. The reservoirs are located in the foothills of the Santa Ynez Mountains in Montecito, California. Assessor's Parcel Numbers are as follows: Doulton (155-00-007), Romero (007-080-006), Terminal (013-040-002), Bella Vista (155-030-042), Park Lane (007-050-013), Cold Springs (013-040-005), Hot Springs (011-030-024), and Buena Vista (007-020-018). In addition, construction staging may occur at the Montecito Water District office located at 583 San Ysidro Road in Santa Barbara, California. The Modified Project would be located at the same reservoir sites and construction staging areas as described and analyzed in the adopted Final IS-MND for the Original Project.

2.2 Modified Project Description

Minor project design changes under the Modified Project are specific to the following six reservoirs included in the Original Project: Romero Reservoir, Terminal Reservoir, Park Lane Reservoir, Cold Springs Reservoir, Hot Springs Reservoir, and Buena Vista Reservoir. No project design changes are proposed for the Doulton Reservoir or Bella Vista Reservoir. As with the Original Project, the Modified Project would bring all eight reservoirs into compliance with seismic design codes and regulations, and no retrofit or replacement would expand the water storage capacity of an existing reservoir.

Buena Vista Reservoir

Rather than adding reinforcing steel and sprayed concrete to the outside wall shell of the reservoir, the Modified Project would add a layer of reinforcing concrete to the inside face of the wall shell of the Buena Vista Reservoir. The Modified Project would also include replacement of the existing outlet pipeline between the reservoir wall and the property line with the size increased from 10 inches to 12 inches in diameter. The Modified Project would also include new appurtenances, such as an overflow drain, air vents, ladder, safety climb, and other small items. An additional 94 one-way concrete truck trips would be required, and approximately 5,300 square feet of existing steel roof framing and roofing panels would be demolished.

Cold Springs Reservoir

Rather than reinforcing the existing roof, the Modified Project would demolish the existing metal roof at the Cold Springs Reservoir and install a new reinforced concrete roof of similar height. The concrete roof surface would be non-reflective. In addition, the Modified Project would include replacing the existing 8-inch inlet/outlet pipeline with a new 12-inch ductile iron pipeline from the reservoir wall to a distance of approximately 10 feet beyond the existing reservoir wall. An additional 104 one-way concrete truck trips would be required, and approximately 6,400 square feet of existing steel roof framing and roofing panels and 5 cubic yards (cy) of concrete would be demolished.

Hot Springs Reservoir

Rather than adding reinforcing steel and sprayed concrete to the outside wall shell of the reservoir, the Modified Project would add a layer of reinforcing concrete to the inside face of the wall shell of the Hot Springs Reservoir. Additionally, the Modified Project would involve the installation of new chain-link perimeter fencing around the reservoir site. The existing outlet pipeline would also be replaced between the reservoir wall and the property line with the size increased from 10 inches to 12 inches in diameter. The Modified Project would include new appurtenances at the reservoir, such as an overflow drain, air vents, ladder, safety climb, and other small items. An additional 94 one-way concrete truck trips would be required, and approximately 5,300 square feet of existing steel roof framing and roofing panels would be demolished.

Park Lane Reservoir

The Modified Project would deepen the excavation depth of the subgrade at Park Lane Reservoir from 18 inches to 6 feet which would increase the volume of excavated and exported soil from 720 cy to 3,000 cy. Additionally, the Modified Project would include replacement of the existing 12-inch inlet/outlet pipeline with new 12-inch ductile iron pipelines from the reservoir wall to a distance of approximately 20 feet beyond the existing reservoir wall. An additional 430 one-way concrete truck and aggregate base delivery trips would be required, and approximately 14,100 square feet of existing steel roof framing and roofing panels would be demolished.

Romero Reservoir

Instead of reinforcing the foundation and roof, the Modified Project would replace the existing steel framed roof, steel columns, and metal roofing panels of the Romero Reservoir with a new reinforced concrete roof deck and concrete columns. Additionally, the Modified Project would construct a new concrete stem wall at the perimeter of the reservoir to support the new roof deck. The new concrete stem wall would require installation of approximately 64 concrete piles, each 24 inches in diameter and extending to depths varying between approximately 10 feet below grade on the north side of the reservoir to approximately 22 feet below grade on the south side of the reservoir. Approximately 785 cy of soil would be exported as part of this process. An additional 374 one-way concrete truck trips would be required, and approximately 15,700 square feet of existing steel roof framing and roofing panels would be demolished. Furthermore, the estimated construction timeframe for activities at the Romero Reservoir has increased from 13 months to 18 months.

Terminal Reservoir

Rather than reinforce the existing foundation, walls, and roof, the Modified Project would replace the existing steel framed roof, steel columns, and metal roofing panels at Terminal Reservoir with a new reinforced concrete roof deck and concrete columns. The concrete roof surface would be non-reflective. An additional 320 one-way concrete truck trips would be required, and approximately 31,200 square feet of existing steel roof framing and roofing panels would be demolished.

3 Impact Analysis

This section compares the effects of the Modified Project to those of the Original Project that was the subject of the 2021 Final IS-MND. In accordance with Section 15126 of the CEQA Guidelines, this analysis focuses on the physical environmental changes of the Modified Project, as compared to the environmental impacts of the Original Project. The assessment of each issue area describes impacts of the Modified Project in comparison to the Original Project, along with applicable mitigation measures that were identified for potentially significant impacts as characterized in the 2021 Final IS-MND.

3.1 Aesthetics

The 2021 Final IS-MND determined the Original Project would result in no impacts to scenic vistas, scenic resources within a state scenic highway, and light and glare. In addition, the Original Project would have a less-than-significant impact to visual character and quality of public views of the sites and their surroundings.

Although the Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Operation and maintenance of the Modified Project would involve the same types of activities as the Original Project. As with the Original Project, the project sites are located on District-owned properties that are inaccessible to the general public and generally obscured from public views by topography and vegetation. These properties are located two miles north of the nearest state scenic highway. Although construction activities at the Romero Reservoir under the Modified Project would occur on a longer timescale than was analyzed in the 2021 Final IS-MND, the proposed hours for construction activities would not change. Accordingly, the Modified Project would have no impact to scenic vistas or scenic resources within a state scenic highway.

The Modified Project would involve the construction of concrete roof decks at the Cold Springs Reservoir, Romero Reservoir, and Terminal Reservoir. These roof decks would be non-reflective, thus minimizing the potential for glare impacts to nearby residences. Similar to the Original Project, construction activities under the Modified Project would result in temporary adverse impacts to the existing visual character of the reservoir sites. However, as with the Original Project, construction-related impacts to the visual character or quality of public views of the sites and their surroundings would be temporary. Accordingly, the Modified Project would not substantially degrade the existing visual character or quality of public views of the reservoir sites or their surroundings. Impacts would be less than significant. As a result, potential impacts to aesthetics would be comparable to those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with aesthetics would occur as a result of the Modified Project.

3.2 Agriculture and Forestry Resources

Agricultural impacts are evaluated by comparing anticipated direct temporary and permanent ground disturbance areas associated with the project facilities to farmland mapped by California's Department of Conservation. As described in the 2021 Final IS-MND, the Original Project would not result in the conversion of farmland or forest land to non-agricultural or non-forest uses.

Although the Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. As a result, the potential impacts of the Modified Project to agriculture and forestry resources would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with agriculture and forestry resources would occur as a result of the Modified Project.

3.3 Air Quality

As with the Original Project, the Modified Project site is located in the Santa Barbara County portion of the South Central Coast Air Basin, which is under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD). The 2021 Final IS-MND determined the Original Project would potentially conflict with the SBCAPCD's Clean Air Plan because it did not include implementation of the standard fugitive dust control measures recommended by SBCAPCD during construction activities. Therefore, implementation of Mitigation Measure AQ-1, which includes implementation of the standard SBCAPCD fugitive dust control measures, was required to reduce this impact to a less-than-significant level. The 2021 Final IS-MND also determined the Original Project would not exceed SBCAPCD thresholds for air pollutants emitted during construction or operation; expose sensitive receptors to substantial pollutant concentrations; or release odors adversely affecting a substantial number of people.

The Modified Project includes the following changes that would result in additional criteria air pollutant emissions during construction activities:

- Buena Vista Reservoir: an additional 94 one-way concrete truck trips and additional export of demolition materials consisting of approximately 5,300 square feet of existing steel roof framing and roofing panels
- Cold Springs Reservoir: an additional 104 one-way concrete truck trips and additional export of demolition materials consisting of approximately 6,400 square feet of existing steel roof framing and roofing panels and 5 cy of concrete
- Hot Springs Reservoir: an additional 94 one-way concrete truck trips and additional export of demolition materials consisting of approximately 5,300 square feet of existing steel roof framing and roofing panels
- Park Lane Reservoir: an additional 430 one-way concrete truck and aggregate base delivery trips, additional export of approximately 2,280 cy of soil, and additional export of demolition materials consisting of approximately 14,100 square feet of existing steel roof framing and roofing panels
- Romero Reservoir: an additional 374 one-way concrete truck trips, additional export of approximately 785 cy of soil, additional export of demolition materials consisting of

approximately 15,700 square feet of existing steel roof framing and roofing panels, and an extended construction timeframe of 18 months

- Terminal Reservoir: an additional 320 concrete truck trips and additional export of demolition materials consisting of approximately 31,200 square feet of existing steel roof framing and roofing panels

To estimate the change in air pollutant emissions during the construction period, the California Emissions Estimator Model (CalEEMod) models used to estimate emissions for the Original Project were revised to reflect the aforementioned project design changes. Table 1 summarizes the revised construction equipment list, soil material export quantity, demolition debris quantity, and concrete delivery trips for each reservoir that would be affected by the project design changes under the Modified Project. These parameters were used to update the CalEEMod model for each reservoir.

Table 1 Revised Construction Parameters under Modified Project

Reservoir	Construction Equipment	Soil Material Export/Import (cubic yards)	Demolition Debris Export (tons)[1, 2]	Concrete Delivery Trips (One-Way)
Buena Vista	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Concrete Boom Pump, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welder	Export: 707 Import: 0	210.2	100
Cold Springs	Backhoe, Crane, Concrete Boom Pump, Concrete/Industrial Saw, Compactor, Compressor, Concrete Boom Pump, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Welders	Export: 100 Import: 0	241.0	334
Hot Springs	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Concrete Boom Pump, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welder	Export: 707 Import: 0	210.2	154
Park Lane	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Concrete Boom Pump, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 3,000 Import: 0	1,005.8	810
Romero	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Concrete Boom Pump, Drill Rig, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 1,948 Import: 0	625.1	396
Terminal	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Concrete Boom Pump, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 3,860 Import: 3,860	1,183.3	352

Reservoir	Construction Equipment	Soil Material Export/Import (cubic yards)	Demolition Debris Export (tons)[1, 2]	Concrete Delivery Trips (One-Way)

Note: Construction parameters for the Bella Vista and Doulton Reservoirs are not included in this table because no project design changes are proposed for those reservoirs under the Modified Project. Therefore, the CalEEMod models for those reservoirs were not revised.

[1] Assumes 1 cubic yard of concrete weighs 0.93 ton.

[2] Assumes approximately 1 ton per 27 square feet of 3.7-inch steel based on an exponential interpolation of steel weight conversion factors (Futura 2008).

Similar to the Original Project, the Modified Project does not include implementation of the standard fugitive dust control measures recommended by SBCAPCD during construction activities. Therefore, as with the Original Project, implementation of Mitigation Measure AQ-1 would be required for the Modified Project to achieve consistency with the SBCAPCD's Clean Air Plan, which would reduce impacts of the Modified Project related to consistency with the Clean Air Plan to a less-than-significant level.

Table 2 summarizes estimated annual emissions of criteria air pollutants during construction of the Modified Project. As shown therein, annual construction-related emissions under the Modified Project would increase by up to approximately 2.1 tons per year, depending on the specific pollutant, as compared to the Original Project. However, annual construction-related emissions associated with the Modified Project would remain below the SBCAPCD thresholds. Furthermore, operation and maintenance activities under the Modified Project would remain the same as those of the Original Project and would not result in net new air pollutant emissions. Therefore, as with the Original Project, construction and operation of the Modified Project 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. In addition, as with the Original Project, construction activities at each project site under the Modified Project would be temporary and short-term in nature, and the Modified Project does not include land uses that would generate substantial TAC or odorous emissions. As such, the Modified Project would not expose sensitive receptors to substantial TAC emissions or result in odorous emissions adversely affecting a substantial number of people. Therefore, potential impacts to air quality would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with air quality would occur as a result of the Modified Project.

Table 2 Estimated Annual Construction Emissions (tons/year) – Modified Project

Construction Year	ROC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2022						
Original Project	**1.7**	**15.3**	**15.8**	**< 0.1**	**0.9**	**0.7**
Modified Project						
Bella Vista[1]	0.1	1.0	1.1	< 0.1	0.1	< 0.1
Buena Vista	0.2	1.5	1.5	< 0.1	0.1	0.1
Cold Springs	0.3	2.8	2.7	< 0.1	0.2	0.1
Doulton[1]	0.3	2.3	2.3	< 0.1	0.1	0.1
Hot Springs	0.2	2.2	2.3	< 0.1	0.1	0.1
Park Lane	0.2	2.2	2.3	< 0.1	0.1	0.1
Romero	0.3	2.1	2.3	< 0.1	0.1	0.1
Terminal	0.3	2.6	2.6	< 0.1	0.2	0.1
Total Annual Emissions	**1.9**	**16.7**	**17.1**	**< 0.1**	**1.0**	**0.7**
SBCAPCD Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	**No**	**No**	N/A	N/A	N/A	N/A
Net Change in Total Annual Emissions (Modified Project – Original Project)	0.2	1.4	1.3	< 0.1	0.1	< 0.1
2023						
Original Project	**0.4**	**4.0**	**4.5**	**< 0.1**	**0.3**	**0.3**
Modified Project						
Cold Springs	0.1	1.1	1.2	< 0.1	0.1	0.1
Doulton[1]	< 0.1	0.2	0.2	< 0.1	< 0.1	< 0.1
Hot Springs	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Park Lane	0.1	1.2	1.4	< 0.1	0.1	< 0.1
Romero	0.2	1.7	2.0	< 0.1	0.1	0.1
Terminal	0.2	1.6	1.8	< 0.1	0.1	0.1
Total Annual Emissions	**0.6**	**5.8**	**6.6**	**< 0.1**	**0.4**	**0.3**
SBCAPCD Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	**No**	**No**	N/A	N/A	N/A	N/A
Net Change in Total Annual Emissions (Modified Project – Original Project)	0.2	1.8	2.1	<0.1	0.1	< 0.1

Construction Year	ROC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$

lbs/day = pounds per day; ROC = reactive organic compounds, NO_X = nitrogen oxides, CO = carbon monoxide, SO_2 = sulfur dioxide, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod. See Appendix A 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 SBCAPCD Rule 345 1).

[1] Source: 2021 Final IS-MND (The CalEEMod models for the Bella Vista and Doulton Reservoirs were not revised because no project design changes are proposed for those reservoirs under the Modified Project.)

3.4 Biological Resources

The 2021 Final IS-MND determined the Original Project would result in a less-than-significant impact to the movement of native fish and wildlife species, established native wildlife corridors, and native wildlife nursery sites as well as no impact related to local, regional, and state habitat conservation plans. The 2021 Final IS-MND also determined the Original Project would result in potentially significant impacts to special-status species, sensitive natural communities, state or federally protected wetlands, and local policies and ordinances protecting biological resources. Implementation of Mitigation Measure BIO-1 through BIO-10, which consist of a worker environmental awareness program, sensitive habitat fencing, measures to minimize sensitive habitat impacts, construction material storage best practices, best practices to protect water quality, an arborist study, pre-construction nesting bird and special status wildlife species surveys, biological construction monitoring, and limitations on nighttime construction and lighting, were required to reduce these impacts to less-than-significant levels.

The Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project: Romero Reservoir, Terminal Reservoir, Park Lane Reservoir, Cold Springs Reservoir, Hot Springs Reservoir, and Buena Vista Reservoir. No project design changes are proposed for the Doulton Reservoir or Bella Vista Reservoir. The Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project.

The Modified Project would reduce the overall horizontal distance of excavation at the Romero Reservoir and reinforce the interiors of the Hot Springs and Buena Vista Reservoirs rather than the exteriors. These components would have less impact on biological resources due to a smaller area of impact outside the existing reservoir footprints. Impacts associated with the addition of new appurtenances at the Buena Vista and Hot Springs Reservoir and replacement of the existing roof, columns, and/or roofing panels with new concrete roof decks and columns at the Romero, Terminal, and Cold Springs Reservoirs under the Modified Project would be comparable to impacts of the Original Project because the overall area of impact would not change. Impacts associated with replacement of the existing inlet/outlet pipelines at the Park Lane, Cold Springs, Hot Springs, and Buena Vista Reservoirs under the Modified Project would be comparable to those of the Original Project because the work would be located within the same project boundary as the Original Project and in previously disturbed areas. The addition of a new chain-link fence at the Hot Springs Reservoir would prevent large animals from entering the site; however, small animals would still be able to pass through because the fence would not be covered. In addition, the Hot Springs Reservoir is not in a documented wildlife corridor or Essential Connectivity Area and is fully developed, therefore offering little value to migrating wildlife under existing conditions. Large animals would still be able to pass around the reservoir site via alternative routes due to the open and permeable nature of the surrounding area. As such, the addition of the chain-link fence at the Hot Springs Reservoir would not result in significant impacts to wildlife movement.

Similar to the Original Project, the Modified Project has the potential to impact special status plants and animals, nesting birds, sensitive natural communities, and jurisdictional waters/wetlands as well as conflict with local policies/ordinances protecting biological resources. As with the Original Project, implementation of Mitigation Measures BIO-1 through BIO-10, which consist of a worker environmental awareness program, sensitive habitat fencing, measures to minimize sensitive habitat impacts, construction material storage best practices, best practices to protect water quality, an arborist study, pre-construction nesting bird and special status wildlife species surveys, biological construction monitoring, and limitations on nighttime construction and lighting, would be required for the Modified Project and would reduce impacts to less-than-significant levels. No new mitigation would be required for the Modified Project. Therefore, potential impacts to biological resources would be the same as described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with biological resources would occur as a result of the Modified Project.

3.5 Cultural Resources

As noted in the 2021 Final IS-MND, Rincon Consultants, Inc. prepared a Cultural Resources Assessment for the Original Project in May 2021 (included as Appendix B to the 2021 Final IS-MND). Methods included a cultural resources records search of the California Historical Resources Information System at the Central Coast Information Center (CCIC) at the University of California, Santa Barbara and a pedestrian field survey (Williams et. al 2021). The CCIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the reservoir sites and a 0.5-mile radius extending from the reservoir sites. Also reviewed were the National Register of Historic Places, the California Register of Historic Resources, the California Points of Historical Interest list, and historic buildings surveys. The CCIC search identified 14 previously recorded cultural resources within a 0.5-mile radius of the project sites; however, none of the resources are located within the project sites. The closest resources to the project sites, a prehistoric archaeological site and historic-period transmission line, are located over 350 feet from the reservoir sites. In addition, no cultural resources were identified during the pedestrian field survey of the reservoir sites. Furthermore, none of the reservoirs were determined to be historical resources for the purposes of CEQA pursuant to Section 15064.5(a) of the CEQA Guidelines. Nonetheless, the 2021 Final IS-MND determined there is potential, although low, for archaeological resources to be unexpectedly encountered during ground disturbing activities. As a result, implementation of Mitigation Measure CUL-1, which requires certain provisions to be implemented in the event of an unanticipated discovery of cultural resources during ground-disturbing activities, was required to reduce the impact to a less-than-significant level. The 2021 Final IS-MND also determined the Original Project would result in no impacts to historical resources and less-than-significant impacts to human remains.

The Modified Project remains within the same disturbance footprint as analyzed in the 2021 Final IS-MND but would increase the depth of ground disturbance at two locations, the Romero Reservoir and the Park Lane Reservoir. The Modified Project would construct a concrete stem wall at the perimeter of the Romero Reservoir to support a new roof deck. The concrete stem wall would require drilling concrete piles to depths varying between approximately 10 feet below grade on the north side of the reservoir to approximately 22 feet below grade on the south side of the reservoir. The Modified Project would also deepen the excavation depth of the subgrade at Park Lane

Reservoir from 18 inches to six feet. Some of the additional excavations at both reservoirs would occur in soils disturbed by previous construction of the reservoirs and associated infrastructure but some would occur in previously undisturbed soils at greater depths than those originally disturbed by reservoir construction. In addition, the Modified Project would include the installation of a new chain-link perimeter fence around the Hot Springs Reservoir and the replacement of the existing inlet/outlet pipelines with new ductile iron pipelines at four locations - the Park Lane Reservoir, Cold Springs Reservoir, Hot Springs Reservoir, and Buena Vista Reservoir. The installation of the new chain-link fencing and the replacement of existing pipelines would require minimal ground disturbance.

Rincon Consultants, Inc. prepared a revised Cultural Resources Assessment for the Modified Project in September 2021 to evaluate the potential for the Modified Project to result in new or more substantially severe impacts to cultural resources, which is included as Appendix B to this Addendum. As discussed therein, the project sites have undergone various levels of disturbance as a result of previous construction activities associated with the reservoirs, roads, underground utilities, and/or surrounding residential developments. Although the Modified Project would increase ground disturbance at two project sites, the project's disturbance footprint has not changed, and some of the additional excavations would occur in soils disturbed by previous construction of the reservoirs and associated infrastructure. Nevertheless, some of the additional excavations would occur in previously undisturbed soils with the potential, although low, to contain unanticipated archaeological resources. As a result, the potential for the Modified Project to impact to cultural resources would be slightly increased as compared to the potential of the Original Project as described in the 2021 Final IS-MND. Implementation of Mitigation Measure CUL-1, which requires certain provisions to be implemented in the event of an unanticipated discovery of cultural resources during ground-disturbing activities, would be required for the Modified Project, as it was for the Original Project. Similar to the Original Project, implementation of Mitigation Measure CUL-1 would reduce impacts to cultural resources to less-than-significant levels for the Modified Project. Therefore, potential impacts to cultural resources would be the same as described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with cultural resources would occur as a result of the Modified Project.

3.6 Energy

The 2021 Final IS-MND determined the Original Project would result in no impact related to the wasteful, inefficient, or unnecessary consumption of energy resources as well as no impact related to conflicting with or obstructing state or local plans for renewable energy or energy efficiency.

The Modified Project includes the following changes that would result in additional energy consumption during construction activities:

- Buena Vista Reservoir: an additional 94 one-way concrete truck trips and additional export of demolition materials consisting of approximately 5,300 square feet of existing steel roof framing and roofing panels
- Cold Springs Reservoir: an additional 104 one-way concrete truck trips and additional export of demolition materials consisting of approximately 6,400 square feet of existing steel roof framing and roofing panels and 5 cy of concrete
- Hot Springs Reservoir: an additional 94 one-way concrete truck trips and additional export of demolition materials consisting of approximately 5,300 square feet of existing steel roof framing and roofing panels

- Park Lane Reservoir: an additional 430 one-way concrete truck and aggregate base delivery trips, additional export of approximately 2,280 cy of soil, and additional export of demolition materials consisting of approximately 14,100 square feet of existing steel roof framing and roofing panels
- Romero Reservoir: an additional 374 one-way concrete truck trips, additional export of approximately 785 cy of soil, additional export of demolition materials consisting of approximately 15,700 square feet of existing steel roof framing and roofing panels, and an extended construction timeframe of 18 months
- Terminal Reservoir: an additional 320 concrete truck trips and additional export of demolition materials consisting of approximately 31,200 square feet of existing steel roof framing and roofing panels

Table 3 provides updated estimates of fuel consumption during construction of the Modified Project based on the aforementioned project design changes. As shown therein, construction of the Modified Project would require approximately 13,014 gallons of gasoline and approximately 469,212 gallons of diesel fuel, which would be 924 more gallons of gasoline and 100,592 more gallons of diesel fuel as compared to the Original Project. As with the Original Project, construction of the Modified Project would result in temporary, short-term energy usage and would comply with applicable laws and regulations designed to minimize inefficient, wasteful, and unnecessary energy consumption such as California Code of Regulations Title 13 Sections 2449 and 2485 and the United States Environmental Protection Agency's Construction Equipment Fuel Efficiency Standard. In addition, as with the Original Project, the District does not have any specific renewable energy or energy efficiency plans with which the project could comply. Therefore, potential energy impacts would be the same as described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with energy would occur as a result of the Modified Project.

Table 3 Estimated Fuel Consumption during Construction – Modified Project

	Fuel Consumption (gallons)	
Source	**Gasoline**	**Diesel**
Original Project		
Construction Equipment and Hauling Trips	–	368,620
Construction Worker Vehicle Trips	12,090	–
Modified Project		
Construction Equipment and Hauling Trips	–	469,212
Construction Worker Vehicle Trips	13,014	–
Net Change (Modified Project – Original Project)		
Construction Equipment and Hauling Trips	–	100,592
Construction Worker Vehicle Trips	924	–

See Appendix C for energy calculation sheets.

3.7 Geology and Soils

As described in the 2021 Final IS-MND, the Original Project would result in less-than-significant impacts related to soil erosion and unstable geologic units or soils and no impacts related to seismic hazards, expansive soils, or the use of septic tanks. The 2021 Final IS-MND determined the Original Project would potentially result in a significant impact to paleontological resources; therefore, Mitigation Measure GEO-1, which includes implementation of specific procedures in the event of an unanticipated fossil discovery, was required to reduce the impact to a less-than-significant level.

Although the Modified Project involves minor project design changes to six of the eight reservoirs, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Therefore, the geologic conditions of the project sites have not changed. As with the Original Project, the purpose of the Modified Project is to retrofit and replace reservoir components so that the reservoirs can withstand risks associated with seismic ground shaking. In addition, similar to the Original Project, the Modified Project would not introduce septic tanks to the project sites. As such, the Modified Project would have no impact related to seismic hazards, expansive soils, or wastewater disposal systems and a less-than-significant impact related to geologic and soil instability.

Construction activities related to the Modified Project would be similar to those of the Original Project and would therefore have a similar impact related to soil erosion as the Original Project. As with the Original Project, the Modified Project would be subject to the same National Pollutant Discharge Elimination System (NPDES) Construction General Permit as described in the 2021 Final IS-MND. Thus, impacts related to soil erosion and the loss of topsoil would remain less than significant.

As described in the 2021 Final IS-MND, 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 with the Original Project, the reservoir sites under the Modified Project are mapped as high paleontological sensitivity, but the surface soils have been previously developed, and therefore the 2021 Final IS-MND did not anticipate encountering fossils during construction activities associated with the Original Project. However, the Modified Project would deepen the excavation depth of the subgrade at Park Lane Reservoir from 18 inches to six feet and would require drilling concrete piles at the Romero Reservoir for installation of a new concrete stem wall to depths varying between approximately 10 feet below grade on the north side of the reservoir to approximately 22 feet below grade on the south side of the reservoir. Some of the excavation associated with these activities under the Modified Project would occur in undisturbed soils. As a result, the potential for the Modified Project to impact to paleontological resources would be slightly increased as compared to the potential of the Original Project as described in the 2021 Final IS-MND. Implementation of Mitigation Measure GEO-1, which requires certain provisions to be implemented in the event of an unanticipated discovery of fossils during ground-disturbing activities, would be required for the Modified Project, as it was for the Original Project. Similar to the Original Project, implementation of Mitigation Measure GEO-1 would reduce impacts to paleontological resources to less-than-significant levels for the Modified Project. As a result, the potential impacts of the Modified Project related to geology and soils would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with geology and soils would occur as a result of the Modified Project.

3.8 Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions impacts are characterized by modeling temporary construction and long-term operational emissions associated with a project in comparison with an applicable threshold of significance. The Original Project evaluated GHG emissions in comparison with the County of Santa Barbara's adopted screening threshold of 300 metric tons (MT) of carbon dioxide equivalents (CO_2e) per year (County of Santa Barbara 2021) because the District has not adopted its own GHG emissions thresholds.

The Modified Project includes the following changes that would result in additional GHG emissions during construction activities:

- Buena Vista Reservoir: an additional 94 one-way concrete truck trips and additional export of demolition materials consisting of approximately 5,300 square feet of existing steel roof framing and roofing panels
- Cold Springs Reservoir: an additional 104 one-way concrete truck trips and additional export of demolition materials consisting of approximately 6,400 square feet of existing steel roof framing and roofing panels and 5 cy of concrete
- Hot Springs Reservoir: an additional 94 one-way concrete truck trips and additional export of demolition materials consisting of approximately 5,300 square feet of existing steel roof framing and roofing panels
- Park Lane Reservoir: an additional 430 one-way concrete truck and aggregate base delivery trips, additional export of approximately 2,280 cy of soil, and additional export of demolition materials consisting of approximately 14,100 square feet of existing steel roof framing and roofing panels
- Romero Reservoir: an additional 374 one-way concrete truck trips, additional export of approximately 785 cy of soil, additional export of demolition materials consisting of approximately 15,700 square feet of existing steel roof framing and roofing panels, and an extended construction timeframe of 18 months
- Terminal Reservoir: an additional 320 concrete truck trips and additional export of demolition materials consisting of approximately 31,200 square feet of existing steel roof framing and roofing panels

To estimate the change in GHG emissions during the construction period, the CalEEMod model used to estimate emissions for the Original Project was revised to reflect the aforementioned project design changes. Table 1 in Section 3.3., *Air Quality*, summarizes the revised construction equipment list, soil material export quantity, demolition debris quantity, and concrete delivery trips for each reservoir that would be affected by the project design changes under the Modified Project. These parameters were used to update the CalEEMod model for each reservoir.

Table 4 summarizes estimated annual GHG emissions during construction of the Modified Project. As shown therein, construction of the Modified Project would generate an estimated 146 MT of CO_2e per year. Although this would represent an increase of approximately 29 MT of CO_2e per year as compared to the Original Project, this level of emissions would not exceed the screening threshold of 300 MT of CO_2e per year. In addition, operation and maintenance activities under the Modified Project would remain the same as those of the Original Project and would not result in net new GHG emissions. Furthermore, as with the Original Project, the Modified Project would not conflict with any applicable plans, policies or regulations for the purpose of reducing GHG emissions because it would not result in a significant increase in GHG emissions.[1] Therefore, potential impacts associated with GHG emissions would be the same as described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with GHG emissions would occur as a result of the Modified Project.

Table 4 Estimated Construction GHG Emissions – Modified Project

	Total Emissions (MT of CO_2e)
Original Project	
Total	**3,503**
Amortized over 30 years	**117 per year**
Modified Project	
Bella Vista[1]	184
Buena Vista	279
Cold Springs	726
Doulton[1]	442
Hot Springs	431
Park Lane	638
Romero	806
Terminal	861
Total	**4,367**
Amortized over 30 years	**146 per year**
Screening Threshold	300 per year
Threshold Exceeded?	No
Net Change (Modified Project – Original Project)	
Total	**865**
Amortized over 30 years	**29 per year**

GHG = greenhouse gas emissions; MT = metric tons; CO_2e = carbon dioxide equivalents

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

[1] Source: 2021 Final IS-MND (The CalEEMod models for the Bella Vista and Doulton Reservoirs were not revised because no project design changes are proposed for those reservoirs under the Modified Project.)

3.9 Hazards and Hazardous Materials

As described in the 2021 Final IS-MND, the Original Project would result in less-than-significant impacts regarding the transport, use, and disposal of hazardous materials; the release of hazardous materials; interference with an adopted emergency response or emergency evacuation plan; and wildland fires. The 2021 Final IS-MND also determined the Original Project would have no impacts

[1] The SBCAPCD and District have not adopted any plans, policies, or regulations for the purpose of reducing GHG emissions. The County of Santa Barbara adopted its current Energy and Climate Action Plan in 2015; however, this plan is not applicable to the proposed project because it does not cover GHG emissions generated by District activities.

regarding the generation of hazardous emissions or the handling of hazardous materials near a school, location on a hazardous material site, and safety hazards due to proximity to an airport.

Construction of the Modified Project would include minor project design changes to six of the eight reservoirs of the Original Project; however, the Modified Project would remain within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. The Modified Project would require similar construction and operational activities as those of the Original Project. Construction activities would require limited quantities of miscellaneous hazardous substances, such as diesel fuel, oil, solvents, painting/coating systems and other similar materials, to be brought onto the reservoir sites, used, and stored during the construction period. However, these materials would be handled in accordance with applicable federal and State laws, and implementation of Mitigation Measures BIO-4 and BIO-5 from the 2021 Final IS-MND would further reduce the potential for hazardous materials impacts. As with the Original Project, the Modified Project would not involve the generation of hazardous emissions or handling of hazardous materials within 0.25 mile of a school, and the reservoir sites would not be located on a hazardous materials site included on a list compiled pursuant to Government Code Section 65962.5 or within two miles of an airport. Furthermore, although the Modified Project would result in a greater number of concrete delivery, soil hauling, and demolition hauling trips during construction than anticipated for the Original Project, these additional trips would not interfere with an adopted emergency response or emergency evacuation plan. Similar to the Original Project, construction activities of the Modified Project would operate within compliance with applicable Public Resource Code provisions, such as Public Resources Code Sections 4427, 4428, and 4431, related to the use of spark arrestors, conducting construction activities in a safe manner on days when a burning permit is required, and maintenance of fire suppression equipment during the highest fire danger period when operating on or near any forest-covered, brush-covered, or grass-covered land, which would minimize the potential for impacts related to wildland fires.

As a result, the potential impacts of the Modified Project related to hazards and hazardous materials would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with hazards and hazardous materials would occur as a result of the Modified Project.

3.10 Hydrology and Water Quality

As discussed in the 2021 Final IS-MND, the Original Project would not result in significant impacts related to the violation of water quality standards and waste discharge requirements, groundwater supplies, the alteration of existing drainage patterns, the release of pollutants due to project inundation, and conflicts with water quality control plan or sustainable groundwater management plan because the Original Project would be required to comply with local policies, practices, and regulations related to the protection of hydrology and water quality. Specifically, the Original Project would be required to obtain coverage under the NPDES Construction General Permit and implement stormwater best management practices (BMPs) as part of the requisite Stormwater Pollution Prevention Plan (SWPPP). Furthermore, the Original Project would generally preserve drainage patterns across the project sites, would not divert or redirect flood flows, and would not increase the risk of pollutant release due to inundation.

Construction of the Modified Project would include minor project design changes to six of the eight reservoirs of the Original Project; however, the Modified Project would remain within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the

Original Project. In addition, the Modified Project would not alter the operation of the reservoirs as anticipated for the Original Project. Although modified and additional construction activities are proposed, the Modified Project would also be subject to the NPDES Construction General Permit and project-specific BMPs in the SWPPP, as described in the 2021 Final IS-MND. Project-specific BMPs would ensure the project construction would not alter the water quality of nearby water bodies or conflict with the applicable water quality control plan.

Because the project sites under the Modified Project are the same as those of the Original Project, no new impacts to on-site drainage patterns, groundwater recharge, conflicts with a sustainable groundwater management plan, or inundation risk would occur. Potential impacts to hydrology and water quality would be the same as those described in the 2021 Final IS-MND. No new or substantially more severe significant impacts associated with hydrology and water quality would occur as a result of the Modified Project.

3.11 Land Use and Planning

As described in the 2021 Final IS-MND, no impacts to land use and planning would occur as a result of the Original Project. As with the Original Project, the minor project design changes proposed under the Modified Project would not physically divide an established community and would not change the land use designation or zoning of the project sites. Similar to the Original Project, the Modified Project would improve the resilience of the local water storage infrastructure, thereby protecting the adequacy of local water supplies. As a result, the Modified Project would remain consistent with the following goal and policy described within the Santa Barbara County Comprehensive Plan (County of Santa Barbara 1994):

Goal 3: To coordinate County land use planning decisions and water resources planning and supply availability.

> **Action 3.4.4**: Santa Barbara County shall encourage and assist local water purveyors in developing adequate water supplies (groundwater, surface water, desalination, etc.) to serve their customers and communities consistent with the applicable general plan(s).

Therefore, the Modified Project would result in no impacts related to land use and planning. As a result, the potential impacts of the Modified Project related to land use and planning would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with land use and planning would occur as a result of the Modified Project.

3.12 Mineral Resources

As described in the 2021 Final IS-MND, no impacts to mineral resources would occur as a result of the Original Project. Although the Modified Project involves minor project design changes to six of the eight reservoirs, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Therefore, the Modified Project would have no impacts to mineral resources. As a result, the potential impacts of the Modified Project to mineral resources would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with mineral resources would occur as a result of the Modified Project.

3.13 Noise and Vibration

The 2021 Final IS-MND determined the Original Project would result in no impact related to exposure to airport noise and a less-than-significant impact related to groundborne vibration. The 2021 Final IS-MND also determined the Original Project would result in a potentially significant impact related to construction noise, and implementation of Mitigation Measure N-1, which includes construction noise reduction measures, was required to reduce the impact to a less-than-significant level.

Although the Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. The Modified Project would increase the duration of construction activities at the Romero Reservoir, which would increase the number of days during which nearby residents would be exposed to a temporary increase in ambient noise levels and therefore slightly increase the potential for construction noise impacts to occur. Although the Modified Project would require the use of a concrete boom pump during implementation of retrofits and replacements at the Buena Vista Reservoir, Cold Springs Reservoir, Hot Springs Reservoir, Park Lane Reservoir, Romero Reservoir, and Terminal Reservoir, maximum hourly construction noise levels would remain similar to those estimated for the Original Project because a concrete boom pump (74 dBA L_{eq} at 50 feet) would generate lower noise levels than the excavator (77 dBA L_{eq} at 50 feet), compactor (76 dBA L_{eq} at 50 feet), and concrete saw (83 dBA L_{eq} at 50 feet) evaluated for the reservoir retrofit and replacement phase in the construction noise analysis in the 2021 Final IS-MND.[2] As with the Original Project, maximum hourly construction noise levels would exceed the Federal Transit Administration's construction noise threshold, and implementation of Mitigation Measure N-1, which requires incorporation of construction noise reduction measures, would be required. Similar to the Original Project, implementation of Mitigation Measure N-1 would reduce construction noise impacts to less-than-significant levels. Because operation and maintenance activities associated with the Modified Project would remain the same as those of the Original Project, operational noise impacts would be the same and therefore would remain less than significant.

The Modified Project would not require the use of additional vibration-generating equipment during construction activities as compared to the Original Project. In addition, similar to the Original Project, operation and maintenance activities under the Original Project would not generate vibration. Therefore, the vibration impacts of the Modified Project would be the same as those of the Original Project and would remain less than significant.

Similar to the Original Project, the Modified Project would not be located in close proximity to a public or private airport and would therefore have no impact related to exposure to excessive noise levels from nearby airports.

Potential impacts to noise and vibration would be the same as described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with noise and vibration would occur as a result of the Modified Project.

[2] Estimated noise levels are based on those reported by the Federal Highway Administration's Roadway Construction Noise Model (2006).

3.14 Population and Housing

As described in the 2021 Final IS-MND, no impacts to population and housing would occur as a result of the Original Project because no houses, residential structures, or dwellings are located within the project sites. Although the Modified Project includes minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Similar to the Original Project, the Modified Project would draw construction crews from the existing regional work force. As such, the Modified Project would not result in adverse impacts to population, housing, or employment. In addition, the Modified Project would not displace any existing housing or result in impacts to housing. Therefore, no impacts to population and housing would occur as a result of the Modified Project. As a result, the potential impacts of the Modified Project to population and housing would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with population and housing would occur as a result of the Modified Project.

3.15 Public Services

As described in the 2021 Final IS-MND, no impacts to public services would occur as a result of the Original Project because population growth would not be directly or indirectly induced and no project features would require additional fire or police protection services. Although the Modified Project includes minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. As with the Original Project, the Modified Project would not substantially increase the demand for police, fire, and school services in the project area because the Modified Project would not directly or indirectly induce population growth. The Modified Project would not include any features or facilities requiring additional or unusual fire or police protection resources during operational use. Additionally, because the Modified Project would have no impact to population and housing, neither construction nor operation of the Modified Project would affect school services, introduce new or expanded population requiring school services, and would not physically alter or otherwise affect existing schools. Therefore, no impacts to public services would occur as a result of the Modified Project. As a result, the potential impacts of the Modified Project to public services would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with public services would occur as a result of the Modified Project.

3.16 Recreation

As described in the 2021 Final IS-MND, no impacts to recreation would occur as a result of the Original Project because population growth would not be directly or indirectly induced and no construction of additional recreational facilities would be required. Although the Modified Project includes minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Similar to the Original Project, the Modified Project would not directly or indirectly induce population growth. Therefore, the Modified Project would result in no impacts to recreational facilities. As a result, the potential impacts of the Modified Project to recreation would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with recreation would occur as a result of the Modified Project.

3.17 Transportation and Traffic

The 2021 Final IS-MND determined the Original Project would result in no impacts related to geometric design features or inconsistencies with CEQA Guidelines Section 15064.3 (b), which identifies criteria for evaluating transportation impacts based on vehicle miles traveled (VMT). The 2021 Final IS-MND also determined the Original Project would result in less-than-significant impacts related to emergency access as well as programs, policies, plans, and ordinances addressing the circulation system.

Although the Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Operation and maintenance activities associated with the Modified Project would remain the same as those of the Original Project. As with the Original Project, the Modified Project would stage equipment and park vehicles on District-owned property, would not result in closures of public roadways, and would not alter the configuration of public or private roadways. As described in Section 2, *Project Description*, the Modified Project would increase the number of concrete delivery, soil hauling, and demolition hauling trips per day as compared to those analyzed in the 2021 Final IS-MND for the Original Project. However, similar to the Original Project, construction-related traffic would be short-term and would cease upon completion of construction activities. In addition, similar to the Original Project, the Modified Project would not result in permanent, long-term increases to regional or local vehicle trips and VMT because no new operation and maintenance activities would be required. As a result, the potential impacts of the Modified Project to transportation would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with transportation would occur as a result of the Modified Project.

3.18 Tribal Cultural Resources

The Modified Project remains within the same footprint as analyzed in the 2021 Final IS-MND for the Original Project. As stated in Section 18, *Tribal Cultural Resources*, of the 2021 Final IS-MND, none of the Tribes that requested consultation with the District under AB 52 indicated the presence of a tribal cultural resource within or near the project sites. The 2021 Final IS-MND determined the Original Project would result in potentially significant impacts to tribal cultural resources, and implementation of Mitigation Measures TCR-1 and TCR-2, which require a cultural resources sensitivity training and Native American monitoring during ground-disturbing activities up to five feet below ground surface, were required to reduce impacts to less-than-significant levels.

Although no evidence of cultural materials was identified during the pedestrian field survey and no tribal cultural resources are expected to be present on site, there is the possibility, although low, of encountering tribal cultural resources during proposed ground disturbances. The Modified Project would increase the depth of ground disturbance at Romero Reservoir and Park Lane Reservoir. Therefore, the potential for the Modified Project to impact to tribal cultural resources would be slightly increased as compared to the potential of the Original Project as described in the 2021 Final IS-MND. Implementation of Mitigation Measures TCR-1 and TCR-2, which require a cultural resources sensitivity training and Native American monitoring during ground-disturbing activities up to five feet below ground surface, would be required for the Modified Project, as they were for the Original Project. Similar to the Original Project, implementation of Mitigation Measures TCR-1 and TCR-2 would reduce impacts to tribal cultural resources to less-than-significant levels for the Modified Project. Therefore, potential impacts to tribal cultural resources would be the same as described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with tribal cultural resources would occur as a result of the Modified Project.

3.19 Utilities and Service Systems

The 2021 Final IS-MND determined the Original Project would result in no impacts to water supplies, wastewater treatment capacity, and solid waste generation as well as less-than-significant impacts related to the relocation of utility infrastructure and compliance within statutes and regulations related to solid waste.

Although the Modified Project involves minor project design changes to six of the eight reservoirs, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. Operation and maintenance activities associated with the Modified Project would remain the same as those of the Original Project. Therefore, the impacts of the Modified Project related to the relocation of utility infrastructure, water supplies, and wastewater treatment capacity would remain the same as those of the Original Project. The Modified Project would result in an increase in solid waste produced during construction activities as compared to the Original Project due to greater quantities of demolition and soil materials to be hauled off-site. Similar to the Original Project, solid waste generated during construction activities under the Modified Project would be disposed of at the Tajiguas Landfill in accordance with all applicable federal, State, and local statutes and regulations. As such, potential impacts related to solid waste generation and compliance with solid waste statutes and regulations would be consistent with those of the Original Project. Therefore, the potential impacts of the Modified Project related to utilities and service systems would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with utilities and service systems would occur as a result of the Modified Project.

3.20 Wildfire

As described in the 2021 Final IS-MND, the Original Project would result in no impacts related to implementation of adopted emergency response and evacuation plans, infrastructure associated with an exacerbated fire risk or temporary or ongoing impacts to the environment, or exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. In addition, the Original Project would result in a less-than-significant impact related to the exacerbation of wildfire risks and related exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

The Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project, but remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. The project sites would continue to be located within areas designated as very high and high fire hazard severity zones. However, as with the Original Project, the Modified Project would not require temporary road or lane closures, would not require the installation or maintenance of associated fire protection infrastructure, would not require the relocation of construction of new utility facilities, and would not significantly alter drainage patterns or stormwater runoff volumes. Similar to the Original Project, construction activities of the Modified Project would operate within compliance with applicable Public Resource Code provisions, such as Public Resources Code Sections 4427, 4428, and 4431, related to the use of spark arrestors, conducting construction activities in a safe manner on days when a burning permit is required, and maintenance of fire suppression equipment during the highest fire danger period when operating on or near any forest-covered, brush-covered, or grass-covered land. As a result, the potential impacts of the Modified Project related to wildfire would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with wildfire would occur as a result of the Modified Project.

3.21 Mandatory Findings of Significance

CEQA Guidelines Section 15065(a) states that a lead agency shall find that a project may have a significant effect on the environment that thereby requires preparation of an EIR where there is substantial evidence that any of the following applicable conditions may occur:

- The project has 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 an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.
- The project has possible environmental effects that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.
- The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

As discussed in the 2021 Final IS-MND, the Original Project would have no impact related to the first two criteria and a less-than-significant impact related to the third criterion. Although the Modified Project involves minor project design changes to six of the eight reservoirs of the Original Project, the Modified Project remains within the same project boundary (construction footprint, staging area, and parking area) for each reservoir as the Original Project. In addition, the Modified Project would be required to implement the same mitigation measures identified throughout the 2021 Final IS-MND for the Original Project related to biological resources, geology and soils, and noise. Therefore, similar to the Original Project, the Modified 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, the Modified 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.

Furthermore, as discussed throughout this Addendum, the environmental impacts of the Modified Project would be comparable to those of the Original Project. Therefore, as with the Original Project, the environmental impacts of the Modified Project, which would primarily be associated with construction activities and therefore temporary and short-term in nature, would not result in a cumulatively considerable contribution to regional cumulative impacts. In addition, similar to the Original Project, the Modified Project would not result in environmental effects (such as those related to air quality, hazardous materials, and noise) that would cause substantial adverse effects on human beings, either directly or indirectly. As a result, the potential impacts of the Modified Project related to the mandatory findings of significance described under CEQA Guidelines Section 15065(a) would be the same as those described in the 2021 Final IS-MND for the Original Project. No new or substantially more severe significant impacts associated with the mandatory findings of significance would occur as a result of the Modified Project.

4 Conclusion

This addendum demonstrates that potential impacts associated with the proposed project are consistent with potential impacts characterized in and mitigation measures developed for the 2021 Final IS-MND for the Original Project. Substantive revisions to the 2021 Final IS-MND for the Original Project are not necessary because no new significant impacts or impacts of substantially greater severity than previously described would occur as a result of the Modified Project. Therefore, the following determinations are applicable:

- No further evaluation of environmental impacts is required for the Modified Project
- No Subsequent IS-MND is necessary per CEQA Guidelines Section 15162
- This addendum is the appropriate level of environmental analysis and documentation for the Modified Project in accordance with CEQA Guidelines Section 15164

Based on the foregoing analysis, the proposed minor changes in the project are determined to be consistent with the description of the environmental setting, environmental impacts, and mitigation measures as set forth in the adopted 2021 Final IS-MND for the Reservoir Retrofit and Replacement Project. The Modified Project would remain subject to all mitigation measures included in the adopted 2021 Final IS-MND and the Mitigation Monitoring and Reporting Plan remains applicable to the Modified Project.

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Date

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Nicholas Turner
General Manager
Montecito Water District
Date

5 References

Santa Barbara, County of. 2021. Santa Barbara County Comprehensive Plan Conservation Element, Groundwater Resources Section. Republished May 2009. https://cosantabarbara.app.box.com/s/u65evwzqqheat96lq5zx4gd4dp6mpmjq (accessed September 2021).

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Appendix A

Revised Air Quality and Greenhouse Gas Emissions Modeling Results

Reservoir Retrofits - Bella Vista

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.32	Acre	0.32	13,939.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD.

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD.

Grading - No soil import/export required.

Demolition - No demolition required.

Trips and VMT - Vendor trips include 53 total concrete delivery trips (106 one-way trips).

Reservoir Retrofits - Bella Vista - Santa Barbara County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	101.00
tblConstructionPhase	NumDays	1.00	21.00
tblConstructionPhase	PhaseEndDate	8/4/2022	8/31/2022
tblConstructionPhase	PhaseEndDate	3/15/2022	4/12/2022
tblConstructionPhase	PhaseStartDate	3/18/2022	4/13/2022
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblTripsAndVMT	WorkerTripNumber	15.00	13.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1175	1.0026	1.1053	2.1300e-003	8.8700e-003	0.0467	0.0555	1.4900e-003	0.0449	0.0464	0.0000	183.4320	183.4320	0.0350	0.0000	184.3063
Maximum	**0.1175**	**1.0026**	**1.1053**	**2.1300e-003**	**8.8700e-003**	**0.0467**	**0.0555**	**1.4900e-003**	**0.0449**	**0.0464**	**0.0000**	**183.4320**	**183.4320**	**0.0350**	**0.0000**	**184.3063**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1175	1.0026	1.1053	2.1300e-003	8.8700e-003	0.0467	0.0555	1.4900e-003	0.0449	0.0464	0.0000	183.4318	183.4318	0.0350	0.0000	184.3061
Maximum	**0.1175**	**1.0026**	**1.1053**	**2.1300e-003**	**8.8700e-003**	**0.0467**	**0.0555**	**1.4900e-003**	**0.0449**	**0.0464**	**0.0000**	**183.4318**	**183.4318**	**0.0350**	**0.0000**	**184.3061**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.4728	0.4728
2	**6-1-2022**	**8-31-2022**	0.6425	0.6425
		Highest	0.6425	0.6425

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/15/2022	4/12/2022	5	21	
2	Reservoir Construction	Building Construction	4/13/2022	8/31/2022	5	101	

Acres of Grading (Site Preparation Phase): 10.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.32

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Reservoir Construction	Plate Compactors	1	4.00	8	0.43
Reservoir Construction	Air Compressors	1	6.00	78	0.48
Site Preparation	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	13.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	11	6.00	2.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5700e-003	0.0000	5.5700e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1185	0.1377	2.6000e-004		5.6000e-003	5.6000e-003		5.3700e-003	5.3700e-003	0.0000	22.9108	22.9108	4.8500e-003	0.0000	23.0320
Total	**0.0132**	**0.1185**	**0.1377**	**2.6000e-004**	**5.5700e-003**	**5.6000e-003**	**0.0112**	**6.0000e-004**	**5.3700e-003**	**5.9700e-003**	**0.0000**	**22.9108**	**22.9108**	**4.8500e-003**	**0.0000**	**23.0320**

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.9000e-004	2.6700e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6415	0.6415	2.0000e-005	0.0000	0.6419
Total	**3.8000e-004**	**2.9000e-004**	**2.6700e-003**	**1.0000e-005**	**8.4000e-004**	**1.0000e-005**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6415**	**0.6415**	**2.0000e-005**	**0.0000**	**0.6419**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5700e-003	0.0000	5.5700e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1185	0.1377	2.6000e-004		5.6000e-003	5.6000e-003		5.3700e-003	5.3700e-003	0.0000	22.9107	22.9107	4.8500e-003	0.0000	23.0320
Total	**0.0132**	**0.1185**	**0.1377**	**2.6000e-004**	**5.5700e-003**	**5.6000e-003**	**0.0112**	**6.0000e-004**	**5.3700e-003**	**5.9700e-003**	**0.0000**	**22.9107**	**22.9107**	**4.8500e-003**	**0.0000**	**23.0320**

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.9000e-004	2.6700e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6415	0.6415	2.0000e-005	0.0000	0.6419
Total	**3.8000e-004**	**2.9000e-004**	**2.6700e-003**	**1.0000e-005**	**8.4000e-004**	**1.0000e-005**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6415**	**0.6415**	**2.0000e-005**	**0.0000**	**0.6419**

3.3 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1027	0.8735	0.9558	1.8200e-003		0.0410	0.0410		0.0395	0.0395	0.0000	156.1392	156.1392	0.0299	0.0000	156.8863
Total	**0.1027**	**0.8735**	**0.9558**	**1.8200e-003**		**0.0410**	**0.0410**		**0.0395**	**0.0395**	**0.0000**	**156.1392**	**156.1392**	**0.0299**	**0.0000**	**156.8863**

3.3 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.7500e-003	3.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.1000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.3167	2.3167	1.8000e-004	0.0000	2.3212
Worker	8.4000e-004	6.5000e-004	5.9200e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4239	1.4239	4.0000e-005	0.0000	1.4249
Total	**1.1500e-003**	**0.0104**	**9.1300e-003**	**4.0000e-005**	**2.4600e-003**	**4.0000e-005**	**2.4900e-003**	**6.7000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**3.7406**	**3.7406**	**2.2000e-004**	**0.0000**	**3.7461**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1027	0.8735	0.9558	1.8200e-003		0.0410	0.0410		0.0395	0.0395	0.0000	156.1390	156.1390	0.0299	0.0000	156.8861
Total	**0.1027**	**0.8735**	**0.9558**	**1.8200e-003**		**0.0410**	**0.0410**		**0.0395**	**0.0395**	**0.0000**	**156.1390**	**156.1390**	**0.0299**	**0.0000**	**156.8861**

3.3 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.7500e-003	3.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.1000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.3167	2.3167	1.8000e-004	0.0000	2.3212
Worker	8.4000e-004	6.5000e-004	5.9200e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4239	1.4239	4.0000e-005	0.0000	1.4249
Total	**1.1500e-003**	**0.0104**	**9.1300e-003**	**4.0000e-005**	**2.4600e-003**	**4.0000e-005**	**2.4900e-003**	**6.7000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**3.7406**	**3.7406**	**2.2000e-004**	**0.0000**	**3.7461**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.3800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.3800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Buena Vista

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.36	Acre	0.36	15,681.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD.

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 50 total concrete delivery trips (100 one-way trips).

Demolition - 15 CY of concrete demolished = 14.0 tons (1 CY concrete = 0.93 tons) + 5,300 sf of steel materials (6,100 sf of steel = 225.9 tons)

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	707.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	VendorTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1613	1.4564	1.4687	3.1900e-003	0.0209	0.0622	0.0831	3.6400e-003	0.0591	0.0628	0.0000	277.5752	277.5752	0.0647	0.0000	279.1918
Maximum	**0.1613**	**1.4564**	**1.4687**	**3.1900e-003**	**0.0209**	**0.0622**	**0.0831**	**3.6400e-003**	**0.0591**	**0.0628**	**0.0000**	**277.5752**	**277.5752**	**0.0647**	**0.0000**	**279.1918**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1613	1.4564	1.4687	3.1900e-003	0.0209	0.0622	0.0831	3.6400e-003	0.0591	0.0628	0.0000	277.5749	277.5749	0.0647	0.0000	279.1915
Maximum	**0.1613**	**1.4564**	**1.4687**	**3.1900e-003**	**0.0209**	**0.0622**	**0.0831**	**3.6400e-003**	**0.0591**	**0.0628**	**0.0000**	**277.5749**	**277.5749**	**0.0647**	**0.0000**	**279.1915**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.6681	0.6681
2	6-1-2022	8-31-2022	0.7760	0.7760
3	9-1-2022	9-30-2022	0.1729	0.1729
		Highest	0.7760	0.7760

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	3/21/2022	5	15	
2	Site Preparation	Site Preparation	3/22/2022	4/18/2022	5	20	
3	Grading	Grading	4/19/2022	5/16/2022	5	20	
4	Reservoir Construction	Building Construction	5/17/2022	8/22/2022	5	70	
5	Site Restoration	Paving	8/23/2022	9/19/2022	5	20	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.36

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Off-Highway Trucks	1	8.00	402	0.38
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42

Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	21.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	88.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	7.00	4.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.1450	0.1530	3.0000e-004		6.6500e-003	6.6500e-003		6.3600e-003	6.3600e-003	0.0000	25.9579	25.9579	5.4800e-003	0.0000	26.0949
Total	**0.0155**	**0.1450**	**0.1530**	**3.0000e-004**	**2.3000e-003**	**6.6500e-003**	**8.9500e-003**	**3.5000e-004**	**6.3600e-003**	**6.7100e-003**	**0.0000**	**25.9579**	**25.9579**	**5.4800e-003**	**0.0000**	**26.0949**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	8.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8012	0.8012	8.0000e-005	0.0000	0.8032
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.2000e-004	2.9300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7049	0.7049	2.0000e-005	0.0000	0.7054
Total	**5.0000e-004**	**3.0200e-003**	**3.8000e-003**	**2.0000e-005**	**1.1100e-003**	**2.0000e-005**	**1.1200e-003**	**3.0000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.5061**	**1.5061**	**1.0000e-004**	**0.0000**	**1.5086**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.1450	0.1530	3.0000e-004		6.6500e-003	6.6500e-003		6.3600e-003	6.3600e-003	0.0000	25.9579	25.9579	5.4800e-003	0.0000	26.0949
Total	**0.0155**	**0.1450**	**0.1530**	**3.0000e-004**	**2.3000e-003**	**6.6500e-003**	**8.9500e-003**	**3.5000e-004**	**6.3600e-003**	**6.7100e-003**	**0.0000**	**25.9579**	**25.9579**	**5.4800e-003**	**0.0000**	**26.0949**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	8.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8012	0.8012	8.0000e-005	0.0000	0.8032
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.2000e-004	2.9300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7049	0.7049	2.0000e-005	0.0000	0.7054
Total	**5.0000e-004**	**3.0200e-003**	**3.8000e-003**	**2.0000e-005**	**1.1100e-003**	**2.0000e-005**	**1.1200e-003**	**3.0000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.5061**	**1.5061**	**1.0000e-004**	**0.0000**	**1.5086**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0842	0.7205	0.7566	1.6700e-003		0.0312	0.0312		0.0296	0.0296	0.0000	144.1304	144.1304	0.0365	0.0000	145.0428
Total	**0.0842**	**0.7205**	**0.7566**	**1.6700e-003**		**0.0312**	**0.0312**		**0.0296**	**0.0296**	**0.0000**	**144.1304**	**144.1304**	**0.0365**	**0.0000**	**145.0428**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0135	4.4500e-003	3.0000e-005	8.1000e-004	4.0000e-005	8.5000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.2113	3.2113	2.5000e-004	0.0000	3.2175
Worker	6.8000e-004	5.3000e-004	4.7900e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.1513	1.1513	3.0000e-005	0.0000	1.1522
Total	**1.1100e-003**	**0.0140**	**9.2400e-003**	**4.0000e-005**	**2.3200e-003**	**5.0000e-005**	**2.3700e-003**	**6.3000e-004**	**5.0000e-005**	**6.8000e-004**	**0.0000**	**4.3626**	**4.3626**	**2.8000e-004**	**0.0000**	**4.3697**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0842	0.7205	0.7566	1.6700e-003		0.0312	0.0312		0.0296	0.0296	0.0000	144.1302	144.1302	0.0365	0.0000	145.0426
Total	**0.0842**	**0.7205**	**0.7566**	**1.6700e-003**		**0.0312**	**0.0312**		**0.0296**	**0.0296**	**0.0000**	**144.1302**	**144.1302**	**0.0365**	**0.0000**	**145.0426**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0135	4.4500e-003	3.0000e-005	8.1000e-004	4.0000e-005	8.5000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.2113	3.2113	2.5000e-004	0.0000	3.2175
Worker	6.8000e-004	5.3000e-004	4.7900e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.1513	1.1513	3.0000e-005	0.0000	1.1522
Total	**1.1100e-003**	**0.0140**	**9.2400e-003**	**4.0000e-005**	**2.3200e-003**	**5.0000e-005**	**2.3700e-003**	**6.3000e-004**	**5.0000e-005**	**6.8000e-004**	**0.0000**	**4.3626**	**4.3626**	**2.8000e-004**	**0.0000**	**4.3697**

3.6 Site Restoration - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0241	0.2296	0.2351	4.6000e-004		0.0102	0.0102		9.7300e-003	9.7300e-003	0.0000	40.1774	40.1774	9.0400e-003	0.0000	40.4035
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0241**	**0.2296**	**0.2351**	**4.6000e-004**		**0.0102**	**0.0102**		**9.7300e-003**	**9.7300e-003**	**0.0000**	**40.1774**	**40.1774**	**9.0400e-003**	**0.0000**	**40.4035**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**6.9000e-004**	**5.4000e-004**	**4.8800e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1748**	**1.1748**	**3.0000e-005**	**0.0000**	**1.1757**

3.6 Site Restoration - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0241	0.2296	0.2351	4.6000e-004		0.0102	0.0102		9.7300e-003	9.7300e-003	0.0000	40.1774	40.1774	9.0400e-003	0.0000	40.4034
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0241**	**0.2296**	**0.2351**	**4.6000e-004**		**0.0102**	**0.0102**		**9.7300e-003**	**9.7300e-003**	**0.0000**	**40.1774**	**40.1774**	**9.0400e-003**	**0.0000**	**40.4034**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**6.9000e-004**	**5.4000e-004**	**4.8800e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1748**	**1.1748**	**3.0000e-005**	**0.0000**	**1.1757**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Cold Springs

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.57	Acre	0.57	24,829.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD.

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD. Grader user as proxy for excavator to allow for soil export.

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 167 total concrete delivery trips (334 one-way trips).

Demolition - 10 CY of concrete demolished = 9.3 tons (1 CY concrete = 0.93 tons) + 6,400 sf of steel materials (6,100 sf of steel = 225.9 tons)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	256.00
tblGrading	MaterialExported	0.00	100.00
tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3373	2.8213	2.7487	5.8300e-003	0.0903	0.1275	0.2178	0.0130	0.1215	0.1345	0.0000	502.7420	502.7420	0.1110	0.0000	505.5157
2023	0.1381	1.1220	1.1688	2.5500e-003	0.0765	0.0487	0.1252	9.6400e-003	0.0463	0.0560	0.0000	219.4206	219.4206	0.0488	0.0000	220.6412
Maximum	**0.3373**	**2.8213**	**2.7487**	**5.8300e-003**	**0.0903**	**0.1275**	**0.2178**	**0.0130**	**0.1215**	**0.1345**	**0.0000**	**502.7420**	**502.7420**	**0.1110**	**0.0000**	**505.5157**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3373	2.8213	2.7487	5.8300e-003	0.0903	0.1275	0.2178	0.0130	0.1215	0.1345	0.0000	502.7414	502.7414	0.1110	0.0000	505.5151
2023	0.1381	1.1220	1.1688	2.5500e-003	0.0765	0.0487	0.1252	9.6400e-003	0.0463	0.0560	0.0000	219.4203	219.4203	0.0488	0.0000	220.6409
Maximum	**0.3373**	**2.8213**	**2.7487**	**5.8300e-003**	**0.0903**	**0.1275**	**0.2178**	**0.0130**	**0.1215**	**0.1345**	**0.0000**	**502.7414**	**502.7414**	**0.1110**	**0.0000**	**505.5151**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.7181	0.7181
2	6-1-2022	8-31-2022	1.0458	1.0458
3	9-1-2022	11-30-2022	1.0348	1.0348
4	12-1-2022	2-28-2023	0.9631	0.9631
5	3-1-2023	5-31-2023	0.6518	0.6518
		Highest	1.0458	1.0458

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/15/2022	5/9/2022	5	40	
2	Reservoir Construction	Grading	5/10/2022	5/2/2023	5	256	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.57

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	1	8.00	46	0.45
Reservoir Construction	Air Compressors	1	6.00	78	0.48
Reservoir Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Reservoir Construction	Cranes	1	8.00	231	0.29
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Graders	1	8.00	158	0.38
Reservoir Construction	Off-Highway Trucks	1	8.00	402	0.38
Reservoir Construction	Plate Compactors	1	4.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	6.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	9	23.00	0.00	24.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	12	30.00	2.00	13.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6400e-003	0.0000	2.6400e-003	4.0000e-004	0.0000	4.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0468	0.4159	0.4420	8.5000e-004		0.0190	0.0190		0.0182	0.0182	0.0000	72.9855	72.9855	0.0151	0.0000	73.3622
Total	**0.0468**	**0.4159**	**0.4420**	**8.5000e-004**	**2.6400e-003**	**0.0190**	**0.0217**	**4.0000e-004**	**0.0182**	**0.0186**	**0.0000**	**72.9855**	**72.9855**	**0.0151**	**0.0000**	**73.3622**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0900e-003	9.9000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9156	0.9156	9.0000e-005	0.0000	0.9179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	9.9000e-004	8.9800e-003	2.0000e-005	2.8400e-003	2.0000e-005	2.8600e-003	7.6000e-004	2.0000e-005	7.7000e-004	0.0000	2.1617	2.1617	6.0000e-005	0.0000	2.1632
Total	**1.3700e-003**	**4.0800e-003**	**9.9700e-003**	**3.0000e-005**	**3.0400e-003**	**3.0000e-005**	**3.0800e-003**	**8.2000e-004**	**3.0000e-005**	**8.4000e-004**	**0.0000**	**3.0773**	**3.0773**	**1.5000e-004**	**0.0000**	**3.0811**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6400e-003	0.0000	2.6400e-003	4.0000e-004	0.0000	4.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0468	0.4159	0.4420	8.5000e-004		0.0190	0.0190		0.0182	0.0182	0.0000	72.9854	72.9854	0.0151	0.0000	73.3621
Total	**0.0468**	**0.4159**	**0.4420**	**8.5000e-004**	**2.6400e-003**	**0.0190**	**0.0217**	**4.0000e-004**	**0.0182**	**0.0186**	**0.0000**	**72.9854**	**72.9854**	**0.0151**	**0.0000**	**73.3621**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0900e-003	9.9000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9156	0.9156	9.0000e-005	0.0000	0.9179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	9.9000e-004	8.9800e-003	2.0000e-005	2.8400e-003	2.0000e-005	2.8600e-003	7.6000e-004	2.0000e-005	7.7000e-004	0.0000	2.1617	2.1617	6.0000e-005	0.0000	2.1632
Total	**1.3700e-003**	**4.0800e-003**	**9.9700e-003**	**3.0000e-005**	**3.0400e-003**	**3.0000e-005**	**3.0800e-003**	**8.2000e-004**	**3.0000e-005**	**8.4000e-004**	**0.0000**	**3.0773**	**3.0773**	**1.5000e-004**	**0.0000**	**3.0811**

3.3 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2816	2.3784	2.2415	4.7800e-003		0.1083	0.1083		0.1031	0.1031	0.0000	410.5627	410.5627	0.0951	0.0000	412.9389
Total	**0.2816**	**2.3784**	**2.2415**	**4.7800e-003**	**0.0679**	**0.1083**	**0.1762**	**7.3300e-003**	**0.1031**	**0.1104**	**0.0000**	**410.5627**	**410.5627**	**0.0951**	**0.0000**	**412.9389**

3.3 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1000e-003	3.5000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3274	0.3274	3.0000e-005	0.0000	0.3282
Vendor	5.2000e-004	0.0163	5.3800e-003	4.0000e-005	9.8000e-004	4.0000e-005	1.0300e-003	2.8000e-004	4.0000e-005	3.3000e-004	0.0000	3.8765	3.8765	3.0000e-004	0.0000	3.8840
Worker	7.0300e-003	5.4700e-003	0.0495	1.3000e-004	0.0157	1.0000e-004	0.0158	4.1600e-003	9.0000e-005	4.2500e-003	0.0000	11.9127	11.9127	3.4000e-004	0.0000	11.9213
Total	**7.5800e-003**	**0.0229**	**0.0552**	**1.7000e-004**	**0.0167**	**1.4000e-004**	**0.0169**	**4.4700e-003**	**1.3000e-004**	**4.6100e-003**	**0.0000**	**16.1165**	**16.1165**	**6.7000e-004**	**0.0000**	**16.1335**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2816	2.3784	2.2415	4.7800e-003		0.1083	0.1083		0.1031	0.1031	0.0000	410.5622	410.5622	0.0951	0.0000	412.9384
Total	**0.2816**	**2.3784**	**2.2415**	**4.7800e-003**	**0.0679**	**0.1083**	**0.1762**	**7.3300e-003**	**0.1031**	**0.1104**	**0.0000**	**410.5622**	**410.5622**	**0.0951**	**0.0000**	**412.9384**

3.3 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1000e-003	3.5000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3274	0.3274	3.0000e-005	0.0000	0.3282
Vendor	5.2000e-004	0.0163	5.3800e-003	4.0000e-005	9.8000e-004	4.0000e-005	1.0300e-003	2.8000e-004	4.0000e-005	3.3000e-004	0.0000	3.8765	3.8765	3.0000e-004	0.0000	3.8840
Worker	7.0300e-003	5.4700e-003	0.0495	1.3000e-004	0.0157	1.0000e-004	0.0158	4.1600e-003	9.0000e-005	4.2500e-003	0.0000	11.9127	11.9127	3.4000e-004	0.0000	11.9213
Total	**7.5800e-003**	**0.0229**	**0.0552**	**1.7000e-004**	**0.0167**	**1.4000e-004**	**0.0169**	**4.4700e-003**	**1.3000e-004**	**4.6100e-003**	**0.0000**	**16.1165**	**16.1165**	**6.7000e-004**	**0.0000**	**16.1335**

3.3 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1345	1.1121	1.1429	2.4600e-003		0.0486	0.0486		0.0463	0.0463	0.0000	211.3930	211.3930	0.0485	0.0000	212.6056
Total	**0.1345**	**1.1121**	**1.1429**	**2.4600e-003**	**0.0679**	**0.0486**	**0.1165**	**7.3300e-003**	**0.0463**	**0.0536**	**0.0000**	**211.3930**	**211.3930**	**0.0485**	**0.0000**	**212.6056**

3.3 Reservoir Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.3000e-004	1.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1642	0.1642	2.0000e-005	0.0000	0.1646
Vendor	2.1000e-004	6.9700e-003	2.4900e-003	2.0000e-005	5.1000e-004	1.0000e-005	5.2000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.9600	1.9600	1.5000e-004	0.0000	1.9637
Worker	3.3800e-003	2.5200e-003	0.0233	7.0000e-005	8.0600e-003	5.0000e-005	8.1100e-003	2.1400e-003	4.0000e-005	2.1900e-003	0.0000	5.9034	5.9034	1.6000e-004	0.0000	5.9073
Total	**3.6000e-003**	**9.9200e-003**	**0.0259**	**9.0000e-005**	**8.6600e-003**	**6.0000e-005**	**8.7200e-003**	**2.3100e-003**	**5.0000e-005**	**2.3700e-003**	**0.0000**	**8.0275**	**8.0275**	**3.3000e-004**	**0.0000**	**8.0356**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1345	1.1121	1.1429	2.4600e-003		0.0486	0.0486		0.0463	0.0463	0.0000	211.3928	211.3928	0.0485	0.0000	212.6053
Total	**0.1345**	**1.1121**	**1.1429**	**2.4600e-003**	**0.0679**	**0.0486**	**0.1165**	**7.3300e-003**	**0.0463**	**0.0536**	**0.0000**	**211.3928**	**211.3928**	**0.0485**	**0.0000**	**212.6053**

3.3 Reservoir Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.3000e-004	1.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1642	0.1642	2.0000e-005	0.0000	0.1646
Vendor	2.1000e-004	6.9700e-003	2.4900e-003	2.0000e-005	5.1000e-004	1.0000e-005	5.2000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.9600	1.9600	1.5000e-004	0.0000	1.9637
Worker	3.3800e-003	2.5200e-003	0.0233	7.0000e-005	8.0600e-003	5.0000e-005	8.1100e-003	2.1400e-003	4.0000e-005	2.1900e-003	0.0000	5.9034	5.9034	1.6000e-004	0.0000	5.9073
Total	**3.6000e-003**	**9.9200e-003**	**0.0259**	**9.0000e-005**	**8.6600e-003**	**6.0000e-005**	**8.7200e-003**	**2.3100e-003**	**5.0000e-005**	**2.3700e-003**	**0.0000**	**8.0275**	**8.0275**	**3.3000e-004**	**0.0000**	**8.0356**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.4600e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.4600e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Doulton

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.16	Acre	0.16	6,969.60	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.9 **Precipitation Freq (Days)** 37

Climate Zone 8 **Operational Year** 2023

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 6 total concrete delivery trips (12 one-way trips).

Demolition - 9.4 CY of concrete demolished = 19.1 tons (1 CY concrete = 2.03 tons) + 6,100 sf of steel tank demolished = 225.9 tons (6,100 sf of 3.7-foot steel = 1 ton)

Grading -

Area Coating -

Off-road Equipment - Provided by Montecito WD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	120.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	MaterialExported	0.00	308.00
tblGrading	MaterialImported	0.00	308.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblTripsAndVMT	VendorTripNumber	1.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2675	2.3189	2.3091	4.6300e-003	0.0180	0.1008	0.1189	3.6700e-003	0.0966	0.1002	0.0000	396.6094	396.6094	0.0843	0.0000	398.7157
2023	0.0241	0.2163	0.2489	4.9000e-004	1.5600e-003	9.3400e-003	0.0109	4.1000e-004	8.9000e-003	9.3100e-003	0.0000	42.9092	42.9092	9.3500e-003	0.0000	43.1429
Maximum	**0.2675**	**2.3189**	**2.3091**	**4.6300e-003**	**0.0180**	**0.1008**	**0.1189**	**3.6700e-003**	**0.0966**	**0.1002**	**0.0000**	**396.6094**	**396.6094**	**0.0843**	**0.0000**	**398.7157**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2675	2.3189	2.3091	4.6300e-003	0.0180	0.1008	0.1189	3.6700e-003	0.0966	0.1002	0.0000	396.6090	396.6090	0.0843	0.0000	398.7152
2023	0.0241	0.2163	0.2489	4.9000e-004	1.5600e-003	9.3400e-003	0.0109	4.1000e-004	8.9000e-003	9.3100e-003	0.0000	42.9092	42.9092	9.3500e-003	0.0000	43.1429
Maximum	**0.2675**	**2.3189**	**2.3091**	**4.6300e-003**	**0.0180**	**0.1008**	**0.1189**	**3.6700e-003**	**0.0966**	**0.1002**	**0.0000**	**396.6090**	**396.6090**	**0.0843**	**0.0000**	**398.7152**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.9578	0.9578
2	**6-1-2022**	**8-31-2022**	0.7348	0.7348
3	**9-1-2022**	**11-30-2022**	0.6629	0.6629
4	**12-1-2022**	**2-28-2023**	0.4703	0.4703
		Highest	0.9578	0.9578

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	6/20/2022	5	80	
2	Site Preparation	Site Preparation	6/21/2022	7/4/2022	5	10	
3	Grading	Grading	7/5/2022	7/18/2022	5	10	
4	Reservoir Construction	Building Construction	7/19/2022	1/2/2023	5	120	
5	Site Restoration	Paving	1/3/2023	1/30/2023	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0.16

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Graders	1	8.00	187	0.41
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	2	8.00	46	0.45
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38

Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41

Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	25.00	0.00	24.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	77.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	3.00	2.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6800e-003	0.0000	2.6800e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1168	1.0414	0.9292	1.9200e-003		0.0452	0.0452		0.0433	0.0433	0.0000	164.6590	164.6590	0.0347	0.0000	165.5252
Total	**0.1168**	**1.0414**	**0.9292**	**1.9200e-003**	**2.6800e-003**	**0.0452**	**0.0479**	**4.1000e-004**	**0.0433**	**0.0437**	**0.0000**	**164.6590**	**164.6590**	**0.0347**	**0.0000**	**165.5252**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0900e-003	9.9000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9156	0.9156	9.0000e-005	0.0000	0.9179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7700e-003	2.1600e-003	0.0195	5.0000e-005	6.1800e-003	4.0000e-005	6.2100e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.6993	4.6993	1.4000e-004	0.0000	4.7027
Total	**2.8600e-003**	**5.2500e-003**	**0.0205**	**6.0000e-005**	**6.3800e-003**	**5.0000e-005**	**6.4300e-003**	**1.7000e-003**	**4.0000e-005**	**1.7500e-003**	**0.0000**	**5.6149**	**5.6149**	**2.3000e-004**	**0.0000**	**5.6206**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6800e-003	0.0000	2.6800e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1168	1.0414	0.9292	1.9200e-003		0.0452	0.0452		0.0433	0.0433	0.0000	164.6588	164.6588	0.0347	0.0000	165.5250
Total	**0.1168**	**1.0414**	**0.9292**	**1.9200e-003**	**2.6800e-003**	**0.0452**	**0.0479**	**4.1000e-004**	**0.0433**	**0.0437**	**0.0000**	**164.6588**	**164.6588**	**0.0347**	**0.0000**	**165.5250**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0900e-003	9.9000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9156	0.9156	9.0000e-005	0.0000	0.9179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7700e-003	2.1600e-003	0.0195	5.0000e-005	6.1800e-003	4.0000e-005	6.2100e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.6993	4.6993	1.4000e-004	0.0000	4.7027
Total	**2.8600e-003**	**5.2500e-003**	**0.0205**	**6.0000e-005**	**6.3800e-003**	**5.0000e-005**	**6.4300e-003**	**1.7000e-003**	**4.0000e-005**	**1.7500e-003**	**0.0000**	**5.6149**	**5.6149**	**2.3000e-004**	**0.0000**	**5.6206**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5800e-003	0.0840	0.0753	1.6000e-004		3.5500e-003	3.5500e-003		3.3700e-003	3.3700e-003	0.0000	13.9751	13.9751	3.2700e-003	0.0000	14.0567
Total	**8.5800e-003**	**0.0840**	**0.0753**	**1.6000e-004**	**2.6500e-003**	**3.5500e-003**	**6.2000e-003**	**2.9000e-004**	**3.3700e-003**	**3.6600e-003**	**0.0000**	**13.9751**	**13.9751**	**3.2700e-003**	**0.0000**	**14.0567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.7600e-003	0.0000	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4229	0.4229	1.0000e-005	0.0000	0.4232
Total	**2.5000e-004**	**1.9000e-004**	**1.7600e-003**	**0.0000**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4229**	**0.4229**	**1.0000e-005**	**0.0000**	**0.4232**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5800e-003	0.0840	0.0753	1.6000e-004		3.5500e-003	3.5500e-003		3.3700e-003	3.3700e-003	0.0000	13.9751	13.9751	3.2700e-003	0.0000	14.0567
Total	**8.5800e-003**	**0.0840**	**0.0753**	**1.6000e-004**	**2.6500e-003**	**3.5500e-003**	**6.2000e-003**	**2.9000e-004**	**3.3700e-003**	**3.6600e-003**	**0.0000**	**13.9751**	**13.9751**	**3.2700e-003**	**0.0000**	**14.0567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.7600e-003	0.0000	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4229	0.4229	1.0000e-005	0.0000	0.4232
Total	**2.5000e-004**	**1.9000e-004**	**1.7600e-003**	**0.0000**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4229**	**0.4229**	**1.0000e-005**	**0.0000**	**0.4232**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-003	0.0000	2.7000e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-003	0.0932	0.0827	2.0000e-004		3.8000e-003	3.8000e-003		3.6000e-003	3.6000e-003	0.0000	17.7773	17.7773	4.5000e-003	0.0000	17.8897
Total	**9.5000e-003**	**0.0932**	**0.0827**	**2.0000e-004**	**2.7000e-003**	**3.8000e-003**	**6.5000e-003**	**2.9000e-004**	**3.6000e-003**	**3.8900e-003**	**0.0000**	**17.7773**	**17.7773**	**4.5000e-003**	**0.0000**	**17.8897**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	9.9100e-003	3.1800e-003	3.0000e-005	6.6000e-004	4.0000e-005	6.9000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.9376	2.9376	2.9000e-004	0.0000	2.9450
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	1.9500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4699	0.4699	1.0000e-005	0.0000	0.4703
Total	**5.6000e-004**	**0.0101**	**5.1300e-003**	**4.0000e-005**	**1.2800e-003**	**4.0000e-005**	**1.3100e-003**	**3.4000e-004**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**3.4075**	**3.4075**	**3.0000e-004**	**0.0000**	**3.4152**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-003	0.0000	2.7000e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-003	0.0932	0.0827	2.0000e-004		3.8000e-003	3.8000e-003		3.6000e-003	3.6000e-003	0.0000	17.7773	17.7773	4.5000e-003	0.0000	17.8897
Total	**9.5000e-003**	**0.0932**	**0.0827**	**2.0000e-004**	**2.7000e-003**	**3.8000e-003**	**6.5000e-003**	**2.9000e-004**	**3.6000e-003**	**3.8900e-003**	**0.0000**	**17.7773**	**17.7773**	**4.5000e-003**	**0.0000**	**17.8897**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	9.9100e-003	3.1800e-003	3.0000e-005	6.6000e-004	4.0000e-005	6.9000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.9376	2.9376	2.9000e-004	0.0000	2.9450
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	1.9500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4699	0.4699	1.0000e-005	0.0000	0.4703
Total	**5.6000e-004**	**0.0101**	**5.1300e-003**	**4.0000e-005**	**1.2800e-003**	**4.0000e-005**	**1.3100e-003**	**3.4000e-004**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**3.4075**	**3.4075**	**3.0000e-004**	**0.0000**	**3.4152**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1281	1.0730	1.1873	2.2000e-003		0.0482	0.0482		0.0462	0.0462	0.0000	187.1843	187.1843	0.0411	0.0000	188.2107
Total	**0.1281**	**1.0730**	**1.1873**	**2.2000e-003**		**0.0482**	**0.0482**		**0.0462**	**0.0462**	**0.0000**	**187.1843**	**187.1843**	**0.0411**	**0.0000**	**188.2107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0115	3.7900e-003	3.0000e-005	6.9000e-004	3.0000e-005	7.2000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	2.7296	2.7296	2.1000e-004	0.0000	2.7349
Worker	4.9000e-004	3.9000e-004	3.4900e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8388	0.8388	2.0000e-005	0.0000	0.8394
Total	**8.5000e-004**	**0.0119**	**7.2800e-003**	**4.0000e-005**	**1.7900e-003**	**4.0000e-005**	**1.8300e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**3.5684**	**3.5684**	**2.3000e-004**	**0.0000**	**3.5743**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1281	1.0730	1.1873	2.2000e-003		0.0482	0.0482		0.0462	0.0462	0.0000	187.1841	187.1841	0.0411	0.0000	188.2105
Total	**0.1281**	**1.0730**	**1.1873**	**2.2000e-003**		**0.0482**	**0.0482**		**0.0462**	**0.0462**	**0.0000**	**187.1841**	**187.1841**	**0.0411**	**0.0000**	**188.2105**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0115	3.7900e-003	3.0000e-005	6.9000e-004	3.0000e-005	7.2000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	2.7296	2.7296	2.1000e-004	0.0000	2.7349
Worker	4.9000e-004	3.9000e-004	3.4900e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8388	0.8388	2.0000e-005	0.0000	0.8394
Total	**8.5000e-004**	**0.0119**	**7.2800e-003**	**4.0000e-005**	**1.7900e-003**	**4.0000e-005**	**1.8300e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**3.5684**	**3.5684**	**2.3000e-004**	**0.0000**	**3.5743**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-003	8.3000e-003	9.9300e-003	2.0000e-005		3.5000e-004	3.5000e-004		3.4000e-004	3.4000e-004	0.0000	1.5731	1.5731	3.4000e-004	0.0000	1.5817
Total	**1.0000e-003**	**8.3000e-003**	**9.9300e-003**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.5731**	**1.5731**	**3.4000e-004**	**0.0000**	**1.5817**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	8.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0225	0.0225	0.0000	0.0000	0.0226
Worker	0.0000	0.0000	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	6.7900e-003	6.7900e-003	0.0000	0.0000	6.7900e-003
Total	**0.0000**	**8.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0293**	**0.0293**	**0.0000**	**0.0000**	**0.0294**

3.5 Reservoir Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-003	8.3000e-003	9.9300e-003	2.0000e-005		3.5000e-004	3.5000e-004		3.4000e-004	3.4000e-004	0.0000	1.5731	1.5731	3.4000e-004	0.0000	1.5817
Total	**1.0000e-003**	**8.3000e-003**	**9.9300e-003**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.5731**	**1.5731**	**3.4000e-004**	**0.0000**	**1.5817**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	8.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0225	0.0225	0.0000	0.0000	0.0226
Worker	0.0000	0.0000	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	6.7900e-003	6.7900e-003	0.0000	0.0000	6.7900e-003
Total	**0.0000**	**8.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0293**	**0.0293**	**0.0000**	**0.0000**	**0.0294**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4002
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4002**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4001
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4001**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Hot Springs

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.25	Acre	0.25	10,890.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 77 total concrete delivery trips (154 one-way trips).

Demolition - 15 CY of concrete demolished = 14 tons (1 CY concrete = 0.93 ton) + 5,300 sf of steel materials (6,100 sf of steel = 225.9 tons)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	41.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	707.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	VendorTripNumber	2.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2476	2.2317	2.2829	4.8800e-003	0.0243	0.0964	0.1207	4.5500e-003	0.0917	0.0962	0.0000	424.4677	424.4677	0.0982	0.0000	426.9229
2023	2.3100e-003	0.0208	0.0239	5.0000e-005	1.5000e-004	9.0000e-004	1.0500e-003	4.0000e-005	8.6000e-004	9.0000e-004	0.0000	4.1307	4.1307	9.0000e-004	0.0000	4.1532
Maximum	**0.2476**	**2.2317**	**2.2829**	**4.8800e-003**	**0.0243**	**0.0964**	**0.1207**	**4.5500e-003**	**0.0917**	**0.0962**	**0.0000**	**424.4677**	**424.4677**	**0.0982**	**0.0000**	**426.9229**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2476	2.2317	2.2829	4.8800e-003	0.0243	0.0964	0.1207	4.5500e-003	0.0917	0.0962	0.0000	424.4673	424.4673	0.0982	0.0000	426.9224
2023	2.3100e-003	0.0208	0.0239	5.0000e-005	1.5000e-004	9.0000e-004	1.0500e-003	4.0000e-005	8.6000e-004	9.0000e-004	0.0000	4.1307	4.1307	9.0000e-004	0.0000	4.1532
Maximum	**0.2476**	**2.2317**	**2.2829**	**4.8800e-003**	**0.0243**	**0.0964**	**0.1207**	**4.5500e-003**	**0.0917**	**0.0962**	**0.0000**	**424.4673**	**424.4673**	**0.0982**	**0.0000**	**426.9224**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.6736	0.6736
2	6-1-2022	8-31-2022	0.7395	0.7395
3	9-1-2022	11-30-2022	0.7779	0.7779
4	12-1-2022	2-28-2023	0.3071	0.3071
		Highest	0.7779	0.7779

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	4/25/2022	5	40	
2	Site Preparation	Site Preparation	4/26/2022	5/23/2022	5	20	
3	Grading	Grading	5/24/2022	6/20/2022	5	20	
4	Reservoir Construction	Building Construction	6/21/2022	11/7/2022	5	100	
5	Site Restoration	Paving	11/8/2022	1/3/2023	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Off-Highway Trucks	1	8.00	402	0.38
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42

Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	21.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	88.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	5.00	4.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0413	0.3866	0.4081	8.0000e-004		0.0177	0.0177		0.0170	0.0170	0.0000	69.2210	69.2210	0.0146	0.0000	69.5865
Total	**0.0413**	**0.3866**	**0.4081**	**8.0000e-004**	**2.3000e-003**	**0.0177**	**0.0200**	**3.5000e-004**	**0.0170**	**0.0173**	**0.0000**	**69.2210**	**69.2210**	**0.0146**	**0.0000**	**69.5865**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	8.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8012	0.8012	8.0000e-005	0.0000	0.8032
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	8.6000e-004	7.8100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.8797	1.8797	5.0000e-005	0.0000	1.8811
Total	**1.1900e-003**	**3.5600e-003**	**8.6800e-003**	**3.0000e-005**	**2.6500e-003**	**3.0000e-005**	**2.6800e-003**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.3000e-004**	**0.0000**	**2.6842**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0413	0.3866	0.4081	8.0000e-004		0.0177	0.0177		0.0170	0.0170	0.0000	69.2210	69.2210	0.0146	0.0000	69.5864
Total	**0.0413**	**0.3866**	**0.4081**	**8.0000e-004**	**2.3000e-003**	**0.0177**	**0.0200**	**3.5000e-004**	**0.0170**	**0.0173**	**0.0000**	**69.2210**	**69.2210**	**0.0146**	**0.0000**	**69.5864**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	8.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8012	0.8012	8.0000e-005	0.0000	0.8032
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	8.6000e-004	7.8100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.8797	1.8797	5.0000e-005	0.0000	1.8811
Total	**1.1900e-003**	**3.5600e-003**	**8.6800e-003**	**3.0000e-005**	**2.6500e-003**	**3.0000e-005**	**2.6800e-003**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.3000e-004**	**0.0000**	**2.6842**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1202	1.0292	1.0809	2.3800e-003		0.0446	0.0446		0.0423	0.0423	0.0000	205.9005	205.9005	0.0521	0.0000	207.2039
Total	**0.1202**	**1.0292**	**1.0809**	**2.3800e-003**		**0.0446**	**0.0446**		**0.0423**	**0.0423**	**0.0000**	**205.9005**	**205.9005**	**0.0521**	**0.0000**	**207.2039**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.1000e-004	0.0193	6.3600e-003	5.0000e-005	1.1600e-003	5.0000e-005	1.2200e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	4.5875	4.5875	3.6000e-004	0.0000	4.5964
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**1.3000e-003**	**0.0198**	**0.0112**	**6.0000e-005**	**2.7000e-003**	**6.0000e-005**	**2.7700e-003**	**7.5000e-004**	**6.0000e-005**	**8.1000e-004**	**0.0000**	**5.7623**	**5.7623**	**3.9000e-004**	**0.0000**	**5.7721**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1202	1.0292	1.0809	2.3800e-003		0.0446	0.0446		0.0423	0.0423	0.0000	205.9003	205.9003	0.0521	0.0000	207.2037
Total	**0.1202**	**1.0292**	**1.0809**	**2.3800e-003**		**0.0446**	**0.0446**		**0.0423**	**0.0423**	**0.0000**	**205.9003**	**205.9003**	**0.0521**	**0.0000**	**207.2037**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.1000e-004	0.0193	6.3600e-003	5.0000e-005	1.1600e-003	5.0000e-005	1.2200e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	4.5875	4.5875	3.6000e-004	0.0000	4.5964
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**1.3000e-003**	**0.0198**	**0.0112**	**6.0000e-005**	**2.7000e-003**	**6.0000e-005**	**2.7700e-003**	**7.5000e-004**	**6.0000e-005**	**8.1000e-004**	**0.0000**	**5.7623**	**5.7623**	**3.9000e-004**	**0.0000**	**5.7721**

3.6 Site Restoration - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0471	0.4477	0.4584	9.0000e-004		0.0199	0.0199		0.0190	0.0190	0.0000	78.3460	78.3460	0.0176	0.0000	78.7868
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0471**	**0.4477**	**0.4584**	**9.0000e-004**		**0.0199**	**0.0199**		**0.0190**	**0.0190**	**0.0000**	**78.3460**	**78.3460**	**0.0176**	**0.0000**	**78.7868**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3500e-003	1.0500e-003	9.5200e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0300e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.2909	2.2909	7.0000e-005	0.0000	2.2926
Total	**1.3500e-003**	**1.0500e-003**	**9.5200e-003**	**3.0000e-005**	**3.0100e-003**	**2.0000e-005**	**3.0300e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.2909**	**2.2909**	**7.0000e-005**	**0.0000**	**2.2926**

3.6 Site Restoration - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0471	0.4477	0.4584	9.0000e-004		0.0199	0.0199		0.0190	0.0190	0.0000	78.3459	78.3459	0.0176	0.0000	78.7867
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0471**	**0.4477**	**0.4584**	**9.0000e-004**		**0.0199**	**0.0199**		**0.0190**	**0.0190**	**0.0000**	**78.3459**	**78.3459**	**0.0176**	**0.0000**	**78.7867**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3500e-003	1.0500e-003	9.5200e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0300e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.2909	2.2909	7.0000e-005	0.0000	2.2926
Total	**1.3500e-003**	**1.0500e-003**	**9.5200e-003**	**3.0000e-005**	**3.0100e-003**	**2.0000e-005**	**3.0300e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.2909**	**2.2909**	**7.0000e-005**	**0.0000**	**2.2926**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2500e-003	0.0207	0.0234	5.0000e-005		9.0000e-004	9.0000e-004		8.5000e-004	8.5000e-004	0.0000	4.0176	4.0176	9.0000e-004	0.0000	4.0400
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2500e-003**	**0.0207**	**0.0234**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**4.0176**	**4.0176**	**9.0000e-004**	**0.0000**	**4.0400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.5000e-004	0.0000	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1131	0.1131	0.0000	0.0000	0.1132
Total	**6.0000e-005**	**5.0000e-005**	**4.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1131**	**0.1131**	**0.0000**	**0.0000**	**0.1132**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2500e-003	0.0207	0.0234	5.0000e-005		9.0000e-004	9.0000e-004		8.5000e-004	8.5000e-004	0.0000	4.0176	4.0176	9.0000e-004	0.0000	4.0400
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2500e-003**	**0.0207**	**0.0234**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**4.0176**	**4.0176**	**9.0000e-004**	**0.0000**	**4.0400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.5000e-004	0.0000	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1131	0.1131	0.0000	0.0000	0.1132
Total	**6.0000e-005**	**5.0000e-005**	**4.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1131**	**0.1131**	**0.0000**	**0.0000**	**0.1132**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Park Lane

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.61	Acre	0.61	26,571.60	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.9 **Precipitation Freq (Days)** 37

Climate Zone 8 **Operational Year** 2023

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 405 total concrete delivery trips (810 one-way trips).

Demolition - 520 CY of concrete demolished = 583.6 tons (1 CY concrete = 0.93 ton)+ 14,100 sf of steel materials (6,100 sf of steel = 225.9 tons)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	140.00
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	1.00	40.00
tblGrading	MaterialExported	0.00	3,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblTripsAndVMT	VendorTripNumber	4.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2476	2.2235	2.2621	4.6200e-003	0.0506	0.0957	0.1463	8.8800e-003	0.0918	0.1007	0.0000	401.4906	401.4906	0.0801	0.0000	403.4941
2023	0.1318	1.1571	1.3737	2.6900e-003	8.0500e-003	0.0491	0.0572	2.2000e-003	0.0471	0.0493	0.0000	233.5301	233.5301	0.0457	0.0000	234.6717
Maximum	**0.2476**	**2.2235**	**2.2621**	**4.6200e-003**	**0.0506**	**0.0957**	**0.1463**	**8.8800e-003**	**0.0918**	**0.1007**	**0.0000**	**401.4906**	**401.4906**	**0.0801**	**0.0000**	**403.4941**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2476	2.2235	2.2621	4.6200e-003	0.0506	0.0957	0.1463	8.8800e-003	0.0918	0.1007	0.0000	401.4902	401.4902	0.0801	0.0000	403.4937
2023	0.1318	1.1571	1.3737	2.6900e-003	8.0500e-003	0.0491	0.0572	2.2000e-003	0.0471	0.0493	0.0000	233.5299	233.5299	0.0457	0.0000	234.6714
Maximum	**0.2476**	**2.2235**	**2.2621**	**4.6200e-003**	**0.0506**	**0.0957**	**0.1463**	**8.8800e-003**	**0.0918**	**0.1007**	**0.0000**	**401.4902**	**401.4902**	**0.0801**	**0.0000**	**403.4937**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.8306	0.8306
2	6-1-2022	8-31-2022	0.6873	0.6873
3	9-1-2022	11-30-2022	0.6960	0.6960
4	12-1-2022	2-28-2023	0.6870	0.6870
5	3-1-2023	5-31-2023	0.6999	0.6999
6	6-1-2023	8-31-2023	0.1567	0.1567
		Highest	0.8306	0.8306

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	7/4/2022	5	90	
2	Site Preparation	Site Preparation	7/5/2022	8/29/2022	5	40	
3	Grading	Grading	8/30/2022	10/24/2022	5	40	
4	Reservoir Construction	Building Construction	10/25/2022	5/8/2023	5	140	
5	Site Restoration	Paving	5/9/2023	6/19/2023	5	30	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0.61

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	2	8.00	46	0.45
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38

Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42

Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	25.00	0.00	99.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	375.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	11.00	10.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0110	0.0000	0.0110	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1177	1.0015	1.0708	2.0200e-003		0.0456	0.0456		0.0439	0.0439	0.0000	172.6872	172.6872	0.0349	0.0000	173.5602
Total	**0.1177**	**1.0015**	**1.0708**	**2.0200e-003**	**0.0110**	**0.0456**	**0.0566**	**1.6700e-003**	**0.0439**	**0.0456**	**0.0000**	**172.6872**	**172.6872**	**0.0349**	**0.0000**	**173.5602**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.6000e-004	0.0127	4.0900e-003	4.0000e-005	8.4000e-004	5.0000e-005	8.9000e-004	2.3000e-004	4.0000e-005	2.8000e-004	0.0000	3.7769	3.7769	3.8000e-004	0.0000	3.7864
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.4300e-003	0.0220	6.0000e-005	6.9500e-003	4.0000e-005	6.9900e-003	1.8500e-003	4.0000e-005	1.8900e-003	0.0000	5.2867	5.2867	1.5000e-004	0.0000	5.2905
Total	**3.4800e-003**	**0.0152**	**0.0261**	**1.0000e-004**	**7.7900e-003**	**9.0000e-005**	**7.8800e-003**	**2.0800e-003**	**8.0000e-005**	**2.1700e-003**	**0.0000**	**9.0636**	**9.0636**	**5.3000e-004**	**0.0000**	**9.0769**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0110	0.0000	0.0110	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1177	1.0015	1.0708	2.0200e-003		0.0456	0.0456		0.0439	0.0439	0.0000	172.6870	172.6870	0.0349	0.0000	173.5600
Total	**0.1177**	**1.0015**	**1.0708**	**2.0200e-003**	**0.0110**	**0.0456**	**0.0566**	**1.6700e-003**	**0.0439**	**0.0456**	**0.0000**	**172.6870**	**172.6870**	**0.0349**	**0.0000**	**173.5600**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.6000e-004	0.0127	4.0900e-003	4.0000e-005	8.4000e-004	5.0000e-005	8.9000e-004	2.3000e-004	4.0000e-005	2.8000e-004	0.0000	3.7769	3.7769	3.8000e-004	0.0000	3.7864
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.4300e-003	0.0220	6.0000e-005	6.9500e-003	4.0000e-005	6.9900e-003	1.8500e-003	4.0000e-005	1.8900e-003	0.0000	5.2867	5.2867	1.5000e-004	0.0000	5.2905
Total	**3.4800e-003**	**0.0152**	**0.0261**	**1.0000e-004**	**7.7900e-003**	**9.0000e-005**	**7.8800e-003**	**2.0800e-003**	**8.0000e-005**	**2.1700e-003**	**0.0000**	**9.0636**	**9.0636**	**5.3000e-004**	**0.0000**	**9.0769**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3308	0.2968	6.3000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	55.2747	55.2747	0.0130	0.0000	55.5997
Total	**0.0335**	**0.3308**	**0.2968**	**6.3000e-004**	**0.0106**	**0.0140**	**0.0246**	**1.1500e-003**	**0.0133**	**0.0145**	**0.0000**	**55.2747**	**55.2747**	**0.0130**	**0.0000**	**55.5997**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.5000e-004	5.8600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4098	1.4098	4.0000e-005	0.0000	1.4108
Total	**8.3000e-004**	**6.5000e-004**	**5.8600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4098**	**1.4098**	**4.0000e-005**	**0.0000**	**1.4108**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3308	0.2968	6.3000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	55.2746	55.2746	0.0130	0.0000	55.5996
Total	**0.0335**	**0.3308**	**0.2968**	**6.3000e-004**	**0.0106**	**0.0140**	**0.0246**	**1.1500e-003**	**0.0133**	**0.0145**	**0.0000**	**55.2746**	**55.2746**	**0.0130**	**0.0000**	**55.5996**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.5000e-004	5.8600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4098	1.4098	4.0000e-005	0.0000	1.4108
Total	**8.3000e-004**	**6.5000e-004**	**5.8600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4098**	**1.4098**	**4.0000e-005**	**0.0000**	**1.4108**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0109	0.0000	0.0109	1.1800e-003	0.0000	1.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3275	0.2898	6.3000e-004		0.0138	0.0138		0.0131	0.0131	0.0000	54.5339	54.5339	0.0126	0.0000	54.8494
Total	**0.0335**	**0.3275**	**0.2898**	**6.3000e-004**	**0.0109**	**0.0138**	**0.0246**	**1.1800e-003**	**0.0131**	**0.0143**	**0.0000**	**54.5339**	**54.5339**	**0.0126**	**0.0000**	**54.8494**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3500e-003	0.0483	0.0155	1.4000e-004	3.1900e-003	1.8000e-004	3.3700e-003	8.8000e-004	1.7000e-004	1.0400e-003	0.0000	14.3065	14.3065	1.4300e-003	0.0000	14.3423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.8000e-004	7.0300e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2400e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.6917	1.6917	5.0000e-005	0.0000	1.6930
Total	**2.3500e-003**	**0.0491**	**0.0225**	**1.6000e-004**	**5.4100e-003**	**1.9000e-004**	**5.6100e-003**	**1.4700e-003**	**1.8000e-004**	**1.6400e-003**	**0.0000**	**15.9982**	**15.9982**	**1.4800e-003**	**0.0000**	**16.0353**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0109	0.0000	0.0109	1.1800e-003	0.0000	1.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3275	0.2898	6.3000e-004		0.0138	0.0138		0.0131	0.0131	0.0000	54.5338	54.5338	0.0126	0.0000	54.8494
Total	**0.0335**	**0.3275**	**0.2898**	**6.3000e-004**	**0.0109**	**0.0138**	**0.0246**	**1.1800e-003**	**0.0131**	**0.0143**	**0.0000**	**54.5338**	**54.5338**	**0.0126**	**0.0000**	**54.8494**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3500e-003	0.0483	0.0155	1.4000e-004	3.1900e-003	1.8000e-004	3.3700e-003	8.8000e-004	1.7000e-004	1.0400e-003	0.0000	14.3065	14.3065	1.4300e-003	0.0000	14.3423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.8000e-004	7.0300e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2400e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.6917	1.6917	5.0000e-005	0.0000	1.6930
Total	**2.3500e-003**	**0.0491**	**0.0225**	**1.6000e-004**	**5.4100e-003**	**1.9000e-004**	**5.6100e-003**	**1.4700e-003**	**1.8000e-004**	**1.6400e-003**	**0.0000**	**15.9982**	**15.9982**	**1.4800e-003**	**0.0000**	**16.0353**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0547	0.4746	0.5371	1.0000e-003		0.0219	0.0219		0.0211	0.0211	0.0000	85.6371	85.6371	0.0171	0.0000	86.0639
Total	**0.0547**	**0.4746**	**0.5371**	**1.0000e-003**		**0.0219**	**0.0219**		**0.0211**	**0.0211**	**0.0000**	**85.6371**	**85.6371**	**0.0171**	**0.0000**	**86.0639**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5000e-004	0.0236	7.8000e-003	6.0000e-005	1.4200e-003	6.0000e-005	1.4900e-003	4.1000e-004	6.0000e-005	4.7000e-004	0.0000	5.6197	5.6197	4.4000e-004	0.0000	5.6306
Worker	7.5000e-004	5.8000e-004	5.2600e-003	1.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2665	1.2665	4.0000e-005	0.0000	1.2674
Total	**1.5000e-003**	**0.0242**	**0.0131**	**7.0000e-005**	**3.0800e-003**	**7.0000e-005**	**3.1600e-003**	**8.5000e-004**	**7.0000e-005**	**9.2000e-004**	**0.0000**	**6.8862**	**6.8862**	**4.8000e-004**	**0.0000**	**6.8980**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0547	0.4746	0.5371	1.0000e-003		0.0219	0.0219		0.0211	0.0211	0.0000	85.6370	85.6370	0.0171	0.0000	86.0638
Total	**0.0547**	**0.4746**	**0.5371**	**1.0000e-003**		**0.0219**	**0.0219**		**0.0211**	**0.0211**	**0.0000**	**85.6370**	**85.6370**	**0.0171**	**0.0000**	**86.0638**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5000e-004	0.0236	7.8000e-003	6.0000e-005	1.4200e-003	6.0000e-005	1.4900e-003	4.1000e-004	6.0000e-005	4.7000e-004	0.0000	5.6197	5.6197	4.4000e-004	0.0000	5.6306
Worker	7.5000e-004	5.8000e-004	5.2600e-003	1.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2665	1.2665	4.0000e-005	0.0000	1.2674
Total	**1.5000e-003**	**0.0242**	**0.0131**	**7.0000e-005**	**3.0800e-003**	**7.0000e-005**	**3.1600e-003**	**8.5000e-004**	**7.0000e-005**	**9.2000e-004**	**0.0000**	**6.8862**	**6.8862**	**4.8000e-004**	**0.0000**	**6.8980**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.8079	0.9934	1.8500e-003		0.0355	0.0355		0.0342	0.0342	0.0000	159.0555	159.0555	0.0313	0.0000	159.8385
Total	**0.0947**	**0.8079**	**0.9934**	**1.8500e-003**		**0.0355**	**0.0355**		**0.0342**	**0.0342**	**0.0000**	**159.0555**	**159.0555**	**0.0313**	**0.0000**	**159.8385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0365	0.0130	1.0000e-004	2.6500e-003	6.0000e-005	2.7000e-003	7.6000e-004	6.0000e-005	8.2000e-004	0.0000	10.2504	10.2504	7.8000e-004	0.0000	10.2698
Worker	1.3000e-003	9.7000e-004	8.9200e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.2641	2.2641	6.0000e-005	0.0000	2.2656
Total	**2.3800e-003**	**0.0374**	**0.0220**	**1.3000e-004**	**5.7400e-003**	**8.0000e-005**	**5.8100e-003**	**1.5800e-003**	**8.0000e-005**	**1.6600e-003**	**0.0000**	**12.5145**	**12.5145**	**8.4000e-004**	**0.0000**	**12.5355**

3.5 Reservoir Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.8079	0.9934	1.8500e-003		0.0355	0.0355		0.0342	0.0342	0.0000	159.0553	159.0553	0.0313	0.0000	159.8383
Total	**0.0947**	**0.8079**	**0.9934**	**1.8500e-003**		**0.0355**	**0.0355**		**0.0342**	**0.0342**	**0.0000**	**159.0553**	**159.0553**	**0.0313**	**0.0000**	**159.8383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0365	0.0130	1.0000e-004	2.6500e-003	6.0000e-005	2.7000e-003	7.6000e-004	6.0000e-005	8.2000e-004	0.0000	10.2504	10.2504	7.8000e-004	0.0000	10.2698
Worker	1.3000e-003	9.7000e-004	8.9200e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.2641	2.2641	6.0000e-005	0.0000	2.2656
Total	**2.3800e-003**	**0.0374**	**0.0220**	**1.3000e-004**	**5.7400e-003**	**8.0000e-005**	**5.8100e-003**	**1.5800e-003**	**8.0000e-005**	**1.6600e-003**	**0.0000**	**12.5145**	**12.5145**	**8.4000e-004**	**0.0000**	**12.5355**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0337	0.3111	0.3517	6.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	60.2638	60.2638	0.0135	0.0000	60.6003
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0337**	**0.3111**	**0.3517**	**6.9000e-004**		**0.0135**	**0.0135**		**0.0128**	**0.0128**	**0.0000**	**60.2638**	**60.2638**	**0.0135**	**0.0000**	**60.6003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.3000e-004	6.6800e-003	2.0000e-005	2.3200e-003	1.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.6964	1.6964	5.0000e-005	0.0000	1.6975
Total	**9.7000e-004**	**7.3000e-004**	**6.6800e-003**	**2.0000e-005**	**2.3200e-003**	**1.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.6964**	**1.6964**	**5.0000e-005**	**0.0000**	**1.6975**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0337	0.3111	0.3517	6.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	60.2637	60.2637	0.0135	0.0000	60.6002
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0337**	**0.3111**	**0.3517**	**6.9000e-004**		**0.0135**	**0.0135**		**0.0128**	**0.0128**	**0.0000**	**60.2637**	**60.2637**	**0.0135**	**0.0000**	**60.6002**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.3000e-004	6.6800e-003	2.0000e-005	2.3200e-003	1.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.6964	1.6964	5.0000e-005	0.0000	1.6975
Total	**9.7000e-004**	**7.3000e-004**	**6.6800e-003**	**2.0000e-005**	**2.3200e-003**	**1.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.6964**	**1.6964**	**5.0000e-005**	**0.0000**	**1.6975**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Romero

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.69	Acre	0.69	30,056.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 198 total concrete delivery trips (396 one-way trips).

Demolition - 47 CY of concrete demolished = 43.7 tons (1 CY concrete = 0.93 ton) + 15,700 sf of steel materials (6,100 sf of steel = 225.9 tons)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	308.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	1,948.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	VendorTripNumber	5.00	7.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2524	2.1259	2.2833	4.9800e-003	0.0315	0.0893	0.1209	6.2100e-003	0.0855	0.0917	0.0000	431.3400	431.3400	0.0963	0.0000	433.7475
2023	0.2065	1.6584	1.9835	4.2900e-003	0.0109	0.0674	0.0783	2.9600e-003	0.0644	0.0674	0.0000	370.1286	370.1286	0.0852	0.0000	372.2584
Maximum	**0.2524**	**2.1259**	**2.2833**	**4.9800e-003**	**0.0315**	**0.0893**	**0.1209**	**6.2100e-003**	**0.0855**	**0.0917**	**0.0000**	**431.3400**	**431.3400**	**0.0963**	**0.0000**	**433.7475**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2524	2.1259	2.2833	4.9800e-003	0.0315	0.0893	0.1209	6.2100e-003	0.0855	0.0917	0.0000	431.3395	431.3395	0.0963	0.0000	433.7470
2023	0.2065	1.6584	1.9835	4.2900e-003	0.0109	0.0674	0.0783	2.9600e-003	0.0644	0.0674	0.0000	370.1282	370.1282	0.0852	0.0000	372.2580
Maximum	**0.2524**	**2.1259**	**2.2833**	**4.9800e-003**	**0.0315**	**0.0893**	**0.1209**	**6.2100e-003**	**0.0855**	**0.0917**	**0.0000**	**431.3395**	**431.3395**	**0.0963**	**0.0000**	**433.7470**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.5986	0.5986
2	6-1-2022	8-31-2022	0.7623	0.7623
3	9-1-2022	11-30-2022	0.7541	0.7541
4	12-1-2022	2-28-2023	0.7040	0.7040
5	3-1-2023	5-31-2023	0.6970	0.6970
6	6-1-2023	8-31-2023	0.7157	0.7157
		Highest	0.7623	0.7623

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	4/11/2022	5	30	
2	Site Preparation	Site Preparation	4/12/2022	5/2/2022	5	15	
3	Grading	Grading	5/3/2022	5/30/2022	5	20	
4	Reservoir Construction	Building Construction	5/31/2022	8/3/2023	5	308	
5	Site Restoration	Paving	8/4/2023	8/31/2023	5	20	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.69

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43

Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Off-Highway Trucks	1	8.00	402	0.38
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36

Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	62.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	244.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	13.00	7.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.8400e-003	0.0000	6.8400e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2050	0.2434	4.6000e-004		9.9200e-003	9.9200e-003		9.6100e-003	9.6100e-003	0.0000	39.7697	39.7697	7.0400e-003	0.0000	39.9456
Total	**0.0237**	**0.2050**	**0.2434**	**4.6000e-004**	**6.8400e-003**	**9.9200e-003**	**0.0168**	**1.0400e-003**	**9.6100e-003**	**0.0107**	**0.0000**	**39.7697**	**39.7697**	**7.0400e-003**	**0.0000**	**39.9456**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2000e-004	7.9800e-003	2.5600e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.3653	2.3653	2.4000e-004	0.0000	2.3713
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.9000e-004	4.3900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.0573	1.0573	3.0000e-005	0.0000	1.0581
Total	**8.4000e-004**	**8.4700e-003**	**6.9500e-003**	**3.0000e-005**	**1.9200e-003**	**4.0000e-005**	**1.9600e-003**	**5.1000e-004**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**3.4227**	**3.4227**	**2.7000e-004**	**0.0000**	**3.4294**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.8400e-003	0.0000	6.8400e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2050	0.2434	4.6000e-004		9.9200e-003	9.9200e-003		9.6100e-003	9.6100e-003	0.0000	39.7696	39.7696	7.0400e-003	0.0000	39.9455
Total	**0.0237**	**0.2050**	**0.2434**	**4.6000e-004**	**6.8400e-003**	**9.9200e-003**	**0.0168**	**1.0400e-003**	**9.6100e-003**	**0.0107**	**0.0000**	**39.7696**	**39.7696**	**7.0400e-003**	**0.0000**	**39.9455**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2000e-004	7.9800e-003	2.5600e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.3653	2.3653	2.4000e-004	0.0000	2.3713
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.9000e-004	4.3900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.0573	1.0573	3.0000e-005	0.0000	1.0581
Total	**8.4000e-004**	**8.4700e-003**	**6.9500e-003**	**3.0000e-005**	**1.9200e-003**	**4.0000e-005**	**1.9600e-003**	**5.1000e-004**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**3.4227**	**3.4227**	**2.7000e-004**	**0.0000**	**3.4294**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.4600e-003	0.0000	5.4600e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.4600e-003**	**6.8800e-003**	**0.0123**	**6.0000e-004**	**6.5400e-003**	**7.1400e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8000e-004	0.0314	0.0101	9.0000e-005	2.0800e-003	1.1000e-004	2.1900e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	9.3087	9.3087	9.3000e-004	0.0000	9.3321
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**1.3800e-003**	**0.0318**	**0.0136**	**1.0000e-004**	**3.1900e-003**	**1.2000e-004**	**3.3100e-003**	**8.7000e-004**	**1.2000e-004**	**9.8000e-004**	**0.0000**	**10.1546**	**10.1546**	**9.5000e-004**	**0.0000**	**10.1786**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.4600e-003	0.0000	5.4600e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.4600e-003**	**6.8800e-003**	**0.0123**	**6.0000e-004**	**6.5400e-003**	**7.1400e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8000e-004	0.0314	0.0101	9.0000e-005	2.0800e-003	1.1000e-004	2.1900e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	9.3087	9.3087	9.3000e-004	0.0000	9.3321
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**1.3800e-003**	**0.0318**	**0.0136**	**1.0000e-004**	**3.1900e-003**	**1.2000e-004**	**3.3100e-003**	**8.7000e-004**	**1.2000e-004**	**9.8000e-004**	**0.0000**	**10.1546**	**10.1546**	**9.5000e-004**	**0.0000**	**10.1786**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1921	1.5365	1.7223	3.6400e-003		0.0669	0.0669		0.0640	0.0640	0.0000	312.0617	312.0617	0.0757	0.0000	313.9545
Total	**0.1921**	**1.5365**	**1.7223**	**3.6400e-003**		**0.0669**	**0.0669**		**0.0640**	**0.0640**	**0.0000**	**312.0617**	**312.0617**	**0.0757**	**0.0000**	**313.9545**

3.5 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6500e-003	0.0520	0.0172	1.2000e-004	3.1300e-003	1.4000e-004	3.2800e-003	9.0000e-004	1.4000e-004	1.0400e-003	0.0000	12.3634	12.3634	9.6000e-004	0.0000	12.3874
Worker	2.7800e-003	2.1600e-003	0.0196	5.0000e-005	6.1800e-003	4.0000e-005	6.2200e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.7040	4.7040	1.4000e-004	0.0000	4.7074
Total	**4.4300e-003**	**0.0542**	**0.0367**	**1.7000e-004**	**9.3100e-003**	**1.8000e-004**	**9.5000e-003**	**2.5400e-003**	**1.7000e-004**	**2.7200e-003**	**0.0000**	**17.0673**	**17.0673**	**1.1000e-003**	**0.0000**	**17.0948**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1921	1.5365	1.7223	3.6400e-003		0.0669	0.0669		0.0640	0.0640	0.0000	312.0614	312.0614	0.0757	0.0000	313.9542
Total	**0.1921**	**1.5365**	**1.7223**	**3.6400e-003**		**0.0669**	**0.0669**		**0.0640**	**0.0640**	**0.0000**	**312.0614**	**312.0614**	**0.0757**	**0.0000**	**313.9542**

3.5 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6500e-003	0.0520	0.0172	1.2000e-004	3.1300e-003	1.4000e-004	3.2800e-003	9.0000e-004	1.4000e-004	1.0400e-003	0.0000	12.3634	12.3634	9.6000e-004	0.0000	12.3874
Worker	2.7800e-003	2.1600e-003	0.0196	5.0000e-005	6.1800e-003	4.0000e-005	6.2200e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.7040	4.7040	1.4000e-004	0.0000	4.7074
Total	**4.4300e-003**	**0.0542**	**0.0367**	**1.7000e-004**	**9.3100e-003**	**1.8000e-004**	**9.5000e-003**	**2.5400e-003**	**1.7000e-004**	**2.7200e-003**	**0.0000**	**17.0673**	**17.0673**	**1.1000e-003**	**0.0000**	**17.0948**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1795	1.4054	1.7113	3.6500e-003		0.0583	0.0583		0.0558	0.0558	0.0000	312.1509	312.1509	0.0751	0.0000	314.0295
Total	**0.1795**	**1.4054**	**1.7113**	**3.6500e-003**		**0.0583**	**0.0583**		**0.0558**	**0.0558**	**0.0000**	**312.1509**	**312.1509**	**0.0751**	**0.0000**	**314.0295**

3.5 Reservoir Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2800e-003	0.0432	0.0155	1.2000e-004	3.1300e-003	7.0000e-005	3.2000e-003	9.0000e-004	7.0000e-005	9.7000e-004	0.0000	12.1428	12.1428	9.2000e-004	0.0000	12.1658
Worker	2.5900e-003	1.9400e-003	0.0178	5.0000e-005	6.1800e-003	4.0000e-005	6.2200e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.5282	4.5282	1.2000e-004	0.0000	4.5312
Total	**3.8700e-003**	**0.0451**	**0.0333**	**1.7000e-004**	**9.3100e-003**	**1.1000e-004**	**9.4200e-003**	**2.5400e-003**	**1.0000e-004**	**2.6500e-003**	**0.0000**	**16.6710**	**16.6710**	**1.0400e-003**	**0.0000**	**16.6970**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1795	1.4054	1.7113	3.6500e-003		0.0583	0.0583		0.0558	0.0558	0.0000	312.1506	312.1506	0.0751	0.0000	314.0292
Total	**0.1795**	**1.4054**	**1.7113**	**3.6500e-003**		**0.0583**	**0.0583**		**0.0558**	**0.0558**	**0.0000**	**312.1506**	**312.1506**	**0.0751**	**0.0000**	**314.0292**

3.5 Reservoir Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2800e-003	0.0432	0.0155	1.2000e-004	3.1300e-003	7.0000e-005	3.2000e-003	9.0000e-004	7.0000e-005	9.7000e-004	0.0000	12.1428	12.1428	9.2000e-004	0.0000	12.1658
Worker	2.5900e-003	1.9400e-003	0.0178	5.0000e-005	6.1800e-003	4.0000e-005	6.2200e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.5282	4.5282	1.2000e-004	0.0000	4.5312
Total	**3.8700e-003**	**0.0451**	**0.0333**	**1.7000e-004**	**9.3100e-003**	**1.1000e-004**	**9.4200e-003**	**2.5400e-003**	**1.0000e-004**	**2.6500e-003**	**0.0000**	**16.6710**	**16.6710**	**1.0400e-003**	**0.0000**	**16.6970**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4002
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4002**

3.6 Site Restoration - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4001
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4001**

3.6 Site Restoration - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.9800e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.9800e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Terminal

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.38	Acre	1.38	60,025.68	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.9 **Precipitation Freq (Days)** 37

Climate Zone 8 **Operational Year** 2023

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 160 total concrete delivery trips (320 one-way trips).

Demolition - 30 CY of concrete demolished = 27.9 tons (1 CY concrete = 0.93 ton) + 31,200 sf of steel materials (6,100 sf of steel = 225.9 tons)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	15.00
tblConstructionPhase	NumDays	200.00	260.00
tblConstructionPhase	NumDays	10.00	40.00
tblGrading	MaterialExported	0.00	3,860.00
tblGrading	MaterialImported	0.00	3,860.00
tblLandUse	LandUseSquareFeet	60,112.80	60,025.68
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	VendorTripNumber	10.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2915	2.5676	2.5589	5.8600e-003	0.0522	0.1028	0.1550	0.0113	0.0981	0.1094	0.0000	513.1328	513.1328	0.1106	0.0000	515.8980
2023	0.1906	1.5906	1.8060	3.9600e-003	0.0155	0.0646	0.0801	4.2200e-003	0.0615	0.0657	0.0000	342.9538	342.9538	0.0780	0.0000	344.9045
Maximum	**0.2915**	**2.5676**	**2.5589**	**5.8600e-003**	**0.0522**	**0.1028**	**0.1550**	**0.0113**	**0.0981**	**0.1094**	**0.0000**	**513.1328**	**513.1328**	**0.1106**	**0.0000**	**515.8980**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2915	2.5676	2.5589	5.8600e-003	0.0522	0.1028	0.1550	0.0113	0.0981	0.1094	0.0000	513.1323	513.1323	0.1106	0.0000	515.8974
2023	0.1906	1.5906	1.8060	3.9600e-003	0.0155	0.0646	0.0801	4.2200e-003	0.0615	0.0657	0.0000	342.9534	342.9534	0.0780	0.0000	344.9041
Maximum	**0.2915**	**2.5676**	**2.5589**	**5.8600e-003**	**0.0522**	**0.1028**	**0.1550**	**0.0113**	**0.0981**	**0.1094**	**0.0000**	**513.1323**	**513.1323**	**0.1106**	**0.0000**	**515.8974**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.8411	0.8411
2	**6-1-2022**	**8-31-2022**	0.8740	0.8740
3	**9-1-2022**	**11-30-2022**	0.8461	0.8461
4	**12-1-2022**	**2-28-2023**	0.7890	0.7890
5	**3-1-2023**	**5-31-2023**	0.7806	0.7806
6	**6-1-2023**	**8-31-2023**	0.5043	0.5043
		Highest	0.8740	0.8740

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	4/25/2022	5	40	
2	Site Preparation	Site Preparation	4/26/2022	5/16/2022	5	15	
3	Grading	Grading	5/17/2022	6/6/2022	5	15	
4	Reservoir Construction	Building Construction	6/7/2022	6/5/2023	5	260	
5	Site Restoration	Paving	6/6/2023	7/31/2023	5	40	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 7.5

Acres of Paving: 1.38

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	2	8.00	46	0.45
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38

Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Off-Highway Trucks	1	8.00	402	0.38
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41

Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	25.00	0.00	117.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	965.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	11	25.00	12.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0129	0.0000	0.0129	1.9600e-003	0.0000	1.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.4451	0.4759	9.0000e-004		0.0203	0.0203		0.0195	0.0195	0.0000	76.7499	76.7499	0.0155	0.0000	77.1379
Total	**0.0523**	**0.4451**	**0.4759**	**9.0000e-004**	**0.0129**	**0.0203**	**0.0332**	**1.9600e-003**	**0.0195**	**0.0215**	**0.0000**	**76.7499**	**76.7499**	**0.0155**	**0.0000**	**77.1379**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.2000e-004	0.0151	4.8300e-003	4.0000e-005	1.0000e-003	5.0000e-005	1.0500e-003	2.7000e-004	5.0000e-005	3.3000e-004	0.0000	4.4636	4.4636	4.5000e-004	0.0000	4.4748
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3900e-003	1.0800e-003	9.7700e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.3496	2.3496	7.0000e-005	0.0000	2.3513
Total	**1.8100e-003**	**0.0161**	**0.0146**	**7.0000e-005**	**4.0900e-003**	**7.0000e-005**	**4.1600e-003**	**1.0900e-003**	**7.0000e-005**	**1.1700e-003**	**0.0000**	**6.8133**	**6.8133**	**5.2000e-004**	**0.0000**	**6.8261**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0129	0.0000	0.0129	1.9600e-003	0.0000	1.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.4451	0.4759	9.0000e-004		0.0203	0.0203		0.0195	0.0195	0.0000	76.7498	76.7498	0.0155	0.0000	77.1378
Total	**0.0523**	**0.4451**	**0.4759**	**9.0000e-004**	**0.0129**	**0.0203**	**0.0332**	**1.9600e-003**	**0.0195**	**0.0215**	**0.0000**	**76.7498**	**76.7498**	**0.0155**	**0.0000**	**77.1378**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.2000e-004	0.0151	4.8300e-003	4.0000e-005	1.0000e-003	5.0000e-005	1.0500e-003	2.7000e-004	5.0000e-005	3.3000e-004	0.0000	4.4636	4.4636	4.5000e-004	0.0000	4.4748
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3900e-003	1.0800e-003	9.7700e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.3496	2.3496	7.0000e-005	0.0000	2.3513
Total	**1.8100e-003**	**0.0161**	**0.0146**	**7.0000e-005**	**4.0900e-003**	**7.0000e-005**	**4.1600e-003**	**1.0900e-003**	**7.0000e-005**	**1.1700e-003**	**0.0000**	**6.8133**	**6.8133**	**5.2000e-004**	**0.0000**	**6.8261**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6000e-003	0.0000	4.6000e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1228	0.1087	2.4000e-004		5.1600e-003	5.1600e-003		4.9100e-003	4.9100e-003	0.0000	20.4502	20.4502	4.7300e-003	0.0000	20.5685
Total	**0.0126**	**0.1228**	**0.1087**	**2.4000e-004**	**4.6000e-003**	**5.1600e-003**	**9.7600e-003**	**5.2000e-004**	**4.9100e-003**	**5.4300e-003**	**0.0000**	**20.4502**	**20.4502**	**4.7300e-003**	**0.0000**	**20.5685**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4600e-003	0.1242	0.0398	3.6000e-004	8.2200e-003	4.5000e-004	8.6700e-003	2.2500e-003	4.3000e-004	2.6900e-003	0.0000	36.8153	36.8153	3.6900e-003	0.0000	36.9076
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.8300e-003**	**0.1245**	**0.0425**	**3.7000e-004**	**9.0500e-003**	**4.6000e-004**	**9.5100e-003**	**2.4700e-003**	**4.3000e-004**	**2.9200e-003**	**0.0000**	**37.4497**	**37.4497**	**3.7100e-003**	**0.0000**	**37.5424**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6000e-003	0.0000	4.6000e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1228	0.1087	2.4000e-004		5.1600e-003	5.1600e-003		4.9100e-003	4.9100e-003	0.0000	20.4502	20.4502	4.7300e-003	0.0000	20.5685
Total	**0.0126**	**0.1228**	**0.1087**	**2.4000e-004**	**4.6000e-003**	**5.1600e-003**	**9.7600e-003**	**5.2000e-004**	**4.9100e-003**	**5.4300e-003**	**0.0000**	**20.4502**	**20.4502**	**4.7300e-003**	**0.0000**	**20.5685**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4600e-003	0.1242	0.0398	3.6000e-004	8.2200e-003	4.5000e-004	8.6700e-003	2.2500e-003	4.3000e-004	2.6900e-003	0.0000	36.8153	36.8153	3.6900e-003	0.0000	36.9076
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.8300e-003**	**0.1245**	**0.0425**	**3.7000e-004**	**9.0500e-003**	**4.6000e-004**	**9.5100e-003**	**2.4700e-003**	**4.3000e-004**	**2.9200e-003**	**0.0000**	**37.4497**	**37.4497**	**3.7100e-003**	**0.0000**	**37.5424**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1998	1.6425	1.7369	3.7400e-003		0.0712	0.0712		0.0678	0.0678	0.0000	320.8142	320.8142	0.0794	0.0000	322.7983
Total	**0.1998**	**1.6425**	**1.7369**	**3.7400e-003**		**0.0712**	**0.0712**		**0.0678**	**0.0678**	**0.0000**	**320.8142**	**320.8142**	**0.0794**	**0.0000**	**322.7983**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7300e-003	0.0863	0.0284	2.1000e-004	5.2000e-003	2.4000e-004	5.4400e-003	1.5000e-003	2.3000e-004	1.7300e-003	0.0000	20.5062	20.5062	1.5900e-003	0.0000	20.5461
Worker	5.1600e-003	4.0200e-003	0.0364	1.0000e-004	0.0115	7.0000e-005	0.0116	3.0600e-003	6.0000e-005	3.1200e-003	0.0000	8.7524	8.7524	2.5000e-004	0.0000	8.7587
Total	**7.8900e-003**	**0.0903**	**0.0648**	**3.1000e-004**	**0.0167**	**3.1000e-004**	**0.0170**	**4.5600e-003**	**2.9000e-004**	**4.8500e-003**	**0.0000**	**29.2586**	**29.2586**	**1.8400e-003**	**0.0000**	**29.3048**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1998	1.6425	1.7369	3.7400e-003		0.0712	0.0712		0.0678	0.0678	0.0000	320.8138	320.8138	0.0794	0.0000	322.7979
Total	**0.1998**	**1.6425**	**1.7369**	**3.7400e-003**		**0.0712**	**0.0712**		**0.0678**	**0.0678**	**0.0000**	**320.8138**	**320.8138**	**0.0794**	**0.0000**	**322.7979**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7300e-003	0.0863	0.0284	2.1000e-004	5.2000e-003	2.4000e-004	5.4400e-003	1.5000e-003	2.3000e-004	1.7300e-003	0.0000	20.5062	20.5062	1.5900e-003	0.0000	20.5461
Worker	5.1600e-003	4.0200e-003	0.0364	1.0000e-004	0.0115	7.0000e-005	0.0116	3.0600e-003	6.0000e-005	3.1200e-003	0.0000	8.7524	8.7524	2.5000e-004	0.0000	8.7587
Total	**7.8900e-003**	**0.0903**	**0.0648**	**3.1000e-004**	**0.0167**	**3.1000e-004**	**0.0170**	**4.5600e-003**	**2.9000e-004**	**4.8500e-003**	**0.0000**	**29.2586**	**29.2586**	**1.8400e-003**	**0.0000**	**29.3048**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.1188	1.2844	2.7900e-003		0.0465	0.0465		0.0443	0.0443	0.0000	239.0598	239.0598	0.0587	0.0000	240.5276
Total	**0.1391**	**1.1188**	**1.2844**	**2.7900e-003**		**0.0465**	**0.0465**		**0.0443**	**0.0443**	**0.0000**	**239.0598**	**239.0598**	**0.0587**	**0.0000**	**240.5276**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0534	0.0191	1.5000e-004	3.8700e-003	8.0000e-005	3.9600e-003	1.1200e-003	8.0000e-005	1.2000e-003	0.0000	15.0039	15.0039	1.1400e-003	0.0000	15.0323
Worker	3.5900e-003	2.6800e-003	0.0247	7.0000e-005	8.5700e-003	5.0000e-005	8.6200e-003	2.2800e-003	5.0000e-005	2.3200e-003	0.0000	6.2766	6.2766	1.7000e-004	0.0000	6.2808
Total	**5.1700e-003**	**0.0560**	**0.0438**	**2.2000e-004**	**0.0124**	**1.3000e-004**	**0.0126**	**3.4000e-003**	**1.3000e-004**	**3.5200e-003**	**0.0000**	**21.2805**	**21.2805**	**1.3100e-003**	**0.0000**	**21.3131**

3.5 Reservoir Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.1188	1.2844	2.7900e-003		0.0465	0.0465		0.0443	0.0443	0.0000	239.0595	239.0595	0.0587	0.0000	240.5273
Total	**0.1391**	**1.1188**	**1.2844**	**2.7900e-003**		**0.0465**	**0.0465**		**0.0443**	**0.0443**	**0.0000**	**239.0595**	**239.0595**	**0.0587**	**0.0000**	**240.5273**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0534	0.0191	1.5000e-004	3.8700e-003	8.0000e-005	3.9600e-003	1.1200e-003	8.0000e-005	1.2000e-003	0.0000	15.0039	15.0039	1.1400e-003	0.0000	15.0323
Worker	3.5900e-003	2.6800e-003	0.0247	7.0000e-005	8.5700e-003	5.0000e-005	8.6200e-003	2.2800e-003	5.0000e-005	2.3200e-003	0.0000	6.2766	6.2766	1.7000e-004	0.0000	6.2808
Total	**5.1700e-003**	**0.0560**	**0.0438**	**2.2000e-004**	**0.0124**	**1.3000e-004**	**0.0126**	**3.4000e-003**	**1.3000e-004**	**3.5200e-003**	**0.0000**	**21.2805**	**21.2805**	**1.3100e-003**	**0.0000**	**21.3131**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0450	0.4148	0.4689	9.2000e-004		0.0180	0.0180		0.0171	0.0171	0.0000	80.3517	80.3517	0.0180	0.0000	80.8004
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0450**	**0.4148**	**0.4689**	**9.2000e-004**		**0.0180**	**0.0180**		**0.0171**	**0.0171**	**0.0000**	**80.3517**	**80.3517**	**0.0180**	**0.0000**	**80.8004**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.7000e-004	8.9100e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.2618	2.2618	6.0000e-005	0.0000	2.2634
Total	**1.2900e-003**	**9.7000e-004**	**8.9100e-003**	**3.0000e-005**	**3.0900e-003**	**2.0000e-005**	**3.1100e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.2618**	**2.2618**	**6.0000e-005**	**0.0000**	**2.2634**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0450	0.4148	0.4689	9.2000e-004		0.0180	0.0180		0.0171	0.0171	0.0000	80.3516	80.3516	0.0180	0.0000	80.8003
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0450**	**0.4148**	**0.4689**	**9.2000e-004**		**0.0180**	**0.0180**		**0.0171**	**0.0171**	**0.0000**	**80.3516**	**80.3516**	**0.0180**	**0.0000**	**80.8003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.7000e-004	8.9100e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.2618	2.2618	6.0000e-005	0.0000	2.2634
Total	**1.2900e-003**	**9.7000e-004**	**8.9100e-003**	**3.0000e-005**	**3.0900e-003**	**2.0000e-005**	**3.1100e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.2618**	**2.2618**	**6.0000e-005**	**0.0000**	**2.2634**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Revised Cultural Resources Assessment Report

Modified Reservoir Retrofit and Replacement Project

Public Review: Cultural Resources Assessment Report

prepared for

Montecito Water District
583 San Ysidro Road
Santa Barbara, California 93108

prepared by

Rincon Consultants, Inc.
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May 2021 (Updated September 2021)

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Executive Summary

Purpose and Scope

The Montecito Water District (District or MWD) retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources study for the Reservoir Retrofit and Replacement Project (project), located on District-owned and private property within and near the community of Montecito in unincorporated Santa Barbara County, California. The project includes seismic retrofits, repairs, and replacements at eight existing water storage reservoirs in MWD's service area. The original study, prepared in May 2021, evaluated the project design as originally proposed (Original Project). Since that time, the District has proposed several project design changes at six of the eight reservoirs included in the Original Project (Modified Project). This updated study evaluates the Modified Project, which is inclusive of the Original Project and the proposed project design changes. This cultural resources assessment report was prepared in compliance with California Environmental Quality Act (CEQA), and includes a Sacred Lands File (SLF) search, a cultural resources records search, archival research, a pedestrian field survey, evaluation of the reservoir properties for eligibility for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR), and preparation of this report.

Dates of Investigation

The Native American Heritage Commission (NAHC) completed a search of the SLF on March 30, 2021. The Central Coast Information Center (CCIC) completed a cultural resources records search of the California Historical Resources Information System (CHRIS) on March 31, 2021. Rincon conducted a field survey of the project sites on April 7, 2021. The archival and background research summarized in this report was conducted throughout March and April 2021.

Summary of Findings

The CHRIS search identified 14 previously recorded cultural resources within a 0.5-mile radius of the project sites; one of these resources is a prehistoric archaeological site located **(*the remainder of this sentence has been redacted due to the confidentiality of archaeological site locations*)**. The other, P-42-041018, is a historic-period transmission line (Santa Clara-Ojai-Santa Barbara 66kV) located approximately 420 feet south of the Doulton Reservoir, which was found ineligible for listing in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR). The SLF search conducted by the NAHC returned positive results. The District has initiated AB 52 consultation with tribal contacts that have requested formal notification of proposed projects in the geographic area within which the tribe is traditional and culturally affiliated.

Results of the pedestrian field survey indicate that the majority of the project sites have undergone previous ground disturbances associated with the construction and maintenance of the reservoir systems and associated buildings and no archaeological resources were identified during the field survey. No evidence of cultural materials associated with the previously recorded prehistoric archaeological resource were observed during the field survey. Given the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** proximity to a known prehistoric cultural resource the project vicinity is considered sensitive for the presence of archaeological resources; however, the site is located over **(*a portion of this sentence has been***

***redacted due to the confidentiality of archaeological site locations*)** from the reservoir. A portion of proposed ground disturbance at the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** will occur within previously disturbed soils and the potential to encounter intact archaeological resources is low. Based on the results of this study, Rincon recommends a standard unanticipated discovery measure, presented below, in the event of a discovery of cultural resources during the execution of the current project. The project is also required to adhere to state health and safety codes regarding the unanticipated discovery of human remains, detailed below.

Eight historical age built environment resources (45 years of age or older) were identified in the project area: Bella Vista Reservoir and Treatment Plant, Buena Vista Reservoir, Cold Springs Reservoir, Doulton Reservoir and Treatment Plant, Hot Springs Reservoir, Park Lane Reservoir, Romero Reservoir, and Terminal Reservoir. Background research confirmed none of the reservoirs within the project area have been subject to previous historical resources evaluation. Each of these facilities contains a water distribution reservoir, and some sites are augmented with associated buildings and structures, including but not limited to pumping stations and water treatment plants. Each facility was recorded on California Department of Parks and Recreation (DPR) forms and evaluated for inclusion in the NRHP and the CRHR. As a result of the analysis, all of the facilities were found to lack sufficient historical or architectural significance to qualify for inclusion in the NRHP or CRHR. Therefore, none are considered a historical resource for the purposes of CEQA and their replacement or retrofit would not result in a significant impact to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines.

Based on the information summarized above, Rincon recommends a finding for the Modified Project of ***no impact to historical resources*** and ***less than significant impact to archaeological resources with mitigation incorporated under CEQA.***

The project is required to adhere to state health and safety codes regarding the unanticipated discovery of human remains, detailed below. Based on the results of the cultural study, Rincon recommends a standard unanticipated discovery measure, presented below as Mitigation Measure CUL-1, in the event of a discovery of cultural resources during the execution of the current project. Additionally, input from local Native American representatives during the AB 52 consultation process resulted in the inclusion of Mitigation Measures TCR-1 and TCR-2, which are detailed below.

Regulatory Compliance Measure

Unanticipated Discovery of Human Remains

If human remains are unexpectedly encountered, 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 Public Resources Code Section 5097.98. In the unlikely event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

Mitigation Measures

CUL-1 Unanticipated Discovery of Cultural Resources

In the event cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources, additional work such as data recovery excavation and/or Native American consultation to treat the find may be warranted.

TCR-1 Cultural Resources Sensitivity Training

Prior to the start of ground-disturbing activities, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall conduct cultural and tribal cultural resources sensitivity training for all construction workers involved in ground-disturbing activities. A local Native American representative shall participate in the sensitivity training and have the opportunity to distribute information regarding cultural resources and/or protection of cultural resources.

TCR-2 Native American Monitoring

The District shall retain a local Native American representative to observe ground-disturbing activities up to five feet below the ground surface. Ground disturbing activities include, but are not limited to, clearing/grubbing, excavation, grading, and trenching. If cultural resources are encountered, the local Native American representative shall have the authority to request ground disturbing activities cease within 50 feet of the discovery. An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to document and evaluate 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.

Introduction

The Montecito Water District (District or MWD) retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources study for the Reservoir Retrofit and Replacement Project (project), located on District-owned and private property within and near the unincorporated community of Montecito in Santa Barbara County, California. The project includes seismic retrofits, repairs, and replacements at eight existing water storage reservoirs in MWD's service area. The original study, prepared in May 2021, evaluated the project design as originally proposed (Original Project). Since that time, the District has proposed several project design changes at six of the eight reservoirs included in the Original Project (Modified Project). This updated study evaluates the Modified Project, which is inclusive of the Original Project and the proposed project design changes. This cultural resources assessment report was prepared in compliance with California Environmental Quality Act (CEQA), and includes a Sacred Lands File (SLF) search, a cultural resources records search, archival research, field surveys, evaluation of the eight reservoirs for potential historic resources eligibility, and preparation of this report.

Project Description and Location

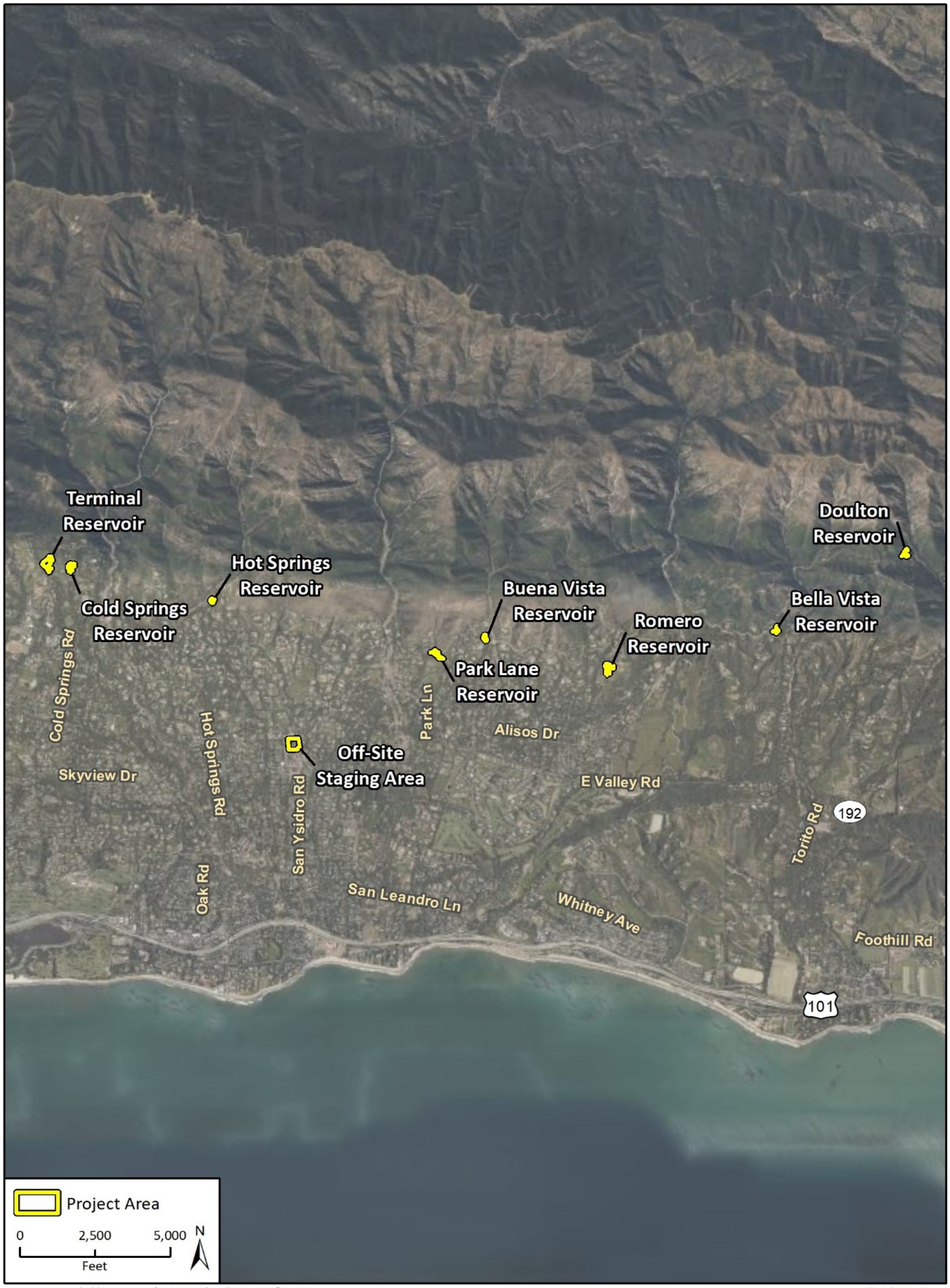
The District serves water to the communities of Montecito, Summerland, and portions of Toro Canyon in Santa Barbara County. The District owns and operates nine water storage reservoirs throughout its service area. The existing water storage reservoirs, originally built between the early 1900s and 1970s, do not currently meet seismic design codes and regulations, and may be subject to catastrophic failure in the event of a large earthquake.

The Reservoir Retrofit and Replacement Project (project or Modified Project) involves seismic retrofits, repairs, and replacements at eight of the District's nine existing water storage reservoirs: Doulton, Romero, Terminal, Bella Vista, Park Lane, Cold Springs, Hot Springs, and Buena Vista. The ninth reservoir, Toro Canyon, has been excluded because it is likely to be decommissioned by the District soon.

The District is seeking project funding from the Additional Supplemental Appropriation for Disaster Relief Act (ASADRA) program, in which funds are granted by the United States Environmental Protection Agency (U.S. EPA) and administered by the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). Although ASADRA funds are granted by the U.S. EPA, ASADRA-funded projects are not subject to federal cross-cutter environmental documentation requirements.

The project would bring all eight reservoirs into compliance with seismic design codes and regulations. No retrofit or replacement would expand the water storage capacity of an existing reservoir. Figure 1 shows a map of all eight reservoir sites and an off-site staging area at the District office at 583 San Ysidro Road in Montecito that may be used during the construction period.

Figure 1 Reservoir Retrofit and Replacement Project Area



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The following sections describe each reservoir site, the proposed retrofits, and construction details.

Doulton Reservoir

Doulton Reservoir is a 0.25-million-gallon (MG), 36-foot diameter by 36-foot high, welded steel tank reservoir constructed in 1975. The tank is located on District-owned property (APN 155-020-007) adjacent to the District's Doulton Treatment Plant at 1075 Toro Canyon Road in Montecito, California. The reservoir structure was designed in accordance with the American Water Works Association (AWWA) standard D100-73 by Trico-Superior. The wall shell consists of layers of steel plates of equal height. The reservoir is founded on an 18-inch by 18-inch concrete ring footing. The reservoir structure is not mechanically anchored to the ring footing. The existing foundation is reinforced concrete.

Doulton Reservoir is the only water storage tank serving the Upper Toro Canyon Area. The reservoir stores treated Jameson Lake water before it is delivered to customers above and below the reservoir.

The Modified Project would replace in kind the existing tank and foundation at Doulton Reservoir. The project would demolish all existing above-ground reservoir components and excavate approximately five feet in depth to remove the foundation and prepare the subgrade for the new foundation. Demolition would require cutting and removing the existing steel tank structure and all appurtenant features such as piping and ladders. Shoring may be required along the base of the northern retaining wall to a depth of approximately six feet to protect the slope during construction.

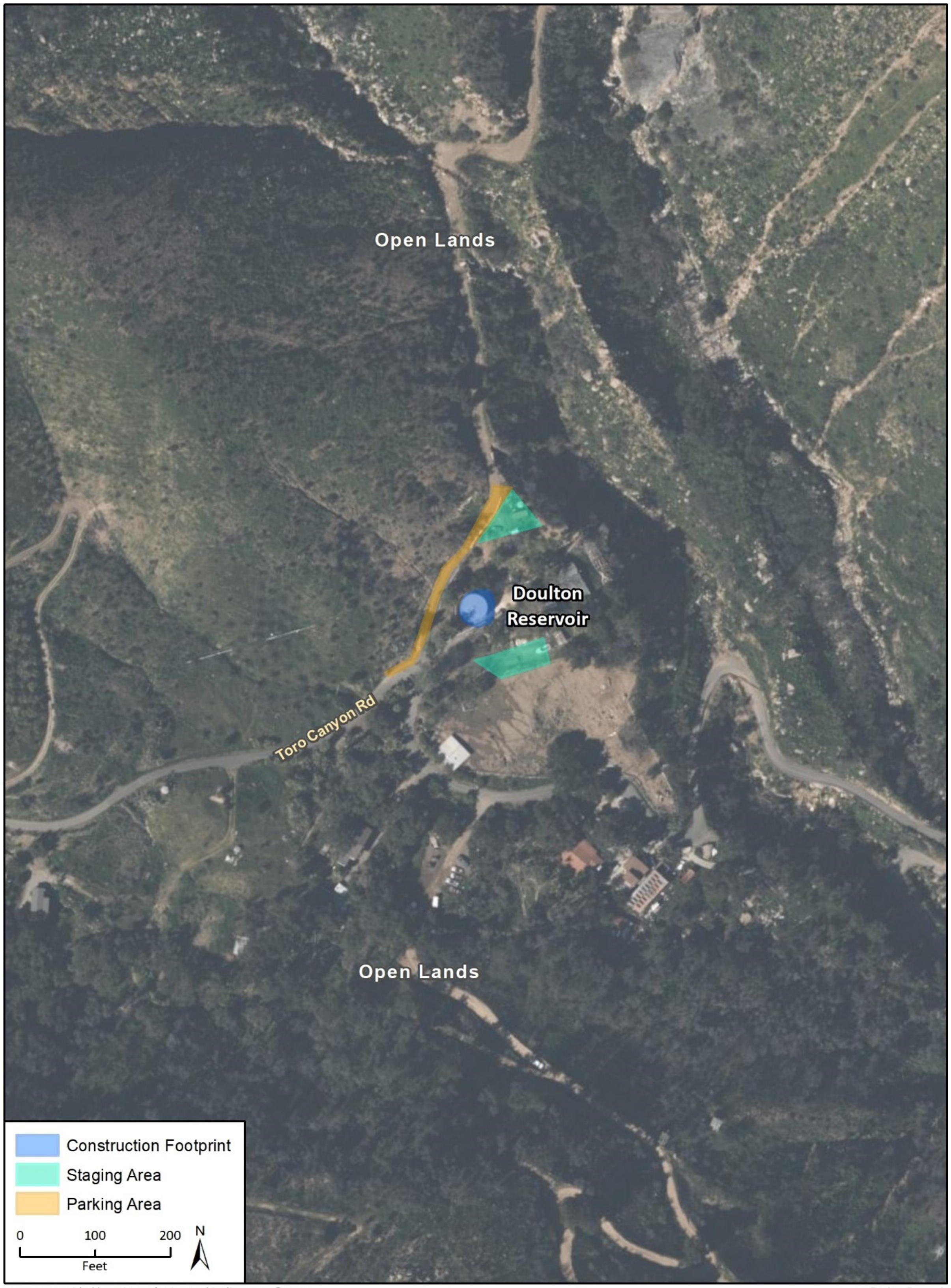
The new foundation may require driven piles to reinforce the new concrete mat foundation, depending on the results of a geotechnical investigation. If needed, the proposed piles would be augered using cast-in-drilled-hole (CIDH) concrete piles, drilled micro-piles, or helical screw anchors, depending on loading and pile capacities. The new steel tank would be designed and fabricated per the AWWA Standard D100. The steel plates for the wall shell, floor, and roof would be approximately eight feet wide. The steel would be prepared, primed, and painted in the field. The new tank would be fabricated on-site by welding steel pieces together to form the tank structure. The project also includes new appurtenances such as piping from the treatment plant, drain, air vents, ladder, safety climb, level indicator, and other small items. The selected exterior tank color would be a natural tone to complement the surroundings.

Construction activities at Doulton Reservoir would require approximately seven to 12 months to complete. It is conservatively assumed that approximately 300 cubic yards (cy) of soil would be excavated from the site, with 300 cy of import and 300 cy of export. Approximately nine cy of concrete would be demolished, and approximately 6,100 square feet of steel tank would be demolished.

Construction staging would be located on District property to the south in a large open area near an existing treatment tank. During the construction period, a temporary above ground reservoir would be installed on the District's property to maintain water storage operations. Upon completion of construction, this temporary reservoir would be removed.

Figure 2 shows the construction footprint, construction staging area, and parking area associated with Doulton Reservoir.

Figure 2 Doulton Reservoir Construction, Staging, and Parking Areas



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Romero Reservoir

Romero Reservoir is a 0.94-MG capacity, rectangular, hopper-bottom water storage reservoir measuring approximately 240 feet long by 63 feet wide, with an average depth of about 12 feet, constructed circa 1933. The reservoir is located on District-owned property (APN 007-080-006) near the intersection of Bella Vista Drive and Romero Canyon Road in Montecito, California. It is predominantly buried, with just the roof and a concrete curb exposed. In 1977, the original wood framed roof was replaced with the current roof structure consisting of a corrugated aluminum roof deck supported by steel horizontal beams, which are in turn supported by steel wide flange beams and steel pipe columns. The roof slopes in one direction from the south to the north, with short columns along the south side to support the elevated ends of the roof beams. The existing reservoir has a steel roof and reinforced concrete foundation.

Romero Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers. Water from this reservoir is capable of reaching approximately 97 percent of District customers.

At the time of the original construction of the reservoir, soil fill was placed over an existing slope on the south portion of the site to create a level pad large enough for the reservoir. Preliminary evaluations have determined that this fill material may become unstable and slide during an earthquake. The Modified Project would construct a pile-supported retaining wall, probably a concrete secant wall, on the south side of the existing reservoir structure to retain this soil fill. The proposed secant wall would require very little excavation, as the piles would be constructed in a series of augered holes.

The Modified Project would replace the existing steel framed roof, steel columns, and metal roofing panels of the Romero Reservoir with a new reinforced concrete roof deck and concrete columns. A new concrete stem wall would also be constructed at the perimeter of the existing reservoir requiring excavation approximately eight feet from the existing reservoir to a depth of approximately four feet. In addition, the new concrete stem wall would require installation of approximately 64 concrete piles, each 24 inches in diameter and extending to depths varying between approximately 10 feet below grade on the north side of the reservoir to approximately 22 feet below grade on the south side of the reservoir. Approximately 785 cy of soil would be exported as part of this process.

Construction activities at Romero Reservoir would require approximately 13 to 18 months to complete. It is conservatively assumed that approximately 1,948 cubic yards (cy) of soil would be excavated from the site, with 1,948 cy of export. Approximately 15,700 square feet of existing steel roof framing and roofing panels would be demolished.

Construction staging would occur on-site within District property around the existing reservoir. Additional staging may occur at the District office at 583 San Ysidro Road.

Site access is from Romero Canyon Road. The site is located at the end of a 0.5-mile flat dirt road on private property for which the District has an easement. There is a locked gate at the entrance off Romero Canyon Road.

Figure 3 shows the construction footprint, construction staging area, and parking area associated with Romero Reservoir.

Figure 3 Romero Reservoir Construction, Staging, and Parking Areas

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Terminal Reservoir

Terminal Reservoir is a 3.38-MG capacity rectangular reservoir measuring approximately 200 feet long by 150 feet wide by 20 feet deep, with a hopper bottom and roughly five-foot tall vertical reinforced concrete masonry walls, constructed circa 1952. The reservoir is located on District-owned property (APN 013-040-002) near the intersection of East Mountain Drive and Cold Springs Road in Montecito, California. It is predominantly buried, with approximately one foot at the top of the walls exposed. The reservoir has a two-inch thick layer of reinforced gunite (concrete blend of sand, cement, and water) lining the floor slab and walls. The original wood framed roof was replaced with the current roof structure consisting of a corrugated aluminum roof deck supported by cold formed steel horizontal beams, which are in turn supported by steel wide flange beams and steel pipe columns. The reservoir has a steel roof and reinforced concrete foundation.

Terminal Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The Modified Project would replace the existing steel framed roof, steel columns and metal roofing panels with a new reinforced concrete roof deck and new concrete columns. The proposed improvements would not change the height of the existing Terminal Reservoir, and the concrete roof surface would be non-reflective. An area extending approximately 15 feet from the existing reservoir would be excavated to a depth of nine feet. Shoring would be used to limit excavation. A concrete grade beam would be added to the perimeter of the reservoir to reinforce the existing walls and roof.

The Modified Project includes in-kind replacement of the piping from the distribution system to mitigate pipe bursting issues. The new appurtenances also include an overflow drain, air vents, ladder, and other small items.

Construction activities at Terminal Reservoir would require approximately 14 to 19 months to complete. Approximately 3,860 cy of soil would be excavated from the site. It is conservatively assumed there would be up to 3,860 cy of soil exported from the project site and approximately 3,860 cy imported to the project site. Approximately 30 cy of concrete and approximately 31,200 square feet of existing steel roof framing and roofing panels would be demolished.

Construction staging would occur on-site within District property around the existing reservoir. Site access is from East Mountain Drive.

Figure 4 shows the construction footprint, construction staging area, and parking area associated with Terminal Reservoir.

Bella Vista Reservoir

Bella Vista Reservoir is a 2.25-MG, capacity reinforced concrete rectangular reservoir measuring approximately 132 feet long by 94 feet wide by 24 feet deep, constructed circa 1975. The reservoir is located on District-owned property at 2750 Bella Vista Drive in Montecito (APN 155-030-042), adjacent to the Bella Vista Treatment Plant. It has vertical walls supported on a continuous concrete footing, with a sloped floor slab. The reservoir is partially buried, with exposed wall height above the soil backfill varying from as much as 15 feet on the south side to as little as zero feet on the north side. The reservoir has a reinforced concrete roof slab with uniform thickness, supported by circular concrete columns. The entire roof slab is covered with earth with a depth varying from six inches at the edges to roughly 18 inches near the center. An existing pump station building was constructed over the northeast corner of the reservoir roof in the 1990s. The building is supported by a structural concrete slab.

The Modified Project would repair concrete and exposed rebar on the roof deck, as well as strengthen the walls and footings to increase their capacity to resist seismic loads prescribed by current codes. The proposed retrofit work would occur in the interior of the reservoir structure. No external improvements would be required.

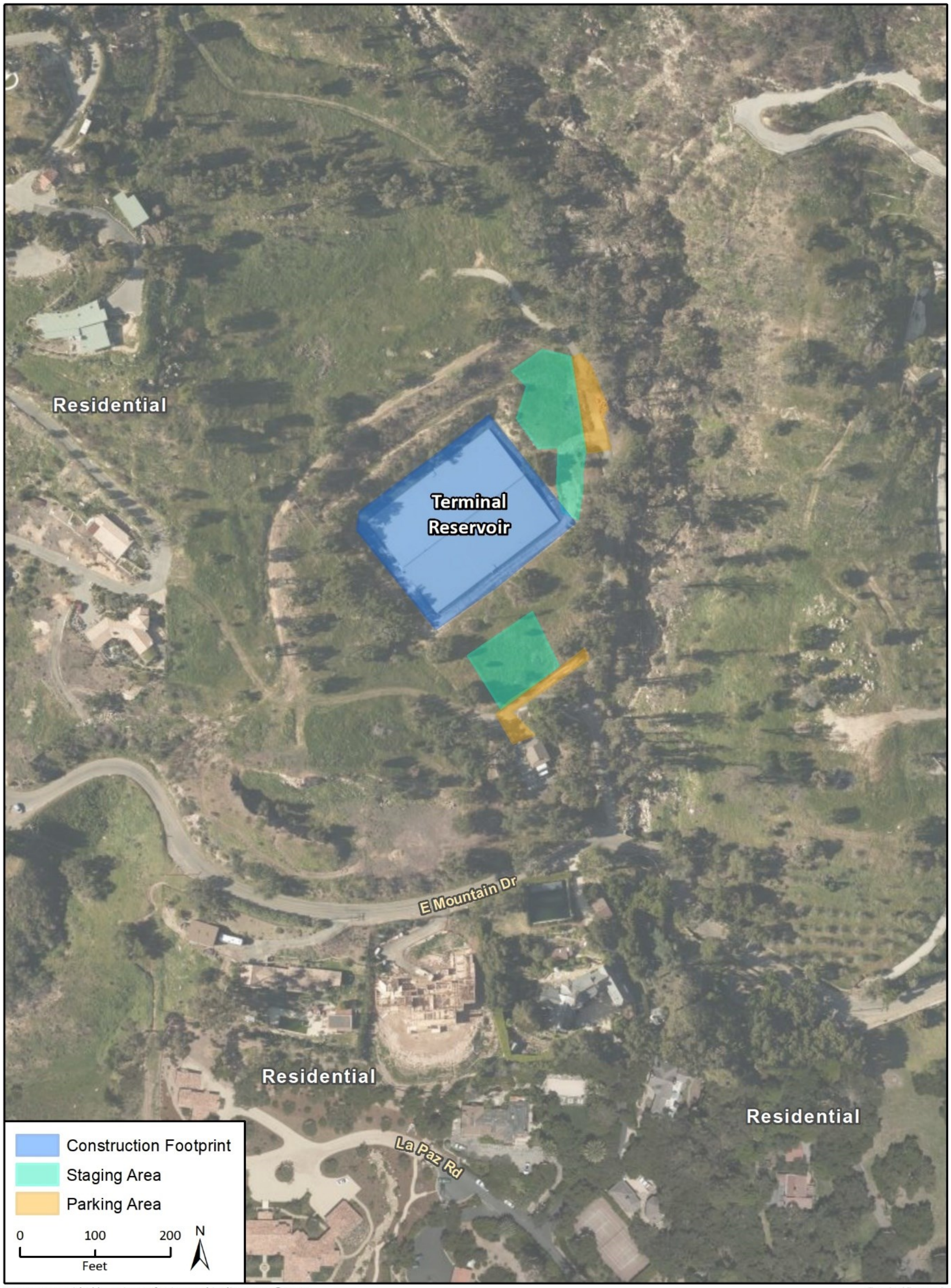
Construction activities at Bella Vista Reservoir would require approximately four to six months to complete. No excavation, demolition, or soil import or export would occur. During the construction period, a temporary above ground reservoir would be installed on the District's property to maintain water storage operations. Upon completion of construction, this temporary reservoir would be removed.

Construction staging would occur on-site in the existing parking lot to the north of the reservoir. Additional staging may occur at the District office at 583 San Ysidro Road.

Construction personnel and equipment would access the site from the adjacent Bella Vista Treatment Plant, which is accessible via Ladera Lane and up a 300-foot driveway.

Figure 5 shows the construction footprint, construction staging area, and parking area associated with Bella Vista Reservoir.

Figure 4 Terminal Reservoir Construction, Staging, and Parking Areas



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Park Lane Reservoir

Park Lane Reservoir is a 1.25-MG capacity, reinforced concrete rectangular water storage reservoir measuring approximately 140 feet long by 100 feet wide by 12 feet deep. The reservoir is located on District-owned property (APN 007-050-013) located off Park Hill Lane in Montecito, California. The actual date of construction of this reservoir is unknown but is likely to pre-date 1924 when this reservoir was deeded to the District. Park Lane Reservoir has a flat concrete floor slab with cantilevered vertical walls. The reservoir is predominantly buried, with less than a foot of the top of wall exposed on all sides. The reservoir has a wood-framed roof, with corrugated metal roof deck supported by steel pipe columns. The reservoir walls are constructed of concrete reinforced with wire mesh. A thin coating of unfinished/rough Gunite lines the interior wall surfaces

Park Lane Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The Modified Project would construct a new reinforced concrete reservoir inside of the existing Park Lane Reservoir. The existing walls would be used as forms for the new concrete walls. The reservoir floor slab would be demolished and removed and approximately six feet of the subgrade would be excavated. The project would construct a new reservoir floor slab at the lower elevation to offset the capacity lost to the new tank walls and columns. The project would replace the existing wood and steel roof with a two-way concrete slab. No excavation would occur outside the existing reservoir's concrete walls, with the exception of excavation necessary for piping and appurtenances including an overflow drain, air vents, ladder, safety climb, and other small items.

The Modified Project also includes replacement of the existing 12-inch inlet/outlet that extends of approximately 20 feet from the existing reservoir wall with new 12-inch ductile iron pipe (DIP). The new reservoir roof, made of non-reflective concrete, would be two to three feet taller than the existing roof, and may be coated in a non-reflective, earth-tone coating.

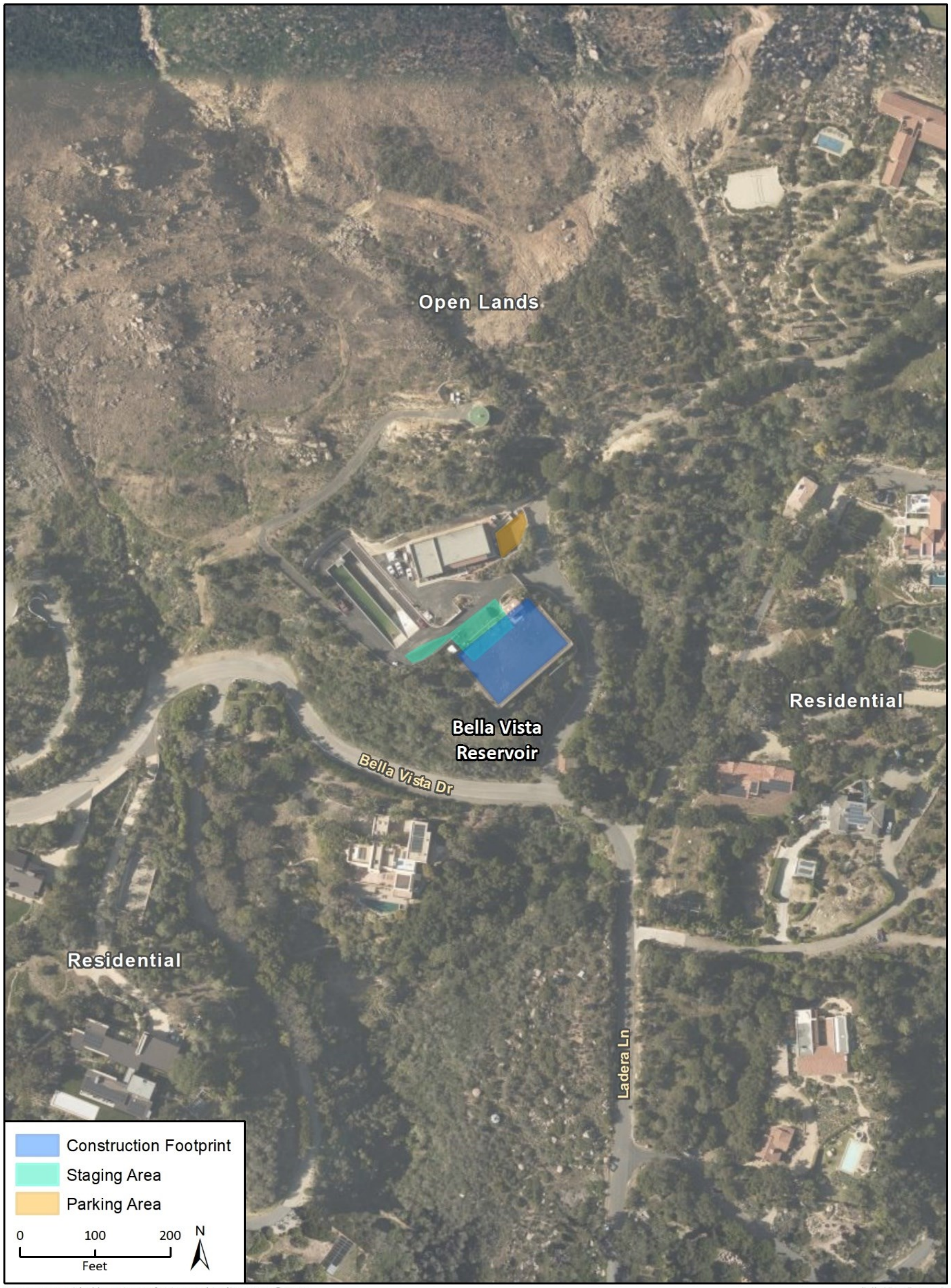
Construction activities at Park Lane Reservoir would require approximately 12 to 17 months to complete. Approximately 3,000 cy of soil would be excavated and exported from the site. Approximately 520 cy of concrete and approximately 14,100 square feet of existing steel roof framing and roofing panels would be demolished.

Construction staging would occur on-site in the areas to the southwest and southeast of the reservoir. Additional off-site staging may occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from Park Lane, along an approximately 0.5-mile paved private driveway. The District has an easement to cross the private property leading to the reservoir from Park Lane.

Figure 6 shows the construction footprint, construction staging area, and parking area associated with Park Lane Reservoir.

Figure 5 Bella Vista Reservoir Construction, Staging, and Parking Areas



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Cold Springs Reservoir

Cold Springs Reservoir is a 0.99-MG capacity, reinforced concrete rectangular water storage reservoir measuring approximately 100 feet long by 60 feet wide by 22 feet deep, constructed circa 1925. Cold Springs Reservoir is located on District-owned property (APN 013-040-005) near the intersection of East Mountain Drive and Cold Springs Road in Montecito, California. The reservoir has a flat floor slab with vertical walls that are buttressed every ten feet. Cold Springs Reservoir is partially buried, with approximately ten feet of the upper wall exposed on the south face and roughly two feet of wall exposed on the remaining three sides. The reservoir was originally constructed with a wood roof and a row of steel columns to support the roof framing. The current roof structure consists of a standing seam metal roof deck supported by cold formed horizontal steel beams, which in turn are supported by tapered steel girders spanning the width of the reservoir. A thin layer of unfinished/rough Gunite lines the interior wall surfaces.

Cold Springs Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The Modified Project would reinforce the wall, foundation, and roof at Cold Springs Reservoir. The structural improvements would occur entirely within the interior of the reservoir structure with a reinforced concrete lining added to the inside faces of the existing reservoirs walls. The footing would be extended on the inside of the reservoir and the existing concrete divider wall would be removed. The existing metal roof would be demolished and a new reinforced, non-reflective concrete roof would be installed. The roof height would not be increased. The existing 8-inch inlet/outlet that extends approximately 10 feet from the existing reservoir walls will be replaced with new 12-inch DIP.

Construction activities at Cold Springs Reservoir would require approximately six to nine months to complete. Approximately 100 cy of soil would be excavated and exported from the site for piping retrofits. Demolition of the interior concrete divider wall would be required. Approximately 6,400 square feet of existing steel roof framing and roofing panels and 5 cy of concrete would be demolished.

Construction staging would occur in the area to the south and southwest of the existing reservoir, on private land which may require a temporary construction easement. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Site access is from East Mountain Drive along an approximately 0.25-mile asphalt and dirt road.

Figure 7 shows the construction footprint, construction staging area, and parking area associated with Cold Springs Reservoir.

Figure 6 Park Lane Reservoir Construction, Staging, and Parking Areas

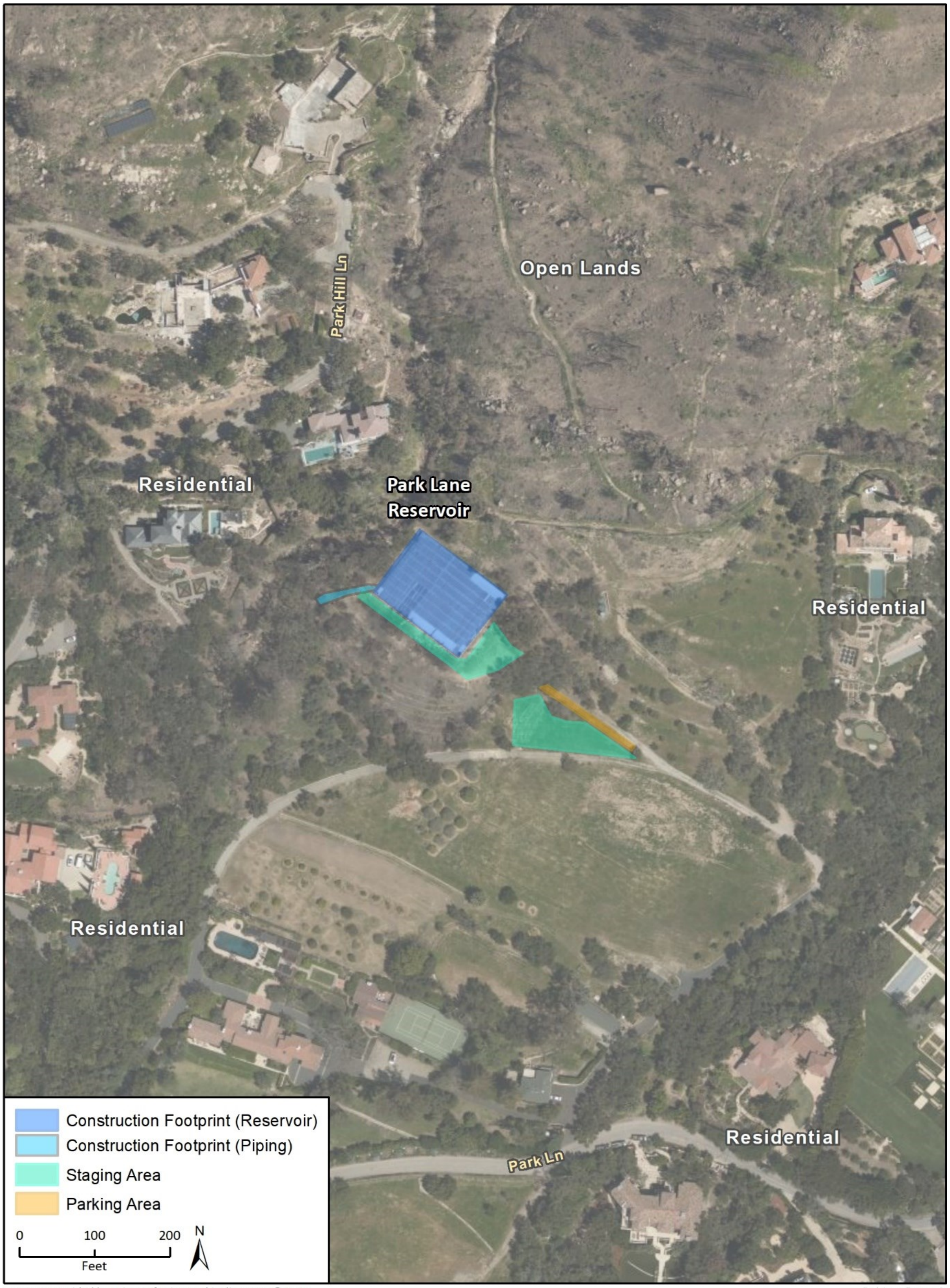

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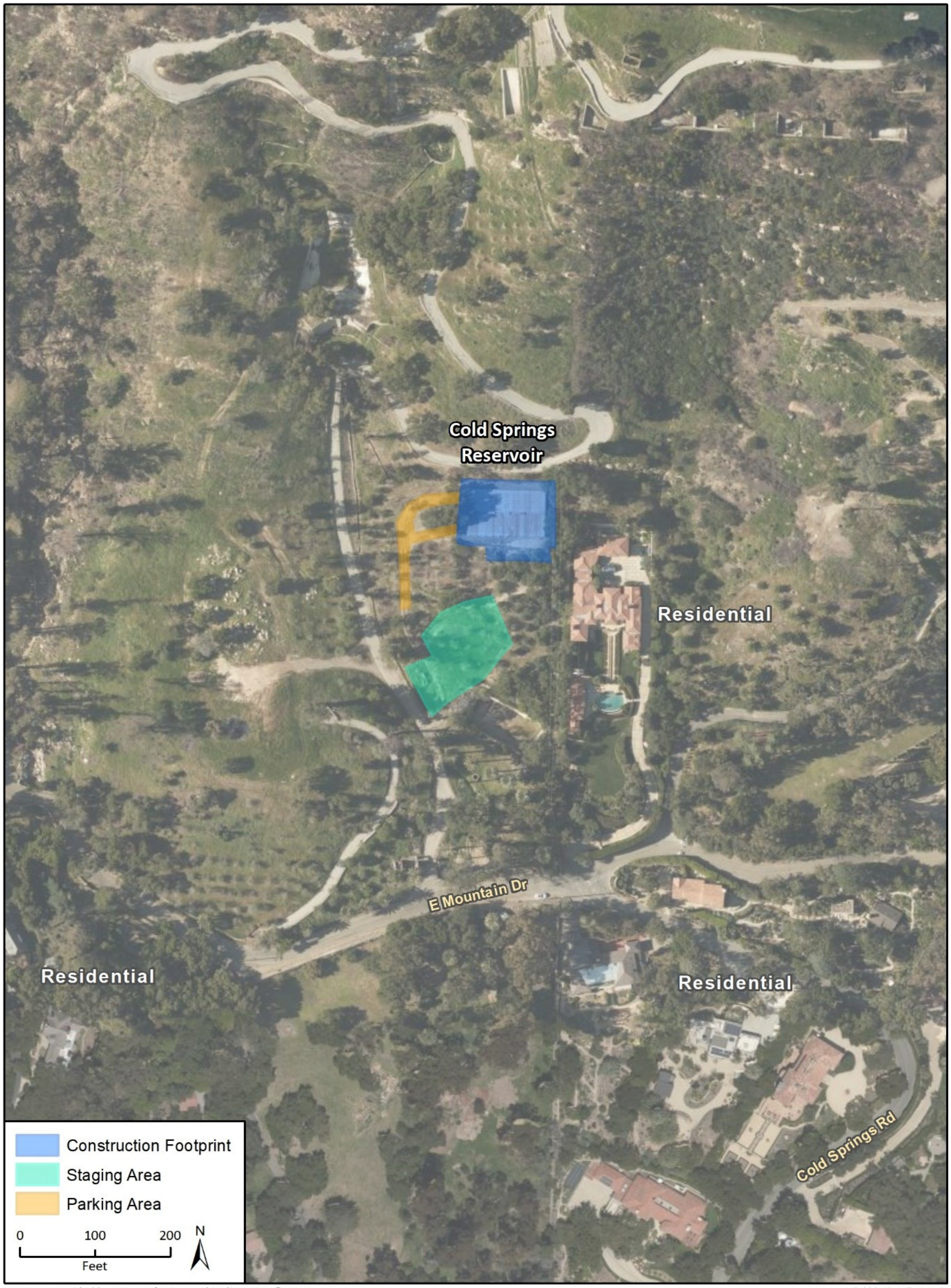
Figure 7 Cold Springs Reservoir Construction, Staging, and Parking Areas



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Hot Springs Reservoir

Hot Springs Reservoir was constructed in 1939 using the same structural standard drawings as the Buena Vista Reservoir. It is 0.83 MG in capacity and 80 feet in diameter with a six-inch thick floor slab. The reservoir is located on District-owned property (APN 011-030-024) near the intersection of Hot Springs Road and Hot Springs Lane in Montecito, California. Hot Springs Reservoir is reinforced with welded wire mesh and equipped with 23-foot high reinforced concrete walls supported on a three-foot wide by one-foot thick continuous reinforced concrete footing. The existing concrete walls vary in thickness from 15 inches at the base to nine inches at the top, and is reinforced with vertical and circumferential steel bars.

Hot Springs Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The Modified Project would add a layer of reinforcing concrete to the inside face of the wall shell, coat the entire exterior surface with crystalline waterproofing, widen the existing wall footing, and replace the roof with a new roof concrete deck. The new roof deck, with a non-reflective surface, will be at the same height as the existing reservoir roof. Excavation around the entire reservoir would extend up to approximately three feet below surface to allow for additional reinforcement and concrete to be added to the foundation. The existing concrete swale would be replaced in kind after the foundation work.

New chain link perimeter fencing would be installed around the reservoir. The existing, partially above-ground 10-inch outlet pipe that extends from the existing reservoir would be replaced with 12-inch diameter pipe to the property line. The Modified Project also includes new appurtenances such as an overflow drain, air vents, ladder, safety climb, and other small items.

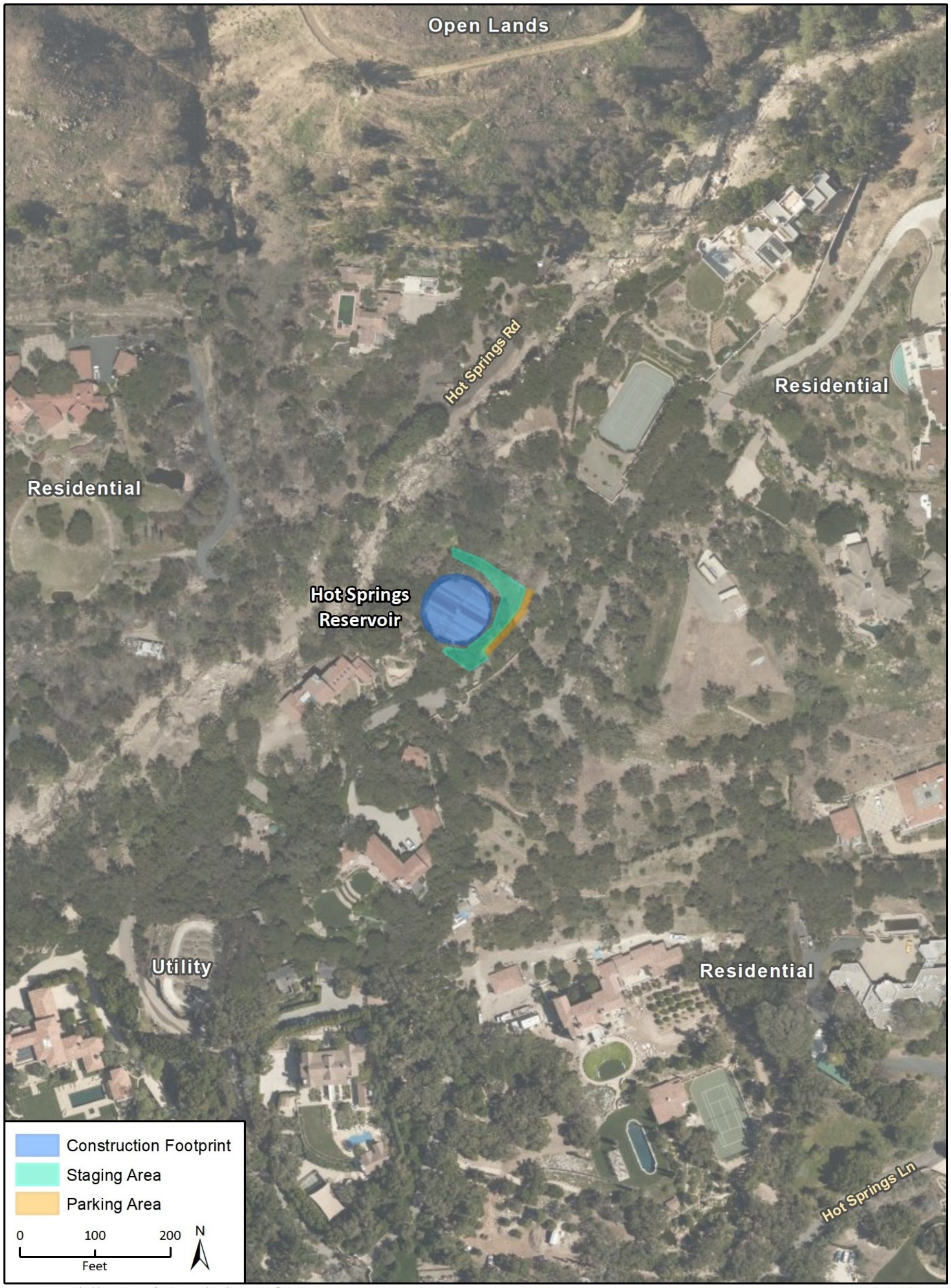
Construction activities at Hot Springs Reservoir would require approximately seven to 11 months to complete. Approximately 700 cy of soil would be excavated and exported from the site. Approximately 15 cy of concrete and approximately 5,300 square feet of existing steel roof framing and roofing panels would be demolished.

Construction staging would occur on-site in the areas surrounding the existing reservoir. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from East Mountain Drive, at the end of an approximately 0.5-mile private road on Hot Springs Road.

Figure 8 shows the construction footprint, construction staging area, and parking area associated with Hot Springs Reservoir.

Figure 8 Hot Springs Reservoir Construction, Staging, and Parking Areas



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Buena Vista Reservoir

Buena Vista Reservoir was constructed in 1939 using the same structural standard drawings as the Hot Springs Reservoir. It is 0.83-MG in capacity and 80 feet in diameter with a six-inch thick floor slab. The reservoir is located on District-owned property (APN 007-020-018) near 905 Park Lane in Montecito, California. Buena Vista Reservoir is reinforced with welded wire mesh and equipped with 23-foot high reinforced concrete walls supported on a three-foot wide by one-foot thick continuous reinforced concrete footing. The existing concrete walls vary in thickness from 15 inches at the base to nine inches at the top, and is reinforced with vertical and circumferential steel bars.

Buena Vista Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The Modified Project would add a layer of reinforcing concrete to the inside face of the wall shell, coat the entire exterior surface with crystalline waterproofing, widen the existing wall footing, and replace the roof with a new roof made of concrete. The new roof deck, with a non-reflective surface, will be at the same height as the existing reservoir roof. Excavation around the entire reservoir would extend up to approximately three feet below surface to allow for additional reinforcement and concrete to be added to the foundation. The existing concrete swale would be replaced in kind after the foundation work. The existing, partially above ground-ground 10-inch outlet pipe that extends from the existing reservoir would be replaced with 12-inch diameter pipe to the property line. The Modified Project also includes new appurtenances such as an overflow drain, air vents, ladder, safety climb, and other small items.

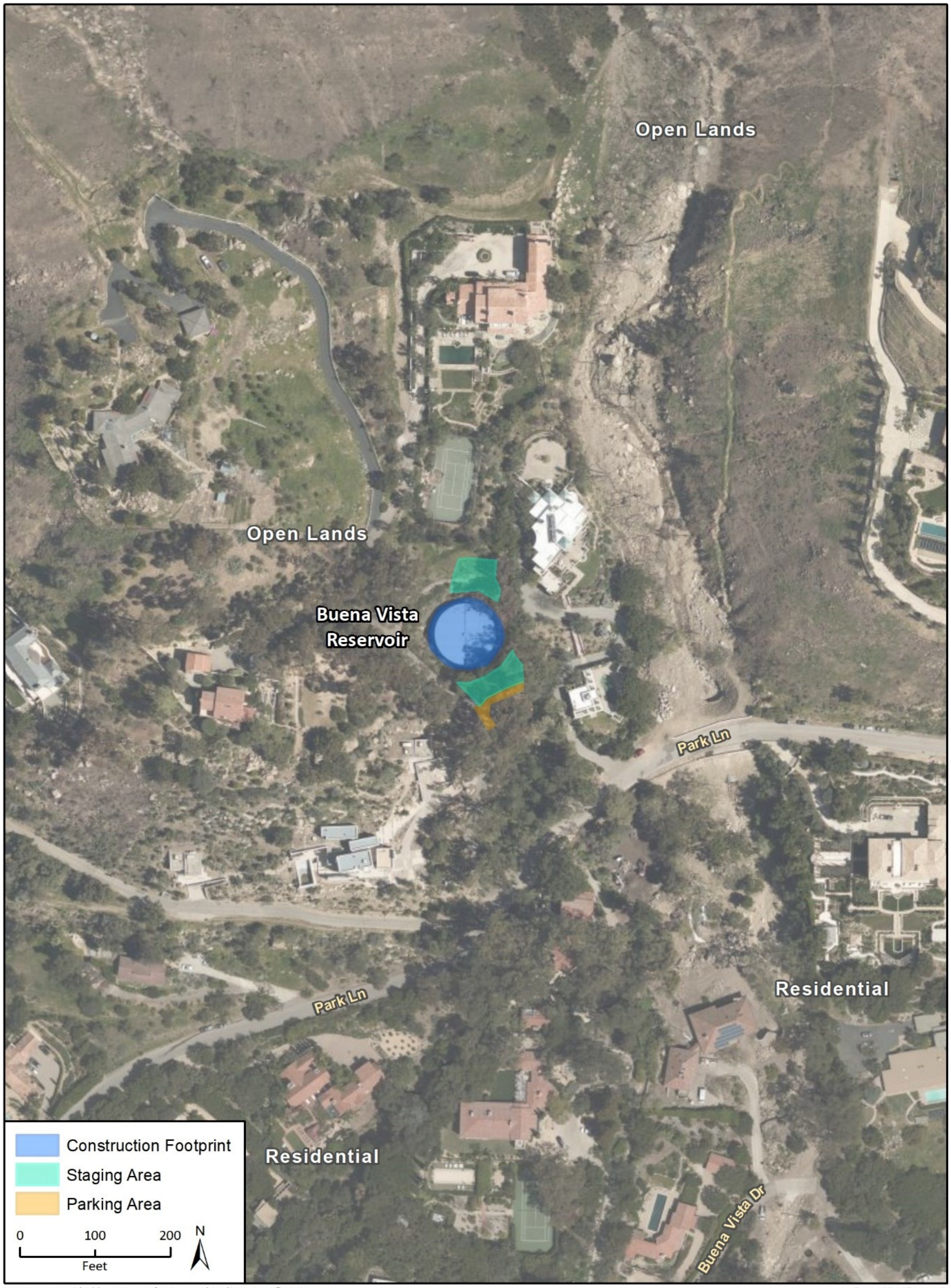
Construction activities at Buena Vista Reservoir would require approximately seven to 11 months to complete. Approximately 700 cy of soil would be excavated and exported from the site. Approximately 15 cy of concrete and approximately 5,300 square feet of existing steel roof framing and roofing panels would be demolished.

Construction staging would occur on-site in the asphalt parking area to the south and north of the existing reservoir. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from Park Lane, to the end of a 500-foot private driveway.

Figure 9 shows the construction footprint, construction staging area, and parking area associated with Buena Vista Reservoir.

Figure 9 Buena Vista Reservoir Construction, Staging, and Parking Areas



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Rincon Personnel

This study was managed by Senior Architectural Historian Steven Treffers, M.H.P. Architectural Historian. James Williams, M.A., completed archival research and served as contributing author of this report. Archaeologist Mary Pfeiffer, B.A., conducted the pedestrian field survey and served as a contributing author of this report. Senior Principal Investigator Ken Victorino, M.A., Registered Professional Archaeologist (R.P.A.) provided senior-level oversight for archaeological resources. GIS Analyst Allysen Valencia prepared the figures included in this report. Rincon Principal Shannon Carmack reviewed the report for quality assurance and quality control. Mr. Treffers, Mr. Williams, Mr. Victorino and Ms. Carmack meet the Secretary of the Interior's *Professional Qualification Standards* in their respective fields (36 CFR Part 61).

Regulatory Framework

California Environmental Quality Act

California Public Resources Code (PRC) Section 21804.1 requires lead agencies determine if a project could have a significant impact on historical resources. As defined in PRC Section 21804.1 and Section 15064.5(a) of the CEQA Guidelines, a historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources (CRHR), included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. Resources listed in the National Register of Historic Places (NRHP) are automatically listed in the CRHR and are therefore historical resources under CEQA. Historical resources may include eligible built environment resources and archaeological resources of historic or prehistoric age.

Section 15064.5(c) provides further guidance on the consideration of archaeological resources. If an archaeological resource does not qualify for historical resources eligibility, it may meet the definition of a "unique archaeological resource" as identified in PRC Section 21083.2. This section of the PRC also includes provisions for the treatment of unique archaeological resources. If an archaeological resources does not qualify as a unique archaeological resource or a historical resource, the effects of a project on those resources will be less than significant (Section 15064.5[c][4] of the CEQA Guidelines). Section 15064.5 also provides guidance for addressing the existence of or likelihood of Native American human remains, as well as the unanticipated discovery of any human remains during the implementation of a project.

According to CEQA, impacts that adversely alter the significance of a historical resource are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines §15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or a local register (CEQA Guidelines §15064.5[b][2][A]).

National Register of Historic Places

Although the project does not have a federal nexus, properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is therefore presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the National Historic Preservation Act and is the nation's official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects. Per 36 CFR Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

Criterion A Are associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B Are associated with the lives of persons significant in our past.

Criterion C Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

Criterion D Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined in the following manner:

Location The place where the historic property was constructed or the place where the historic event occurred.

Design The combination of elements that create the form, plan, space, structure, and style of a property.

Setting The physical environment of a historic property.

Materials The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling A property's expression of the aesthetic or historic sense of a particular period of time.

Association The direct link between an important historic event or person and a historic property.

California Register of Historical Resources

The CRHR was created by Assembly Bill 2881, which was established in 1992. The CRHR is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (Public Resources Code, 5024.1(a)). The criteria for eligibility for the CRHR are consistent with the National Register criteria but have been modified for state use in order to include a range of historical resources that better reflect the history of California (Public Resources Code, 5024.1(b)). Certain properties are determined by the statute to be automatically included in the CRHR by operation of law, including California properties formally determined eligible for, or listed in, the NRHP.

Properties are eligible for listing in the CRHR if they meet one of more of the following criteria:

Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

Criterion 2: Is associated with the lives of persons important to our past

Criterion 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

Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history

Unique Archaeological Resource

If it can be demonstrated that a project will 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 §21083.2[a], [b]).

PRC Section 21083.2(g) defines a *unique archaeological resource* as an 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 meets any of the following criteria:

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

Criterion 2: Has a special and particular quality such as being the oldest of its type or the best available example of its type

Criterion 3: Is directly associated with a scientifically recognized important prehistoric or historic event or person

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Natural and Cultural Setting

Environmental Setting

The project area is located along the southern boundary of the Los Padres National Forest, approximately 1.5 to 2.6 miles north of the Pacific Ocean. The project area is situated at an elevation that ranges from approximately 245 to 1,800 feet above mean sea level. The nearest water sources include Romero Creek (approximately 0.58 miles west of Bella Vista Reservoir and 0.46 miles to the east of Romero Reservoir), San Ysidro Creek (approximately 0.59 miles west of Buena Vista Reservoir, 0.28 miles west of Park Lane Reservoir, and 0.81 miles northeast of the off-site staging area at the District office), West Fork Cold Springs Creek (approximately 0.35 miles to the northwest of Cold Springs Reservoir, 0.83 miles northwest of Hot Springs Reservoir, and 0.47 miles to the northeast of Terminal Reservoir), and Toro Canyon Creek (approximately 415 feet to the northwest of Doulton Reservoir). The soils within the project sites include a Maymen stony fine sandy loam (Terminal Reservoir, Buena Vista Reservoir and Doulton Reservoir), Milpitas stony fine sandy loam (Cold Springs Reservoir and Park Lane Reservoir), Maymen-Rock outcrop complex (Hot Springs Reservoir and Bella Vista Reservoir), Todos clay loam (Romero Reservoir) and Milpitas-Positas fine sandy loam (off-site staging area) (California Soils Resource Lab 2021).

Cultural Setting

Prehistoric Setting

The project area is located in one of the eight organizational divisions of the state defined as the Northern California Bight (Northern Bight) archaeological region (Moratto 1984 and Glassow et al. 2007). The Northern Bight archaeological region encompasses the area from Vandenberg Air Force Base on the coast, south to Point Conception, including the Channel Islands, south along the coast to Rancho Palos Verdes, into the Los Angeles Basin, and north to the “northern margins of Ventura and Santa Barbara Counties” (Glassow et al. 2007:191). Following Glassow et al. (2007), the prehistoric cultural chronology for the Northern Bight is generally divided into six periods: Paleo-Indian (ca. 10,000 – 7000 BCE), Millingstone Horizon (7000 – 5000 BCE), Early Period (5000 BCE – 2000 BCE), Middle Period (2,000 BCE – CE 1), Middle-Late Transition Period (CE 1 – 1000), and Late (CE 1000 – Historic Contact). These periods are discussed in further detail below.

Paleo-Indian (ca. 10,000 – 7000 BCE)

The Paleo-Indian Period, also referred to as the Paleo-Coastal Tradition, defines the earliest human occupation of the Northern Bight and describes the cultural trends and subsistence strategies of prehistoric populations from approximately 10,000 to 7000 BCE (Glassow et al. 2007). The Paleo-Indian Period in North America is largely recognized by projectile points associated with extinct large mammal remains, such as mammoth, bison, and dire wolves, particularly in the Southwest and Plains regions (Reed 1992; Slaughter et al. 1992; Huckell 1996; Erlandson et al. 2007). These projectile points, which exhibit a lanceolate shape with a flute initiated from the base that extends as far as the midline, have been classified as the Clovis style (Justice 2002; Hollenshead 2007).

The earliest accepted dates for human occupation in California are from archaeological sites on two of the Northern Channel Islands, located off the southern coast of Santa Barbara County. The earliest radiocarbon dates known for the region, calibrated to approximately 11,000 years before present, were derived from human remains and rodent bones recovered from the same deposits on Santa Rosa Island (Johnson et al. 2002; Erlandson et al. 2007; Glassow et al. 2007). Archaeological deposits from the Daisy Cave site on San Miguel Island establish the presence of people in this area approximately 10,000 years ago (Erlandson 1991; Erlandson et al. 2007). In San Luis Obispo County, archaeological sites CA-SLO-1764 (Lebow et al. 2001), Cross Creek (CA-SLO-1797; Fitzgerald 2000), and CA-SLO-832 (Jones et al. 2001) yielded radiocarbon dates from approximately 9,000 years ago (Jones and Ferneau 2002).

Recent data from Paleo-Indian sites in southern California indicate the economy was a diverse mix of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones and Ferneau 2002; Erlandson et al. 2007). Archaeological deposits at the Daisy Cave site yielded an assemblage of “the oldest known fishhooks in the Americas” (Erlandson et al. 2007:57). Shell middens discovered on the mainland of California have also yielded dates from 8000 to 7000 BCE (Erlandson et al. 2007).

A fluted projectile point fragment was recovered from site CA-SBA-1951 on the Santa Barbara Channel coastal plain (Erlandson et al. 1987; Erlandson 1994). Another fluted projectile point was reportedly found on the surface in Nipomo, San Luis Obispo County (Mills et al. 2005). Large side-notched projectile points of the Central Coast Stemmed series in this area date to as early as 8,000 years ago (Justice 2002) suggesting some overlap with the Clovis type. Central Coast Stemmed projectile points have been recovered along the Central Coast, which is located immediately north of the Northern Bight region. These sites include Diablo Canyon (CA-SLO-2; Greenwood 1972), Cross Creek (CA-SLO-1797; Fitzgerald 2000) and Little Pico Creek (CA-SLO-175; Jones and Waugh 1995), among others. At the Metcalf site (CA-SCL-178), in southern Santa Clara Valley, Hildebrandt (1983) recovered two large side-notched points associated with charcoal dates ranging from 9,960 – 8,500 years ago.

Millingstone Horizon (ca. 7000 – 5000 BCE)

It is generally accepted human occupation of California originated from small, dispersed occupations during the Paleo-Indian period. Populations increased from the Paleo-Indian Period to the Millingstone Horizon, possibly as a result of an ecological adaptation to collecting plant resources. Rogers (1929) originally identified the Millingstone Horizon along the Santa Barbara Channel. Wallace (1955, 1978) further defined the period, noting the appearance and abundance of milling implements in archaeological sites from this period. The milling implements, including milling stones (e.g., metates, milling slabs) and hand stones (e.g., manos, mullers), are associated with the horizontal motion of grinding small seeds and nuts, and lend to the name Millingstone Horizon (Desautels and Leach 1978; Glassow et al. 2007).

These milling implements are particularly noted in archaeological sites along the coast of California and become even more prevalent near the end of the horizon (Wallace 1955, 1978; Warren 1968). Excavations at the Tank Site (CA-LAN-1) in Topanga Canyon from 1947 to 1948 confirmed the presence of a significant number of milling implements that correspond with the Millingstone Horizon (Treganza and Bierman 1958). Although the milling implements suggest an emphasis on seed and nut gathering, Millingstone populations likely employed a mixed food procurement strategy, which included hunting. Flaked stone assemblages, which include crude core and cobble-core tools, flake tools, large side-notched projectile points, and pitted stones (Desautels and Leach 1978; Glassow et al. 2007; Jones et al. 2007), shell middens, and faunal remains in coastal Millingstone Period sites point to broad-spectrum hunting and gathering of shellfish, fish, birds, and mammals. This mixed food procurement strategy demonstrates adaptation to regional and local environments, lending to population increase.

Early Period (ca. 5000 – 2000 BCE)

The Early Period of the Northern Bight is marked by a lower frequency of radiocarbon dated archaeological sites as well as changes in artifact forms. Differences in artifact forms, particularly in ground stone implements, likely represent changes in subsistence (Glassow et al. 2007). The material culture recovered from Early Period sites in the Northern Bight region provides evidence for continued exploitation of inland plant and coastal marine resource as well as the incorporation of "newly important food resources" found in specific habitats (Glassow et al. 2007:197). In addition to the use of metates and manos, prehistoric populations began to use mortars and pestles, such as those recovered from the Sweetwater Mesa (CA-LAN-267) and Aerophysics (CA-SBA-53) sites (Glassow et al. 2007).

Artifact assemblages recovered from Early Period sites also include bipointed bone gorge hooks used for fishing, *Olivella* beads, bone tools, and pendants made from soapstone. The frequency of projectile points in Early Period assemblages also increased, while the style began to change from lanceolate forms to side-notched forms (Glassow et al. 2007). This projectile point style trend, first identified by David Banks Rogers in 1929, was confirmed by Greenwood (1972) at Diablo Canyon. The projectile point trend was apparent at numerous sites along the California coast as well as a few inland sites (e.g., CA-SBA-210 and CA-SBA-530). In many cases, manifestations of this trend are associated with the establishment of new and larger settlements, such as at the Aerophysics site (Glassow et al. 2007; Jones et al. 2007).

Middle Period (ca. 2000 BCE – CE 1)

The Middle Period describes a pronounced trend toward greater adaptation to regional or local resources as well as the development of socioeconomic and political complexity in prehistoric populations (Glassow et al. 2007). The remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast.

Coastal populations developed shell fishhooks, and projectile points changed from side-notched dart points to contracting stem styles. Flaked stone tools used for hunting and processing—such as large side-notched, stemmed, lanceolate or leaf-shaped projectile points, large knives, edge modified flakes, and drill-like implements—occurred in archaeological deposits in higher frequencies and are more morphologically diversified during the Middle Period. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common. Circular fish hooks which date from between 1000 and 500 BCE, compound bone fish hooks which date between CE 300 and 900, notched stone sinkers, and the tule reed or balsa raft, indicative of complex maritime technology, became part of the toolkit during this period (Kennett 1998; King 1990; Arnold 1995; Jones and Klar 2005; Glassow et al. 2007).

Populations continued to follow a seasonal settlement pattern until the end of the Middle Period; large, permanently occupied settlements with formal architecture, particularly in coastal areas, appear to have been the norm by the end of the Middle Period (Kennett 1998; Glassow et al. 2007). Prehistoric populations began to bury the deceased in formal cemeteries with artifacts that may represent changes in ideology and the development of ritual practices (Glassow et al. 2007).

Middle-Late Transition Period (ca. CE 1 – 1000)

The Middle-Late Transition period is marked by major changes in settlement patterns, diet, and interregional exchange. Prehistoric populations continued to occupy more permanent settlements, with the continued use of formal, although crowded, cemeteries and the burial of goods with the deceased. Burials are normally flexed, placed face down and oriented toward the north or west (Warren 1968). The interments are typically marked by vertical pieces of whalebone and have abundant grave goods, such as ornaments, effigies, and utensils.

After CE 500, a wealth of ornaments, and ceremonial and artistic items characterize the Northern Bight “Chumash Tradition” along the central coast and offshore islands (Warren 1968). Ground stone items include bowls, mortars and pestles, stone beads, pendants, pipes, tubes, and mammal effigies. Projectile points, both large and small, were typically non-stemmed and leaf-shaped, with convex or concave bases. Chipped stone implements also included drills and scrapers. Utilitarian objects were made from bone (e.g., awls, fishhooks, whistles, and tubes) and shell (e.g., fishhooks and abalone shell dishes). Shell beads and ornaments were abundant, and bowls, pestles, pipes, and stone tubes were inlaid with shell beads and engraved. Bowls, pipes, and ornaments were commonly manufactured from steatite.

The manufacture of the plank canoe, called tomol, allowed coastal prehistoric populations to catch larger fish that occupied deeper sea waters (Glassow et al. 2007). Following the introduction of the tomol, which was lined with naturally occurring asphaltum, populations began to use harpoons, hooks and lines, and nets to catch deep sea fish and mammals. The plank canoe appears to have influenced “commerce between the mainland coast and the Channel Islands,” and fish remains indicate “a noticeable increase in the acquisition of large deep-sea fish such as tuna and swordfish” (Glassow et al. 2007:204).

Projectile points diagnostic of both the Middle and Late periods are found in Northern Bight archaeological sites (Glassow et al. 2007). These projectile points include large, contracting-stemmed types typical of the Middle Period, as well as small, leaf-shaped Late Period projectile points, which likely reflect the introduction of the bow and arrow. Middle-Late Transition Period sites indicate populations replaced atlatl (dart) technologies with the bow and arrow, which required smaller projectile points.

Late Period (ca. CE 1000 – Historic Contact)

Late Period archaeological sites indicate sociopolitical and economic complexity among populations in the Northern Bight. Glassow et al. (2007:205) notes that between 1200 and 1300 social stratification becomes evident in the archaeological record. Climatic change may have stimulated the development of specialized crafts, regional trade, and changes in food procurement. Unlike the large Middle period shell middens, Late Period sites are more frequently single-component deposits. There are also more inland sites, with fewer and less visible sites along the Pacific shore during the Late Period. The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Jones and Waugh 1995). An increase in the number of sites with bedrock mortar features that date to the Late Period suggests nuts and seeds began to take on a more significant dietary role in Late Period populations.

Late Period sites are distinguished by small, finely-worked projectile points and temporally diagnostic shell beads. These shell beads were used as monetary currency to trade with inland populations. Trade brought many maritime goods, such as fish, shellfish, and steatite bowls to inland locations, such as CA-SBA-3404, CA-SBA-485, and CA-SBA-2358, particularly during the latter part of the Late Period. Small, finely-worked projectile points are typically associated with bow and arrow technology, which is believed to have been introduced to the area by the Takic migration from the deserts into southern California.

Ethnographic Overview

The project area lies in Chumash ethnographic territory, which extends from the current city of Malibu to the south, north to beyond San Luis Obispo, and inland past the Santa Ynez Valley. The Chumash also inhabited the Northern Channel Islands of San Miguel, Santa Rosa, and Santa Cruz. The Chumash language is considered to be an isolated stock and is not associated with any earlier language family. Three branches of the language are recognized: Obsipeño, or Northern Chumash, consisting of two dialects, Central Chumash, consisting of four unique languages of Purisimeño, Ineseño, Barbareño, and Ventureño, and Island Chumash, spoken by the inhabitants of the Northern Channel Islands (Golla 2007).

Chumash villages along the mainland coast of the Santa Barbara Channel from Carpinteria to Goleta were of the highest population density, ranging from 500 to 800 individuals, although some claim population counts were into the thousands (Dartt-Newton and Erlandson 2006). Interior villages were substantially smaller, with populations varying anywhere from 15 to 250 people (Glassow et al. 2007). The Chumash lived in large hemispherical dwellings made of poles placed in a circle and gathered at the top with the sides covered with grasses or reeds. Houses were typically arranged in clusters, although sometimes in rows (Gamble 1995). The Chumash also constructed sweatlodges which were semi-subterranean dome shaped structures that functioned to “purify and cleanse the spirit and body” (Gamble 1995:57).

The Chumash are well-known for their plank canoes, or tomols. Tomols facilitated the procurement of marine resources, such as nearshore fish caught with nets, lines and hooks, and deep-sea marine mammals hunted with harpoons (Arnold 1995). Tomols additionally moved people and goods across the Santa Barbara Channel in what was considered a highly sophisticated trade network. Bulk items including acorns, a staple of the Chumash diet, were imported to the Islands, while shell beads, the Chumash form of currency, were exported to the mainland (Arnold 1995). In addition to marine resources and acorns, Chumash subsistence consisted of piñon pine nuts, berries, mushrooms, chia seeds and other plant resources, and land animals, such as mule deer, coyote, and fox (Grant 1978).

Characteristic mortuary practices among the Chumash included flexed burials placed face down and facing west (Grant 1978). The Chumash buried their dead in crowded cemeteries with abundant grave goods including shell, functional tools, such as mortars and pestles, bone, and formal stone artifacts (Erlandson 1999:107). Status differentiation is noted among burials such as those recovered at Rincon (CA-SBA-1) and on Santa Rosa Island (CA-SRI-41A), with high status individuals displaying more elaborate grave goods. Among the Barbareño Chumash, status differentiation is postulated to signal an increase in cultural complexity stimulated by population increase and its ratio to available territory and resources (Erlandson 1999).

Spanish explorers first arrived in the Santa Barbara Channel region in 1542. Contact had much more of an impact starting in 1770 with the establishment of the missions. Mission life led to severe population decline and culture loss (Johnson 1987). Although the Chumash languages are no longer commonly spoken (Timbrook 1990), many descendants of the Chumash still live in the region and a cultural revitalization has been ongoing since the 20th century (Glassow et al. 2007). Today, the

Santa Ynez Band of Chumash Indians, whose reservation is approximately 43 kilometers (27 miles) northwest of the project area, is the only federally recognized Chumash tribe.

Historic Overview

Post-European contact history for California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

Spanish Period (1769–1822)

Spanish explorers made sailing expeditions along the coast of what was then known as Alta (upper) California between the mid-1500s and mid-1700s. In 1542, while in search of the legendary Northwest Passage, Juan Rodríquez Cabríllo recorded a visit to the Santa Barbara area. Sebastian Vizcaíno also conducted exploration of the coast in 1602 and named the Santa Barbara Channel when his ship entered it on the feast day of Saint Barbara (Kyle et al. 2002). By the 18th century, Spain developed an approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain Gaspár de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the presidio of San Diego as the first Spanish settlement in Alta California in 1769. Franciscan Father Junípero Serra also founded Mission San Diego de Alcalá that same year, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823. The Santa Barbara presidio was established in 1782, and the Santa Barbara Mission was founded four years later (Graffy 2010). The Santa Barbara Mission is located approximately 3 miles (5 kilometers) west of the nearest project site.

The mission and presidio relied on Chumash labor, and eventually the majority of the native population lived at the mission complex (Cole 1999). A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Spain began making land grants in 1784, typically to retiring soldiers, although the grantees were only permitted to inhabit and work the land. The land titles technically remained property of the Spanish king (Livingston 1914). The increases in local populations and contact with diseases brought by Europeans greatly reduced the Native American population (McCawley 1996).

The history of water infrastructure in the Santa Barbara area for the historic period (post-European contact) can be traced back to that developed by Spanish soldiers, padres and settlers, which included an aqueduct to convey water from Mission Creek to the presidio built in approximately 1790, and the Mission Creek Dam, reservoir and an aqueduct which were begun in 1806 (Southworth 1920; City of Santa Barbara 2018; Redmon 2017).

Mexican Period (1822–1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In

1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land. Forty-one ranchos were granted between 1835 and 1846 in what would become Santa Barbara County (Graffy 2010).

During the supremacy of the ranchos (1834-1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no counteractive immunities.

American Period (1848–Present)

The United States went to war with Mexico in 1846. During the first year of the war, John C. Fremont traveled from Monterey to Los Angeles with reinforcements, and evaded Californian soldiers in Santa Barbara's Gaviota Pass by taking the route over the San Marcos Pass instead (Kyle et al. 2002). The war ended in 1848 with the Treaty of Guadalupe Hidalgo, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through the 1850s. The discovery of gold in the northern part of the state led to the Gold Rush beginning in 1848, and with the influx of people seeking gold, cattle were desired not only for their hides but also their source as meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed the region's burgeoning mining and commercial boom.

A severe drought in the 1860s decimated cattle herds and drastically affected rancheros' source of income. In addition, property boundaries that were loosely established during the Mexican era led to lawsuits and disputes with new incoming settlers and caused problems with squatters. Rancheros often were encumbered by debt and the cost of legal fees to defend their property. As a result, much of the rancho lands were sold or otherwise acquired by Americans. Most of these ranchos were subdivided into agricultural parcels or towns (Dumke 1944).

The mission dam and reservoir were insufficient to meet Santa Barbara's needs, and additional water supplies were developed, such as the digging of deep wells. In 1872, Mission authorities conveyed their rights to the waters of Mission Creek to the Mission Water Company, a private water company that was to supply the city with water. The company laid pipes into the city, supplanting wells as the main domestic water supply (Southworth 1920).

In 1888, the city engineer made the first of many surveys and concluded water from the Santa Ynez River was going to waste (Stubchaer, n.d.). By 1896, the municipal water supply became an urgent issue and funds were set aside to bore the Cold Spring Tunnel, extending 5,000 feet into the Santa

Ynez Mountains. In 1912, following a 9-year effort, the Mission Tunnel which bore 19,560 feet through the Santa Ynez Mountains was completed (Southworth 1920; Stubchaer, n.d.; Bastian 2019). The Gibraltar Dam was constructed between 1918 and 1920, and the reservoir it formed was the first reservoir created in the Santa Ynez River (Stubchaer, n.d.; Loaiciga 2001). In conjunction with the Gibraltar Dam and reservoir, the Mission Tunnel brought water via gravity flow from the Santa Ynez River to the city. At the time of its construction, Mission Tunnel was the longest water tunnel in the world (Bastian 2019).

Montecito

Located just east of the City of Santa Barbara, Montecito is located in an unincorporated portion of Santa Barbara County. Montecito's first residential settlement consisted primarily of retired soldiers from the Santa Barbara Presidio, but by the mid-1800s, Anglo settlers began acquiring land there. Montecito's soil and climate were found to be excellent for growing fruit and vegetable crops, including grapes, citrus, almond and ornamental trees, and flowers (Myrick 1988; Mason 1883). The success of the Crocker-Sperry Ranch and the San Ysidro Ranch brought recognition to the Montecito Valley as a citrus producer. A small business area also developed near East Valley and San Ysidro roads consisting of a general store, blacksmith, butcher shop, and later a post office, library, and community hall (Montecito Association 2011).

Tourists were lured to Montecito's attractions, which included an oversized grapevine known as "La Parra Grande" and hot springs alleged to have the ability to cure health ailments (Myrick 1988). The area's rustic beauty enticed wealthy industrialists to return and build large winter estates. By the 1920s, Montecito had become known for its wealthy socialites and their parties, country clubs, polo, and tennis matches (Montecito Association 2011). However, working class residents also made their homes in Montecito; modest cottages were rented by domestic workers, chauffeurs and other employees of the nearby Miramar Hotel between the 1910s and 1930s (Scott 1992). The growing population led to an increased need for a reliable water source, resulting in the formation of the Montecito County Water District (MCWD), whose history is described in more detail below.

Building dramatically slowed in the Montecito community during the 1930s as a result of the Great Depression. After World War II, building resumed and older, large estates were subdivided to provide smaller residential lots adjacent to the highway (Scott 1992). Commercial development and other infrastructure developed in Montecito during the post-war years reflect the community's growth; its population tripled from 3,000 in 1928 to 9,500 by 1978 (Gibbs 2008). The rapid growth of Montecito, however, eventually led to concerns about the community's character and its water, sewer, and infrastructure capacities. Subsequently, local government took legislative action to limit permitted projects and slow growth through a Growth Management Plan (County of Santa Barbara and Envicom 1992). Most recently, development has spread to the southeast and north into the mountains (Montecito Association 2011).

Montecito was in the path of the Thomas Fire which began on December 4, 2017 in central Ventura County and affected various communities in Ventura and Santa Barbara counties. The fire burned 281,893 acres and at the time was the largest fire in California's modern recorded history. In addition to damaging or destroying over 1,300 structures, it damaged the watershed in Ventura and Santa Barbara counties. On January 9, 2018, a heavy rain event triggered debris flows and flash floods which destroyed 166 structures and damaged 395 more in Santa Barbara County and killed 21 people in the community of Montecito (Lehenbauer et. al. 2018). Since the disaster, hundreds of emergency rescue, cleanup, and rehabilitation crews have worked around the clock to remove the millions of pounds of mud and debris and restore and rebuild the community (Schmidt 2018).

Montecito Water District

In Montecito, as early as the 1890s, the Cinquefiol Water Company had constructed a tunnel in the Montecito Valley. Known as the Whitehead Tunnel, it was controlled by several Montecito property owners who made up one of over a dozen private group-owned water companies in the Montecito area (Churchhill, N.D.). According to several newspaper items from the 1910s, many private property owners secured water supplies by constructing reservoirs or other water conveyance and storage features on their Montecito properties (*Santa Barbara Daily News and The Independent* 7/2/1913; 7/21/1914; 10/31/1916; 4/17/1917; 6/21/1917). By the early 1920s, Montecito had grown into a community consisting of a number of large estates. Small, private water companies tapped into springs, creeks, and water wells to provide water to residents. However, those sources were sometimes unreliable due to inadequate seasonal rainfall. Thus, in 1921, local citizens voted to form the Montecito County Water District (MCWD). Established as a County Water District in accordance with the California Water Code, the District's purpose was to furnish potable water to properties in its boundaries.

In the 1920s, an area of land was selected to construct a dam (Juncal Dam) and form Jameson Lake, in order to provide water to Montecito. Development of a water system, which included reservoir storage and a distribution system, began shortly after the District's formation. By 1923, the District hired the Los Angeles-based engineering firm Leeds & Barnard to design elements of the distribution system, including the construction of 60,000 feet of pipelines and Cold Spring (formerly Bothin) Reservoir, plus modifications to the existing Park Lane (formerly Carpenter) Reservoir (MCWD 1924a; 1924b; *Building and Engineering News* 1923). In addition, construction soon began on the 2.2-mile long Doulton Tunnel to convey water from the planned Jameson Lake through the Santa Ynez Mountains. Between 1924 and 1927, the District's water needs were met entirely by the Doulton Tunnel. At the time, the tunnel supplied water solely from groundwater infiltration which flowed through the tunnel before it was holed through to meet the reservoir (Jameson Lake) (District 2020). Juncal Dam was constructed between 1924 and 1930, forming Jameson Lake, and Doulton Tunnel was holed through to meet the reservoir in 1928. Permits were acquired in 1928 from the Forest Service for the development of a camp, railroad, a sand and gravel borrow with a crusher, and a distribution line. In 1930, the District was granted a special use permit for the property that would hold their reservoir, a water transmission line, a diversion dam and conduit in the area of Alder Creek (Lopez 1995).

The District's water system was fully functional by 1930, including the Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines (District 2015; Adams 1929). Jameson Lake and Doulton Tunnel were the primary water supply for the District over the following decades (District 2020). The District also formed an agreement with the city of Santa Barbara for the City to acquire 370,000 cubic meters of water every year from the Juncal Dam (Loaiciga 2001). The District primarily distributed water for "municipal and domestic" needs but also provided irrigation for 800 to 900 acres of lemon orchards. As of 1930 the District comprised at least 7,790 acres, as compared with an area of 5,330 acres at its founding in 1921 (Adams 1929).

In 1949, the District executed its first contract with the Santa Barbara County Water Agency who was the designated local government agency and signature to the Cachuma Project with the United States Bureau of Reclamation. The United States Bureau of Reclamation held the federal water rights to the Santa Ynez River and owned, built, and operated the Bradbury Dam (Lake Cachuma) as a regional water supply serving five water agencies in Santa Barbara County including the MCWD (District 2015). In 1979, the agency's name was changed to Montecito Water District (District, N.D.).

In the 1990s, the District continued to expand both its infrastructural footprint and geographical boundaries. Perhaps the most notable additions to District facilities were the Doulton and Bella Vista water treatment plants, both completed in 1993 (District 2021). The size of the District also increased due to annexations and a merger with the former Summerland County Water District in 1995. The District's service area is approximately 9,909 acres and includes the unincorporated communities of Montecito and Summerland, Toro Canyon, and small portions of the western Carpinteria Valley and eastern area of the city of Santa Barbara. However, not all properties in Montecito area are served by the District; numerous properties rely on water provided by private wells, creeks, streams, and small, private water companies. The District extends approximately 5 miles east of the city of Santa Barbara and from the Pacific Ocean to the south to the Santa Ynez coastal mountains to the north. Of its 9,225-acre service area, approximately 6,421 acres are developed (98 percent residential and 2 percent commercial), and approximately 849 acres are used for agriculture. The population of the District's service area has increased gradually since the District's formation and was estimated at approximately 11,300 people in 2010 (District 2015). In 2004, Jameson Lake supplied approximately 40 percent of Montecito's water with the remainder coming from Lake Cachuma and state water sources (Yatchisin 2004).

Background Research

Cultural Resources Records Searches

A California Historical Resources Information System records search was completed in support of this study on March 31, 2021, by staff at the Central Coastal Information Center (CCIC) at the University of California, Santa Barbara. The purpose of the records search was to identify previously conducted cultural resource studies and previously recorded cultural resources in a 0.5-mile radius of the project sites. As part of the background research for this project, Rincon also reviewed the State Built Environment Resources Directory, NRHP, CRHR, California Historical Landmarks, California Points of Historic Interest, and the California Office of Historic Preservation Archaeological Determinations of Eligibility. ***Portions of the CCIC records search results have been redacted due to the confidentiality of archaeological site locations***.

Previous Studies

The CCIC records search identified 45 cultural resource studies previously conducted in a 0.5-mile radius of the project sites (Table 1). Seven studies were conducted adjacent to (within 0.125 mile) one or more project locations (SR-00681, SR-00682, SR-01202, SR-01451, SR-02053, SR-02185, and SR-04224). Four of the studies were conducted within or potentially within at least one of the project locations (SR-00102, SR-01655, SR-02521, and SR-02624). Studies containing portions of one or more of the project sites are summarized below.

Table 1 Previous Cultural Resource Studies within a 0.5-Mile Radius of the Project Sites

Report No.	Author	Year	Study	Relationship to Project Sites
SR-00102	Brandoff, J.	1974	*Archaeological Reconnaissance for Camino Cielo Lateral Fuelbreak Routes Santa Barbara District*	**Within Hot Springs Reservoir**
SR-00394	Berry, S.	1986	*Phase I Archaeological Assessment APN 11-100-04*	Outside
SR-00435	Perez, M.	1976	*Archaeological Reconnaissance of Six Areas to be Affected by Installation of Water Mains in the Montecito County Water District*	Outside
SR-00446	Stone, D.	1984	*Phase I Archaeological Assessment, APN 11-100-23*	Outside
SR-00454	Wilcoxon, L.	1977	*An Archaeological Reconnaissance of Land Parcel No. 11-100-5 (The Stuart Whitman Property)*	Outside
SR-00496	Brooks, S.	1987	*Letter Report: Report of Phase I Archaeological Investigation of Property at 1590 East Mountain Drive, Montecito, CA*	Outside
SR-00506	Stone, D.	1983	*Phase I Archaeological Assessment, APN 7-100-01*	Outside
SR-00681	Brooks, S.	1987	*Oak Creek Canyon Ranch Archaeological Survey*	**Adjacent to Hot Springs Reservoir**
SR-00682	Berry, S.	1987	*Letter Report, County of Santa Barbara Resource Management Department: 350 East Mountain Drive Surface Survey*	**Adjacent to Terminal Reservoir**

Report No.	Author	Year	Study	Relationship to Project Sites
SR-00704	Wilcoxon, L., B. Haley, M. Imwalle, and J. Harmon	1989	*A Phase I Archaeological Resource Evaluation Westmont College Faculty Housing Project Montecito, California*	Outside
SR-00829	PHR Associates	1990	*Phase II Historic Resource Investigation, 1505 East Valley Road, Montecito, CA*	Outside
SR-00867	Cultural Resource Management Services	1990	*Phase I Cultural Resources Investigation, 690 El Bosque Road, APN 7-120-29*	Outside
SR-01202	Santa Barbara County Flood Control and Water Conservation District and Resource Management Division	1991	*Draft: Negative Declaration Sycamore Creek Flood Control Maintenance (91-ND-32)*	**Adjacent to Romero Reservoir**
SR-01345	Gibson, R.	1992	*Results of Phase One Archaeological Surface Survey for Two Parcels on the San Ysidro Ranch, Santa Barbara County, CA*	Outside
SR-01424	Stellmacher, A.	1993	*Cultural Resource Report for Negative Finding (Short Form) San Ysidro Trail*	Outside
SR-01451	Wilcoxon, L. and C. Locke	1993	*A Phase I Archaeological Resource Evaluation for the Proposed Montecito Cellular Telephone Relay Station in Santa Barbara County, California*	**Adjacent to Buena Vista Reservoir**
SR-01655	Wilcoxon, L.	1993	*A Phase I Prehistoric/Native American Archaeological Resource Evaluation for Twelve Proposed Residential Lots and Access Roads on the Shirley C. Burden Property Montecito, California*	**Within Terminal Reservoir and Cold Springs Reservoir**
SR-01778	Anderson, K.	1995	*Archaeological Reconnaissance Report: Santa Barbara Front Country Trails, Maintenance and Continuing Use: Cold Springs Trail*	Outside
SR-01783	Dahl, D.	1995	*Archaeological Reconnaissance Report: Santa Barbara Front Country Trails: Maintenance and Continuing Use: Cold Springs Trail, Tunnel Trail, Jesusita Trail, Rattlesnake Trail*	Outside
SR-01796	Santoro, L.	1995	*Phase 1.5 Archaeological Investigation of APN 11-140-34 Santa Barbara, California*	Outside
SR-01890	Science Applications International Corp.	1996	*Phase I Cultural Resources Investigation Juarez-Hosmer Adobe Site*	Outside
SR-01909	Kay, D.	1996	*Phase I Cultural Resources Investigation, 244 Camino Del Rosario, APN 155-05-049, Summerland, California*	Outside
SR-02053	Stone, D.	1997	*Phase I Cultural Resource Investigation for the Tentative Parcel Map 811 Romero Canyon Road, Montecito, CA*	**Adjacent to Romero Reservoir**

Report No.	Author	Year	Study	Relationship to Project Sites
SR-02176	Stone, D.	1998	*Supplemental Extended Phase I Testing of CA-SBA-3490, APN 007-080-035 Baring-Gould Lot Split, Santa Barbara County, California*	Outside
SR-02185	Anderson, K. and D. Stone	1998	*Extended Phase I Testing of CA-SBA-3490 APN 007-080-035 Baring Gould Lot Split, Santa Barbara, California*	**Adjacent to Romero Reservoir**
SR-02243	Pfeiffer, L.	1998	*Phase I Cultural Resource Investigation Westmont College Master Plan Improvements*	Outside
SR-02521	Duke, C.	2000	*Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 457-11 County of Santa Barbara, CA*	**Potentially Within Bella Vista Reservoir**
SR-02578	Stone, D.	2000	*Phase I Archaeological Resources Report, Tentative Map Lot Line Adjustment 98-LA-013, 960, and 1000 East Mountain Drive, Montecito, CA*	Outside
SR-02624	Schmidt, J.	2000	*Sheffield 16kV Distribution Pole Replacement Project, Santa Barbara County*	**Potentially Within Bella Vista Reservoir**
SR-02676	Khachaturian, T.	2000	*Archaeological Reconnaissance Report for ERFO FY2000: East Camino Cielo*	Outside
SR-03611	Carbone, L.	2006	*Phase I Archaeological Resources Evaluation for Proposed Phase IV Development at the San Ysidro Ranch Property, Montecito Area, County of Santa Barbara, California*	Outside
SR-04224	Romani, G.	2008	*Phase I Archaeological Investigation: 40 Acres Parcel Located at 1017 Hot Springs Road (APN 011-010-008) Montecito, Santa Barbara County, California*	**Adjacent to Hot Springs Reservoir**
SR-04321	Toren, A.	2008	*DWO 6049-4800; A.I. No 8-4812: Sheffield 16kV Deteriorated Pole Replacement Project, Montecito, Santa Barbara County, California*	Outside
SR-04435	Gonzalez, M. and K. Garcia	2009	*Results of Archaeological Survey and Monitoring for Pole Replacement and Access Road Improvements Associated with Southern California Edison's Emergency Response to the Tea Fire; Santa Barbara County, California*	Outside
SR-04438	Schmidt, J.	2008	*Tea Fire: Emergency Transmission Road Grading, Montecito Area, Santa Barbara County*	Outside
SR-04534	Schmidt, J.	2009	*Archaeological Letter Report: WO 6049—4800; 9-4887; TD 402292; Stanwood 16 kV Deteriorated Pole Replacement Project, Santa Barbara County, California*	Outside
SR-04574	Wee, S. and B. Larson	2006	*Historical Resources Evaluation Report: Masonry features within State Right-of-Way Along State Route 192, Santa Barbara County, California*	Outside

Report No.	Author	Year	Study	Relationship to Project Sites
SR-04586	Orfila, R.	2010	*Archaeological Survey for the Southern California Edison Company: Replacement of Twenty-One Deteriorated Power Poles on the Crowder 12KV, Lucerne 12KV, Maybell 12KV, Muroc 12KV, Museum 12KV, Oban 12KV, Queensland 12KV, Roosevelt 12KV, Santa Clara-Wakefield #2 66KV, and Sheffield 16KV Circuits near Carpinteria (Santa Barbara County), Santa Paula (Ventura County), Covina and Lancaster (Los Angeles County), California (WO 4605-2395,6026-4800, J4884, 6036-4800 0-4869, and 6049-4800 9- 4898)*	Outside
SR-04669	Schmidt, J.	2011	*Sheffield 16 kV Deteriorated Pole Replacement Project (WO 6049-4800; 0-4880; TD492215), Upper Toro Canyon Road Area, Santa Barbara County, California.*	Outside
SR-04907	Stone, D.	2010	*Phase 1 Archaeological Resources Investigation, Tentative Parcel Map 14,765, APN 013-050-035, 1050 Coyote Road, Montecito Area, Santa Barbara County, California*	Outside
SR-05011	Perez, D.	2013	*Cultural Resources Survey - Montecito ReloAlt 2/ Ensite #14732 (255706) 512 Santa Angela Lane, Montecito, Santa Barbara County, CA, 93108 Unsectioned Portion of T4N R25W*	Outside
SR-05011a	Roland-Nawi, C.	2013	*Reply in Reference to FCC_2013-0820_002 from SHPO*	Outside
SR-05038	Loftus, S.	2012	*AT&T Site VN0065 (85376) Verizon Switch 521 Santa Angela Lane, Santa Barbara, Santa Barbara County, California 93108*	Outside
SR-05266	Stone, D.	2014	*Phase I Cultural Resources Investigation 2850 Hidden alley Lane APN 155-080-052*	Outside
SR-05266a	Akmenkains, J.	2014	*Appendix A: CCIC Records Search*	Outside

Source: Central Coastal Information Center 2021

SR-00102

In 1974, Joan Brandoff completed an Archaeological Reconnaissance for Camino Cielo Lateral Fuelbreak Routes in the Santa Barbara District, which included background research and a pedestrian field survey of five lateral fuelbreak routes. The survey included the current project's Hot Springs Reservoir. The background research identified two previously recorded archaeological sites within close proximity to the proposed routes (CA-SBA-507 and CA-SBA-508). A previously unrecorded archaeological site was observed during the survey within the Haney fuelbreak route along a loose shale slope. The site consisted of two groundstone artifacts, one mano and one core, which were collected at the time of the survey and curated in the UC Santa Barbara Department of Anthropology laboratory. The other four routes were negative for archaeological resources. The study notes that the nearby area of San Marcos Pass is known to contain rich archaeological resources. No archaeological resources identified in this study are located within the current project site.

SR-01655

In 1993, Larry R. Wilcoxon conducted a Phase I Prehistoric/Native American Archaeological Resources Evaluation for Twelve Proposed Residential Lots and Access Roads on the Shirley C.

Burden Property, Montecito, California. The evaluation entailed a records search and intensive archaeological field survey for a 50-acre portion of East Mountain Drive. The survey included the current project's Terminal Reservoir and Cold Springs Reservoir. The records search identified three previously recorded archaeological resources in the area. The results of the field survey were negative for previously unrecorded archaeological resources. None of the previously recorded archaeological resources noted within the study are within the current project site.

SR-02521

In 2000, C. Duke conducted a study for the Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 457-11 in Santa Barbara County. Because the CCIC records search results showed that the study was not conducted within the project area, a copy of the report was not provided with the results. However, inspection of the GIS shapefiles provided by the CCIC indicates the study area may have included a portion of the Bella Vista Reservoir and Treatment Plant project site. No further details regarding the study are available.

SR-02624

In 2000, J. Schmidt of Compass Rose Archaeological, Inc. conducted a study for the Sheffield 16kV Distribution Pole Replacement Project in Santa Barbara. Because the CCIC records search results showed that the study was not conducted within the project area, a copy of the report was not provided with the results. However, inspection of the GIS shapefiles provided by the CCIC indicates the study area may have included a portion of the Bella Vista Reservoir and Treatment Plant project site. No further details regarding the study are available.

Previously Recorded Resources

The CCIC records search identified 14 previously recorded cultural resources within the 0.5-mile search radius of the project sites; two of these resources are located adjacent to project sites. None of the previously recorded resources are located within a project site. ***Information regarding previously recorded cultural resources within 0.5-mile of the project site has been redacted due to the confidentiality of archaeological site locations***.

Archival Research Methods

Archival research for this study was completed in April 2021. Research methodology focused on the review of primary and secondary source materials relating to the history and development of the APE and surrounding area. Sources included, but were not limited to, historical maps, aerial photographs, newspaper articles, written histories of the area, and construction plans and other technical drawings provided by the District. A list of repositories and materials consulted to identify pertinent information is included below. The results of this archival research are presented in the Findings Section below.

- Historical aerial photographs accessed via the University of California, Santa Barbara (UCSB) Map and Imagery Lab and Nationwide Environmental Title Research Online (NETRonline)
- Historical topographic maps accessed via United States Geological Survey Topoviewer
- *The Daily News and The Independent*, *Santa Ynez Valley News*, *The Lompoc Record*, and *Santa Maria Daily Times* accessed via Newspapers.com
- Engineering drawings of reservoirs and other facilities provided by the District

- The District's Urban Water Management Plan 2015 Update (adopted May 16, 2017)
- "History of Water in Santa Barbara County" by Jim Stubchaer, retired Santa Barbara County Flood Control Agency Engineering Manager (Stubchaer, no date)
- *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures* (JRP Historical Consulting Services and Caltrans 2000)
- *Historic Resources Inventory and Evaluation Report: Cachuma Project* (JRP Historical Consulting 2010)
- Other sources as noted in the references list

Native American Heritage Commission

As part of the process of identifying cultural resources for this project, Rincon contacted the NAHC on April 9, 2021, and requested a Sacred Lands File (SLF) search. On March 30, 2021, Rincon received a response from the NAHC stating the SLF search results were "positive" for site-specific information and provided a list of Native American tribal organizations and individuals who may have knowledge of sensitive cultural resources in or near the project sites. The District has initiated AB 52 consultation with tribal contacts that have requested formal notification of proposed projects in the geographic area within which the tribe is traditional and culturally affiliated. Appendix B provides the results of the SLF.

Field Survey

Methods

On April 7, 2021, Rincon archaeologist Mary Pfeiffer, BA, conducted a pedestrian field survey of the project sites and a 25-foot survey buffer using 5-meter transect intervals. The project sites consist of eight reservoir locations, their associated staging and parking areas, and an off-site staging area. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, and historic-period debris (e.g., metal, glass, ceramics). Ground disturbances such as rodent burrows and drainages were also visually inspected. Survey accuracy was maintained using a handheld Global Positioning Satellite unit and a georeferenced map of the project sites. Site characteristics and survey conditions were documented using field records and a digital camera. Under the direction of Senior Architectural Historian Steven Treffers, MHP, Ms. Pfeiffer visually inspected all of the built-environment features at each reservoir to assess overall condition and integrity, and to identify and document any potential character-defining features. All buildings were photographed and recorded by Ms. Pfeiffer and later inspected by Architectural Historian, James Williams, for notable architectural elements and alterations. The off-site staging area at the District office at 583 San Ysidro Road in Montecito was excluded from the field survey and further assessment. The ground surface within the off-site staging area, although unpaved, has most likely been disturbed by development of the District office facilities and the temporary storage of construction equipment and/or materials has a low potential to impact intact surficial soils. Copies of the survey notes and digital photographs are maintained at the Rincon Santa Barbara office.

Results

Archaeological Resources

Bella Vista Reservoir and Treatment Plant

The Bella Vista Reservoir and Treatment Plant consists of a pumped or gravity fed in-ground rectangular concrete reservoir, treatment plant, blower room, pump station and reclaimed basins. Given the paved setting, overall ground visibility was poor (less than 10 percent). The subterranean reservoir had a concrete perimeter and was covered almost entirely with manicured grass. Exposed soils within the grass and survey buffer were a light brown/yellow fine-grained silty sand. The staging and parking areas were entirely paved. Mulch, gravel, and leaf litter also covered portions of the project site and survey buffer, obscuring ground surface visibility. Vegetation consisted of non-native annual grassland dominated by wild oats (*Avena sp*.) and other non-native grasses. No archaeological resources were observed as a result of the field survey.

Buena Vista Reservoir

The Buena Vista Reservoir is a gravity fed circular above-ground concrete reservoir covered in wooden planks and situated on a concrete pad with recessions for overflow. Two underground utility vaults with pressure valves and regulators were also observed adjacent to the reservoir. Overall ground visibility was poor (less than 5 percent), obscured by pavement, vegetation, and leaf litter. Exposed soil is a light brown fine-grained silty sand. The staging and parking areas were entirely paved. Vegetation on the site consists of non-native trees, shrubs and grasses. Eucalyptus woodland surrounds the project site with an understory of landscaped shrubs. No archaeological resources were observed as a result of the field survey.

Cold Springs Reservoir

The Cold Springs Reservoir is a gravity fed, partially buried rectangular concrete reservoir. A second reservoir and an associated stone-lined channel were identified adjacent to the existing reservoir. Overall ground visibility was less than 15 percent and obscured by vegetation, gravel and leaf litter. Exposed soil is a light brown fine-grained silt. Vegetation consisted of coast live oak woodland and annual, non-native grassland. Some coastal sage scrub exists as understory below the oak woodland, with black sage, hummingbird sage and laurel sumac subdominant. No archaeological resources were observed as a result of the field survey.

Doulton Reservoir

The Doulton Reservoir is a gravity fed or pumped above-ground circular steel reservoir and a small water treatment plant. The staging area to the north of the reservoir is partially covered in gravel and currently used for storage and the parking area is entirely paved. The staging area to the south of the reservoir is partially paved with asphalt. Overall ground visibility was approximately 20 percent. Exposed soil is a light brown silt. Vegetation consisted of non-native landscaping and the open areas were disturbed ruderal. A few coast live oaks are scattered among the non-native landscaping. No archaeological resources were observed as a result of the field survey.

Hot Springs Reservoir

The Hot Springs Reservoir is a gravity fed above-ground circular concrete reservoir situated on a concrete pad with recessions for overflow. Ground visibility was approximately 10 percent and obscured by vegetation and leaf litter. Exposed soil is a medium brown fine-grained silt. Vegetation consisted of coast live oak and non-native annual grassland (*Avena sp., Bromus sp*.). Some coastal sage scrub exists and understory below the oaks with California sagebrush (*Artemesia californica*) and brush sunflower (*Encelia californica*). No archaeological resources were observed as a result of the field survey.

Park Lane Reservoir

The Park Lane Reservoir is a gravity fed in-ground rectangular concrete reservoir with a concrete overflow that goes to an adjacent creek. Overall ground visibility was approximately 20 percent and obscured by gravel, vegetation and asphalt. Exposed soil is a light brown/yellow fine-grained silt. Vegetation consisted of mountain mahogany chaparral, coast live oak woodland and annual grassland. No archaeological resources were observed as a result of the field survey.

Romero Reservoir

The Romero Reservoir is a gravity fed or pumped rectangular in-ground concrete reservoir with two overflows to the east and west and an associated pump station. Overall ground visibility was poor (less than 10 percent) obscured by pavement, leaf litter and vegetation. The parking area is entirely paved, and the staging areas are approximately 35-50 percent paved. Exposed soil is a light brown fine-grained silty sand. Vegetation consisted of annual grassland, eucalyptus woodland, ornamental landscaping and toyon chaparral. No archaeological resources were observed as a result of the field survey.

Terminal Reservoir

The Terminal Reservoir is a gravity fed or pumped in-ground rectangular concrete reservoir and associated pump station. Overall ground visibility was poor (approximately 15-20 percent) and obscured by vegetation, gravel, asphalt and leaf litter. The staging area to the north has a gravel overlay. Exposed soil is a compacted light to medium brown silt. Vegetation consisted of coast live oak woodland and annual grassland. No archaeological resources were observed as a result of the field survey.

Built Environment Resources

The field surveys and background research confirmed that all eight project locations contained structures that were older than 45 years of age and required significance evaluation. Located in the Santa Ynez Foothills above the town of Montecito, the sites contain eight of the District's nine distribution reservoirs, in addition to associated facilities located as some sites. Generally, the reservoirs store water transported from Jameson Lake via the Doulton Tunnel and Lake Cachuma via the South Coast Conduit pipeline. Most of the reservoirs store water treated at both the District's Bella Vista Treatment Plant and the City of Santa Barbara's William B. Cater Water Treatment Plant. Water treated at the District's Doulton Water Treatment Plant is stored in Doulton Reservoir and is not distributed to other reservoirs. Water is generally distributed from the reservoirs to end-users via a gravity-fed system of pipelines. However, in some cases pumps are necessary to deliver water to properties at higher elevations. The facilities at each site were recorded on California Department of Parks and Recreation (DPR) 523 series forms, which are included in Appendix C of this report.

Rincon reviewed a variety of guidance documents and studies to provide additional guidance and historical and architectural context to support the historical resource evaluations as part of this cultural resources assessment. Most notably this included *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures* (JRP Historical Consulting Services and Caltrans 2000). This document provides a consistent framework for evaluating water conveyance-related resources in California. It presents a broad historical context relating to the history of these systems in California and guidance and recommended methods for evaluating the resources which comprise them. In addition, Rincon reviewed *Historic Resources Inventory and Evaluation Report: Cachuma Project*, which was prepared on behalf of the U.S. Bureau of Reclamation to identify and evaluate potentially significant resources associated with the Cachuma Project in Santa Barbara County (JRP Historical Consulting 2010). As the Montecito Water District is one of the many districts receiving water from the Cachuma Project, this document provides contextual overlap and also further understanding in evaluating components of water conveyance systems in Santa Barbara County.

Per the guidance and methods presented in these documents, water conveyance features may be evaluated individually or as part of the larger system to which they contribute. Although consideration of the larger system is generally preferred, this may not always be feasible due to various project constraints. Regardless of whether an entire system or individual segment or feature is evaluated, consideration must be given to all areas of potential significance and examined in relation to applicable contextual themes (JRP Historical Consulting Services and Caltrans 2000:92). An examination of the District's larger system was outside the scope of the current study and the current historical resource evaluations focused on the eligibility of the reservoirs as individual features. However, as discussed further in the historical resource evaluations below, the reservoirs were found to be common water storage facilities lacking historical or architectural significance. As such they would not contribute to any potential significance of the larger system may as a whole.

As discussed in the Regulatory Framework section above, a historical resource may be eligible for listing in the NRHP or CRHR if it is significant with historic events (NRHP Criterion A/CRHR Criterion 1), important persons (NRHP Criterion B/CRHR Criterion 2), engineering or architectural value (NRHP Criterion C/CRHR Criterion 3), or potential to yield information (NRHP Criterion D/CRHR Criterion 4). The majority of eligible water systems have been found eligible for their association with historic events (NRHP Criterion A/CRHR Criterion 1) or notable engineering achievements or design value (NRHP Criterion C/CRHR Criterion 3) (JRP Historical Consulting Services and Caltrans 2000:92).

In considering the potential eligibility of a water conveyance-related resource under NRHP Criterion A/CRHR Criterion 1, an eligible resource must possess more significant associations than purely its role in the early development of a given community. Major infrastructural elements are inherently important to the constituents they serve and it would be an overreach to conclude these elements would be eligible simply for their association with the growth of this community; this association is arguably is tangential and an expected response to any growing population (JRP Historical Consulting 2010:6). Rather for an infrastructural element such as a water conveyance feature to be found eligible under NRHP Criterion A/CRHR Criterion 1 the resource “must be found to be associated with specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming)” (JRP Historical Consulting Services and Caltrans 2000:93).

Water conveyance systems-related resources are also often found eligible under NRHP Criterion C/CRHR Criterion 3 for their engineering or design values. Generally, eligible properties which are the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Water conveyance systems can also be eligible under NRHP Criterion C/CRHR Criterion 3 as the work of a master, or a figure of demonstrated esteem in their given design field. Not all works by a master will be eligible however and the resource must be a good example of the designer’s work (JRP Historical Consulting Services and Caltrans 2000:94).

Physical descriptions, developmental histories, and historical resource evaluations are presented below for each of the eight reservoirs recorded as part of this assessment. A summary of these reservoirs, their construction dates, and historical resources eligibility is included in Table 2.

Table 2 Built-Environment Resources

Resource Name	Construction Date(s)	Historical Resources Eligibility
Bella Vista Reservoir and Treatment Plant	1975; 1993; ca. 1993; ca. 2018	Recommended ineligible
Buena Vista Reservoir	1939	Recommended ineligible
Cold Springs Reservoir	1925	Recommended ineligible
Doulton Reservoir and Treatment Plant	ca. 1920s; ca. 1940; ca. 1965; 1975	Recommended ineligible
Hot Springs Reservoir	1939	Recommended ineligible
Park Lane Reservoir	1917	Recommended ineligible
Romero Reservoir	1933	Recommended ineligible
Terminal Reservoir	1952; 1999	Recommended ineligible

Bella Vista Reservoir and Treatment Plant

Physical Description

Located at 2750 Bella Vista Drive, the Bella Vista Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), control building (circa 1975), water treatment plant (1993), settling basins (1993), pumping station (1993), tank (ca. 1993) and blower (circa 2018). Bella Vista Reservoir is a 2.25-MG-capacity reinforced concrete water distribution reservoir (Figure 10). Built on a steeply sloping hillside, the reservoir is rectangular in plan measures approximately 132 feet long, 94 feet wide, and 24 feet deep. Original construction plans show that the reservoir's basin is trapezoidal in cross-section. At the north end, the walls are embedded entirely in the ground and the roof is essentially flush with the adjacent terrain. The remaining sides of the reservoir were not accessible during the field survey, but construction plans suggest that other walls are increasingly exposed as the hill slopes downward to the south. The reservoir's reinforced concrete roof consists of panels supported by metal columns on the interior of the structure. The top of the roof is planted with a lawn. Notable alterations since the initial development of the facility include the construction of the pump station and blower on the reservoir's northeast and northwest corners, respectively.

Located at the northeast corner of the reservoir is the pump station building, a one-story building exhibiting elements of Mediterranean Revival-style architecture (Figure 11). It is rectangular in plan, sits on a concrete foundation, and culminates in a side-gabled roof with clay-barrel-tile cladding and exposed rafter tails. Its concrete-block structural system is sheathed in rough stucco with detailing suggesting arches on the east and west elevations. The entrance is located on the south elevation and features glazed double doors, one of which also includes a louvered vent. Aside from the door glazing, there are no windows. A metal pipeline from the pumping equipment inside the building emanates from the south elevation before immediately curving downward into the ground. The building is in good condition and shows no evidence of alteration.

The blower is located at the southeast corner of the reservoir and consists of water treatment equipment housed in a one-story building designed in a style similar to that of the pump station (Figure 12). It has a rectangular plan, concrete foundation, and a gabled roof with clay-barrel-tile cladding and exposed rafter tails. Exterior cladding is rough stucco. A single entrance is located on the east elevation and features solid wood or metal double doors. A louvered vent penetrates the opposing elevation, and a large metal pipeline emanates from the south elevation before immediately curving downward into reservoir. The building is in good condition and shows no evidence of alteration.

Located north of the reservoir, across the parking lot and internal roadway, the Bella Vista Water Treatment Plant building is one-story in height and exhibits Mediterranean Revival-style architectural elements (Figure 13). The building is roughly rectangular in plan, rises from a concrete foundation, and is capped with a flat rood with rolled composition sheeting. Its exterior is entirely stuccoed. On the south elevation, three front entrances featuring glazed double doors of various configurations are located behind an arcade capped in clay barrel tiles. Secondary entrances, including a loading bay, are located on the east and west elevations, with a smaller arcade marking the east entrances. Windows include two square, fixed, multi-pane windows immediately west of the main entrance and a large, arched, metal framed, multi-pane focal window at the west end of the south elevation. The facility is in good condition and exhibits no notable alterations.

Located immediately west of the building are the settling basins (Figure 14). Consisting of two parallel concrete troughs built into the ground, the feature measures approximately 40 feet wide and 140 feet long. The troughs are characterized by straight concrete walls on all but the southwest end, where concrete ramps descend from ground level toward the interior of the feature. The structure is instrumental in the cleaning of the treatment plant's water filters. Pumping equipment installed at the north end of the feature passes water between the basins and the treatment plant. Water is stored temporarily in the basins to clear sediment from the water by allowing it settle on the basin floor. The water in the basin is then reintroduced to the treatment plant for treatment prior to going to the distribution system.

Situated on a hilltop immediately north of the treatment plant building, is a water tank (Figure 15). Constructed of riveted steel, the cylindrical structure measures approximately 20 feet in height and 25 feet in diameter. It is situated on a concrete slab foundation and capped with a low-pitched conical top, on which a stovepipe shaped ventilator installed at the center point. On the southwest side, a ladder accesses the roof, which is encircled with a metal railing. The structure is in good condition and shows no evidence of notable alteration.

The control building is located downhill and to the south the reservoir, near the facility's entrance on Bella Vista Drive (Figure 16). It is a one-story building of generally utilitarian design. It is roughly rectangular in plan but rounded at the corners. The hipped roof is clad in clay-barrel tiles, suggestive of the Mediterranean Revival-influenced details found elsewhere on the property. The exterior consists of structural board-formed concrete, in addition to a band of sheet metal, which is just below the roof. Located on the west elevation, the sole entrance includes a solid wood or metal door. The building is in good condition and does not appear to be altered.

The facility occupies terrain that is generally hilly and covered with scrub vegetation. Artificial landscaping includes mature trees, shrubs, and, as mentioned above, the lawn planted on the reservoir roof. Hardscaping consists of an asphalt-paved internal roadways and parking areas. Development in the surrounding area is characterized by large residential properties.

Figure 10 Bella Vista Reservoir Viewed from the Roof, with the Blower (Left) and Pump Station (Right) in Background, View to the Northwest

Figure 11 Pump Station, South and East Elevations, View to the Northwest

Figure 12 Blower, North and West Elevations, View to the Southeast

Figure 13 Treatment Plant Building, South and West Elevations, View to the Northeast

Figure 14 Settling Basins, View to the Northwest

Figure 15 Water Tank, West Elevation, View to East

Figure 16 Control Building, North and West Elevations, View to the Southeast

Property History

Historical aerial photographs suggest the site of Bella Vista Reservoir and Treatment Plant remained undeveloped until the reservoir was constructed in 1975 (UCSB 1975; NETROnline 1967) (Figure 17). Charles E. Watson and Jerry D. Smith of the Santa Barbara-based engineering firm Penfield & Smith designed the reservoir and presumably, the extant control station, which also appears on site plans drawn in 1974. MCWD's chief engineer, H.O. (Harold Orman) Mendenall, signed off on the plans (Penfield & Smith Engineering 1974). In 1993, the facility was substantially expanded to include the Bella Vista Treatment Plant and the pump station (District 2021; SPH Associates 1992). The expansion project likely also included construction of the water tank and settling basins, which are depicted for the first time in available historical aerial photos in 1995 (Figure 18) (UCSB 1995). With its completion, Bella Vista Treatment Plant became the District's principal treatment facility for water sourced from Jameson Lake. Circa 2018, the facility was expanded further with the construction of the blower (Tetra Tech 2018).

Research for this study found no information suggesting the facility's original designers, Charles C. Watson or Jerry D. Smith of the firm Penfield and Smith Engineering, were significant in the field of engineering. The firm was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina and an airport master plan (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water system engineering and the design of residential, among other types of projects, in Santa Barbara County (*Santa Maria* Times 9/24/1969; 8/31/1974; *Santa Ynez Valley News* 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson or Jerry D. Smith was uncovered as a result of research for this study.

Figure 17 Aerial Photograph of Bella Vista Reservoir Under Construction, 1975

Source: UCSB 1975

Figure 18 Aerial Photograph of Buena Vista Reservoir and Treatment Plant, 1995

Source: UCSB 1995

Historical Resources Evaluation

The Bella Vista Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Bella Vista Reservoir was one of at least three reservoirs the District constructed in the Post-World War II era. The facility was augmented in 1993 with the construction of the Bella Vista Water Treatment Plant and related buildings and structures. The development of the Bella Vista facility was part of the gradual expansion of the of the District's system since its inception in the 1920s. However, this expansion was due to what could be considered an expected response to the growth of the surrounding community, the increasing need for a reliable water system, and the need to meet higher water quality treatment standards. The Bella Vista Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Bella Vista Reservoir and Treatment Plant which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Initially developed in 1975, the Bella Vista Reservoir is a 2.25 MG-capacity, reinforced concrete reservoir with a flat, reinforced concrete roof supported by a system of metal columns. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Water storage and distribution reservoirs are of common design, and there is no evidence suggesting the Bella Vista Reservoir represented any particular engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Watson or Smith can be considered masters, and regardless, as a simple concrete-lined structure, the Bella Vista Reservoir would not be considered an example of a master's work. The facility's remaining built environment features, including the control center, pump station, blower, water treatment plant, settling basins, and water tank, likewise exhibit no architectural or engineering distinction. Although the buildings on the property represent a shared Mediterranean Revival-style theme, they each embody relatively restrained examples of the style and are not individually or collectively distinguished by their design. The settling basins and water tower are utilitarian structures and no evidence suggests they are notable for their design. Although the designers of these buildings and structures were not in all cases identified, there is nothing apparent in their designs to suggest any of these would be considered an exemplary work of any master. Therefore, the Bella Vista Reservoir and Treatment Plant is Recommended ineligible under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Bella Vista Reservoir and Treatment Plant does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Buena Vista Reservoir

Physical Description

Constructed in 1939, Buena Vista Reservoir is located approximately 0.4 miles northwest of the intersection of Park lane and Mariposa Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir, which is circular in plan and measures approximately 80 feet in diameter and 23 in height, not including the roof Figure 19). Exterior walls are constructed of vertically oriented board-formed concrete, while the flat roof is clad in non-original standing-seam metal sheeting with a box-shaped ventilator. Original plans for the reservoir indicate the roof structure consists of steel-truss stringers supporting tensile steel purlins, which in turn to support 1-by-6 wood slats covered with "90 lb. mineral covered roof paper," that has since been replaced with the existing standing-seam metal surface (Figure 20) (MCWD 1938a). Additional support for the roof frame is provided inside the reservoir by several steel-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is filled with mesh. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending east of the structure. The reservoir is enclosed with a chain-link fence.

The reservoir is situated on a level, excavated hillside site on the north side of Park Lane. Its immediate surroundings characterized by sloping terrain with grasses, oaks, eucalyptus, shrubs, and other planted and wild-growing vegetation. Hardscaping includes an asphalt-paved lot and private roadway immediately south and southeast of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

Figure 19 Buena Vista Reservoir, North Elevation, View to the South

Figure 20 Roof of Buena Vista Reservoir, View to the East

Property History

A historical aerial photograph taken in 1928, depicts the site of Buena Vista Reservoir as an undeveloped property on the edge of an area sparsely developed with residences and farms (UCSB 1928). The District constructed the reservoir in 1939, using a design adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir. In his capacity as the District's Chief Engineer, Carl Wyant approved the plans (MCWD 1938a). The reservoir may have been constructed as part of a planned expansion by the District, as suggested by the fact that the subject reservoir and District's Hot Springs facility were constructed the same year and based on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs indicate there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004).

Historical Resources Evaluation

The Buena Vista Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Buena Vista Reservoir was constructed in 1939 in conjunction with the Hot Springs Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Buena Vista Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Buena Vista Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is a notable engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Buena Vista Reservoir is comparatively not a good example of Wyant's work. As such the Buena Vista Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Buena Vista Reservoir does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Cold Springs Reservoir

Physical Description

Constructed circa 1925, Cold Springs Reservoir is located approximately 900 feet west of the intersection of Cold Springs Road and East Mountain Drive. The property consists of a 0.99 MG-capacity reinforced concrete distribution reservoir built into the hillside (Figure 21 and Figure 22). It is rectangular in plan and measures approximately 60 feet wide, 100 feet long, and 22 feet deep, with 2 to 10 vertical feet of the walls visible above ground. Exterior walls are constructed of board-formed concrete, with concrete buttresses visible on downslope (south) elevation. Clad in non-original standing-seam metal, the gabled roof is supported along the perimeter by metal framing, with mesh enclosing the vertical space between the concrete walls and the roofline. Evenly spaced ridge caps are likewise enclosed on the sides with mesh. Roof cladding is non-original standing-seam metal. A chain-link fence encircles the reservoir.

Figure 21 Cold Springs Reservoir, South Elevation, View to the Northeast

Figure 22 Cold Springs Reservoir, North and East Elevations, View to the Southwest

The facility is situated on hilly terrain and its surroundings characterized by grasses, oaks, eucalyptus, palms, and other varieties of planted and wild-growing vegetation. A dirt road passes through the north end of the subject parcel. Located nearby on separate parcels to the north and south are two abandoned concrete reservoirs, in addition to various features of stone construction that are historically associated with the Ellen and H.E. Bothin's Mar Y Cel property.

Property History

Prior to the development of Cold Springs Reservoir circa 1925, the parcel on which the reservoir is located was likely part of a large estate owned by San Francisco-based real estate developer Henry E. Bothin and his wife Ellen. During the previous decade, the Bothins developed the adjacent hillside as Mar Y Cel, an expansive property featuring elaborate gardens and waterworks, at least three reservoirs, and a hilltop tea house (Barnes 2018). By 1924, the MCWD identified the property as a site for reservoir development. That year, plans were drawn for the subject reservoir basin, under the original name Bothin Reservoir. The plans credited Carl Wyant, resident engineer of the MCWD, and Charles Leeds, of the Los Angeles-based engineering firm Leeds & Barnard, which served as a consulting engineer during to the District's during its initial development (MCWD 1924a). In 1925, C.D. Reily Machine Works completed plans for the reservoir's original roof, the top of which included wood planks sheathed in 1-ply roofing paper with a layer asphalt and gravel added to the exterior surface (C.D. Reily Machine Works 1925). The roof cladding detailed in the 1925 plans eventually replaced or covered with the existing standing-seam metal roof. Research for the current study did not determine the date of installation of the extant roof cladding. While the subject reservoir's setting has changed somewhat due to nearby development and the abandonment of the older Bothin reservoirs, historical aerial photographs and information via the District obtained via suggest that, other than the replacement of the roof, to the subject reservoir has been subject to no notable alterations (NETROnline 1967; 2016; UCSB 1947).

As discussed above, research for the current study identified individuals and firms associated with the construction and alteration of the reservoir. The District's consulting engineers, Leeds & Barnard, designed the reservoir. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004). Research for this study uncovered no information of consequence regarding the designer of the reservoir's roof, the C.D. Reilly Machine Works.

The reservoir is located near features associated with the Bothin family's Mar Y Cel property, including two reservoirs, a drainage canal, and a winding roadway supported by sandstone retaining walls that leads to the location of the property's Tea House. However, the Cold Springs Reservoir is currently located on its own parcel and research for this study found no evidence it was ever directly associated with the Bothin property.

Historical Resources Evaluation

The Cold Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the construction of the Cold Springs Reservoir by the District in 1925 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Cold Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Cold Springs Reservoir was constructed by the MCWD on property that was likely once part of the estate of Ellen and H.E. Bothin. The Bothins may be significant for their contributions in industry and real estate development. However, although they previously owned the land on which Cold Springs Reservoir was constructed, there is no evidence they were directly involved in the reservoir's construction or operation. As such, associations with the Bothins would not qualify the reservoir for listing under NRHP Criterion B/CRHR Criterion 2. Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation.

The Cold Springs Reservoir is a 0.99 MG-capacity reinforced concrete distribution reservoir with a gabled roof sheathed in standing-seam metal and supported by a wood-frame structural system. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Cold Springs Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated designers Leeds and Barnard, Wyant, or C.D. Reily Machine Works can be considered masters, and regardless, as a simple concrete-lined structure with a metal-framed roof structure, the Cold Springs Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Cold Springs Reservoir does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Doulton Reservoir and Treatment Plant

Physical Description

Located at 1075 Toro Canyon Road, Doulton Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), caretaker's residence (circa 1940), water treatment plant (circa 1920s with alterations made circa 1975 and 1993), and ancillary building (circa 1965). Doulton Reservoir a 0.25-MG welded steel tank reservoir that stores treated water from Jameson Lake (Figure 23). Measuring 36 feet in height and 36 feet in diameter, the structure is situated on a circular concrete foundation and as suggested by original construction plans, is capped with a steel roof with a mushroom cap vent. A metal ladder is affixed to and ascends the south side of the reservoir, while pipelines emerge from various locations on the exterior. Located near the foot of the reservoir's south side, the manway entrance is accessed via a circular riveted steel door. The structure is in good condition and exhibits no notable alterations.

Situated immediately north of the reservoir is the water treatment plant building (Figure 24). Utilitarian in design, the highly altered one-story building has a rectangular plan, concrete foundation, and front gabled roof with standing-seam-metal cladding. Exterior walls include a lower band of structural concrete-block construction and upper section clad in sheet metal panels. Entrances are located on the east and west elevations and are accessed via a large metal double door on the west and a standard-size glazed metal door on the east. Windows with non-original vinyl sashes penetrate the east and south elevations. A shed roof extension supported by a metal-pole frame extends from the north elevation. The building is in fair condition and has been subject to substantial modification. Circa 1975, the west end of the building was removed and the west elevation reconstructed. In addition, visual inspection suggests the existing concrete-block walls are a non-original feature constructed to augment the building's height. This may have been completed in 1993, when the building was converted for use as a water treatment plant. Finally, all window sashes have been replaced and a likely non-original door was installed on the west elevation.

The caretaker's residence is located approximately 50 feet northeast of the water treatment plant (Figure 25 and Figure 26). The one-story, Minimal Traditional-style building has an L-plan, sits on a concrete foundation, and culminates in a cross-gabled roof with asphalt shingles. Its exterior consists principally of structural concrete, but also includes smaller horizontal wood plank and stucco cladding in the gable ends and plywood wall cladding on a small addition. Facing southwest, the front entrance is situated beneath a gabled porch roof with wood knee-brace supports. The secondary entrance features a non-original glazed wood-panel door. Windows are generally multi-pane steel casements, though aluminum horizontally sliding aluminum sashes, likely non-original, appear at the rear of the building. A large, east-elevation addition approximately doubled the building's original size.

South of the treatment plant building is the ancillary building (Figure 27). Built on a steep hillside, the one-story utilitarian structure is rectangular in plan, sits on a concrete-block foundation, and is capped with a corrugated-metal-clad gabled roof. Corrugated metal sheathes the building's wood-frame structure. The building's north-facing elevation features a wood-panel door. Windows include fixed, single-pane wood sashes. The building is in moderate condition.

The property occupies generally hilly terrain covered with scrub vegetation. Artificial landscaping is confined to the area around the caretaker's residence and includes a front and rear lawn, mature trees, and ornamental plants. Hardscaping consists of an asphalt-paved internal roadway and parking areas and concrete footpaths. The surrounding area is largely undeveloped, with sparse residential development south and east of the reservoir and mountainous wilderness to the north and west.

Figure 23 Doulton Reservoir, Soutwest Side, View to the Northeast

Figure 24 Treatment Plant, South and West Elevations, View to the North

Figure 25 Caretaker's Residence, West Elevation, View to the Northeast

Figure 26 Caretaker's Residence, South and East Elevations, View to the West

Figure 27 Ancillary Building, North and West Elevations, View to the East

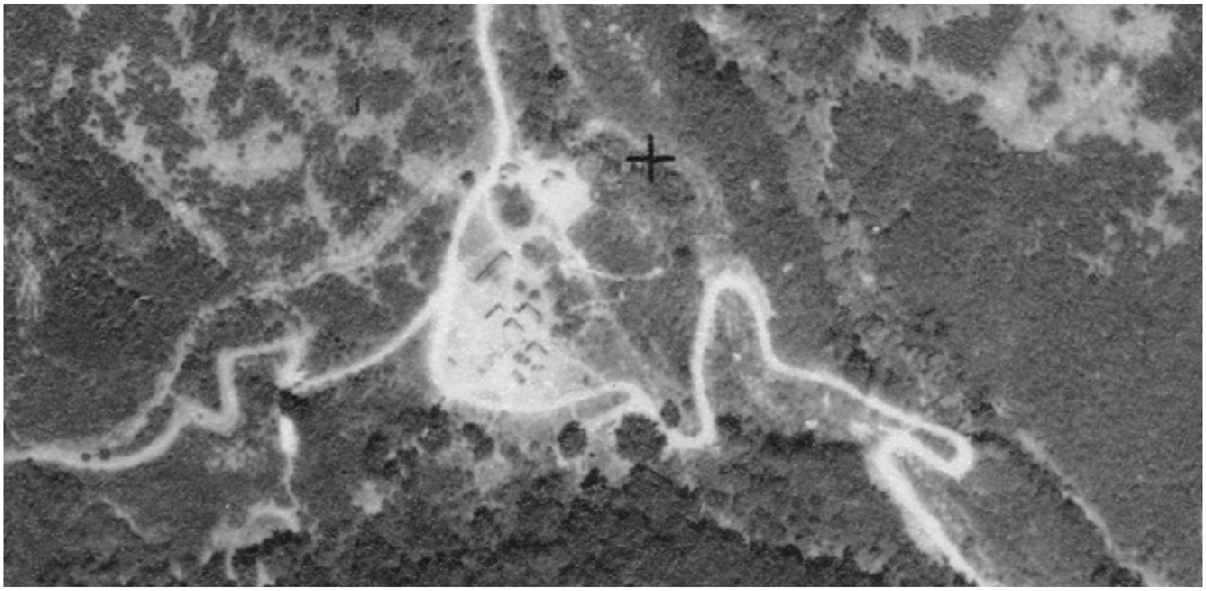
Property History

Historical aerial photographs suggest the site of Doulton Reservoir was developed by 1928 (UCSB 1928). A photograph taken that year depicts at least six buildings clustered near the present location of the treatment plant (Figure 28). Of the buildings depicted in the 1928 photograph, only one is extant, a former shop building that was converted into the water treatment plant building in 1993. The facility is located approximately 800 feet south of the south portal of the Doulton Tunnel and may have been associated with tunnel's construction, which was supervised by MCWD chief engineer Carl Wyant between 1924 and 1928. Research for the current study, however, did not definitively confirm any such association. As suggested by its building materials, the caretaker's residence was likely added to the property in the 1930s or 1940s. An aerial photograph taken in 1961 shows that, except for the treatment plant/shop building, all the buildings depicted in 1928 were removed from the property, and the caretaker's residence had been constructed (UCSB 1961) (Figure 29). Taken in 1968, the next available aerial photograph of the site depicts what may be ancillary building, which, as a subsequent site plan suggests, housed a weir (UCSB 1968; MCWD 1971) (Figure 30).

By 1971, the site consisted of a shop building, caretaker's residence, the ancillary building, and a storage building (not extant). Additionally, an 8-inch pipeline, presumably a distribution pipeline from Doulton Tunnel, traversed the site with connections to the ancillary building (MCWD 1971). In 1975, Charles C. Watson of the engineering firm Penfield & Smith drew plans to augment and reorganize the facility. The work was completed that year and included the removal of the west end the building now housing the water treatment plant, construction of the reservoir adjacent to the water treatment plant, and abandonment of the weir (Penfield & Smith 1975; Hanson 2021). Trico—Superior, Inc. provided plans for the reservoir, which were based on the American Water Works Association's D100-73 standards for steel water tank design and construction (Trico—Superior 1975; AWWA 2021). In 1993, the water treatment plant was completed inside the former shop building. Based on visual inspection of the building's construction materials, it is likely that the building's concrete base was constructed to accommodate its conversion. With completion of the water treatment plant, the Doulton facility began distributing treated water directly to District subscribers (Hanson 2021). Historical aerial photographs of the site suggest no notable alterations have been made to the facility since (NETROnline 1993-2016).

Research for this study found no information suggesting any firms, engineers, or other individuals associated with the design of the facility were significant in their fields. Charles C. Watson worked for the firm Penfield & Smith Engineering, which was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water systems engineering and the design of residential subdivisions, among other types of projects (*Santa Maria* Times 9/24/1969; 8/31/1974; *Santa Ynez Valley News* 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson. Research likewise uncovered no pertinent information regarding the reservoir's designer, the firm Trico—Superior was uncovered as a result of research for this study.

Figure 28 Aerial Photograph of Doulton Reservoir and Treatment Plant Site, 1928



Source: UCSB 1928

Figure 29 Aerial Photograph of Doulton Reservoir and Treatment Plant Site, 1961

Source: UCSB 1961

Figure 30 Aerial Photograph of Doulton Reservoir and Treatment Plant Site, 1975

Source: UCSB 1975

Historical Resources Evaluation

The Doulton Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the District's development of the site may have begun as early as the 1920s and in conjunction with the construction of the Doulton Tunnel. However, a review of aerial photographs and construction plans suggests the only extant feature at the site potentially dating from this period is the water treatment plant building, which was substantially altered in the latter half of the twentieth century and, thus, would not retain sufficient integrity to convey any association with the development of Doulton Tunnel. Moreover, whatever the integrity of the water treatment plant, all other buildings dating from the period of the tunnel's construction were removed from the property by 1961. The removal of these buildings undermined the overall integrity of the property such that it has lost its ability to convey any associations it may have acquired during the tunnel's construction. Subsequent development of the site, including the construction of the caretaker's residence, ancillary building, and reservoir, in addition to the alteration and conversion of the treatment plant building, was associated with the gradual expansion of the District's distribution system that has taken place since its establishment. Archival research did not find that the Doulton Reservoir and Treatment Plant is noteworthy or unique within this context. Rather, this expansion was due to what could be considered an expected response to the growth of the surrounding community, the increasing need for reliable water system, and the need to meet higher water quality standards. The Doulton Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research identified one individual directly associated with the Doulton Reservoir and Treatment Plant, Charles C. Watson. However, because Watson's associations with the site pertain to the redesign carried out in 1975, his potential for significance is addressed under Criteria C/3 below. In addition, despite the property's potential association with the development of Doulton Tunnel, no evidence suggests the site is strongly associated with the contributions of project's supervising engineer, Carl Wyant. Therefore, Doulton Tunnel and Treatment Plant is not associated with any individual whose contributions would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Doulton Reservoir and Treatment Plant consists of a water distribution reservoir, treatment plant, caretaker's residence, and ancillary building. The reservoir is a 0.25-MG welded steel tank reservoir. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). That the Doulton Reservoir was constructed according to standardized plans would suggest that the structure was one of many such reservoirs constructed in the same period. Furthermore, there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Carl C. Watson or the firm Trico—Superior can be considered masters, and regardless, as a simple steel structure of standardized design, the Doulton Reservoir would not be considered an example of a master's work.

The design and construction of the three buildings located on the property also lack distinction of design and construction. The treatment plant and ancillary building are utilitarian buildings of undistinguished design. They are of simple of form, and there is no evidence suggesting they are notable for their materials or methods of construction. In addition, the treatment plant has been subject to considerable alteration, most notably, the removal of its original west end and the raising of the remaining portion of the building onto a non-original concrete block base. The caretaker's residence was designed in the Minimal Traditional style and possesses the style's characteristic restrained architectural detailing. Although its structural concrete construction is atypical, this method of residential construction was adopted widely in the United States in the early decades of the twentieth century and there is no evidence suggesting the residence is significant for its construction (Jackson 2015; ETHW 2021). As such, none of the buildings embody the distinctive characteristics of a type, period, or method of construction, or possess high artistic values. Although their respective designers are unknown, none of the buildings would represent the work of a master. Finally, the site was developed gradually between the 1920s and 1993, and the built environment elements of the property do not represent a cohesive unit significant for its overall plan. Therefore, the Doulton Reservoir and Treatment Plant is recommended ineligible for listing under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting Doulton Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Hot Springs Reservoir

Physical Description

Constructed in 1939, Hot Springs Reservoir is located approximately 900 feet north of the intersection of Hot Springs Road and Hot Springs Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir (Figure 31). It is circular in plan and measures approximately 80 feet in diameter and 23 feet in height, not including the roof, which adds another

8 inches to its height at its peak. Exterior walls are constructed of vertically oriented board-formed concrete, while the low-pitched conical roof consists of steel framing, pyramidal ventilator, and metal cladding, as suggested by satellite imagery. Original construction plans indicate the roof frame is supported on the interior of the reservoir by several steel-pole columns, which are anchored to the floor of the structure. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending west of the structure (Figure 32). The outlet ditch may have been altered; although original plans for the facility call for a trapezoidal outlet structure, the extant ditch has straight walls (MCWD 1938b).

The reservoir is situated on the west side of Hot Springs Lane, its immediate surroundings characterized by sloping terrain with wild-growing grasses, oaks, and shrubs. Hot Springs Canyon is located immediately to the west, while several surrounding properties are developed with large residential estates.

Figure 31 Hot Springs Reservoir, West Elevation, View to the East

Figure 32 Outlet Ditch, North and East Elevation, View to the Southwest

Property History

Historical aerial photographs taken in 1930 and 1935 show that, prior to the construction of Hot Springs Reservoir in 1939, the reservoir site was vacant and the surrounding area only sparsely developed with large estates and orchards (UCSB 1930; 1935). The reservoir's design was adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir and approved by Carl Wyant, in his capacity as the MCWD's Chief Engineer (MCWD 1938b). The reservoir may represent part of a planned expansion by MCWD, as suggested by the fact that District's Buena Vista reservoir was constructed the same year and on the basis on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs suggest there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004).

Historical Resources Evaluation

The Hot Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Hot Springs Reservoir was constructed in 1939 in conjunction with the Buena Vista Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Hot Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Hot Springs Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Hot Springs Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Hot Springs Reservoir is comparatively not a good example of Wyant's work. As such the Hot Springs Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Hot Springs Reservoir does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Park Lane Reservoir

Physical Description

Constructed in 1917, Park Lane Reservoir is located approximately 900 feet north of the intersection of the intersection of Park Lane and East Mountain Drive. The property consists of a 1.25 MG-capacity concrete distribution reservoir (Figure 33). The reservoir is rectangular in plan and measures approximately 101' wide and 138 long. The reservoir is completely buried, except for a concrete perimeter that emanates slightly above ground level. Plans obtained via the District indicate the basin is of reinforced concrete construction. The flat roof is supported by a wood-frame structural system and clad in non-original corrugated metal. Plans for the reservoir completed in 1924 indicate additional support for the roof frame is provided inside the reservoir by several galvanized-iron-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is secured with screens. The interior of the reservoir is accessed via a wood hatch at the structure's southwest corner. A shallow concrete-lined outlet channel extends to the west of the reservoir. A chain-link fence encloses the area immediately surrounding the reservoir. The structure is situated atop a moderately sloping hill, with a series of seven dry-stacked sandstone retaining walls forming terraces on the hillside just south of the reservoir (Figure 34). Due to the presence of heavy overgrowth, further details regarding the design of the retaining walls were not available.

Figure 33 Southeast Corner of Park Lane Reservoir, View to the North

Figure 34 Retaining Wall, Southwest Elevation, View to the North

Except for grasses, the area immediately surrounding the reservoir is free from vegetation. Oaks and a variety of shrubs grow elsewhere on the property. A private dirt road enters the property from the east, terminating near the east side of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

Property History

Research for the current study indicates Park Lane Reservoir, originally called Carpenter Reservoir, was constructed in 1917 and the extant roof added circa 1924. The *Santa Barbara Daily News and the Independent* reported in February 1917 that the firm Snook and Henyon of Santa Barbara signed a contract to construct a "million and a quarter gallon reservoir on the F.I. [Frank Ives] Carpenter place in Montecito" (*Santa Barbara Daily News and the Independent* 2/24/1917). In June of that same year, it was reported that excavation for Carpenter's reservoir was underway, only under a contract with engineer Frank F. Flournoy (*Santa Barbara Daily News and the Independent* 6/21/1917). Sometime prior to 1924, it came into the use of the San Ysidro Creek Water Association. In 1924, just three years after its founding, the MCWD negotiated the purchase of the reservoir from Carpenter and his wife, Emma, for $10.00. Through this agreement the MCWD secured ownership of the parcel containing the reservoir and a right-of-way for a pipeline, in addition to rights to divert "one filling of [the] reservoir each year" from San Ysidro Creek, which per the agreement, was equal to what was recorded in the terms of the agreement as the basin's 1.6 MG capacity.[1] Under the agreement, the MWDC was required to "maintain and preserve the retaining banks of said reservoir and the shrubbery and planting screening the same" (MCWD 1924c). This term of the agreement likely refers to the terraced series of retaining walls immediately downhill from the reservoir, suggesting the sandstone feature was completed sometime between the original construction of the reservoir in 1917 and the property's sale to the MCWD in 1924.

Construction plans on file with the District show that in December 1924, District resident engineer Carl Wyant and consulting engineers Leeds & Barnard designed a wood roof and supporting structure for the reservoir. The extant roof framing is consistent with the 1924 design, though the extant metal cladding is certainly non-original (MCDW1924b). Historical aerial photographs and construction plans indicate that, other than the construction of the roof and supporting structure and replacement of the roof cladding, there have been no substantial changes to the property since the 1920s. Historical aerial photographs suggest the surrounding area was essentially rural at the time of the reservoir's construction, but that residential development has occurred steadily since the 1940s (UCSB 1943; NETROnline 1967-2016). Aside from the replacement of the reservoir's roof cladding, the structure has not been subject to any notable alterations.

As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Available sources contained no information of consequence regarding the Carpenters, who commissioned the reservoir's construction, or Flournoy, the contractor who built the structure. The District's consulting engineers, Leeds & Barnard, designed the reservoir's roof. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and

[1] The source of the discrepancy between reports of the reservoir's capacity—1.25 MG and 1.6, depending on the source—is not clear; however, the current figure provided by the District is consistent with the number cited in early newspaper reports, suggesting the figure of 1.6 MG may have been erroneous.

district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004).

Historical Resources Evaluation

The Park Lane Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Park Lane Reservoir was one of many reservoirs to be constructed on behalf of a property owner in the Montecito area during the early twentieth century. Prior to the development of larger water districts in the region, this was a common practice and there is no information to suggest the Park Land Reservoir is noteworthy or unique within this context. Archival research also did not indicate the Carpenter property is significant within any other historical context. The acquisition of the Park Lane Reservoir by MCWD in 1924 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Park Lane Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Park Lane Reservoir was initially constructed on behalf of Frank Ives Carpenter. Archival research identified very limited information on Carpenter and there is no evidence to suggest he, or any other individuals associated with the Park Lane Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Park Lane Reservoir is a 1.25 MG-capacity, reinforced concrete reservoir with a flat roof sheathed in corrugated metal and supported by a wood-frame structural system. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Park Lane Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Snook and Henyon or Leeds & Barnard's can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Park Lane Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Romero Reservoir

Physical Description

Constructed in 1933, Romero Reservoir is located approximately 0.25 miles northeast of the intersection of Romero Canyon Road and Lilac Drive. The property consists of a 0.94-MG capacity reinforced concrete distribution reservoir and a pump station building added to the property in 2000. The reservoir is roughly rectangular in plan with canted corners and measures approximately

240 feet long, 63 feet wide, and on average, about 12 feet deep (Figure 35 and Figure 36). The reservoir's basin is trapezoidal in cross-section. The reinforced concrete walls are almost entirely buried, and most of the visible portions of the structure consists of the non-original, corrugated metal roof assembly. Construction plans show the roof framework consists of metal trusses and steel Z purlins, with additional support provided by the original metal pole columns. Non-original structural tube extensions were added to the columns to accommodate the increased height of the replacement roof. The sloping roof is clad with corrugated aluminum on the sides and top. Horizontally oriented apertures in the aluminum-clad walls are secured with screen. A shallow, concrete-lined outlet channel traces the north and east sides of the reservoir before extending downhill to the southwest of the structure. The replacement of the roof is the only notable alteration to the structure.

The utilitarian pump station building is located immediately downhill and south of the reservoir's southwest corner (Figure 37). One story in height, the building has a rectangular plan and a flat roof, possibly of concrete-slab construction, with a slight overhang. Its concrete exterior is either deeply scored or consists of multiple full-height panels. A single entrance is located on the south elevation and features solid metal double doors. Metal cabinets located on the east elevation and immediately southeast of the building are presumed to contain transformers or other electrical utility equipment. Two vents with mushroom caps and other mechanical appurtenances of undetermined function are installed on the roof. The north end of the building is built partially into the hillside. Fieldstone-veneer-clad retaining walls flank the building, which is in good condition and exhibits no apparent alterations.

The facility occupies a grassy hillside. Mature trees and shrubs line the areas south of the facility and immediately west and south of the reservoir proper. Hardscaping consists of an asphalt-paved footpath and parking area. The surrounding area is developed with large residential properties.

Figure 35 Romero Reservoir, North and West Elevations, View to the Southeast

Figure 36 East End of Romero Reservoir, Including the Outlet Channel, View to the South

Figure 37 Pump Station, South and West Elevations, View to the Northeast

Property History

Taken in 1928, the earliest available historical aerial photograph of the site of Romero Reservoir, formerly Baring Reservoir, depicts the property as a vacant property on the edge of an area developed sparsely with residences and farms (UCSB 1928). In his capacity as the MCWD's Chief Engineer, Carl Wyant drew and approved the original plans for the reservoir in 1933. The plans suggest MCWD acquired the reservoir parcel and an easement for what is likely the existing access road from Louise Thorn Baring, whose property bounded the reservoir parcel on all but the west side (MCWD 1933). By 1956, historical aerial photographs show, a few large estates were developed in the vicinity of the reservoir, but the properties to the immediate south and southeast were occupied by orchards (UCSB 1956).

Circa 1977, the extant replacement roof structure was constructed as designed by MCWD engineer M. Akavian and approved by General Manager and District Engineer H.O. (Harold Orman) Neil Mendenall (MCWD 1976). Research for this Historical aerial photographs suggest there have been no substantial changes to the reservoir proper since the existing roof was completed; however, the pumping station building was completed in 2000 (Hanson 2021). Residential development in the surrounding area has gradually expanded since the mid-twentieth century, though the former orchard to the immediate south of the reservoir remains vacant (NETROnline 1967-2016).

As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004). Sources consulted for this study contained no information of consequence pertaining to Baring, Akavian, and Mendenall.

Historical Resources Evaluation

The Romero Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the MCWD developed the Romero Reservoir in 1933. As such, the reservoir was completed as a gradual expansion of the District's reservoir system carried out between 1924 and 1975. The Romero Reservoir was one of at least eight such structures the MCWD built or acquired during this period, and there is no evidence to suggest the reservoir is noteworthy or unique within this context. Archival research did not identify any other context in which the reservoir might be considered historically significant. The Romero Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Romero Reservoir was constructed on land that the MCWD may have acquired from Louise Thorn Baring. However, archival research uncovered no evidence indicating Baring made significant historical contributions to history or that she had any direct association with the property following the reservoir's construction. Archival research found no evidence to suggest any other individuals associated with the Romero Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Romero Reservoir is a 0.94-MG capacity, reinforced concrete distribution reservoir with a sloping replacement roof sheathed in corrugated aluminum and supported by a metal-frame structural system. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Concrete distribution reservoirs are of common design, and there is no evidence the Romero Reservoir represented any notable engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Akavian and Mendenall can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Romero Reservoir would not be considered an example of a master's work. In addition, the utilitarian pump house building is likewise of undistinguished design and does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic values. Therefore, the Romero Reservoir facility is recommended ineligible under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Romero Reservoir does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Terminal Reservoir

Physical Description

Located approximately 800 feet west of the intersection of Cold Spring Road and East Mountain Drive, the Terminal Reservoir facility consists of Terminal Reservoir and a pump station building. Constructed from 1951 to 1952, Terminal Reservoir is a distribution reservoir consisting chiefly of reinforced concrete walls and floor (Figure 38). The rectangular-plan reservoir is built into the hillside and measures 155' wide by 200' long, with at most two vertical feet of the walls visible above ground. Original plans indicate the standing-seam-metal-clad gabled roof is supported a wood structural system and 88 steel-pipe columns anchored to the floor of the reservoir. A vent with standing-seam metal cladding runs the length of the roof ridge. On the gable ends, additional standing-seam metal cladding fills the vertical space between the roofline and the top of the concrete wall. A chain-link fence encircles the reservoir.

Constructed circa 2000, the pump station building is located approximately 200 feet to the south. It is one story in height, sits on a concrete foundation, and is capped with a gable-on-hip roof with asphalt shingles (Figure 39). Walls are of structural rusticated concrete block construction. The entrance is located on the west elevation and features wood-plank double doors. The building is generally functional in design but includes such details as slightly flared eaves, wood gable-end shingles, and exposed rafter tails. Immediately south and southwest of the building, the paved work area is enclosed with a chain-link fence. The building is in good condition and exhibits no apparent alterations.

The facility is situated on hilly terrain characterized by grasses, oaks, eucalyptus, and other varieties of wild-growing vegetation. Asphalt, gravel, and dirt roadways wind along the hillside, connecting the East Mountain Drive entrance to the reservoir and building.

Figure 38 Terminal Reservoir, South and East Elevations, View to the West

Figure 39 Pump Station Building, West Elevation, View to the Northeast

Property History

Historical aerial photographs and USGS topographical maps show that the site of the facility remained undeveloped at least as late as 1947 (NETROnline 1944; UCSB 1947). In 1951, the MCWD completed plans for the reinforced concrete basin, and the following year, drew plans for the roof and supporting columns (MCWD 1951; 1952a; 1952b). Plans for the reservoir were credited to the MCWD and did not identify any individual responsible for the reservoir's design. The reservoir was completed in 1952 to increase the District's storage capacity, possibly in response to the region's Post World War II-era population growth. A review of historical aerial photographs suggests there were no notable changes to the property until 2000, when the pump station building was constructed (NETROnline 1994; 2002; Hanson 2021). The property has remained essentially unchanged since the building was completed (NETROnline 2016). Research for this study uncovered no further information of consequence regarding the property.

Historical Resources Evaluation

The Terminal Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Terminal Reservoir was constructed in 1951 as part of the general expansion of the District's system after World War II. There is no information the reservoir is particularly unique, and the construction of this element is part what could be considered an expected response to the continued growth of the surrounding community in the period following World War II. The Terminal Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Terminal Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Terminal Reservoir is a largely subterranean concrete distribution reservoir from 1951 with an associated pump station building completed circa 2000. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. A review of original building plans and supplemental research failed to identify the reservoir's designer. As such the Terminal Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Terminal Reservoir does not have the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Findings and Conclusions

The CHRIS search identified 14 previously recorded cultural resources within a 0.5-mile radius of the project sites; two of the resources are located **(*the remainder of this sentence has been redacted due to the confidentiality of archaeological site locations*)**. The SLF search conducted by the NAHC returned positive results. The District has initiated AB 52 consultation with tribal contacts that have requested formal notification of proposed projects in the geographic area within which the tribe is traditional and culturally affiliated

Results of the pedestrian field survey indicate that the majority of the project sites have undergone previous ground disturbances associated with the construction and maintenance of the reservoir systems and associated buildings and no archaeological resources were identified during the field survey. No evidence of cultural materials associated with a previously recorded prehistoric archaeological site identified during the records search were observed during the field survey. Given the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** proximity to a known prehistoric cultural resource the project vicinity is considered sensitive for the presence of archaeological resources; however, the site is located over **(*the remainder of this sentence has been redacted due to the confidentiality of archaeological site locations*).** Portions of the proposed ground disturbance at the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** will occur within previously disturbed soils and the potential to encounter intact archaeological resources is low. The project is required to adhere to state health and safety codes regarding the unanticipated discovery of human remains, detailed below. Based on the results of the cultural study, Rincon recommends a standard unanticipated discovery measure, presented below as Mitigation Measure CUL-1, in the event of a discovery of cultural resources during the execution of the current project. Additionally, input from local Native American representatives during the AB 52 consultation process resulted in the inclusion of Mitigation Measures TCR-1 and TCR-2, which are detailed below.

Eight built environment resources were identified in the project area: Bella Vista Reservoir and Treatment Plant, Buena Vista Reservoir, Cold Springs Reservoir, Doulton Reservoir and Treatment Plant, Hot Springs Reservoir, Park Lane Reservoir, Romero Reservoir, and Terminal Reservoir. Each of these facilities contains a water distribution reservoir, and some sites are augmented with associated buildings and structures, including but not limited to pumping stations and water treatment plants. Each facility was recorded and evaluated for inclusion in the NRHP and the CRHR. As a result of the analysis, all of the facilities were found to lack sufficient historical or architectural significance to qualify for inclusion in the NRHP or CRHR. Therefore, none are considered a historical resource for the purposes of CEQA and their replacement or retrofit would not result in a significant impact to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines.

Based on the information summarized above, Rincon recommends a finding for the Modified Project of ***no impact to historical resources*** and ***less than significant impact to archaeological resources with mitigation incorporated under CEQA.***

Regulatory Compliance Measure

Unanticipated Discovery of Human Remains

If human remains are unexpectedly encountered, 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 Public Resources Code Section 5097.98. In the unlikely event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

Mitigation Measures

CUL-1 Unanticipated Discovery of Cultural Resources

In the event cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources, additional work such as data recovery excavation and/or Native American consultation to treat the find may be warranted.

TCR-1 Cultural Resources Sensitivity Training

Prior to the start of ground-disturbing activities, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall conduct cultural and tribal cultural resources sensitivity training for all construction workers involved in ground-disturbing activities. A local Native American representative shall participate in the sensitivity training and have the opportunity to distribute information regarding cultural resources and/or protection of cultural resources.

TCR-2 Native American Monitoring

The District shall retain a local Native American representative to observe ground-disturbing activities up to five feet below the ground surface. Ground disturbing activities include, but are not limited to, clearing/grubbing, excavation, grading, and trenching. If cultural resources are encountered, the local Native American representative shall have the authority to request ground disturbing activities cease within 50 feet of the discovery. An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to document and evaluate 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.

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Appendix A

This appendix has been redacted due to the confidentiality of archaeological site locations

Appendix B

Native American Heritage Commission

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
Sacramento, CA 95814
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Montecito Water District Reservoir Retrofits Project

County: Santa Barbara

USGS Quadrangle Name: Santa Barbara and Carpenteria

Township: 04N Range: 26W and 27W Section(s): 1-3, 5-12

Company/Firm/Agency: Rincon Consultants, Inc.

Contact Person: Elaine Foster

Street Address: 449 15th Street, Suite 303

City: Oakland Zip: 94612

Phone: 510-834-4455

Email: efoster@rinconconsultants.com

Project Description:

The project involves seismic retrofits, repairs, and some replacements at eight existing water reservoirs within the Montecito Water Districts service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include excavation activities, as well as demolition of concrete and steel, wood formwork, steel welding, concrete pouring, minor pipe excavation, and electrical repairs. Concrete pouring would require dozens of vendor truck trips per site.

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

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

April 13, 2021

Elaine Foster, Archaeologist
Rincon Consultants, Inc.

Via Email to: efoster@rinconconsultants.com

Re: Montecito Water District Reservoir Retrofits Project, Santa Barbara County

Dear Ms. Foster:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

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

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

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

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Santa Barbara County
4/13/2021

Barbareno/Ventureno Band of Mission Indians
Julie Tumamait-Stenslie, Chairperson
365 North Poli Ave — Chumash
Ojai, CA, 93023
Phone: (805) 646 - 6214
jtumamait@hotmail.com

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait,
992 El Camino Corto — Chumash
Ojai, CA, 93023
Phone: (805) 216 - 1253

Barbareno/ Ventureno Band of Mission Indians
Brenda Guzman,
58 N. Ann Street, #8 — Chumash
Ventura, CA, 93001
Phone: (209) 601 - 4676
brendamguzman@gmail.com

Barbareno/ Ventureno Band of Mission Indians
Annette Ayala,
188 S. Santa Rosa Street — Chumash
Ventura, CA, 93001
Phone: (805) 515 - 9844
annetteayala78@yahoo.com

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street — Chumash
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net

Coastal Band of the Chumash Nation
Mariza Sullivan, Chairperson
P. O. Box 4464 — Chumash
Santa Barbara, CA, 93140
Phone: (805) 665 - 0486
cbcntribalchair@gmail.com

Northern Chumash Tribal Council
Fred Collins, Spokesperson
P.O. Box 6533 — Chumash
Los Osos, CA, 93412
Phone: (805) 801 - 0347
fcollins@northernchumash.org

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433
Phone: (805) 481 - 2461
Fax: (805) 474-4729

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 — Chumash
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
kkahn@santaynezchumash.org

Barbareno Band of Chumash Indians
Eleanor Fishburn (nee Arellanes), Chairperson
PO Box 5687 — Chumash
Ventura, CA, 93005
Phone: (805) 701 - 3246
eleanor@spiritinhewind.net

Barbareno Band of Chumash Indians
Barbara Lopez,
PO Box 61041 — Chumash
Santa Barbara, CA, 93160
Phone: (805) 689 - 9528
chumashangels@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Montecito Water District Reservoir Retrofits Project, Santa Barbara County.

Appendix C

California Department of Parks and Recreation (DPR) 523 series forms

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Bella Vista Reservoir and Treatment Plant

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Sections 2 and 11 S.B.**B.M.**

c. Address: 2750 Bella Vista Drive City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 155-030-042

***P3a. Description:**

Located at 2750 Bella Vista Drive, the Bella Vista Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), control building (circa 1975), water treatment plant (1993), settling basins (1993), pumping station (1993), tank (ca. 1993) and blower (circa 2018). Bella Vista Reservoir is a 2.25-MG-capacity reinforced concrete water distribution reservoir. Built on a steeply sloping hillside, the reservoir is rectangular in plan measures approximately 132 feet long, 94 feet wide, and 24 feet deep. Original construction plans show that, the reservoir's basin is trapezoidal in cross-section. At the north end, the walls are embedded entirely in the ground and the roof is essentially flush with the adjacent terrain. The remaining sides of the reservoir were not accessible during the field survey, but construction plans suggest that other walls are increasingly exposed as the hill slopes downward to the south. The reservoir's reinforced concrete roof consists of panels supported by metal columns on the interior of the structure. The top of the roof is planted with a lawn. Notable alterations since the initial development of the facility include the construction of the pump station and blower on the reservoir's northeast and northwest corners, respectively.

Located at the northeast corner of the reservoir is the pump station building, a one-story building exhibiting elements of Mediterranean Revival-style architecture. It is rectangular in plan, sits on a concrete foundation, and culminates if a side-gabled roof with clay-barrel-tile cladding and exposed rafter tails. Its concrete-block structural system is sheathed in rough stucco with detailing suggesting arches on the east and west elevations. The entrance is located on the south elevation and features glazed double doors, one of which also includes a louvered vent. Aside from the door glazing, there are no windows. A metal pipeline from the pumping equipment inside the building emanates from the south elevation before immediately curving downward into the ground. The building is in good condition and shows no evidence of alteration.

See continuation sheet, p. 4.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir; water tank); HP9. Public utility building; HP4. Ancillary building

***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Top of Bella Vista Reservoir with blower (R) and pump station (L) in background, view to the northwest.

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

See B6. Construction History.

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

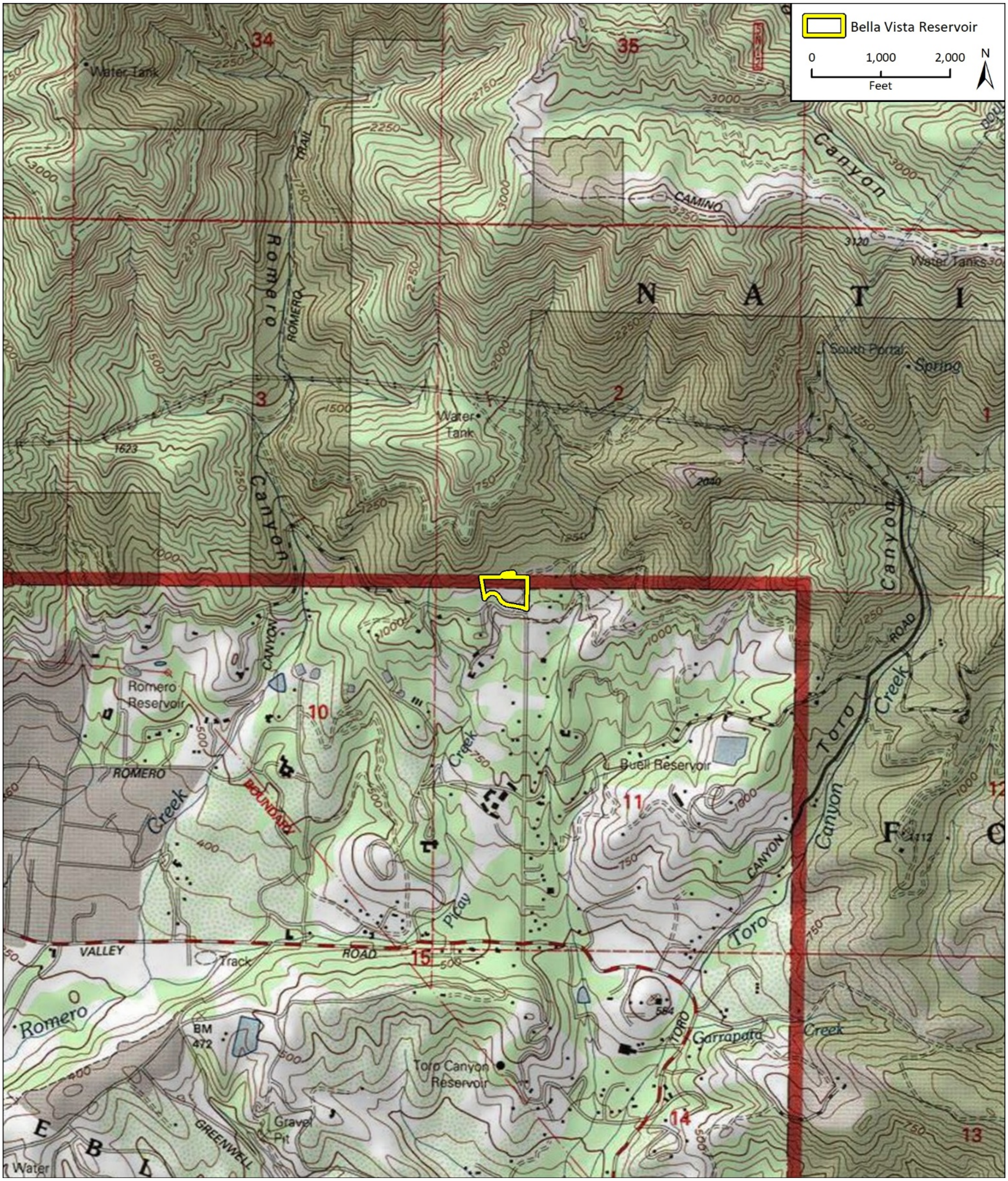
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 5 ***Resource Name or #** Bella Vista Reservoir and Treatment Plant
***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Bella Vista Reservoir and Treatment Plant ***NRHP Status Code** 6Z

B1. Historic Name: Bella Vista Reservoir
B2. Common Name: N/A
B3. Original Use: Municipal water treatment and distribution B4. Present Use: Municipal water treatment and distribution
***B5. Architectural Style:** Mediterranean Revival
***B6. Construction History:**

Bella Vista Reservoir was constructed in 1975, the control center circa 1975, the pump station and treatment plant building in 1993; the water tank and settling basins circa 1993, the blower circa 2018 (UCSB 1975; District 2021; SPH Associates 1994; NETROnline 1994; Tetra Tech 2018).

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

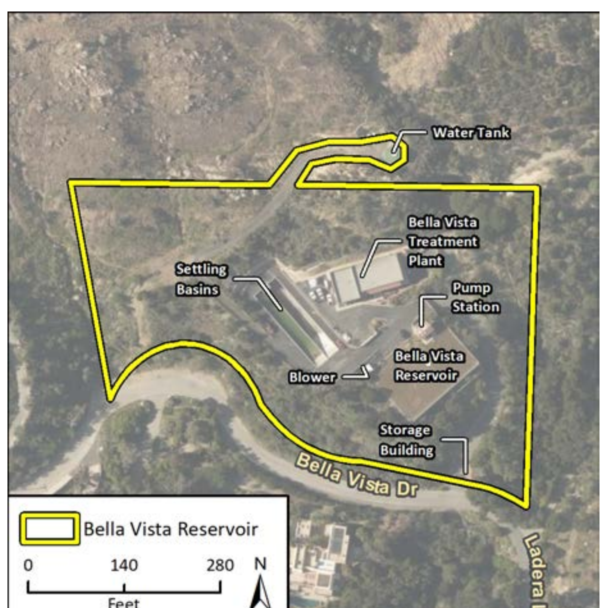
Historical aerial photographs suggest the site of Bella Vista Reservoir and Treatment Plant remained undeveloped until the reservoir was constructed in 1975 (UCSB 1975; NETROnline 1967). Charles E. Watson and Jerry D. Smith of the Santa Barbara-based engineering firm Penfield & Smith designed the reservoir and presumably, the extant control station, which also appears on site plans drawn in 1974. Montecito County Water District (MCWD) chief engineer, H.O. (Harold Orman) Mendenall, signed off on the plans (Penfield & Smith Engineering 1974). In 1993, the facility was substantially expanded to include the Bella Vista Treatment Plant and the pump station (District 2021; SPH Associates 1992). The expansion project likely also included construction of the water tank and settling basins, which are depicted for the first time in available historical aerial photos in 1995 (UCSB 1995). With its completion, Bella Vista Treatment Plant became the District's principal treatment facility for water sourced from Jameson Lake. Circa 2018, the facility was expanded further with the construction of the blower (Tetra Tech 2018).

Research for this study found no information suggesting the facility's original designers, Charles C. Watson or Jerry D. Smith of the firm Penfield and Smith Engineering, were significant in the field of engineering. The firm was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina and an airport master plan (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water system engineering and the design of residential, among other types of projects, in Santa Barbara County (Santa Maria Times 9/24/1969; 8/31/1974; Santa Ynez Valley News 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson or Jerry D. Smith was uncovered as a result of research for this study.

See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 5.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021



(This space reserved for official comments.)

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation □Update

P3a. Description (continued):
The blower is located at the southeast corner of the reservoir and consists of water treatment equipment housed in a one-story building designed in a style similar to that of the pump station. It has a rectangular plan, concrete foundation, and a gabled roof with clay-barrel-tile cladding and exposed rafter tails. Exterior cladding is rough stucco. A single entrance is located on the east elevation and features solid wood or metal double doors. A louvered vent penetrates the opposing elevation, and a large metal pipeline emanates from the south elevation before immediately curving downward into reservoir. The building is in good condition and shows no evidence of alteration.

Located north of the reservoir, across the parking lot and internal roadway, the Bella Vista Water Treatment Plant building is one-story in height and exhibits Mediterranean Revival-style architectural elements. The building is roughly rectangular in plan, rises from a concrete foundation, and is capped with a flat rood with rolled composition sheeting. Its exterior is entirely stuccoed. On the south elevation, three front entrances featuring glazed double doors of various configurations are located behind an arcade capped in clay barrel tiles. Secondary entrances, including a loading bay, are located on the east and west elevations, with a smaller arcade marking the east entrances. Windows include two square, fixed, multi-pane windows immediately west of the main entrance and a large, arched, metal framed, multi-pane focal window at the west end of the south elevation. The facility is in good condition and exhibits no notable alterations.

Located immediately west of the building are the settling basins. Consisting of two parallel concrete troughs built into the ground, the feature measures approximately 40 feet wide and 140 feet long. The troughs are characterized by straight concrete walls on all but the southwest end, where concrete ramps descend from ground level toward the interior of the feature. The structure is instrumental in the cleaning of the treatment plant's water filters. Pumping equipment installed at the north end of the feature passes water between the basins and the treatment plant. Water is stored temporarily in the basins to clear sediment from the water by allowing it settle on the basin floor. The water in the basin is then reintroduced to the distribution system.

Situated on a hilltop immediately north of the treatment plant building, is a water tank. Constructed of riveted steel, the cylindrical structure measures approximately 20 feet in height and 25 feet in diameter. It is situated on a concrete slab foundation and capped with a low-pitched conical top, on which a stovepipe shaped ventilator installed at the center point. On the southwest side, a ladder accesses the roof, which is encircled with a metal railing. The structure is in good condition and shows no evidence of notable alteration.

The control building is located downhill and to the south the reservoir, near the facility's entrance on Bella Vista Drive. It is a one-story building of generally utilitarian design. It is roughly rectangular in plan but rounded at the corners. The hipped roof is clad in clay-barrel tiles, suggestive of the Mediterranean Revival-influenced details found elsewhere on the property. The exterior consists of structural board-formed concrete, in addition to a band of sheet metal, which is just below the roof. Located on the west elevation, the sole entrance includes a solid wood or metal door. The building is in good condition and does not appear to be altered.

The facility occupies terrain that is generally hilly and covered with scrub vegetation. Artificial landscaping includes mature trees, shrubs, and, as mentioned above, the lawn planted on the reservoir roof. Hardscaping consists of an asphalt-paved internal roadways and parking areas. Development in the surrounding area is characterized by large residential properties.

B10. Significance (continued):
Historical Resources Evaluation

The Bella Vista Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Bella Vista Reservoir was one of at least three reservoirs the District constructed in the Post-World War II era. The facility was augmented in 1993 with the construction of the Bella Vista Water Treatment Plant and related buildings and structures. The development of the Bella Vista facility was part of the gradual expansion of the of the District's system since its inception in the 1920s. However, this expansion was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a reliable water system. The Bella Vista Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Terminal Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Initially developed in 1975, the Bella Vista Reservoir is a 2.25 MG-capacity, reinforced concrete reservoir with a flat, reinforced concrete roof supported by a system of metal columns. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Water storage and distribution reservoirs are of common design, and there is no evidence suggesting the Bella Vista Reservoir represented any particular engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Watson or Smith can be considered masters, and regardless, as a simple concrete-lined structure, the Bella Vista Reservoir would not be considered an example of a master's work. The facility's remaining built environment features, including the control center, pump station, blower, water treatment plant, settling basins, and water tank, likewise exhibit no architectural or engineering distinction. Although the buildings on the property represent a shared Mediterranean Revival-style theme, they each embody relatively restrained examples of the style and are not individually or collectively distinguished by their design. The settling basins and water tower are utilitarian structures and no evidence suggests they are notable for their design. Although the designers of these buildings and structures were not in all cases identified, there is nothing apparent in their designs to suggest any of these would be considered an exemplary work of any master. Therefore, the Bella Vista Reservoir and Treatment Plant is Recommended ineligible under NRHP Criterion C/CRHR Criterion 3. *See continuation sheet, p. 5.*

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):
Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Bella Vista Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):

Construction Star
2021 Construction Star [web site]. https://www.constar1.com/wbf_aec_yellow-pages_listings.asp?cid=%7B19D5F65F-6C81-4643-A47D-49E4B63FFB26%7D&num_per_page=10&start=399. Accessed April 27, 2021.

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2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

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2021 “Water Treatment,” MWD web site. https://www.montecitowater.com/our-water/water-treatment/. Accessed April 28, 2021.

National Environmental Title Research (NETRonline)
Var. “Historic Aerials.” [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.

Penfield and Smith Engineering, Inc.
1974 Construction Plans for 2 M.G. Bella Vista Reservoir, Montecito County Water District. September. Document obtained via the Montecito Water District, Montecito, CA.

SPH Associates
1992 Bella Vista Site Backwash & Potable Water Supply Pumping Station Elevations. May. Document obtained via the Montecito Water District, Montecito, CA.

Santa Maria Times
1969 “County Refuse Workers Get Weird Days Off,” September 24. www.newspapers.com. Accessed April 16, 2021.
1974 “Subdivision Plan Gets Review,” August 31. www.newspapers.com. Accessed April 16, 2021.

Santa Ynez Valley News (Solvang, CA)
1968 “Planners OK Tract Map Extension,” April 11. www.newspapers.com. Accessed April 16, 2021.
1973 “Water Zone Study Due,” March 1. www.newspapers.com. Accessed April 16, 2021.
1973 “SMID Board to Survey Areas in Effort to Save on Energy,” November 29. www.newspapers.com. Accessed April 16, 2021.

Tetra Tech
2018 Improvements at Bella Vista Treatment Plant. Construction plans obtained via the Montecito District.

University of California, Santa Barbara (UCSB) Library
1975 Aerial photograph of the APE and vicinity. Flight HB ,Frame XQ-116 and Flight AMI_SBA_75, Frame 7729. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code **Reviewer** **Date**

 ***Resource Name or #:** Buena Vista Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Section 09 S.B.**B.M.**

c. Address: N/A City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 155-030-042

***P3a. Description:**

Constructed in 1939, Buena Vista Reservoir is located approximately 0.4 miles northwest of the intersection of Park lane and Mariposa Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir, which is circular in plan and measures approximately 80 feet in diameter and 23 in height, not including the roof . Exterior walls are constructed of vertically oriented board-formed concrete, while the flat roof is clad in non-original standing-seam metal sheeting with a box-shaped ventilator. Original plans for the reservoir indicate the roof structure consists of steel-truss stringers supporting tensile steel purlins, which in turn to support 1-by-6 wood slats covered with “90 lb. mineral covered roof paper,” that has since been replaced with the existing standing-seam metal surface (MCWD 1938a). Additional support for the roof frame is provided inside the reservoir by several steel-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is filled with mesh. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending east of the structure. The reservoir is enclosed with a chain-link fence.

The reservoir is situated on a level, excavated hillside site on the north side of Park Lane. Its immediate surroundings characterized by sloping terrain with grasses, oaks, eucalyptus, shrubs, and other planted and wild-growing vegetation. Hardscaping includes an asphalt-paved lot and private roadway immediately south and southeast of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

***P3b. Resource Attributes:** HP9. Public utility

***P4. Resources Present:** ☐ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Buena Vista Reservoir, view to the south

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

1938 (MCWD 1938a)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

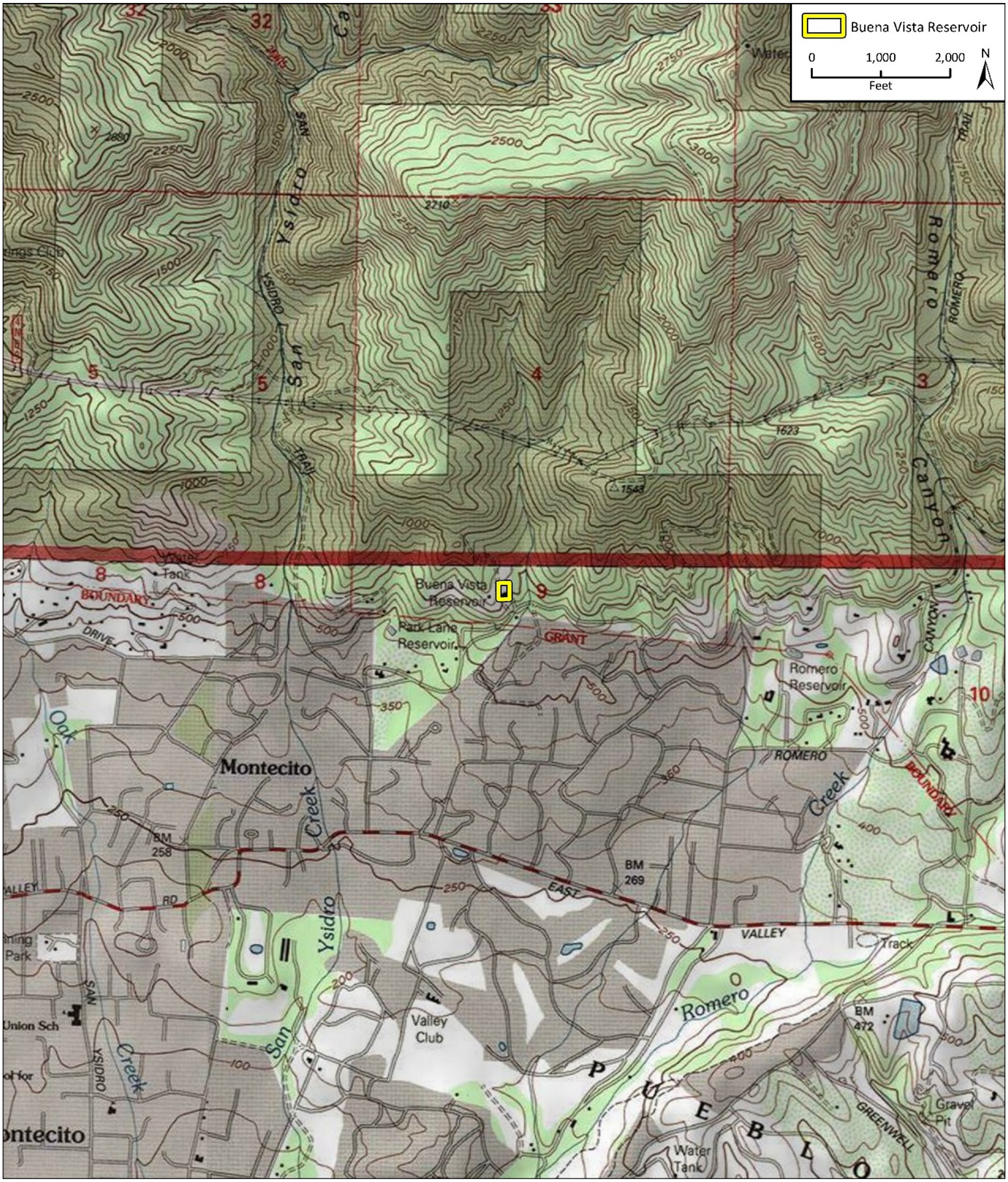
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4 ***Resource Name or #** Buena Vista Reservoir
***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Buena Vista Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Buena Vista Reservoir
B2. Common Name: N/A
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

The reservoir was constructed in 1938 and has been subject to no notable alterations (MCWD 1938a).

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

A historical aerial photograph taken in 1928, depicts the site of Buena Vista Reservoir as an undeveloped property on the edge of an area sparsely developed with residences and farms (UCSB 1928). The District constructed the reservoir in 1939, using a design adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir. In his capacity as the Montecito County Water District's (MCWD) Chief Engineer, Carl Wyant approved the plans (MCWD 1938a). The reservoir may have been constructed as part of a planned expansion by the District, as suggested by the fact that the subject reservoir and district's Hot Springs facility were constructed the same year and based on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs indicate there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004).

Historical Resource Evaluation

The Buena Vista Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Buena Vista Reservoir was constructed in 1939 in conjunction with the Hot Springs Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Buena Vista Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

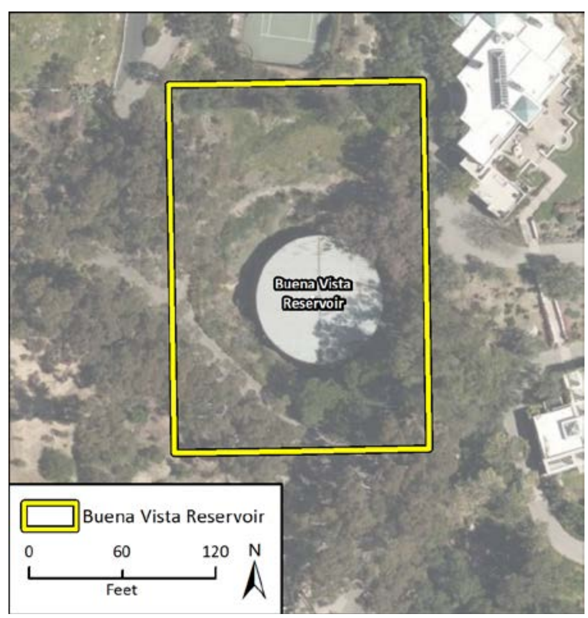
See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):
Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Buena Vista Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is a notable engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Buena Vista Reservoir is comparatively not a good example of Wyant's work. As such the Buena Vista Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Montecito County Water District (MCWD)
1938a Buena Vista Reservoir—Montecito County Water District. July. Document obtained via the Montecito Water District, Montecito, CA.
1938b Hot Springs Reservoir—Montecito County Water District. May 2. Document obtained via the Montecito Water District, Montecito, CA.
National Environmental Title Research (NETROnline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.
University of California, Santa Barbara Library (UCSB)
1928 Aerial photograph of the project area and vicinity. Flight C-311c, Frame C-14. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

Page 1 of 4 ***Resource Name or #:** Cold Springs Reservoir

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ■ Unrestricted ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Santa Barbara* **Date:** 1952 Township 04N, Range 27W, Section 01 S.B.**B.M.**

c. Address: N/A City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 013-040-005

***P3a. Description:**

Constructed circa 1925, Cold Springs Reservoir is located approximately 900 feet west of the intersection of Cold Springs Road and East Mountain Drive. The property consists of a 0.99 MG-capacity reinforced concrete distribution reservoir built into the hillside. It is rectangular in plan and measures approximately 60 feet wide, 100 feet long, and 22 feet deep, with 2 to 10 vertical feet of the walls visible above ground. Exterior walls are constructed of board-formed concrete, with concrete buttresses visible on downslope (south) elevation. Clad in non-original standing-seam metal, the gabled roof is supported along the perimeter by metal framing, with mesh enclosing the vertical space between the concrete walls and the roofline. Evenly spaced ridge caps are likewise enclosed on the sides with mesh. A chain-link fence encircles the reservoir.

The facility is situated on hilly terrain and its surroundings characterized by grasses, oaks, eucalyptus, palms, and other varieties of planted and wild-growing vegetation. A dirt road passes through the north end of the subject parcel. Located nearby on separate parcels to the north and south are two abandoned concrete reservoirs, in addition to various features of stone construction that are historically associated with the Ellen and H.E. Bothin's Mar Y Cel property

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir)

***P4. Resources Present:** ☐ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Cold Springs Reservoir, north and east elevations, view to the southwest

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

Circa 1925 (MCWD 1924)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

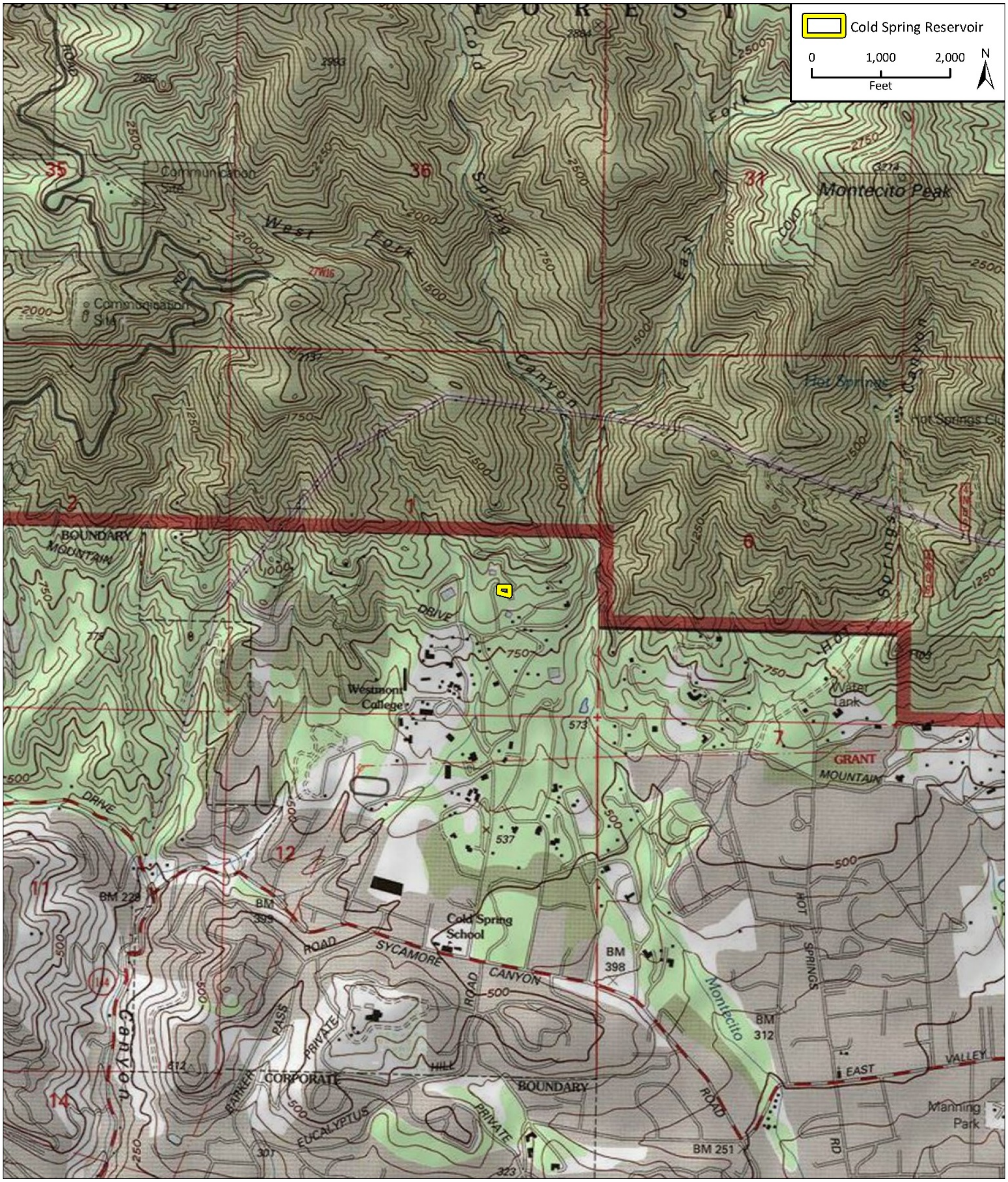
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4
***Resource Name or #** Cold Springs Reservoir
***Map Name:** *Santa Barbara* ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Cold Springs Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Bothin Reservoir
B2. Common Name: Cold Springs Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Original construction plans and information provided by the Montecito Water District suggest the reservoir was constructed circa 1925 (MCWD 1925; C.R. Reily Machine Works 1925). The roof cladding is non-original, but the date of this alteration could not be determined.

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Prior to the development of Cold Springs Reservoir circa 1925, the parcel on which the reservoir is located was likely part of a large estate owned by San Francisco-based real estate developer Henry E. Bothin and his wife Ellen. During the previous decade, the Bothins developed the adjacent hillside as Mar Y Cel, an expansive property featuring elaborate gardens and waterworks, at least three reservoirs, and a hilltop tea house (Barnes 2018). By 1924, the Montecito County Water District (MCWD) identified the property as a site for reservoir development. That year, plans were drawn for the subject reservoir basin, under the original name Bothin Reservoir. The plans credited Carl Wyant, resident engineer of the MCWD, and Charles Leeds, of the Los Angeles-based engineering firm Leeds & Barnard, which served as a consulting engineer during to the District's during its initial development (MCWD 1924). In 1925, C.D. Reily Machine Works completed plans for the reservoir's original roof, the top of which included wood planks sheathed in 1-ply roofing paper with a layer asphalt and gravel added to the exterior surface (C.D. Reily Machine Works 1925). The roof cladding detailed in the 1925 plans eventually replaced or covered with the existing standing-seam metal roof. Research for the current study did not determine the date of installation of the extant roof cladding. While the subject reservoir's setting has changed somewhat due to nearby development and the abandonment of the older Bothin reservoirs, historical aerial photographs and information via the District obtained via suggest that, other than the replacement of the roof, to the subject reservoir has been subject to no notable alterations (NETROnline 1967; 2016; UCSB 1947).

As discussed above, research for the current study identified individuals and firms associated with the construction and alteration of the reservoir. The District's consulting engineers, Leeds & Barnard, designed the reservoir. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004). Research for this study uncovered no information of consequence regarding the designer of the reservoir's roof, the C.D. Reilly Machine Works. *See continuation sheet, p. 4.*

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):

The reservoir is located near features associated with the Bothin family's Mar Y Cel property, including two reservoirs, a drainage canal, and a winding roadway supported by sandstone retaining walls that leads to the location of the property's Tea House. However, the Cold Springs Reservoir is currently located on its own parcel and research for this study found no evidence it was ever directly associated with the Bothin property.

Historical Resources Evaluation

The Cold Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the construction of the Cold Springs Reservoir by the District in 1925 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Cold Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Park Lane Reservoir was constructed by the MCWD on property that was likely once part of the estate of Ellen and H.E. Bothin. The Bothins may be significant for their contributions in industry and real estate development. However, although they previously owned the land on which Cold Springs Reservoir was constructed, there is no evidence they were directly involved in the reservoir's construction or operation. As such, associations with the Bothins would not qualify the reservoir for listing under NRHP Criterion B/CRHR Criterion 2. Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation.

The Cold Springs Reservoir is a 0.99 MG-capacity reinforced concrete distribution reservoir with a gabled roof sheathed in standing-seam metal and supported by a wood-frame structural system. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Cold Springs Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated designers Leeds and Barnard, Wyant, or C.D. Reily Machine Works can be considered masters, and regardless, as a simple concrete-lined structure with a metal-framed roof structure, the Cold Springs Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):

Barnes, Kathryn
2018 "Tea Parties, Skateboarders and Wildfires: The Story of Montecito's Mar y Cel," KCRW [web site]. August 24. https://www.kcrw.com/culture/shows/curious-coast/tea-parties-skateboarders-and-wildfires-the-story-of-montecitos-mar-y-cel. Accessed April 26, 2021.

C.D. Reily Machine Works
1925 Bothin Reservoir—Montecito County Water District. May 13. Document obtained via the Montecito Water District, Montecito, CA.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

Manuscripts Division, UCLA Library, Department of Special Collections (Manuscripts Division)
1999 "Finding Aid for the Charles Tileston Leeds Papers, 1904-1960." Online Archive of California [website]. https://oac.cdlib.org/findaid/ark:/13030/tf4v19n9b1/dsc/. Accesssed April 16, 2021.

Montecito County Water District (MCWD)
1924 Bothin Reservoir—Montecito County Water District. May 13. Document obtained via the Montecito Water District, Montecito, CA.

National Environmental Title Research (NETRonline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.

United States Congress
1939 Military Establishment Appropriation Bill for 1940: Hearings Before the Subcommittee of the Committee on Appropriations, House of Representatives, Seventy-sixth Congress, First Session, on the Military Establishment Appropriation Bill for 1940. Obtained via Google Books. https://www.google.com/books/edition/Military_Establishment_Appropriation_Bil/24E0AAAAIAAJ?hl=en&gbpv=0. Accessed April 27, 2021.

University of California, Santa Barbara (UCSB) Library
1947 Aerial photograph of the project area and vicinity. Flight GS_EM, Frame 4-94. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code **Reviewer** **Date**

Page 1 of 6 ***Resource Name or #:** Doulton Reservoir and Treatment Plant

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 4N, Range 26W, Section 01 S.B.**B.M.**

c. Address: 1075 Toro Canyon Road City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: Portion of APN 155-020-007

***P3a. Description:**

Located at 1075 Toro Canyon Road, Doulton Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), caretaker's residence (circa 1940), water treatment plant (circa 1920s with alterations made circa 1975 and 1993), and ancillary building (circa 1965). Doulton Reservoir a 0.25-MG welded steel tank reservoir that stores treated water from Jameson Lake. Measuring 36 feet in height and 36 feet in diameter, the structure is situated on a circular concrete foundation and as suggested by original construction plans, is capped with a steel roof with a mushroom cap vent. A metal ladder is affixed to and ascends the south side of the reservoir, while pipelines emerge from various locations on the exterior. Located near the foot of the reservoir's south side, the manway entrance is accessed via a circular riveted steel door. The structure is in good condition and exhibits no notable alterations.

Situated immediately north of the reservoir is the water treatment plant building. Utilitarian in design, the highly altered one-story building has a rectangular plan, concrete foundation, and front gabled roof with standing-seam-metal cladding. Exterior walls include a lower band of structural concrete-block construction and upper section clad in sheet metal panels. Entrances are located on the east and west elevations and are accessed via a large metal double door on the west and a standard-size glazed metal door on the east. Windows with non-original vinyl sashes penetrate the east and south elevations. A shed roof extension supported by a metal-pole frame extends from the north elevation. The building is in fair condition and has been subject to substantial modification. Circa 1975, the west end of the building was removed and the west elevation reconstructed. In addition, visual inspection suggests the existing concrete-block walls are a non-original feature constructed to augment the building's height. This may have been completed in 1993, when the building was converted for use as a water treatment plant. Finally, all window sashes have been replaced and a likely non-original door was installed on the west elevation.

See continuation sheet, p. 4.

***P3b. Resource Attributes:** HP9. Public utility; HP4. Ancillary building; HP2. Single family property

***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Doulton Reservoir with treatment plant to the right, , view to the northeast

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

See B6. Construction History, p. 3.

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

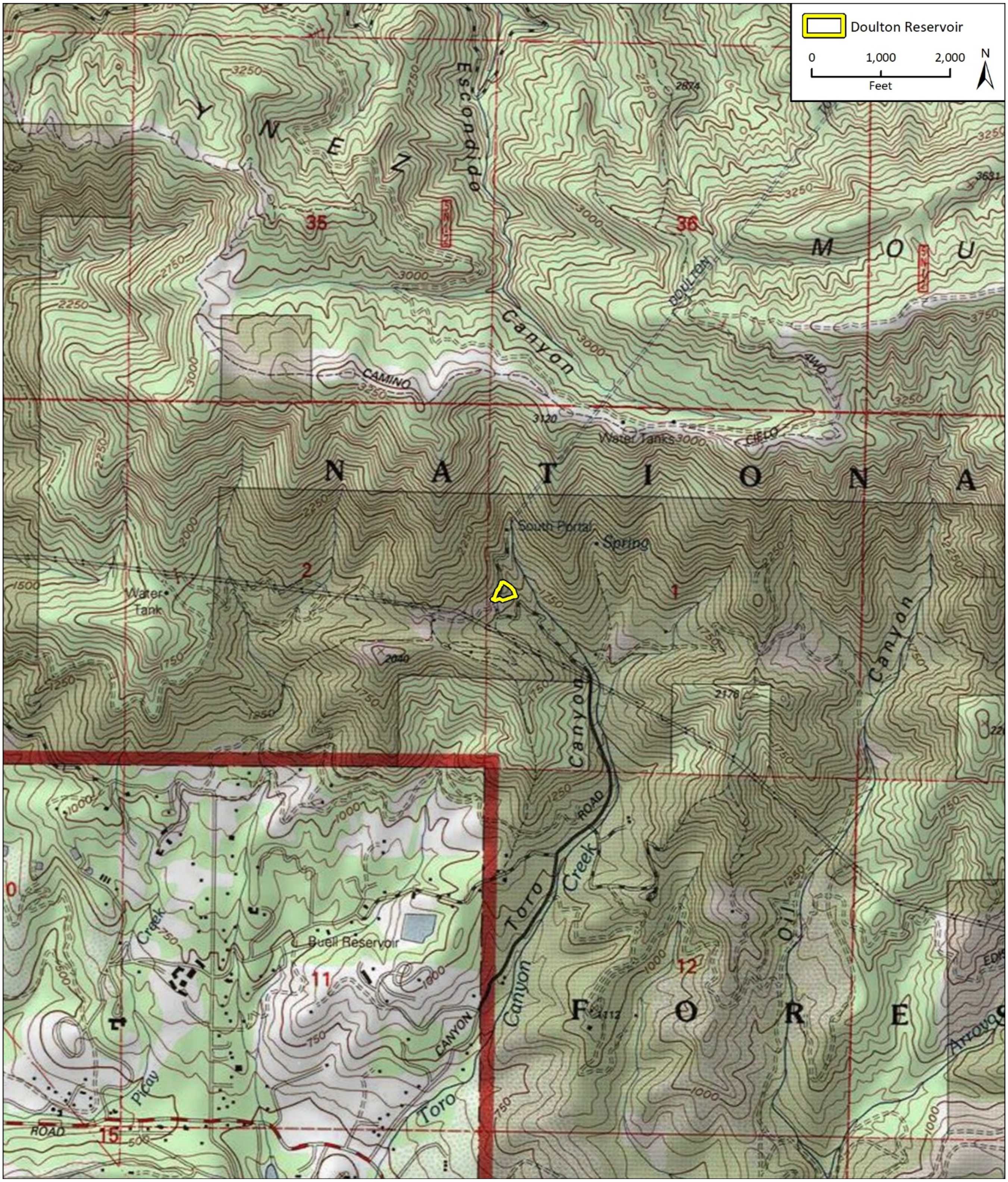
State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 6 ***Resource Name or #** Doulton Reservoir and Treatment Plant

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1953



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Doulton Reservoir and Treatment Plant ***NRHP Status Code** 6Z

B1. Historic Name: Doulton Reservoir
B2. Common Name: N/A
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Historical aerial photographs, construction plans, and information provided by the Montecito Water District suggest the treatment plant building was constructed ca. 1928, truncated circa 1975, and raised in 1993 (UCSB 1928; 1968; MCWD 1975). Per visual inspection, the caretaker's residence appears to have been built circa 1940. Historical aerial photographs indicate the ancillary building was constructed circa 1965 (UCSB 1961; 1968). Building plans and information provided by the Montecito Water District indicate Doulton Reservoir was constructed in 1975 (Trico—Superior 1975).

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Trico—Superior (reservoir design) b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Historical aerial photographs suggest the site of Doulton Reservoir was developed by 1928 (UCSB 1928). A photograph taken that year depicts at least six buildings clustered near the present location of the treatment plant. Of the buildings depicted in the 1928 photograph, only one is extant, a former shop building that was converted into the water treatment plant building in 1993. The facility is located approximately 800 feet south of the south portal of the Doulton Tunnel and may have been associated with tunnel's construction, which was supervised by Montecito County Water District (MCWD) chief engineer Carl Wyant between 1924 and 1928. Research for the current study, however, did not definitively confirm any such association. As suggested by its building materials, the caretaker's residence was likely added to the property in the 1930s or 1940s. An aerial photograph taken in 1961 shows that, except for the treatment plant/shop building, all the buildings depicted in 1928 were removed from the property, and the caretaker's residence had been constructed (UCSB 1961). Taken in 1968, the next available aerial photograph of the site depicts what may be ancillary building, which, as a subsequent site plan suggests, housed a weir (UCSB 1968; MCWD 1971).

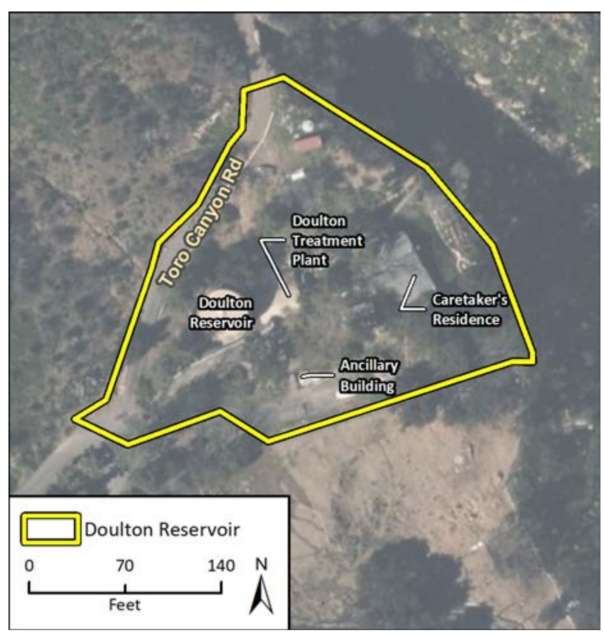
By 1971, the site consisted of a shop building, caretaker's residence, the ancillary building, and a storage building (not extant). Additionally, an 8-inch pipeline, presumably a distribution pipeline from Doulton Tunnel, traversed the site with connections to the ancillary building (MCWD 1971). In 1975, Charles C. Watson of the engineering firm Penfield & Smith drew plans to augment and reorganize the facility. The work was completed that year and included the removal of the west end the building now housing the water treatment plant, construction of the reservoir adjacent to the water treatment plant, and abandonment of the weir (Penfield & Smith 1975; Hanson 2021). Trico—Superior, Inc. provided plans for the reservoir, which were based on the American Water Works Association's D100-73 standards for steel water tank design and construction (Trico—Superior 1975; AWWA 2021). In 1993, the water treatment plant was completed inside the former shop building. Based on visual inspection of the building's construction materials, it is likely that the building's concrete base was constructed to accommodate its conversion. With completion of the water treatment plant, the Doulton facility began distributing treated water directly to District subscribers (Hanson 2021). Historical aerial photographs of the site suggest no notable alterations have been made to the facility since (NETROnline 1993-2016).

See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 5.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



P3a. Description (continued):
The caretaker's residence is located approximately 50 feet northeast of the water treatment plant. The one-story, Minimal Traditional-style building has an L-plan, sits on a concrete foundation, and culminates in a cross-gabled roof with asphalt shingles. Its exterior consists principally of structural concrete, but also includes smaller horizontal wood plank and stucco cladding in the gable ends and plywood wall cladding on a small addition. Facing southwest, the front entrance is situated beneath a gabled porch roof with wood knee-brace supports. The secondary entrance features a non-original glazed wood-panel door. Windows are generally multi-pane steel casements, though aluminum horizontally sliding aluminum sashes, likely non-original, appear at the rear of the building. A large, east-elevation addition approximately doubled the building's original size.

South of the treatment plant building is the ancillary building. Built on a steep hillside, the one-story utilitarian structure is rectangular in plan, sits on a concrete-block foundation, and is capped with a corrugated-metal-clad gabled roof. Corrugated metal sheathes the building's wood-frame structure. The building's north-facing elevation features a wood-panel door. Windows include fixed, single-pane wood sashes. The building is in moderate condition.

The property occupies generally hilly terrain covered with scrub vegetation. Artificial landscaping is confined to the area around the caretaker's residence and includes a front and rear lawn, mature trees, and ornamental plants. Hardscaping consists of an asphalt-paved internal roadway and parking areas and concrete footpaths. The surrounding area is largely undeveloped, with sparse residential development south and east of the reservoir and mountainous wilderness to the north and west.

B10. Significance (continued):
Research for this study found no information suggesting any firms, engineers, or other individuals associated with the design of the facility were significant in their fields. Charles C. Watson worked for the firm Penfield & Smith Engineering, which was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water systems engineering and the design of residential subdivisions, among other types of projects (Santa Maria Times 9/24/1969; 8/31/1974; Santa Ynez Valley News 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson. Research likewise uncovered no pertinent information regarding the reservoir's designer, the firm Trico—Superior was uncovered as a result of research for this study.

Historical Resources Evaluation

The Doulton Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the District's development of the site may have begun as early as the 1920s and in conjunction with the construction of the Doulton Tunnel. However, a review of aerial photographs and construction plans suggests the only extant feature at the site potentially dating from this period is the water treatment plant building, which was substantially altered in the latter half of the twentieth century and, thus, would not retain sufficient integrity to convey any association with the development of Doulton Tunnel. Moreover, whatever the integrity of the water treatment plant, all other buildings dating from the period of the tunnel's construction were removed from the property by 1961. The removal of these buildings undermined the overall integrity of the property such that it has lost its ability to convey any associations it may have acquired during the tunnel's construction. Subsequent development of the site, including the construction of the caretaker's residence, ancillary building, and reservoir, in addition to the alteration and conversion of the treatment plant building, was associated with the gradual expansion of the District's distribution system that has taken place since its establishment. Archival research did not find that the Doulton Reservoir and Treatment Plant is noteworthy or unique within this context. Rather, this expansion was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for reliable water system. The Doulton Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research identified one individual directly associated with the Doulton Reservoir and Treatment Plant, Charles C. Watson. However, because Watson's associations with the site pertain to the redesign carried out in 1975, his potential for significance is addressed under Criteria C/3 below. In addition, despite the property's potential association with the development of Doulton Tunnel, no evidence suggests the site is strongly associated with the contributions of project's supervising engineer, Carl Wyant. Therefore, Doulton Tunnel and Treatment Plant is not associated with any individual whose contributions would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Doulton Reservoir and Treatment Plant consists of a water distribution reservoir, treatment plant, caretaker's residence, and ancillary building. The reservoir is a 0.25-MG welded steel tank reservoir. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). That the Doulton Reservoir was constructed according to standardized plans would suggest that the structure was one of many such reservoirs constructed in the same period. Furthermore, there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Carl C. Watson or the firm Trico—Superior can be considered masters, and regardless, as a simple steel structure of standardized design, the Doulton Reservoir would not be considered an example of a master's work.
See continuation sheet, p. 5.

***Resource Name or #** Doulton Reservoir and Treatment Plant

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):

The design and construction of the three buildings located on the property also lack distinction of design and construction. The treatment plant and ancillary building are utilitarian buildings of undistinguished design. They are of simple of form, and there is no evidence suggesting they are notable for their materials or methods of construction. In addition, the treatment plant has been subject to considerable alteration, most notably, the removal of its original west end and the raising of the remaining portion of the building onto a non-original concrete block base. The caretaker's residence was designed in the Minimal Traditional style and possesses the style's characteristic restrained architectural detailing. Although its structural concrete construction is atypical, this method of residential construction was adopted widely in the United States in the early decades of the twentieth century and there is no evidence suggesting the residence is significant for its construction (Jackson 2015; ETHW 2021). As such, none of the buildings embody the distinctive characteristics of a type, period, or method of construction, or possess high artistic values. Although their respective designers are unknown, none of the buildings would represent the work of a master. Finally, the site was developed gradually between the 1920s and 1993, and the built environment elements of the property are do not represent a cohesive unit significant for its overall plan. Therefore, the Doulton Reservoir and Treatment Plant is recommended ineligible for listing under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting Doulton Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):

American Water Works Association (AWWA)
2021 "Product Detail: D100-73: AWWA Standard for Welded Steel Elevated Tanks, Standpipes, and Reservoirs for Water Storage." AWWA web site. https://www.awwa.org/Store/D100-73-AWWA-Standard-for-Welded-Steel-Elevated-Tanks-Standpipes-and-Reservoirs-for-Water-Storage-/ProductDetail/29309. Accessed April 27, 2021.

Construction Star
2021 Construction Star [web site]. https://www.constar1.com/wbf_aec_yellow-pages_listings.asp?cid=%7B19D5F65F-6C81-4643-A47D-49E4B63FFB26%7D&num_per_page=10&start=399. Accessed April 27, 2021.

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Hanson, Dennis
2021 Email Correspondence with Dennis Hansen, Engineering Assistant, Montecito Water District. April 21.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

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Montecito County Water District (MCWD)
1971 Doulton Tunnel Plan Showing Ties of Right of Ways & 2 Acre Parcel. May. Document obtained via the Montecito Water District, Montecito, CA.

National Environmental Title Research (NETROnline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed April 26, 2021.

Penfield and Smith Engineering, Inc.
1975 Construction Plans for 0.25 M Gallon Doulton Reservoir, Montecito County Water District. May. Document obtained via the Montecito Water District, Montecito, CA.

Santa Maria Times
1969 "County Refuse Workers Get Weird Days Off," September 24. www.newspapers.com. Accessed April 16, 2021.
1974 "Subdivision Plan Gets Review," August 31. www.newspapers.com. Accessed April 16, 2021.

Santa Ynez Valley News (Solvang, CA)
1968 "Planners OK Tract Map Extension," April 11. www.newspapers.com. Accessed April 16, 2021.
1973 "Water Zone Study Due," March 1. www.newspapers.com. Accessed April 16, 2021.
1973 "SMID Board to Survey Areas in Effort to Save on Energy," November 29. www.newspapers.com. Accessed April 16, 2021.

Trico—Superior, Inc.
1975 36' Dia. x 36' High Doulton Reservoir—A.W.W.A. Tank. Engineering plans obtained via the Montecito Water District.

Continued on next page.

***Resource Name or #** Doulton Reservoir and Treatment Plant

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B12. References (continued):

University of California, Santa Barbara Library (UCSB)

1928 Aerial photograph of the project area and vicinity. Flight C-311c, Frames B-142; C-14; and C-18 . http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

1961 Aerial photograph of the project area and vicinity. Flight BTM-1961, Frame 7BB-30. H ttp://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

1968 Aerial photograph of the project area and vicinity. Flight HB-IU, Frame 47. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Hot Springs Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Santa Barbara* **Date:** 1952 Township 04N, Range 26W, Section 06 S.B.**B.M.**

c. Address: N/A City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 011-030-024

***P3a. Description:**

Constructed in 1939, Hot Springs Reservoir is located approximately 900 feet north of the intersection of Hot Springs Road and Hot Springs Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir. It is circular in plan and measures approximately 80 feet in diameter and 23 feet in height, not including the roof, which adds another 8 inches to its height at its peak. Exterior walls are constructed of vertically oriented board-formed concrete, while the low-pitched conical roof consists of steel framing, pyramidal ventilator, and metal cladding, as suggested by satellite imagery. Original construction plans indicate the roof frame is supported on the interior of the reservoir by several steel-pole columns, which are anchored to the floor of the structure. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending west of the structure. The outlet ditch may have been altered; although original plans for the facility call for a trapezoidal outlet structure, the extant ditch has straight walls (MCWD 1938a).

The reservoir is situated on the west side of Hot Springs Lane, its immediate surroundings characterized by sloping terrain with wild-growing grasses, oaks, and shrubs. Hot Springs Canyon is located immediately to the west, while several surrounding properties are developed with large residential estates.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir)

***P4. Resources Present:** ☐ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Hot Springs Reservoir, west elevation, view to the east

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

1939 (Montecito Water District)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

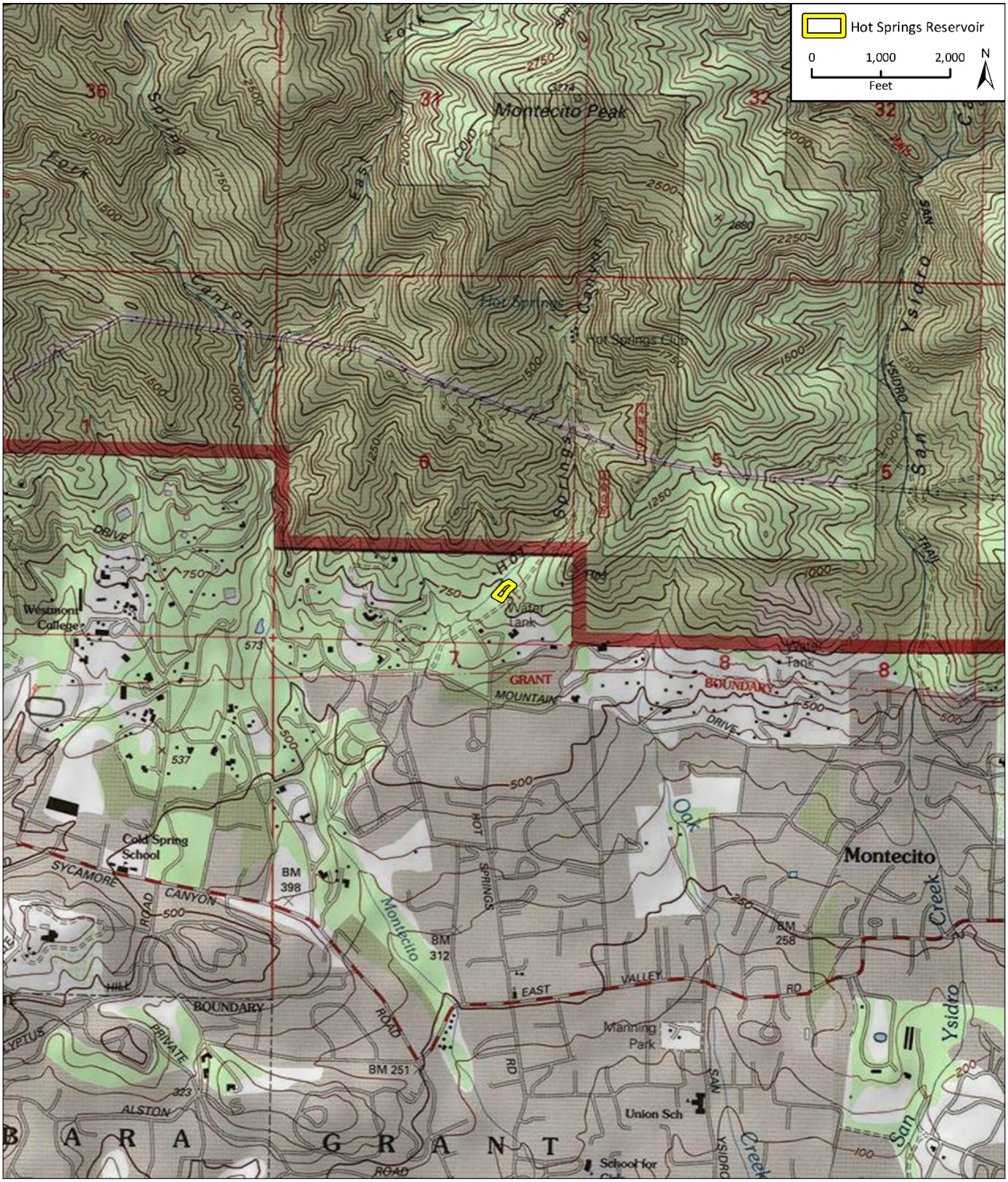
***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

***Resource Name or #** Hot Springs Reservoir

***Map Name:** *Santa Barbara* ***Scale:** 1:24,000 ***Date of map:** 1952



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Hot Springs Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: N/A
B2. Common Name: Hot Springs Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Original construction plans for the reservoir were drafted in 1938 (MCWD 1938a). According to information on file with the Montecito Water District, the reservoir was constructed in 1939.

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: J.V. Spielman b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Historical aerial photographs taken in 1930 and 1935 show that, prior to the construction of Hot Springs Reservoir in 1939, reservoir site was vacant and the surrounding area only sparsely developed with large estates and orchards (UCSB 1930; 1935). The reservoir's design was adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir and approved by Carl Wyant, in his capacity as the Montecito County Water District's (MCWD) Chief Engineer (MCWD 1938a). The reservoir may represent part of a planned expansion by MCWD, as suggested by the fact that District's Buena Vista reservoir was constructed the same year and on the basis on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs suggest there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004).

Historical Resources Evaluation

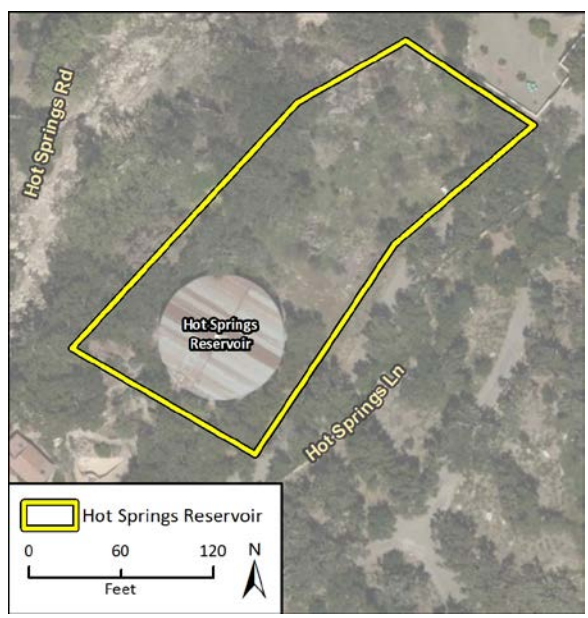
The Hot Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Hot Springs Reservoir was constructed in 1939 in conjunction with the Buena Vista Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Hot Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1). *See continuation sheet, p. 4.*

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Resource Name or #** Hot Springs Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):
Archival research failed to identify any individuals associated with the Hot Springs Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Hot Springs Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Hot Springs Reservoir is comparatively not a good example of Wyant's work. As such the Hot Springs Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Montecito County Water District (MCWD)
1938a Hot Springs Reservoir—Montecito County Water District. May 2. Document obtained via the Montecito Water District, Montecito, CA.
1938b Buena Vista Reservoir—Montecito County Water District. July. Document obtained via the Montecito Water District, Montecito, CA.
National Environmental Title Research (NETRonline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed April 26, 2021.
University of California, Santa Barbara (UCSB) Library
1930 Aerial photograph of the project area and vicinity. Flight C_816, Frame 33. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
1935 Aerial photograph of the project area and vicinity. Flight C-3348, Frame 1. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Park Lane Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Section 09 S.B.**B.M.**

c. Address: 809 Park Lane City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 007-050-013

***P3a. Description:**

Constructed in 1917, Park Lane Reservoir is located approximately 900 feet north of the intersection of the intersection of Park Lane and East Mountain Drive. The property consists of a 1.25 MG-capacity concrete distribution reservoir. The reservoir is rectangular in plan and measures approximately 101' wide and 138 long. The reservoir is completely buried, except for a concrete perimeter that emanates slightly above ground level. Plans obtained via District indicate the basin is of reinforced concrete construction. The flat roof is supported by a wood-frame structural system and clad in non-original corrugated metal. Plans for the reservoir completed in 1924 indicate additional support for the roof frame is provided inside the reservoir by several galvanized-iron-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is secured with screens. The interior of the reservoir is accessed via a wood hatch at the structure's southwest corner. A shallow concrete-lined outlet channel extends to the west of the reservoir. A chain-link fence encloses the area immediately surrounding the reservoir. The structure is situated atop a moderately sloping hill, with a series of seven dry-stacked sandstone retaining walls forming terraces on the hillside just south of the reservoir. Due to the presence of heavy overgrowth, further details regarding the design of the retaining walls were not available.

Except for grasses, the area immediately surrounding the reservoir is free from vegetation. Oaks and a variety of shrubs grow elsewhere on the property. A private dirt road enters the property from the east, terminating near the east side of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir)

***P4. Resources Present:** ☐ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Southeast corner of Park Lane Reservoir, view to the north

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

1917 (*Santa Barbara Daily News and the Independent* 6/21/1917)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**

***P11. Report Citation:**

Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

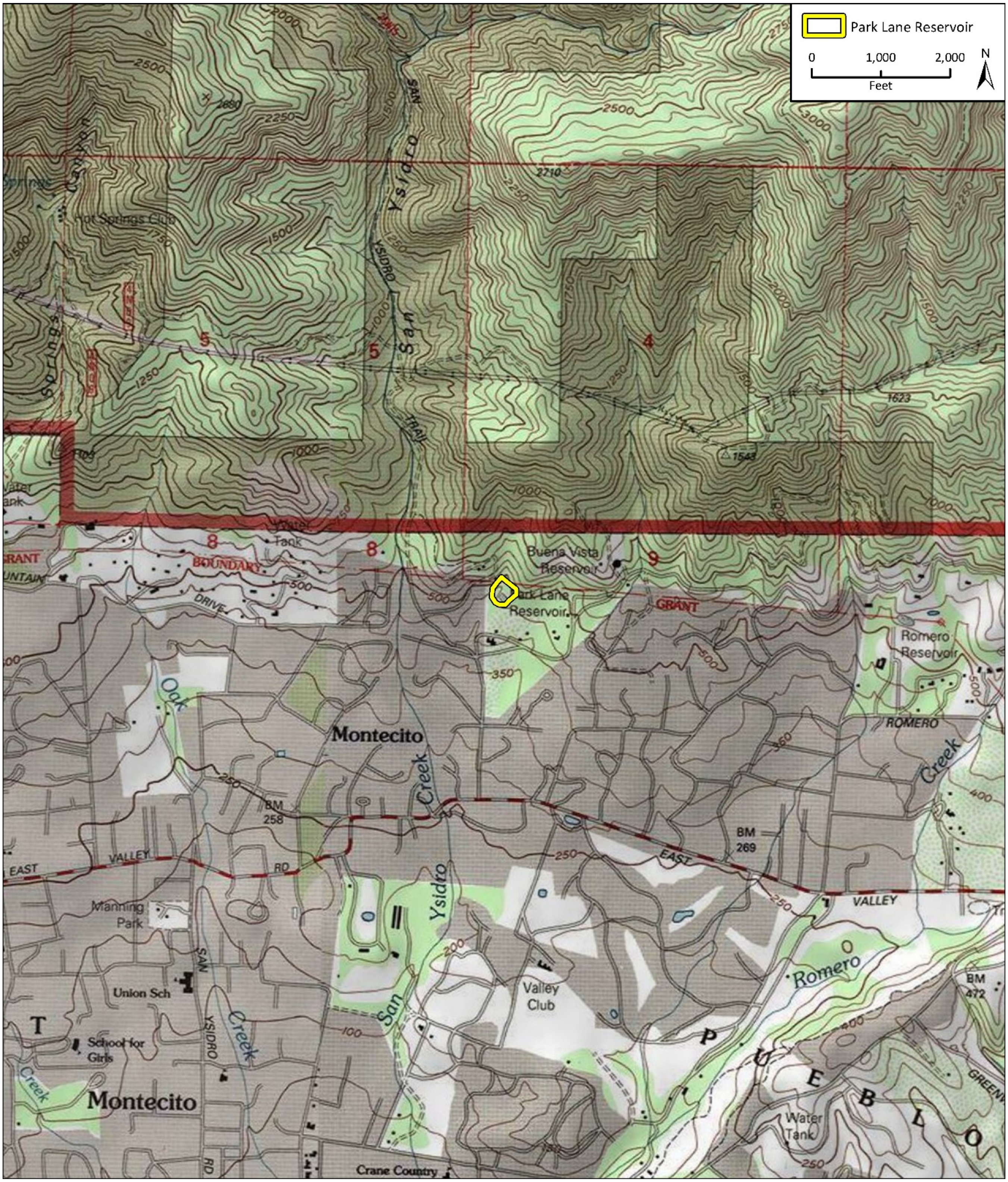
***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

***Resource Name or #** Park Lane Reservoir

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Park Lane Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Carpenter Reservoir
B2. Common Name: Park Lane Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

According to an article published in the *Santa Barbara Daily News and the Independent*, the reservoir was completed in 1917 (6/21/1917). The retaining walls may date from the same period. Plans for the roof were drafted in 1924, and the feature is presumed to have been constructed around the same time (MCWD 1924a).

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Frank F. Flournoy (1917); Leeds and Barnard (1924) b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A

Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Research for the current study indicates Park Lane Reservoir, originally called Carpenter Reservoir, was constructed in 1917 and the extant roof added circa 1924. The Santa Barbara Daily News and the Independent reported in February 1917 that the firm Snook and Henyon of Santa Barbara signed a contract to construct a "million and a quarter gallon reservoir on the F.I. [Frank Ives] Carpenter place in Montecito" (*Santa Barbara Daily News and the Independent* 2/24/1917). In June of that same year, it was reported that excavation for Carpenter's reservoir was underway, only under a contract with engineer Frank F. Flournoy (*Santa Barbara Daily News and the Independent* 6/21/1917). Sometime prior to 1924, it came into the use of the San Ysidro Creek Water Association. In 1924, just three year after its founding, the Montecito County Water District (MCWD) negotiated the purchase of the reservoir from Carpenter and his wife, Emma, for $10.00. Through this agreement the MCWD secured ownership of the parcel containing the reservoir and a right-of-way for a pipeline, in addition to rights to divert "one filling of [the] reservoir each year" from San Ysidro Creek, which per the agreement, was equal to what was recorded in the terms of the agreement as the basin's 1.6 MG capacity. Under the agreement, the MWDC was required to "maintain and preserve the retaining banks of said reservoir and the shrubbery and planting screening the same" (MCWD 1924b). This term of the agreement likely refers to the terraced series of retaining walls immediately downhill from the reservoir, suggesting the sandstone feature was completed sometime between the original construction of the reservoir in 1917 and the property's sale to the MCWD in 1924.

Construction plans on file with the District show that in December 1924, district resident engineer Carl Wyant and consulting engineers Leeds & Barnard designed a wood roof and supporting structure for the reservoir. The extant roof framing is consistent with the 1924 design, though the extant metal cladding is certainly non-original (MCDW1924a). Historical aerial photographs and construction plans indicate that, other than the construction of the roof and supporting structure and replacement of the roof cladding, there have been no substantial changes to the property since the 1920s. Historical aerial photographs suggest the surrounding area was essentially rural at the time of the reservoir's construction, but that residential development has occurred steadily since the 1940s (UCSB 1943; NETROnline 1967-2016). Aside from the replacement of the reservoir's roof cladding, the structure has not been subject to any notable alterations.

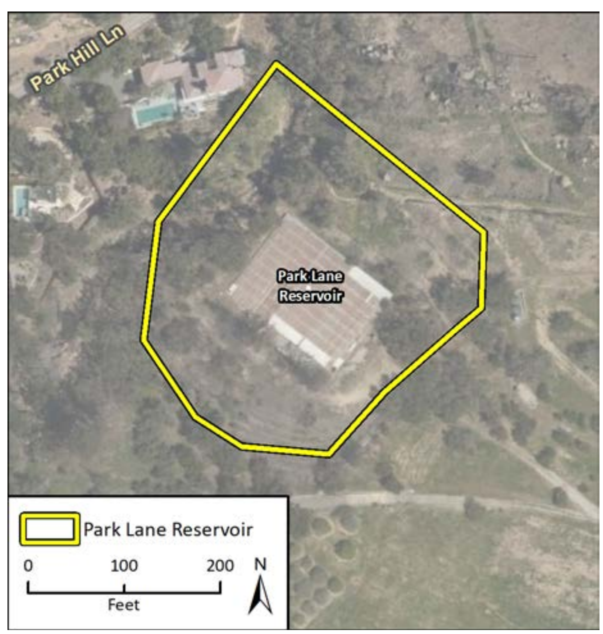
See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):
As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Available sources contained no information of consequence regarding the Carpenters, who commissioned the reservoir's construction, or Flournoy, the contractor who built the structure. The District's consulting engineers, Leeds & Barnard, designed the reservoir's roof. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004).

Historical Resources Evaluation

The Park Lane Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Park Lane Reservoir was one of many reservoirs to be constructed on behalf of a property owner in the Montecito area during the early twentieth century. Prior to the development of larger water districts in the region, this was a common practice and there is no information to suggest the Park Land Reservoir is noteworthy or unique within this context. Archival research also did not indicate the Carpenter property is significant within any other historical context. The acquisition of the Park Lane Reservoir by MCWD in 1924 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Park Lane Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Park Lane Reservoir was initially constructed on behalf of Frank Ives Carpenter. Archival research identified very limited information on Carpenter and there is no evidence to suggest he, or any other individuals associated with the Park Lane Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Park Lane Reservoir is a 1.25 MG-capacity, reinforced concrete reservoir with a flat roof sheathed in corrugated metal and supported by a wood-frame structural system. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Park Lane Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Snook and Henyon or Leeds & Barnard's can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Park Lane Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Manuscripts Division, UCLA Library, Department of Special Collections (Manuscripts Division)
1999 "Finding Aid for the Charles Tileston Leeds Papers, 1904-1960." Online Archive of California [website]. https://oac.cdlib.org/findaid/ark:/13030/tf4v19n9b1/dsc/. Accessed April 16, 2021.
Montecito County Water District (MCWD)
1924a Carpenter Reservoir—Montecito County Water District. December 4. Document obtained via the Montecito Water District, Montecito, CA.
1924b Minutes of Regular Monthly Meeting of March 11, 1924. Document obtained via the Montecito Water District, Montecito, CA.
National Environmental Title Research (NETROnline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed April 26, 2021.
Santa Barbara Daily News and the Independent, The
1917 "In Brief: To Build Large Reservoir," February 24. www.newspapers.com. Accessed April 22, 2021.
1917 "Pouring Concrete for Montecito Reservoir," June 21. www.newspapers.com. Accessed April 22, 2021.

See continuation sheet, p. 5.

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B12. References (continued):

United States Congress

1939 Military Establishment Appropriation Bill for 1940: Hearings Before the Subcommittee of the Committee on Appropriations, House of Representatives, Seventy-sixth Congress, First Session, on the Military Establishment Appropriation Bill for 1940. Obtained via Google Books. https://www.google.com/books/edition/Military_Establishment_Appropriation_Bil/24E0AAAAIAAJ?hl=en&gbpv=0. Accessed April 27, 2021.

University of California, Santa Barbara (UCSB) Library

1943 Aerial photograph of the project area and vicinity. Flight BTM-1943, Frame 4B-8. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Yatchisin, George

2004 “Keeping Montecito Green: Jameson Lake & Juncal Dam”, Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum’s Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code **Reviewer** **Date**

 ***Resource Name or #:** Romero Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Section 10 S.B.**B.M.**

c. Address: N/A City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 007-080-006

***P3a. Description:**

Constructed in 1933, Romero Reservoir is located approximately 0.25 miles northeast of the intersection of Romero Canyon Road and Lilac Drive. The property consists of a 0.94-MG capacity reinforced concrete distribution reservoir and a pump station building added to the property in 2000. The reservoir is roughly rectangular in plan with canted corners and measures approximately 240 feet long, 63 feet wide, and on average, about 12 feet deep. The reservoir's basin is trapezoidal in cross-section. The reinforced concrete walls are almost entirely buried, and most of the visible portions of the structure consists of the non-original, corrugated metal roof assembly. Construction plans show the roof framework consists of metal trusses and steel Z purlins, with additional support provided by the original metal pole columns. Non-original structural tube extensions were added to the columns to accommodate the increased height of the replacement roof. The sloping roof is clad with corrugated aluminum on the sides and top. Horizontally oriented apertures in the aluminum-clad walls are secured with screen. A shallow, concrete-lined outlet channel traces the north and east sides of the reservoir before extending downhill to the southwest of the structure. The replacement of the roof is the only notable alteration to the structure.

The utilitarian pump station building is located immediately downhill and south of the reservoir's southwest corner. One story in height, the building has a rectangular plan and a flat roof, possibly of concrete-slab construction, with a slight overhang. Its concrete exterior is either deeply scored or consists of multiple full-height panels. A single entrance is located on the south elevation and features solid metal double doors. Metal cabinets located on the east elevation and immediately southeast of the building are presumed to contain transformers or other electrical utility equipment. Two vents with mushroom caps and other mechanical appurtenances of undetermined function are installed on the roof. The north end of the building is built partially into the hillside. Fieldstone-veneer-clad retaining walls flank the building, which is in good condition and exhibits no apparent alterations. *See continuation sheet, p. 4.*

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir); HP4. Ancillary building

***P4. Resources Present:** ☐ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Romero Reservoir, north and west elevations, view to the southeast

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

1933 (Montecito Water District)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

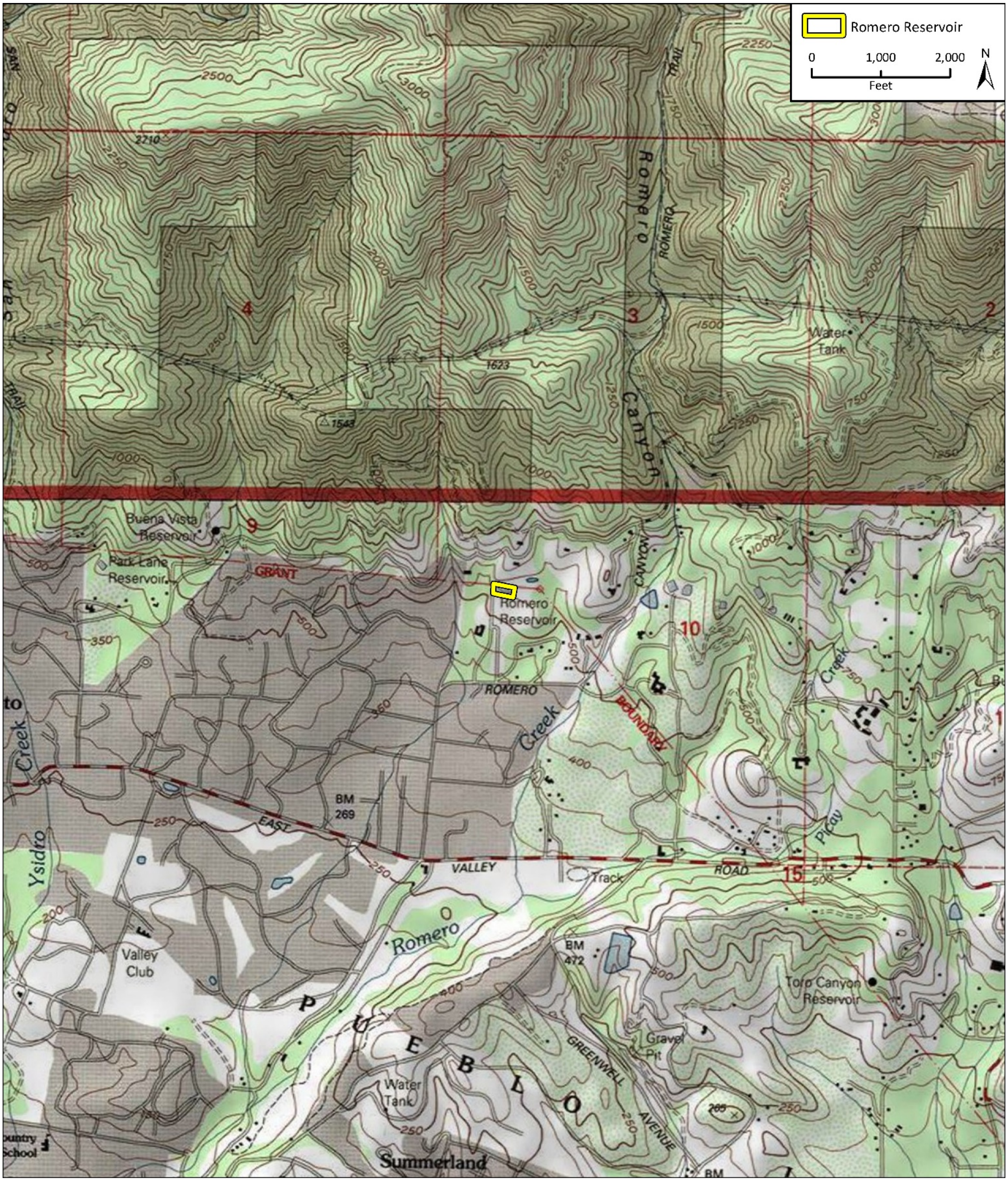
***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4 ***Resource Name or #** Romero Reservoir

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



DPR 523J (Rev. 1/1995)(Word 9/2013) * Required information

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Romero Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Baring Reservoir
B2. Common Name: Romero Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

According to construction plans and information provided by the Montecito Water District, Romero Reservoir was constructed in 1933 and the roof replaced circa 1977 (MCWD 1933; 1977). The pump station was constructed in 2000.

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Taken in 1928, the earliest available historical aerial photograph of the site of Romero Reservoir, formerly Baring Reservoir, depicts the property as a vacant property on the edge of an area developed sparsely with residences and farms (UCSB 1928). In his capacity as the Montecito County Water District's (MCWD) Chief Engineer, Carl Wyant drew and approved the original plans for the reservoir in 1933. The plans suggest MCWD acquired the reservoir parcel and an easement for what is likely the existing access road from Louise Thorn Baring, whose property bounded the reservoir parcel on all but the west side (MCWD 1933). By 1956, historical aerial photographs show, a few large estates were developed in the vicinity of the reservoir, but the properties to the immediate south and southeast were occupied by orchards (UCSB 1956).

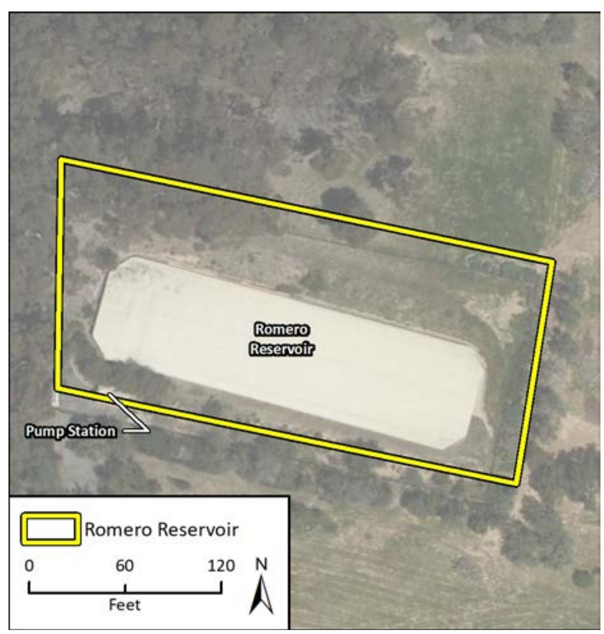
Circa 1977, the extant replacement roof structure was constructed as designed by MCWD engineer M. Akavian and approved by General Manager and District Engineer H.O. (Harold Orman) Neil Mendenall (MCWD 1976). Research for this Historical aerial photographs suggest there have been no substantial changes to the reservoir proper since the existing roof was completed; however, the pumping station building was completed in 2000 (Hanson 2021). Residential development in the surrounding area has gradually expanded since the mid-twentieth century, though the former orchard to the immediate south of the reservoir remains vacant (NETROnline 1967-2016).

As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Wyant, a Stanford University-educated civil engineer, worked for the MCWD from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004). Sources consulted for this study contained no information of consequence pertaining to Baring, Akavian, and Mendenall.

See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021



(This space reserved for official comments.)

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

P3a. Description (continued):
The facility occupies a grassy hillside. Mature trees and shrubs line the areas south of the facility and immediately west and south of the reservoir proper. Hardscaping consists of an asphalt-paved footpath and parking area. The surrounding area is developed with large residential properties.

B10. Significance (continued):
Historical Resources Evaluation
The Romero Lane Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the MCWD developed the Romero Reservoir in 1933. As such, the reservoir was completed as a gradual expansion of the district's reservoir system carried out between 1924 and 1975. The Romero Reservoir was one of at least eight such structures the MCWD built or acquired during this period, and there is no evidence to suggest the reservoir is noteworthy or unique within this context. Archival research did not identify any other context in which the reservoir might be considered historically significant. The Park Lane Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Romero Reservoir was constructed on land that the MCWD may have acquired from Louise Thorn Baring. However, archival research uncovered no evidence indicating Baring made significant historical contributions to history or that she had any direct association with the property following the reservoir's construction. Archival research found no evidence to suggest any other individuals associated with the Romero Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Romero Reservoir is a 0.94-MG capacity, reinforced concrete distribution reservoir with a sloping replacement roof sheathed in corrugated aluminum and supported by a metal-frame structural system. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Concrete distribution reservoirs are of common design, and there is no evidence the Romero Reservoir represented any notable engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Akavian and Mendenall can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Romero Reservoir would not be considered an example of a master's work. In addition, the utilitarian pump house building is likewise of undistinguished design and does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic values. Therefore, the Romero Reservoir facility is recommended ineligible under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
Hanson, Dennis
2021 Email Correspondence with Dennis Hansen, Engineering Assistant, Montecito Water District. April 21.
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Montecito County Water District (MCWD)
1933 Baring Reservoir. July 6. Document obtained via the Montecito Water District, Montecito, CA. Montecito Water District, Montecito, CA.
1976 Romero Reservoir Roof. September. Document obtained via the Montecito Water District, Montecito, CA.
University of California, Santa Barbara Library (UCSB)
1928 Aerial photograph of the project area and vicinity. Flight C-311c, Frames B-142; C-14; and C-18 . http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
1956 Aerial photograph of the project area and vicinity. Flight HA-AN, Frame 1-192. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code **Reviewer** **Date**

 ***Resource Name or #:** Terminal Reservoir

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ■ Unrestricted ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Santa Barbara* **Date:** 1952 Township T04N, Range R27W, Section 1 S.B.**B.M.**

c. Address: N/A City: Montecito Zip: 93108

d. UTM: Zone: mE/ mN (G.P.S.)

e. Other Locational Data: APN: 013-040-002

***P3a. Description:**

Located approximately 800 feet west of the intersection of Cold Spring Road and East Mountain Drive, the Terminal Reservoir facility consists of Terminal Reservoir and a pump station building. Constructed from 1951 to 1952, Terminal Reservoir is a distribution reservoir consisting chiefly of reinforced concrete walls and floor. The rectangular-plan reservoir is built into the hillside and measures 155' wide by 200' long, with at most two vertical feet of the walls visible above ground. Original plans indicate the standing-seam-metal-clad gabled roof is supported a wood structural system and 88 steel-pipe columns anchored to the floor of the reservoir. An aerator with standing-seam metal cladding runs the length of the roof ridge. On the gable ends, additional standing-seam metal cladding fills the vertical space between the roofline and the top of the concrete wall. A chain-link fence encircles the reservoir.

Constructed circa 2000, the pump station building is located approximately 200 feet to the south. It is one story in height, sits on a concrete foundation, and is capped with a gable-on-hip roof with asphalt shingles. Walls are of structural rusticated concrete block construction. The entrance is located on the west elevation and features wood-plank double doors. The building is generally functional in design but includes such details as slightly flared eaves, wood gable-end shingles, and exposed rafter tails. Immediately south and southwest of the building, the paved work area is enclosed with a chain-link fence. The building is in good condition and exhibits no apparent alterations.

The facility is situated on hilly terrain characterized by grasses, oaks, eucalyptus, and other varieties of wild-growing vegetation. Asphalt, gravel, and dirt roadways wind along the hillside, connecting the East Mountain Drive entrance to the reservoir and building.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir); HP4. Ancillary building

***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Terminal Reservoir, South and East Elevations, View to the West

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

Reservoir: 1951-1952; Pump Station: ca. 2000 (MCWD 1951; 1952; NETROnline 1994; 2002)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:** Intensive

***P11. Report Citation:**

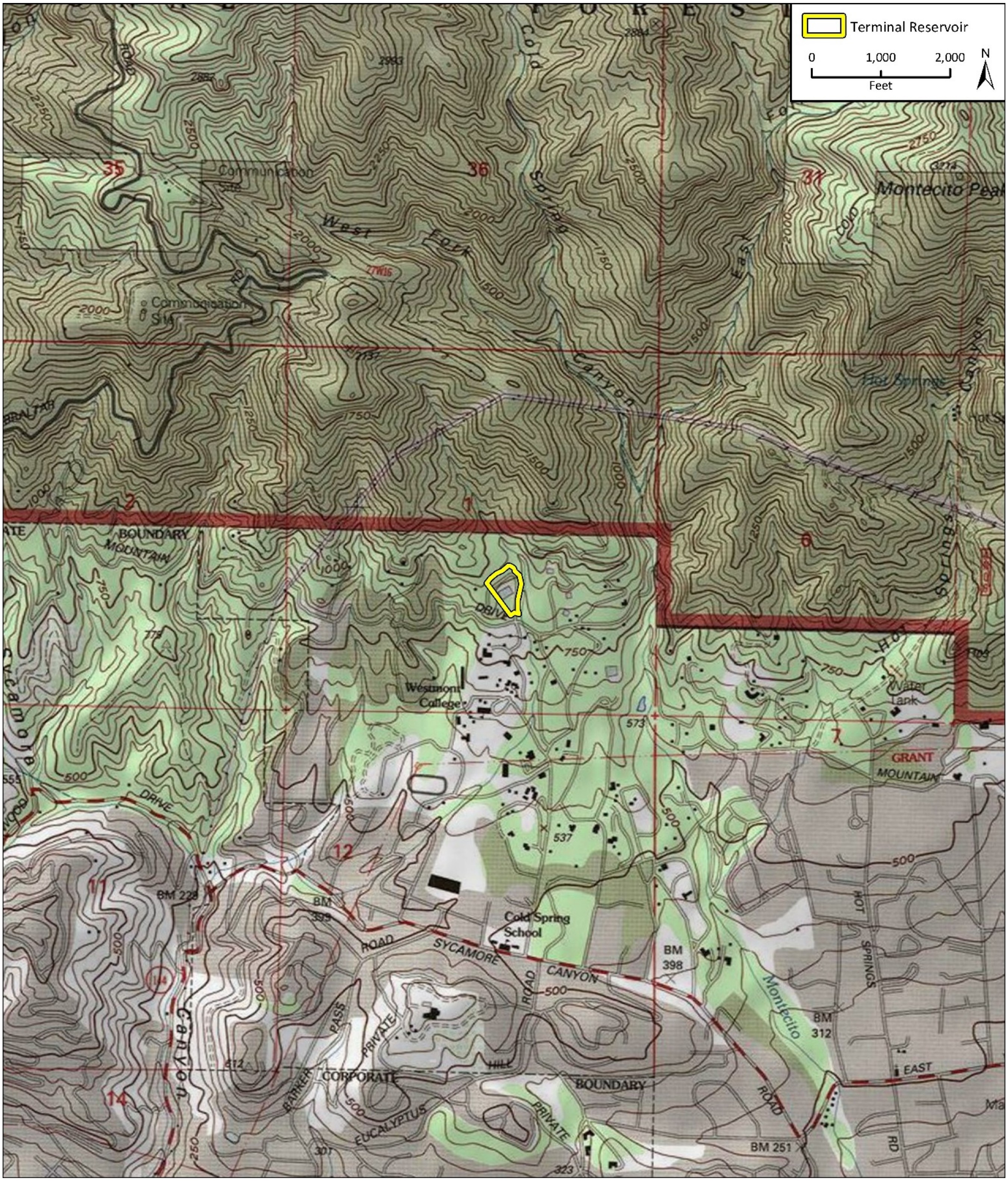
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4 ***Resource Name or #** Terminal Reservoir
***Map Name:** ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Terminal Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Terminal Reservoir
B2. Common Name: Terminal Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Terminal Reservoir was completed in 1952 and the pump building circa 2000.

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Montecito County Water District b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Historical aerial photographs and USGS topographical maps show that the site of the facility remained undeveloped at least as late as 1947 (NETROnline 1944; UCSB 1947). In 1951, the Montecito County Water District (MCWD) completed plans for the reinforced concrete basin, and the following year, drew plans for the roof and supporting columns (MCWD 1951; 1952a; 1952b). Plans for the reservoir were credited to the MCWD and did not identify any individual responsible for the reservoir's design. The reservoir was completed in 1952 to increase the District's storage capacity, possibly in response to the region's Post World War II-era population growth. A review of historical aerial photographs suggests there were no notable changes to the property until 2000, when the pump station building was constructed (NETROnline 1994; 2002; Hanson 2021). The property has remained essentially unchanged since the building was completed (NETROnline 2016). Research for this study uncovered no further information of consequence regarding the property.

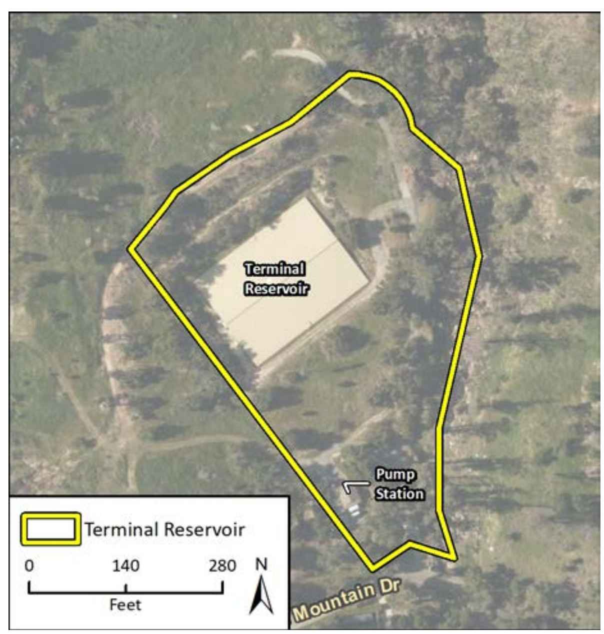
Historical Resources Evaluation

The Terminal Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Terminal Reservoir was constructed in 1951 as part of the general expansion of the District's system after World War II. There is no information the reservoir is particularly unique, and the construction of this element is part what could be considered an expected response to the continued growth of the surrounding community in the period following World War II. The Terminal Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.



B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)

***Resource Name or #** Terminal Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■Continuation ☐Update

B10. Significance (continued):
Archival research failed to identify any individuals associated with the Terminal Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Terminal Reservoir is a largely subterranean concrete distribution reservoir from 1951 with an associated pump station building completed circa 2000. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. A review of original building plans and supplemental research failed to identify the reservoir's designer. As such the Terminal Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
Hanson, Dennis
2021 Email Correspondence with Dennis Hansen, Engineering Assistant, Montecito Water District. April 21.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

Montecito County Water District (MCWD)
1951 Terminal Reservoir, Montecito County Water District. November 6. Document obtained via the Montecito Water District, Montecito, CA.
1952a Terminal Reservoir Roof Plans. February 26. Document obtained via the Montecito Water District, Montecito, CA.
1952b Column Data—Terminal Reservoir. March 5. Document obtained via the Montecito Water District, Montecito, CA.

National Environmental Title Research (NETROnline)
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Appendix C

Revised Energy Calculation Worksheets

Bella Vista Reservoir

Last Updated: 4/29/2021

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Excavators	1	8	158	0.38	Site Preparation	533.17
Generator Sets	1	8	84	0.74	Site Preparation	613.67
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	648.97
Air Compressors	1	8	78	0.48	Site Preparation	369.62
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	354.32
Concrete/Industrial Saws	1	8	81	0.73	Reservoir Construction	2,807.58
Plate Compactors	1	4	8	0.43	Reservoir Construction	2,807.58
Air Compressors	1	6	78	0.48	Reservoir Construction	1,333.28
Cranes	1	4	231	0.29	Reservoir Construction	1,430.57
Excavators	1	8	158	0.38	Reservoir Construction	2,564.31
Generator Sets	1	8	84	0.74	Reservoir Construction	2,951.45
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	3,121.25
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	1,704.11
Welders	1	8	46	0.45	Reservoir Construction	982.87
					Total Fuel Used	**22,222.76**
						(Gallons)

Construction Phase	Days of Operation
Site Preparation	21
Reservoir Construction	101
Total Days	122

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation	24.4	13	8.3	92.86
Reservoir Construction	24.4	6	8.3	206.14
		Fuel		**299.00**

VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		VENDOR TRIPS		
Site Preparation	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	172.37
		Fuel		**172.37**

Total Gasoline Consumption (gallons)	**299.00**
Total Diesel Consumption (gallons)	**22,395.14**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Buena Vista Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT						
Construction Equipment	**#**	**Hours per Day**	**Horsepower**	**Load Factor**	**Construction Phase**	**Fuel Used (gallons)**
Air Compressors	1	8	78	0.48	Demolition	264.02
Concrete/Industrial Saws	1	8	81	0.73	Demolition	416.97
Cranes	1	8	231	0.29	Demolition	424.92
Excavators	1	8	158	0.38	Demolition	380.84
Generator Sets	1	8	84	0.74	Demolition	438.33
Rough Terrain Forklifts	1	8	100	0.4	Demolition	282.07
Rubber Tired Loaders	1	8	203	0.36	Demolition	463.55
Tractors/Loaders/Backhoes	1	8	97	0.37	Demolition	253.09
Air Compressors	1	8	78	0.48	Site Preparation	352.02
Excavators	1	8	158	0.38	Site Preparation	507.78
Generator Sets	1	8	84	0.74	Site Preparation	584.45
Graders	1	8	187	0.41	Site Preparation	648.43
Plate Compactors	1	8	8	0.43	Site Preparation	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	618.07
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	337.45
Air Compressors	1	8	78	0.48	Grading	352.02
Excavators	1	8	158	0.38	Grading	507.78
Generator Sets	1	8	84	0.74	Grading	584.45
Graders	1	8	187	0.41	Grading	648.43
Plate Compactors	1	8	8	0.43	Grading	32.34
Rubber Tired Loaders	1	8	203	0.36	Grading	618.07
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	253.09
Air Compressors	1	8	78	0.48	Reservoir Construction	1,232.07
Cranes	1	4	231	0.29	Reservoir Construction	991.49
Excavators	1	8	158	0.38	Reservoir Construction	1,777.25
Generator Sets	1	8	84	0.74	Reservoir Construction	2,045.56
Plate Compactors	1	8	8	0.43	Reservoir Construction	113.20
Off-Highway Trucks	1	8	402	0.38	Reservoir Construction	4,521.85
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	1,316.32
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	2,163.24
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	1,181.07
Welders	1	8	46	0.45	Reservoir Construction	681.19
Air Compressors	1	8	78	0.48	Site Restoration	352.02
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	555.96
Excavators	1	8	158	0.38	Site Restoration	507.78
Generator Sets	1	8	84	0.74	Site Restoration	584.45
Graders	1	8	187	0.41	Site Restoration	648.43
Pavers	1	7	130	0.42	Site Restoration	404.05
Paving Equipment	1	8	132	0.36	Site Restoration	401.90
Plate Compactors	1	8	8	0.43	Site Restoration	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	618.07
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	295.27
					Total Fuel Used	**29,424.03**
						(Gallons)

Construction Phase	Days of Operation
Demolition	15
Site Preparation	20
Grading	20
Reservoir Construction	70
Site Restoration	20
Total Days	145

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	20	8.3	102.05
Site Preparation	24.4	18	8.3	122.46
Grading	24.4	18	8.3	122.46
Reservoir Construction	24.4	7	8.3	166.68
Site Restoration	24.4	25	8.3	170.08
			Fuel	**683.73**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition	7.5	21	20.0	56.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	88	20.0	234.67
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Fuel	**290.67**
		VENDOR TRIPS		
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	4	6.4	238.93
Site Restoration	7.5	0	6.4	0.00
			Fuel	**238.93**

Total Gasoline Consumption (gallons)	**683.73**
Total Diesel Consumption (gallons)	**29,953.63**

Sources:
[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.
[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Cold Springs Reservoir

Last Updated: 4/29/2021

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	704.04
Concrete/Industrial Saws	1	8	81	0.73	Demolition	1,111.91
Cranes	1	8	231	0.29	Demolition	1,133.13
Excavators	1	8	158	0.38	Demolition	1,015.57
Generator Sets	1	8	84	0.74	Demolition	1,168.89
Rough Terrain Forklifts	1	8	100	0.4	Demolition	752.18
Rubber Tired Loaders	1	8	203	0.36	Demolition	1,236.14
Welders	1	8	46	0.45	Demolition	389.25
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	506.17
Air Compressors	1	6	78	0.48	Reservoir Construction	3,379.40
Concrete/Industrial Saws	1	8	81	0.73	Reservoir Construction	7,116.24
Cranes	1	8	231	0.29	Reservoir Construction	7,252.02
Generator Sets	1	8	84	0.74	Reservoir Construction	7,480.90
Graders	1	8	187	0.41	Reservoir Construction	8,299.93
Off-Highway Trucks	1	8	402	0.38	Reservoir Construction	16,537.07
Plate Compactors	1	4	8	0.43	Reservoir Construction	207.00
Rough Terrain Forklifts	1	6	100	0.4	Reservoir Construction	3,610.47
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	7,911.29
Tractors/Loaders/Backhoes	1	6	97	0.37	Reservoir Construction	3,239.50
Welders	2	8	46	0.45	Reservoir Construction	4,982.45
					Total Fuel Used	**78,033.57**
						(Gallons)

Construction Phase	Days of Operation
Demolition	40
Reservoir Construction	256
Total Days	296

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	23	8.3	312.95
Reservoir Construction	24.4	30	8.3	2612.46
		Fuel		**2,925.41**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	24	20.0	64.00
Reservoir Construction	7.5	13	20.0	34.67
		Fuel		**98.67**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	436.91
		Fuel		**436.91**

Total Gasoline Consumption (gallons)	**2,925.41**
Total Diesel Consumption (gallons)	**78,569.14**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Doulton Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	1,408.08
Concrete/Industrial Saws	1	8	81	0.73	Demolition	2,223.83
Cranes	1	8	231	0.29	Demolition	2,266.26
Excavators	1	8	158	0.38	Demolition	2,031.14
Generator Sets	1	8	84	0.74	Demolition	2,337.78
Graders	1	8	187	0.41	Demolition	2,593.73
Welders	2	8	46	0.45	Demolition	1,557.02
Rubber Tired Loaders	1	8	203	0.36	Demolition	2,472.28
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	1,012.34
Air Compressors	1	8	78	0.48	Site Preparation	176.01
Excavators	1	8	158	0.38	Site Preparation	253.89
Generator Sets	1	8	84	0.74	Site Preparation	292.22
Graders	1	8	187	0.41	Site Preparation	324.22
Plate Compactors	1	8	8	0.43	Site Preparation	16.17
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	309.03
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	168.72
Air Compressors	1	8	78	0.48	Grading	176.01
Bore/Drill Rigs	1	8	221	0.5	Grading	467.27
Excavators	1	8	158	0.38	Grading	253.89
Generator Sets	1	8	84	0.74	Grading	292.22
Graders	1	8	187	0.41	Grading	324.22
Plate Compactors	1	8	8	0.43	Grading	16.17
Rubber Tired Loaders	1	8	203	0.36	Grading	309.03
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	126.54
Air Compressors	1	8	78	0.48	Reservoir Construction	2,112.13
Cranes	1	4	231	0.29	Reservoir Construction	1,699.69
Excavators	1	8	158	0.38	Reservoir Construction	3,046.71
Generator Sets	1	8	84	0.74	Reservoir Construction	3,506.67
Plate Compactors	1	8	8	0.43	Reservoir Construction	194.06
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	2,256.55
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	3,708.42
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	2,024.69
Welders	2	8	46	0.45	Reservoir Construction	2,335.53
Air Compressors	1	8	78	0.48	Site Restoration	352.02
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	555.96
Excavators	1	8	158	0.38	Site Restoration	507.78
Generator Sets	1	8	84	0.74	Site Restoration	584.45
Graders	1	8	187	0.41	Site Restoration	648.43
Pavers	1	7	130	0.42	Site Restoration	404.05
Paving Equipment	1	8	132	0.36	Site Restoration	401.90
Plate Compactors	1	8	8	0.43	Site Restoration	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	618.07
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	295.27
					Total Fuel Used	**46,692.80**
						(Gallons)

Construction Phase	Days of Operation
Demolition	80
Site Preparation	10
Grading	10
Reservoir Construction	120
Site Restoration	20
Total Days	240

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	25	8.3	680.33
Site Preparation	24.4	18	8.3	61.23
Grading	24.4	20	8.3	68.03
Reservoir Construction	24.4	3	8.3	122.46
Site Restoration	24.4	25	8.3	170.08
			Fuel	**1,102.13**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition	7.5	24	20.0	64.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	77	20.0	205.33
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Fuel	**269.33**
		VENDOR TRIPS		
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	204.80
Site Restoration	7.5	0	6.4	0.00
			Fuel	**204.80**

Total Gasoline Consumption (gallons)	**1,102.13**
Total Diesel Consumption (gallons)	**47,166.93**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Hot Springs Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	704.04
Concrete/Industrial Saws	1	8	81	0.73	Demolition	1,111.91
Cranes	1	8	231	0.29	Demolition	1,133.13
Excavators	1	8	158	0.38	Demolition	1,015.57
Generator Sets	1	8	84	0.74	Demolition	1,168.89
Rough Terrain Forklifts	1	8	100	0.4	Demolition	752.18
Rubber Tired Loaders	1	8	203	0.36	Demolition	1,236.14
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	506.17
Air Compressors	1	8	78	0.48	Site Preparation	352.02
Excavators	1	8	158	0.38	Site Preparation	507.78
Generator Sets	1	8	84	0.74	Site Preparation	584.45
Graders	1	8	187	0.41	Site Preparation	648.43
Plate Compactors	1	8	8	0.43	Site Preparation	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	618.07
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	337.45
Air Compressors	1	8	78	0.48	Grading	352.02
Excavators	1	8	158	0.38	Grading	507.78
Generator Sets	1	8	84	0.74	Grading	584.45
Graders	1	8	187	0.41	Grading	648.43
Plate Compactors	1	8	8	0.43	Grading	32.34
Rubber Tired Loaders	1	8	203	0.36	Grading	618.07
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	253.09
Air Compressors	1	8	78	0.48	Reservoir Construction	1,760.11
Cranes	1	4	231	0.29	Reservoir Construction	1,416.41
Excavators	1	8	158	0.38	Reservoir Construction	2,538.92
Generator Sets	1	8	84	0.74	Reservoir Construction	2,922.23
Off-Highway Trucks	1	8	402	0.38	Reservoir Construction	6,459.79
Plate Compactors	1	8	8	0.43	Reservoir Construction	161.72
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	1,880.46
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	3,090.35
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	1,687.24
Welders	2	8	46	0.45	Reservoir Construction	1,946.27
Air Compressors	1	8	78	0.48	Site Restoration	721.64
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	1,139.71
Excavators	1	8	158	0.38	Site Restoration	1,040.96
Generator Sets	1	8	84	0.74	Site Restoration	1,198.11
Graders	1	8	187	0.41	Site Restoration	1,329.29
Pavers	1	7	130	0.42	Site Restoration	828.31
Paving Equipment	1	8	132	0.36	Site Restoration	823.89
Plate Compactors	1	8	8	0.43	Site Restoration	66.30
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	1,267.04
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	605.30
					Total Fuel Used	**46,588.81**
						(Gallons)

Construction Phase	Days of Operation
Demolition	40
Site Preparation	20
Grading	20
Reservoir Construction	100
Site Restoration	41
Total Days	221

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	20	8.3	272.13
Site Preparation	24.4	18	8.3	122.46
Grading	24.4	18	8.3	122.46
Reservoir Construction	24.4	5	8.3	170.08
Site Restoration	24.4	25	8.3	348.67
			Fuel	**1,035.80**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition	7.5	21	20.0	56.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	88	20.0	234.67
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Fuel	**290.67**
		VENDOR TRIPS		
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	4	6.4	341.33
Site Restoration	7.5	0	6.4	0.00
			Fuel	**341.33**

Total Gasoline Consumption (gallons)	**1,035.80**
Total Diesel Consumption (gallons)	**47,220.81**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Park Lane Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	1,584.10
Concrete/Industrial Saws	1	8	81	0.73	Demolition	2,501.80
Cranes	1	8	231	0.29	Demolition	2,549.54
Excavators	1	8	158	0.38	Demolition	2,285.03
Generator Sets	1	8	84	0.74	Demolition	2,630.00
Rough Terrain Forklifts	1	8	100	0.4	Demolition	1,692.41
Rubber Tired Loaders	1	8	203	0.36	Demolition	2,781.31
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	1,138.89
Air Compressors	1	8	78	0.48	Site Preparation	704.04
Excavators	1	8	158	0.38	Site Preparation	1,015.57
Generator Sets	1	8	84	0.74	Site Preparation	1,168.89
Graders	1	8	187	0.41	Site Preparation	1,296.86
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	1,236.14
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	674.90
Air Compressors	1	8	78	0.48	Grading	704.04
Excavators	1	8	158	0.38	Grading	1,015.57
Generator Sets	1	8	84	0.74	Grading	1,168.89
Graders	1	8	187	0.41	Grading	1,296.86
Plate Compactors	1	8	8	0.43	Grading	64.69
Rubber Tired Loaders	1	8	203	0.36	Grading	1,236.14
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	506.17
Air Compressors	1	8	78	0.48	Reservoir Construction	2,464.15
Cranes	1	4	231	0.29	Reservoir Construction	1,982.97
Excavators	1	8	158	0.38	Reservoir Construction	3,554.49
Generator Sets	1	8	84	0.74	Reservoir Construction	4,091.12
Off-Highway Trucks	1	8	402	0.38	Reservoir Construction	9,043.71
Plate Compactors	1	8	8	0.43	Reservoir Construction	226.41
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	2,632.64
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	4,326.49
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	2,362.13
Welders	1	8	46	0.45	Reservoir Construction	1,362.39
Air Compressors	1	8	78	0.48	Site Restoration	528.03
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	833.93
Excavators	1	8	158	0.38	Site Restoration	761.68
Generator Sets	1	8	84	0.74	Site Restoration	876.67
Graders	1	8	187	0.41	Site Restoration	972.65
Pavers	1	7	130	0.42	Site Restoration	606.08
Paving Equipment	1	8	132	0.36	Site Restoration	602.85
Plate Compactors	1	8	8	0.43	Site Restoration	48.52
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	927.10
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	442.90
					Total Fuel Used	**67,898.75**
						(Gallons)

Construction Phase	Days of Operation
Demolition	90
Site Preparation	40
Grading	40
Reservoir Construction	140
Site Restoration	30
Total Days	340

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	25	8.3	765.37
Site Preparation	24.4	15	8.3	204.10
Grading	24.4	18	8.3	244.92
Reservoir Construction	24.4	11	8.3	523.85
Site Restoration	24.4	25	8.3	255.12
			Fuel	**1,993.36**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition	7.5	99	20.0	264.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	375	20.0	1000.00
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Fuel	**1,264.00**
		VENDOR TRIPS		
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	3	6.4	358.40
Site Restoration	7.5	0	6.4	0.00
			Fuel	**358.40**

Total Gasoline Consumption (gallons)	**1,993.36**
Total Diesel Consumption (gallons)	**69,521.15**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Romero Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	528.03
Concrete/Industrial Saws	1	8	81	0.73	Demolition	833.93
Excavators	1	8	158	0.38	Demolition	761.68
Generator Sets	1	8	84	0.74	Demolition	876.67
Rubber Tired Loaders	1	8	203	0.36	Demolition	927.10
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	379.63
Air Compressors	1	8	78	0.48	Site Preparation	264.02
Excavators	1	8	158	0.38	Site Preparation	380.84
Generator Sets	1	8	84	0.74	Site Preparation	438.33
Graders	1	8	187	0.41	Site Preparation	486.32
Plate Compactors	1	8	8	0.43	Site Preparation	24.26
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	463.55
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	253.09
Air Compressors	1	8	78	0.48	Grading	352.02
Excavators	1	8	158	0.38	Grading	507.78
Generator Sets	1	8	84	0.74	Grading	584.45
Graders	1	8	187	0.41	Grading	648.43
Plate Compactors	1	8	8	0.43	Grading	32.34
Rubber Tired Loaders	1	8	203	0.36	Grading	618.07
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	253.09
Air Compressors	1	8	78	0.48	Reservoir Construction	5,421.13
Excavators	1	8	158	0.38	Reservoir Construction	7,819.88
Generator Sets	1	8	84	0.74	Reservoir Construction	9,000.46
Off-Highway Trucks	1	8	402	0.38	Reservoir Construction	19,896.16
Plate Compactors	1	8	8	0.43	Reservoir Construction	498.09
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	5,791.80
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	9,518.27
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	5,196.69
Welders	2	8	46	0.45	Reservoir Construction	5,994.51
Air Compressors	1	8	78	0.48	Site Restoration	352.02
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	555.96
Excavators	1	8	158	0.38	Site Restoration	507.78
Generator Sets	1	8	84	0.74	Site Restoration	584.45
Graders	1	8	187	0.41	Site Restoration	648.43
Pavers	1	7	130	0.42	Site Restoration	404.05
Paving Equipment	1	8	132	0.36	Site Restoration	401.90
Plate Compactors	1	8	8	0.43	Site Restoration	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	618.07
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	295.27
					Total Fuel Used	**83,150.92**

(Gallons)

Construction Phase	Days of Operation
Demolition	30
Site Preparation	15
Grading	20
Reservoir Construction	308
Site Restoration	20
Total Days	393

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	15	8.3	153.07
Site Preparation	24.4	18	8.3	91.84
Grading	24.4	18	8.3	122.46
Reservoir Construction	24.4	13	8.3	1362.02
Site Restoration	24.4	25	8.3	170.08
			Fuel	**1,899.48**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition	7.5	62	20.0	165.33
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	244	20.0	650.67
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Fuel	**816.00**
		VENDOR TRIPS		
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	7	6.4	1839.79
Site Restoration	7.5	0	6.4	0.00
			Fuel	**1,839.79**

Total Gasoline Consumption (gallons)	**1,899.48**
Total Diesel Consumption (gallons)	**85,806.70**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Terminal Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	704.04
Concrete/Industrial Saws	1	8	81	0.73	Demolition	1,111.91
Cranes	1	8	231	0.29	Demolition	1,133.13
Excavators	1	8	158	0.38	Demolition	1,015.57
Generator Sets	1	8	84	0.74	Demolition	1,168.89
Rough Terrain Forklifts	1	8	100	0.4	Demolition	752.18
Rubber Tired Loaders	1	8	203	0.36	Demolition	1,236.14
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	506.17
Air Compressors	1	8	78	0.48	Site Preparation	264.02
Excavators	1	8	158	0.38	Site Preparation	380.84
Generator Sets	1	8	84	0.74	Site Preparation	438.33
Graders	1	8	187	0.41	Site Preparation	486.32
Plate Compactors	1	8	8	0.43	Site Preparation	24.26
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	463.55
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	253.09
Air Compressors	1	8	78	0.48	Grading	264.02
Excavators	1	8	158	0.38	Grading	380.84
Generator Sets	1	8	84	0.74	Grading	438.33
Graders	1	8	187	0.41	Grading	486.32
Plate Compactors	1	8	8	0.43	Grading	24.26
Rubber Tired Loaders	1	8	203	0.36	Grading	463.55
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	189.81
Air Compressors	1	8	78	0.48	Reservoir Construction	4,576.28
Cranes	1	4	231	0.29	Reservoir Construction	3,682.67
Excavators	1	8	158	0.38	Reservoir Construction	6,601.20
Generator Sets	1	8	84	0.74	Reservoir Construction	7,597.79
Off-Highway Trucks	1	8	402	0.38	Reservoir Construction	16,795.46
Plate Compactors	1	8	8	0.43	Reservoir Construction	420.47
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	4,889.18
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	8,034.91
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	4,386.82
Welders	2	8	46	0.45	Reservoir Construction	5,060.30
Air Compressors	1	8	78	0.48	Site Restoration	704.04
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	1,111.91
Excavators	1	8	158	0.38	Site Restoration	1,015.57
Generator Sets	1	8	84	0.74	Site Restoration	1,168.89
Graders	1	8	187	0.41	Site Restoration	1,296.86
Pavers	1	7	130	0.42	Site Restoration	808.11
Paving Equipment	1	8	132	0.36	Site Restoration	803.80
Plate Compactors	1	8	8	0.43	Site Restoration	64.69
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	1,236.14
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	590.53
					Total Fuel Used	**83,031.20**
						(Gallons)

Construction Phase	Days of Operation
Demolition	40
Site Preparation	15
Grading	15
Reservoir Construction	260
Site Restoration	40
Total Days	370

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	25	8.3	340.16
Site Preparation	24.4	18	8.3	91.84
Grading	24.4	18	8.3	91.84
Reservoir Construction	24.4	25	8.3	2211.07
Site Restoration	24.4	25	8.3	340.16
			Fuel	**3,075.08**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	117	20.0	312.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	965	20.0	2573.33
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Fuel	**2,885.33**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	12	6.4	2662.40
Site Restoration	7.5	0	6.4	0.00
			Fuel	**2,662.40**

Total Gasoline Consumption (gallons)	**3,075.08**
Total Diesel Consumption (gallons)	**88,578.93**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.