

APPENDIX A
NOTICE OF PREPARATION (NOP) AND NOP COMMENTS

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WATER DEPARTMENT

212 Locust Street, Suite C, Santa Cruz, CA 95060 ♦ 831-420-5200

June 28, 2018

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

RE: Newell Creek Dam Inlet/Outlet Replacement Project

To Interested Agencies and Persons:

The City of Santa Cruz, as the lead agency, is preparing an Environmental Impact Report (EIR) on the proposed project described herein. Please respond with written comments regarding the scope and the content of the EIR as it may relate to your agency's area of statutory responsibility or your areas of concern or expertise. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval for the project, if any is required. **Written responses are due within 30 days of the receipt of this Notice, as provided by State law.** As such, written responses are requested to be received by 5:00 p.m. on Tuesday, July 31, 2018. Contact information is included at the end of this document.

*****A public scoping meeting/open house will be held on Wednesday, July 18, 2018 from 6:30 – 8:00 p.m. at Santa Cruz Police Department Community Room, 155 Center Street, in Santa Cruz. You or members of your agency or organization are invited to attend to provide comments on the scope and content of environmental information to include in the EIR.*****

This NOP is posted on the City's website at:

<http://www.cityofsantacruz.com/government/city-departments/water/online-reports/environmental-documents>.

Project Location and Existing Facilities. Newell Creek Dam (NCD), which impounds Loch Lomond Reservoir (Reservoir), is located in unincorporated Santa Cruz County, approximately ten miles north of the City of Santa Cruz and two miles east of the unincorporated community of Ben Lomond (see Figure 1). The dam and Reservoir are located on an approximate 518-acre site owned by the City of Santa Cruz (APN 076-251-24). Access to the dam is provided by Newell Creek Road off of Glen Arbor Road.

Constructed in 1961, NCD is an earth-fill dam approximately 195 feet high with a crest length of about 750 feet. The existing inlet/outlet works consists of: 1) the sloping intake structure and

five 12-inch diameter inlet/outlet gates on the dam face and in the Reservoir as well as the hydraulic system to operate the valves at each inlet; 2) 24-inch to 36-inch inlet/outlet pipeline connecting the intake structure under the dam to the release facilities; and 3) release facilities at the dam toe consisting of the connection to the Newell Creek Pipeline (NCP) and the valves for making emergency and beneficial releases to Newell Creek. Appurtenant structures at the NCD and Reservoir include: the spillway and spillway appurtenances (spillway plunge pool and spillway plunge pool crossing), seepage channel at the toe of the dam, a control house on the crest of the dam, and the NCP. Figure 2 shows key existing facilities at the NCD and Reservoir.

The Reservoir impounded by NCD has a maximum storage capacity of approximately 8,646 acre-feet and is the City of Santa Cruz's only surface water storage facility and a critical component of the City's permitted drinking water system. The existing NCD inlet/outlet works provides for the City's operation of the Reservoir by enabling the City to:

- Deliver surface water diversions from the San Lorenzo River (Felton Diversion) to the Reservoir (via the NCP);
- Convey raw water from storage in the Reservoir to the City's surface water treatment plant (also via the NCP);
- Provide beneficial water releases to downstream Newell Creek; and
- Implement operational and emergency flow releases from the Reservoir.

The City also operates and maintains the Loch Lomond Recreation Area (LLRA), located north of the dam and accessed by local roads. The LLRA provides a range of recreational opportunities including boat rentals, picnicking, fishing, hiking, and natural resources interpretive programming. The LLRA is open during daytime hours between March and mid-October.

The proposed project area consists of the NCD, the southern portion of the Reservoir where the existing and proposed intakes are located, the spillway plunge pool and plunge pool crossing, the existing outlet and seepage channel at the toe of the dam, the control house on the crest of the dam, Newell Creek Road and access roads to the toe and crest of the dam, a portion of the Newell Creek Pipeline, a portion of an emergency access (Haul) road along the right bank of the reservoir, the LLRA launch, and areas surrounding the dam and reservoir that would be used for construction staging and/or storage of excavated spoils. See Figure 2.

Background. The existing NCD inlet/outlet works is approaching the end of its useful design life and needs to be replaced due to age and three primary deficiencies: inlet/outlet pipeline deterioration, one inoperable intake of the five existing intakes, and an inoperable 24-inch plug valve at the outlet structure. The inoperable plug valve at the downstream toe of the dam would normally control operational and emergency releases from the Reservoir to Newell Creek, but it is currently stuck in a partially open position.

The California Department of Water Resources Division of Safety of Dams (DSOD) regulates non-federal dams in California such as NCD. In November 2013, because of the condition of the inoperable plug valve, DSOD required the City to provide an interim plan for how the City would meet emergency drawdown requirements while developing long-term infrastructure improvements. In response, the City prepared the NCD Dewatering Plan and submitted a technical memorandum to DSOD in September 2014. In June 2015, DSOD accepted the City's request to operate NCD under the Interim Dewatering Plan under the condition that the City provides a long term strategy to address the inlet/outlet works deficiencies in accordance with DSOD drawdown requirements.

The proposed project is necessary to protect the City's ability to deliver drinking water. Currently, the Reservoir is the only asset which provides drinking water security in the City's water system in the form of water storage for drought protection. Failure of the existing inlet/outlet works would eliminate the ability to provide drinking water during two critical periods: during dry summer months when other sources cannot meet demand and during winter when other water sources are too turbid due to storm runoff. The proposed improvements would further improve the City's overall operational efficiency, improve system performance, and provide for long-term reliable storage for the City's drinking water supply. Additionally, the proposed project is necessary for the City to meet DSOD current requirements for Reservoir drawdown in an emergency.

Project Description. The City of Santa Cruz's proposed project would consist of replacement of the existing aging inlet/outlet works in new locations at the Reservoir and other associated improvements. The proposed project would be comprised of the following primary components:

- A new inlet/outlet structure with three new inlets located within the Reservoir;
- A new outlet structure and valves at the toe of the dam;
- A new ten-foot diameter tunnel containing 48-inch and 10-inch inlet/outlet pipelines through the right (west) dam abutment and under the dam;
- A new control house on the dam crest to house controls for the inlets;
- Replacement of an approximately 2,000-linear-foot section of the NCP between the outlet structure and the first isolation valve;
- Improvements along the dam's access roads to improve access for construction, including a new culvert crossing at the spillway plunge pool; and
- Decommission of the existing inlet/outlet works once the replacement inlet/outlet system is operational.

Figure 3 illustrates the location of the primary new facilities in relation to existing facilities.

The duration of construction would be approximately two years and span two full construction seasons (April through November each year). Construction would utilize a range of heavy equipment with potential periods of 24-hour construction. Nine preliminary sites adjacent to NCD and the Reservoir have been identified as potential construction staging areas as shown on Figure 4. These areas or other areas that may be identified may be cleared, graded, or otherwise improved to be used for storage of construction equipment and materials as well as for storage and/or permanent placement of excavated materials (spoils). On average approximately 10 construction workers are estimated to be working at the project site each day with a maximum of 20 during peak construction periods.

Major construction elements include: grading to create an approximate half-acre construction “platform” at the toe of the dam, excavation of a tunnel under the dam to house the inlet/outlet pipeline, and subsurface dredging and installation of the new intakes in the Reservoir. Dredging within the Reservoir as currently proposed could result in up to 26,000 cubic yards (cy) of dredged material that would remain in the Reservoir. A temporary boat launch facility would be installed near the intake construction area for equipment and materials during construction within the Reservoir. The initial transport of construction barge or materials to create the temporary launch may occur from the existing LLRA. Grading and excavation of the construction platform and tunnel would result in approximately 20,000 cy of spoils that would be permanently placed on site (at identified staging areas) or hauled off site to a suitable user or disposal site. Other construction elements include excavation for installation of the outlet control system and electrical supply, installation of a new culverted spillway plunge pool crossing, other improvements for access such as gate replacements and grading and/or graveling of existing access roads, and replacement of a segment of the NCP using conventional (open cut) trenching with small excavators and loaders.

The proposed project would be constructed independently of the existing inlet/outlet works with minimal disruption to the reservoir and current water delivery operations. The existing instream beneficial release to Newell Creek at the toe of the dam would be maintained via a temporary bypass pipe until the new outlet structure is completed. It would be installed between the existing outlet structure and the spillway pool to provide uninterrupted beneficial flows to Newell Creek during construction. There are no proposed changes to existing operations at the NCD and Reservoir upon completion of the project.

Probable Environmental Effects of the Proposed Project. After completing a preliminary review of the proposed project, as described in Section 15060(d) of the CEQA Guidelines, the City has determined that an EIR should be prepared to assess the potentially significant environmental impacts of this project. Because the preparation of an EIR is clearly required for the proposed project, an Initial Study will not be prepared.

The City has identified the following possible effects of the project as topics for analysis in the EIR. The City will consider the written comments received in response to this Notice of Preparation in determining whether any additional topics should be studied in the Draft EIR.

- *Air Quality and Greenhouse Gas Emissions.* Construction and operational emissions of criteria pollutants and greenhouse gasses will be estimated using the California Emissions Estimator Model (CalEEMod) emissions model and compared to the Monterey Bay Air Resources District emissions-based thresholds to assess potential impacts.
- *Biological Resources.* Potential direct and indirect impacts to aquatic, wetland, riparian, and sensitive habitats, as well as to special-status plant and wildlife species, will be assessed. Potential impacts to forest resources as a result of tree removal will be analyzed in accordance with CEQA checklist questions.
- *Cultural Resources.* Potential impacts to archaeological, historical, tribal, and paleontological cultural resources will be evaluated.
- *Geology and Soils.* Potential impacts related to geologic, seismic, and soils constraints will be assessed based on information provided in project geotechnical studies.
- *Hazards and Hazardous Materials.* Reservoir sediment sampling results will be reviewed to assess potential impacts to aquatic species resulting from disturbed sediments. Regulatory databases will also be reviewed for other potential hazardous concerns and potential threats to the public, including construction workers, will be analyzed. Potential creation of hazards during construction, e.g., use of fuels and potential spills, will be addressed.
- *Hydrology and Water Quality.* Potential impacts due to improvement of the existing crossing at the spillway plunge pool and, if applicable, placement of material within a floodway designated by the Federal Emergency Management Agency (FEMA) will be addressed. Potential impacts to water quality during construction will be addressed.
- *Noise.* Potential construction-period noise impacts to noise-sensitive receivers in the project vicinity will be assessed with modeling based on noise measurements taken at the site and review of construction phases and equipment usage.
- *Transportation/Traffic.* Construction-related vehicle trips will be estimated and temporary construction-related traffic impacts will be reviewed.
- *Other Sections.* The EIR will include additional topics as required by the State CEQA Guidelines including growth inducement, cumulative impacts, and alternatives. The EIR will include a section on energy conservation pursuant to requirements of Appendix F of the State CEQA Guidelines and potential impacts related to solid waste disposal if there is any off-site disposal of excavated materials.

The EIR will also explain why other effects were determined to not be potentially significant. For example, the facilities are not visible from public viewpoints, and no significant aesthetic impacts are anticipated. As a public infrastructure project, the inlet/outlet replacement would not result in additional service/utility demands related to police or fire protection, schools, parks and recreation, water demand/supply, or wastewater generation.

June 28, 2018

Contact Information.

Responses to this Notice of Preparation must be received in writing by 5:00 p.m. on **Tuesday, July 31, 2018** and should be sent by hardcopy or email to:

Sarah Easley Perez, Associate Planner
City of Santa Cruz Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060

Email: seasleyperez@cityofsantacruz.com

If applicable, please include the name and phone number of a contact person at your agency in your response. Ms. Perez can be reached by phone at: 831-420-5327.

Sincerely,



Sarah Easley Perez
Associate Planner

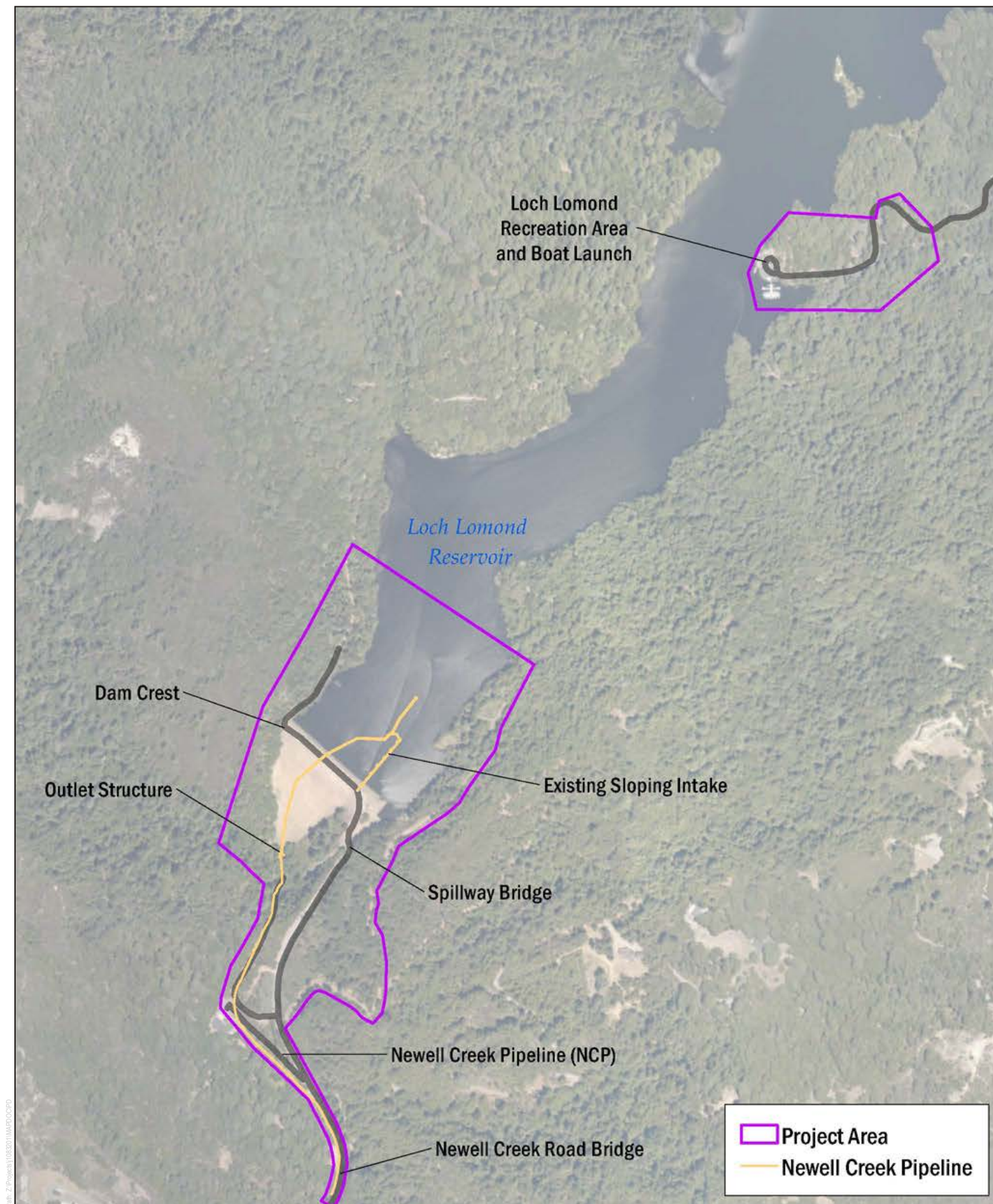


SOURCE: AECOM 2018

FIGURE 1

Project Location

Newell Creek Dam Inlet/Outlet Replacement Project

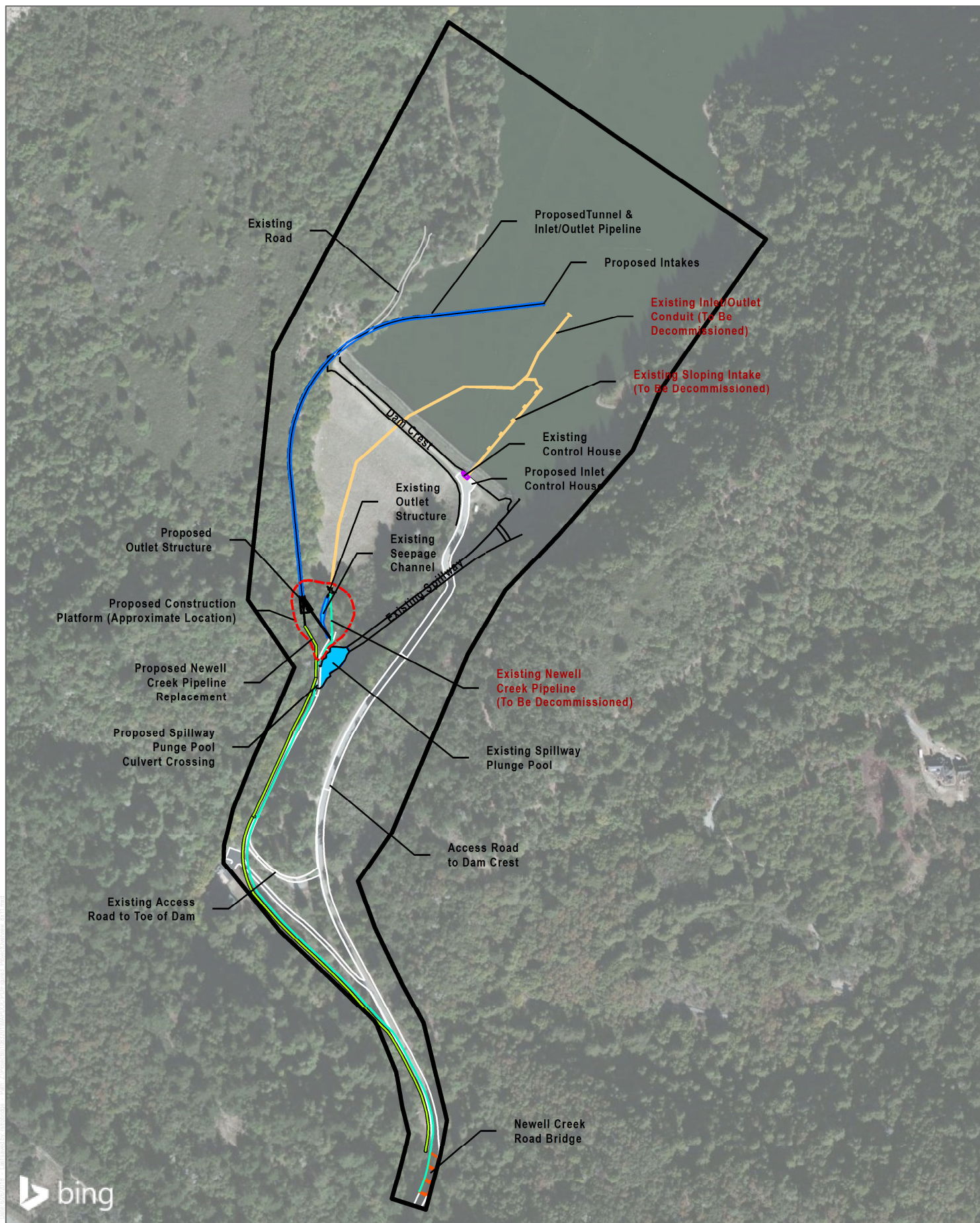


SOURCE: AECOM 2018

FIGURE 2

Existing Facilities

Newell Creek Dam Inlet/Outlet Replacement Project



SOURCE: Bing Maps 2018

DUDEK

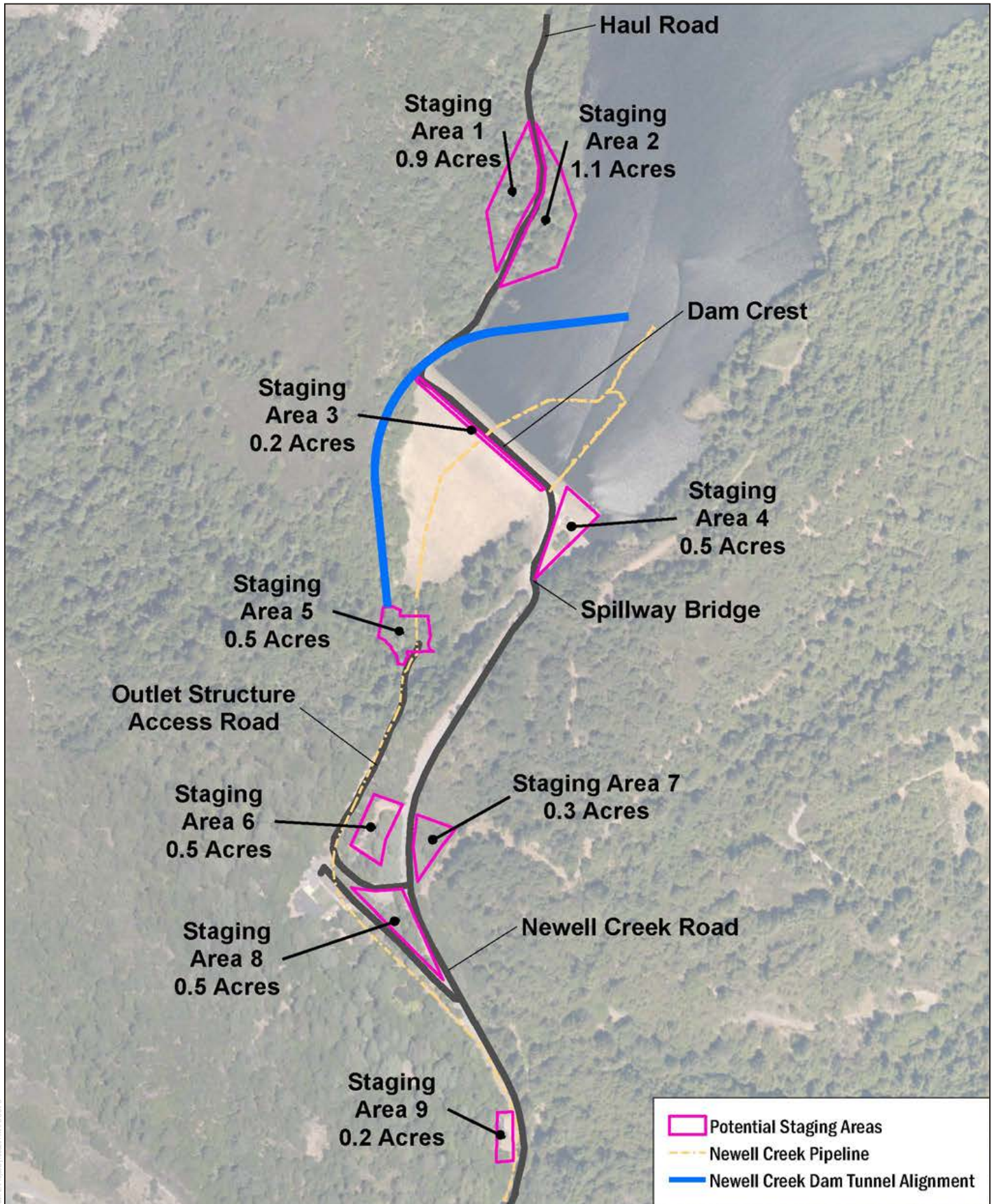


0 225 450 Feet

FIGURE 3

Project Overview

Newell Creek Dam Inlet/Outlet Replacement Project



SOURCE: AECOM 2018

FIGURE 4



State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



July 19, 2018

Ms. Sarah Easley Perez
City of Santa Cruz Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060

Dear Ms. Perez:

Subject: Newell Creek Dam Inlet/Outlet Replacement Project, Notice of Preparation of a Draft Environmental Impact Report, SCH #2018062071, City of Santa Cruz

The California Department of Fish and Wildlife (CDFW) reviewed the Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) provided for the Newell Creek Dam Inlet/Outlet Replacement Project (Project) located at Newell Creek Dam, which impounds Loch Lomond Reservoir, in the County of Santa Cruz. The NOP was received in our office on June 29, 2018.

CDFW is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA) §15386 for commenting on projects that could impact fish, plant and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as the California Endangered Species Act (CESA) Permit, the Native Plant Protection Act, the Lake and Streambed Alteration Agreement (LSAA) and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources. Pursuant to our jurisdiction, CDFW has the following concerns, comments, and recommendations regarding the Project.

PROJECT DESCRIPTION

The Project includes the replacement of the Newell Creek Dam existing inlet/outlet. The Project will include the following components:

- A new inlet/outlet structure with three new inlets located within the Loch Lomond Reservoir;
- A new outlet structure and valves at the toe of Newell Creek Dam;
- A new ten-foot diameter tunnel containing 48-inch and 10-inch inlet/outlet pipelines through the right (west) dam abutment and under the dam;
- A new control house on the dam crest to house controls for the inlets;
- Replacement of an approximately 2,000-linear-foot section of the Newell Creek pipeline between the outlet structure and the first isolation valve;
- Improvements along the dam's access roads to improve access for construction, including a new culvert crossing at the spillway plunge pool; and
- Decommission of the existing inlet-outlet works once the replacement inlet/outlet system is operational.

The CEQA Guidelines (§§15124 and 15378) require that the draft EIR incorporate a full project description, including reasonably foreseeable future phases of the project, and that contains

sufficient information to evaluate and review the project's environmental impact. Please include a complete description of the following Project components in the Project description:

- Footprints of permanent Project features and temporarily impacted areas (e.g., location of dredging area(s), location of where dredge material will be placed within the reservoir, construction barge location(s), access routes, etc.);
- Specific construction details of the Project components (e.g., tunnel that will house the inlet/outlet pipeline, decommissioning of the existing pipeline);
- Areas and plans for tree and/or vegetation removal, proposed paving, fencing, ground disturbance, lighting, etc.; and
- Construction schedule, activities, equipment, and crew sizes.

ENVIRONMENTAL SETTING

Sufficient information regarding the environmental setting is necessary to understand the Project, and its alternative's (if applicable), significant impacts on the environment (CEQA Guidelines, §§15125 and 15360). CDFW recommends that the CEQA document prepared for the Project provide baseline habitat assessments for special-status plant, fish, and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, or endangered species (CEQA Guidelines, §15380). Fully protected, threatened or endangered, candidate, and other special status species that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to:

- California giant salamander (*Dicamptodon ensatus*), state species of special concern;
- coho salmon – central California coast evolutionarily significant unit (*Oncorhynchus kisutch*), state listed endangered and federally listed endangered;
- Santa Cruz black salamander (*Aneides niger*), state species of special concern;
- steelhead – central California coast distinct population segment (*Oncorhynchus mykiss irideus*); federally listed as threatened; and
- western pond turtle (*Emys marmorata*), state species of special concern.

Habitat descriptions and species profiles should include information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB). Based on the data and information from the habitat assessment, the CEQA document can then adequately assess which special-status species are likely to occur in the Project vicinity.

CDFW recommends that prior to project implementation surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at:
<https://www.wildlife.ca.gov/Conservation/Survey-Protocol>.

Botanical surveys for special-status plant species, including those listed by the California Native Plant Society (<http://www.cnps.org/cnps/rareplants/inventory/>), must be conducted during the blooming period for all sensitive plant species potentially occurring within the Project area and require the identification of reference populations. Please refer to CDFW protocols for surveying

and evaluating impacts to rare plants available at:
<https://www.wildlife.ca.gov/Conservation/Plants/Permits>.

IMPACT ANALYSIS AND MITIGATION MEASURES

The CEQA Guidelines (§15126.2) necessitate that the draft EIR discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project. This includes evaluating and describing impacts such as:

- Potential for “take” of special-status species;
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features (e.g. snags, roosts, overhanging banks);
- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic or human presence; and
- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.
-

The CEQA document also should identify reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project’s contribution to the impact (CEQA Guidelines, §15355). Although a project’s impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact (e.g., reduction of available habitat for a listed species) should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

Based on the comprehensive analysis of the direct, indirect, and cumulative impacts of the project, the CEQA Guidelines (§§ 15021, 15063, 15071, 15126.2, 15126.4 and 15370) direct the lead agency to consider and describe all feasible mitigation measures to avoid potentially significant impacts in the draft EIR, and/or mitigate significant impacts of the Project on the environment. This includes a discussion of take avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and CDFW. These measures can then be incorporated as enforceable project conditions to reduce potential impacts to biological resources to less than significant levels.

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA permit must be obtained if the project has the potential to result in “take” of plants or animals listed under CESA, either during construction or over the life of the project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

Ms. Sarah Easley Perez
July 19, 2018
Page 4 of 4

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species [CEQA §§ 21001(c), 21083, and CEQA Guidelines §§ 15380, 15064, 15065]. Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code § 2080.

Lake or Streambed Alteration Agreement

CDFW will require an LSAA, pursuant to Fish and Game Code §§ 1600 et. seq. for Project-related activities within any 1600-jurisdictional waters within the proposed Project area. Notification is required for any activity that will substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW, as a Responsible Agency under CEQA, will consider the CEQA document for the Project. CDFW may not execute the final LSAA until it has complied with CEQA (Public Resources Code § 21000 et seq.) as the responsible agency.

FILING FEES

CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish and Game Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

If you have any questions, please contact Ms. Monica Oey, Environmental Scientist, at (707) 428-2088 or monica.oey@wildlife.ca.gov; or Ms. Randi Adair, Senior Environmental Scientist (Supervisory), at (707) 576-2786.

Sincerely,



Gregg Erickson
Regional Manager
Bay Delta Region

cc: State Clearinghouse

cc: Jacob Martin, U.S. Fish and Wildlife Service – jacob_martin@fws.gov
Darren Howe, NOAA Fisheries – darren.howe@noaa.gov

July 24, 2018

Sarah Easley Perez,
Associate Planner
City of Santa Cruz Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060
Email: seasleyperez@cityofsantacruz.com

Re: Comments on Newell Creek Dam NOP

Dear Ms. Perez:

Thank you for providing the Monterey Bay Air Resources District (Air District) with the opportunity to comment on the above-referenced document. The Air District suggests that the City of Santa Cruz Water Department consider the following when writing the Draft EIR:

- Construction Dust– Fugitive dust from construction activities can be significant if not mitigated. Please include the standard mitigation measures found in the Air District’s 2008 CEQA Guidelines.
- Permits Required – Please note that Air District Permits to Operate may be required for engine generator sets and boilers. Air District permits or registration with the California Air Resources Board may also be required for portable construction equipment. Please contact the Air District’s Engineering Division at (831) 647-9411 if you have questions about permitting.
- Construction Equipment - The Air District suggests that when possible cleaner construction equipment be used for the project. This includes equipment that conforms to ARB’s Tier 3 or Tier 4 emission standards. We further recommend that, whenever feasible, construction equipment use alternative fuels such as compressed natural gas, propane, electricity or biodiesel.
- Building Demolition/Renovation and Trenching Activities – For buildings demolition, removal or remodeling as part of this project, Air District rules may apply. These include Rule 424, National Emissions Standards for Hazardous Air Pollutants and Rule 439, Building Removals. Rule 424 contains the investigation and reporting requirements for asbestos which includes surveys and advanced notification on structures being renovated or demolished. Notification to the Air District is required at least ten days prior to renovation or demolition activities. If old underground piping or other asbestos containing construction materials are encountered during trenching activities, Rule 424 could also apply. District Rule 439 prohibits the release of any visible emissions from building removals. Rules 424 and 439 can be found online at <https://www.arb.ca.gov/drdb/mbu/cur.htm>. Please contact Mike Sheehan, Compliance Program Coordinator, at (831) 718-8036 for more information regarding these rules.

- Transportation/Traffic - Given the growing use of electric vehicles, please consider stalling EV charging stations which would be available to the community.

Best Regards,

A handwritten signature in blue ink, appearing to read "Christine Duymich".

Christine Duymich
Air Quality Planner
Monterey Bay Air Resources District
(831) 647-9411

Cc: David Frisbey, Mike Sheehan, Shawn Boyle



WATER DEPARTMENT

212 Locust Street, Suite C, Santa Cruz, CA 95060 • 831-420-5200

Name: JEFF & KATHLEEN YEE (please print)

Organization (if any): _____

Do you represent this Organization? Yes: ☐ No: ☐

Address: P.O. Box 16

City, State, ZIP: B.L., CA. 95005

E-mail: _____

Telephone: 831/335-4313

Newell Creek Dam Inlet/Outlet Replacement Project
Written Comments on the Scope of the Environmental Impact Report (EIR)
(please print)

JUST TO MAKE CERTAIN WE ARE ALL ON THE
SAME PAGE, THAT THE WORK TO BE DONE UP AT THE
DAM, ~~THAT~~ THE ENTRY AT THE 1ST GATE STAYS SECURED
AT ALL TIMES. WHICH MEANS THE GATE IS CLOSED
AND LOCKED, NOT TO BE LEFT OPEN AT ANY TIME
UNLESS THERE IS SOMEBODY PHYSICALLY PRESENT
WHILE GATE IS LEFT OPEN. OUR CONCERNS ^{ARE} VALID, AS
WE HAVE PROPERTY THERE AND HAVE HAD PLENTY OF
INCIDENCES IN THE PAST THAT WERE NOT PLEASANT.
WE DON'T WANT THEM REPEATED. THANK YOU
IN ADVANCE, LET'S BE GOOD NEIGHBORS.

Please note: Comments, including personal information, become public information and may be released to interested parties if requested.

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APPENDIX B
CONSTRUCTION PHASING, EQUIPMENT USE,
AND TRIP ASSUMPTIONS

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Newell Creek Dam Inlet/Outlet Replacement Project Construction Assumptions

Construction Duration

- Approximately 24 months
- Start Date: February 2021
- End Date: February 2023

Construction Workers and Daily Schedules

- Days Per Week: Monday-Friday, potential occasional work on Saturday
- Construction Hours: Generally between 7 AM and 7 PM
- Daily Work Shifts: One 10-hour daily work shift
- Daily Workers: 10-20

Estimated Construction-Related Daily Trips

- Worker Trips: 40 one-way trips (20 maximum employees x 2 daily trips)
- Estimated number of supply delivery truck one-way trips
 - Concrete (250 total one-way trips): 12 one-way trips – This would be for a large pour such as footings for the retaining wall at the culvert bridge. Most pours would be smaller 4 one-way trips.
 - Riprap, cellular concrete and shotcrete (500 total one-way trips): 18 one-way trips – When placing cellular concrete to backfill tunnel.
 - Reinforcing steel: 30 one-way trips.
 - Others: 4 (FedEx)
- Amount of total one-way haul truck trips (For soil export if applicable)
 - Excess spoils material (275-745 total one-way trips): 20 one way trips – Excavated spoils could total 17,000 – 22,600 cy with excavation of a 10-foot and 14-foot diameter tunnel, respectively, and the portal/construction platform area. Per the Draft Spoils Disposal Technical Memo (2/16/2018), approximately 13,700 cy of material could be disposed of on site. Approximately 3,300 – 8,900 cy of material would require off-site disposal. With a 12 cy dump truck, this would take approximately 275-745 one-way haul truck trips. At 20 trips per day, this would take 13 to 37 days.
 - Distance to transport/disposal facility if known: 22 miles to the City of Santa Cruz Resource Recovery Facility

Assumed Construction Sequences

Year 1:

- Mobilization
- Develop Staging Areas
- Construct NCP and Instream Beneficial Flow Release Construction Bypass
- Access Road Improvement
- Grade/Develop Portal construction platform, including constructing seepage well
- Install culvert bridge
- Install temporary boat launch and silt curtain
- Dredge material to be removed and drill shafts
- Construct intake and air vent
- Start Tunnel excavation
- Inlet Control House Construction

Year 2:

- Complete tunnel excavation
- Install inlet/outlet conduit and secondary pipe in tunnel and backfill tunnel
- Construct Outlet control house and appurtenant facilities
- Complete electrical and controls installation
- Perform start-up testing
- Decommission existing outlet after successful testing

Construction Duration and Equipment Assumptions

Phase Name	Equipment Type	General Construction Schedule				Accelerated Construction Schedule			
		Equipment Quantity	Hours/Day ¹	Number of Shifts	Duration	Equipment Quantity	Hours/Day ¹	Number of Shifts	Duration
Year 1									
1 Mobilization	CAT 740 Articulated Haul Truck	1	10	1	5 days	1	16	2	3 days
	12K LB Forklift	1	10	1		1	16	2	
	Bobcat T190	1	10	1		1	16	2	
2 Develop staging areas	CAT 740 Articulated Haul Truck	3	8	1	5 days	3	16	2	3 days
	CAT 336 Excavator	1	10	1		1	16	2	
	D6T Dozer	2	8	1		2	16	2	
	CAT 950 Loader	2	8	1		2	8	2	
	2000 Gallon Water Truck	1	4	1		1	8	2	
	4000 Gallon Water Truck	1	4	1		1	16	2	
	Crane/Boom Truck	1	10	1		1	16	2	
3-4 Construct NCP and instream beneficial flow release construction bypass	CAT 740 Articulated Haul Truck	2	8	1	44 days	2	16	2	28 days
	CAT 345 Excavator	1	10	1		1	11	2	
	D6T Dozer	1	10	1		1	16	2	
	14H Motor Grader	1	10	1		1	16	2	
	CAT 950 Loader	1	4	1		1	8	2	
	8 Ton Single Drum Sheeps Foot Roller	1	4	1		1	8	2	
	2000 Gallon Water Truck	1	4	1		1	8	2	
	12K LB Forklift	1	10	1		1	16	2	
	Crane/Boom Truck	1	10	1		1	16	2	
5 Access road improvement	CAT 740 Articulated Haul Truck	2	8	1	3 days	2	16	2	2 days
	CAT 336 Excavator	1	10	1		1	16	2	
	D6T Dozer	1	10	1		1	10	2	
	14H Motor Grader	1	10	1		1	16	2	
	CAT 950 Loader	1	4	1		1	8	2	
	8 Ton Single Drum Sheeps Foot Roller	1	4	1		1	8	2	
	2000 Gallon Water Truck	1	4	1		1	8	2	
	12K LB Forklift	1	10	1		1	16	2	
6 Grade/develop portal construction platform, including constructing seepage well	CAT 740 Articulated Haul Truck	3	8	1	28 days	3	16	2	18 days
	D6T Dozer	2	8	1		2	16	2	
	CAT 950 Loader	2	8	1		2	16	2	
	2000 Gallon Water Truck	1	4	1		1	8	2	
	4000 Gallon Water Truck	1	4	1		1	8	2	
	Concrete transit mixers	4	8	1		4	16	2	
	Crane/Boom Truck							2	
		1	10	1		1	16		

Construction Duration and Equipment Assumptions

Phase Name	Equipment Type	General Construction Schedule				Accelerated Construction Schedule			
		Equipment Quantity	Hours/Day ¹	Number of Shifts	Duration	Equipment Quantity	Hours/Day ¹	Number of Shifts	Duration
7 Install culvert bridge	CAT 740 Articulated Haul Truck	1	10	1	38 days	1	16	2	24 days
	CAT 336 Excavator	1	10	1		1	16	2	
	D6T Dozer	1	10	1		1	16	2	
	8 Ton Single Drum Sheeps Foot Roller	1	4	1		1	8	2	
	12K LB Forklift	2	8	1		2	16	2	
	Crane/Boom Truck	1	10	1		1	16	2	
	Bobcat T190	1	10	1		1	16	2	
8 Install temporary boat launch and silt curtain	Diesel Generator	1	16	2	20 days	1	24	3	13 days
	CAT 740 Articulated Haul Truck	2	8	1		2	16	2	
	CAT 336 Excavator	1	10	1		1	16	2	
	14H Motor Grader	1	10	1		1	16	2	
	8 Ton Single Drum Sheeps Foot Roller	1	4	1		1	8	2	
	2000 Gallon Water Truck	1	4	1		1	8	2	
	12K LB Forklift	1	10	1		1	16	2	
	Crane/Boom Truck	1	10	1		1	16	2	
	Bobcat T190	1	10	1		1	16	2	
9 Dredge material to be removed and drill shafts	Crane/Boom Truck	1	10	1	40 days	1	16	2	25 days
	Clamshell Dredger	1	10	1		1	16	2	
	Drill Rig	1	10	1		1	10	2	
10 Drill Vertical Shafts, Construct intake and components	Concrete transit mixers	2	8	1	165 days	2	16	2	100 days
	12K LB Forklift	1	10	1		1	16	2	
	Crane/Boom Truck	1	10	1		1	16	2	
Work Boats	Flat bottom crew/work boat	1	10	1		1	16	2	
	Push boat for equipment & barge moving	1	10	1		1	16	2	
Diving Equipment	Breathing Compressors	1	10	1		1	16	2	
	Hot Water Suit Heaters-Diesel powered	1	10	1		1	16	2	
	250 kw generator	1	10	1		1	16	2	
11 Dam Crest Work Inlet control house construction	CAT 740 Articulated Haul Truck	1	4	1	60 days	1	16	2	39 days
	CAT 336 Excavator	1	4	1		1	16	2	
	14H Motor Grader	1	4	1		1	16	2	
	Concrete transit mixers	2	8	1		2	16	2	
	12K LB Forklift	1	4	1		1	16	2	
	Crane/Boom Truck	1	4	1		1	16	2	
	Bobcat T190	1	4	1		1	16	2	
12 Tunnel excavation	Diesel Generator	1	16	2	225 days	1	24	3	84 days
	CAT 740 Articulated Haul Truck	2	16	2		2	24	3	
	Concrete transit mixers	1	16	2		1	24	3	
	Roadheader (tunneling)	1	16	2		1	24	3	
	Air Compressor	2	10	1		2	24	3	

Construction Duration and Equipment Assumptions

Phase Name	Equipment Type	General Construction Schedule				Accelerated Construction Schedule			
		Equipment Quantity	Hours/Day ¹	Number of Shifts	Duration	Equipment Quantity	Hours/Day ¹	Number of Shifts	Duration
	Ventilator fan	1	16	2		1	24	3	
	Water treatment plant	1	16	2		1	24	3	
Year 2									
13 Install inlet/outlet conduit and secondary pipe in tunnel and backfill tunnel	Diesel Generator	1	10	1	Included above		24	3	
	Concrete transit mixers	4	10	1		4	10	1	
	12K LB Forklift	2	10	1		2	24	3	
	Air Compressor	2	10	1		2	24	3	
	Bobcat T190	1	10	1		1	24	3	
14 Outlet Control House construction	Diesel Generator	1	10	1	75 days	1	16	2	31 days
	CAT 740 Articulated Haul Truck	1	4	1		1	8	2	
	CAT 336 Excavator	1	10	1		1	16	2	
	14H Motor Grader	1	4	1		1	8	2	
	8 Ton Single Drum Sheeps Foot Roller	1	4	1		1	8	2	
	Concrete transit mixers	2	4	1		2	4	1	
	12K LB Forklift	2	10	1		2	16	2	
	Crane/Boom Truck	1	10	1		1	16	2	
	Bobcat T190	1	10	1		1	16	2	
Year 3									
Perform start-up testing	Crane/Boom Truck	1	10	1	25 days		16	2	16 days
Decommission existing outlet after successful testing	CAT 740 Articulated Haul Truck	1	10	1	45 days	1	16	2	28 days
	Concrete transit mixers	1	10	1		1	10	1	
	Crane/Boom Truck	1	10	1		1	16	2	
	Bobcat T190	1	10	1		1	16	2	

¹Associated hours for shifts: 1 shift = 10 hours; 2 shifts = 16 hours; 3 shifts = 24 hours.

APPENDIX C
ENVIRONMENTAL EVALUATION FORM FOR THE
STATE WATER RESOURCES CONTROL BOARD
DRINKING WATER STATE REVOLVING FUND APPLICATION

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ENVIRONMENTAL PACKAGE CONSTRUCTION

I. GENERAL INFORMATION

Applicant (Entity) Name: City of Santa Cruz Water Department

Project Title: Newell Creek Dam Inlet/Outlet Replacement Project

Environmental Contact Person: Sarah Easley Perez

Phone: (831) 420-5327

Email: seasleyperez@cityofsantacruz.com

Project Description:

The proposed project would consist of replacement of the existing aging inlet/outlet works in new locations at the Newell Creek Dam and Loch Lomond Reservoir and other associated improvements. Primary components would include three new inlets located within the Reservoir to control and convey flows in and out of the Reservoir, a new outlet structure with valves and controls at the toe of the dam, a new dam seepage collection and monitoring system, a new 14-foot-diameter tunnel containing 48-inch and 10-inch inlet/outlet pipelines through the right (west) dam abutment and under the dam, a new control house on the dam crest to house controls for the inlets, replacement of an approximately 2,000-linear-foot section of Newell Creek Pipeline between the outlet structure and the first isolation valve, improvements along the dam's access roads, and decommission of the existing inlet/outlet works once the replacement system is operational.

II. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) STATUS

CEQA Lead Agency¹: City of Santa Cruz Water Department

Public Hearing/Meeting Date(s) for CEQA Document Adoption/Certification²: April 23, 2019

List and describe all related environmental permits, approvals, and certifications required for the project:

USACE Clean Water Act Section 404 Permit; Central Coast RWQCB Clean Water Act Section 401 Water Quality Certification; CDFW Fish and Game Code Section 1602, Lake or Streambed Alteration Agreement; National Pollutant Discharge Elimination System (NPDES) Permit

CEQA Document Status (check boxes that apply):

☒ CEQA process has not yet started for this project OR is underway ³	☐ Project is Categorically or Statutorily Exempt	☐ Project is covered under a Negative Declaration	☐ Project is covered under a Mitigated Negative Declaration	☒ Project is covered under an Environmental Impact Report

State Clearinghouse Number⁴:

2	0	1	8	0	6	2	0	7	1

¹If the CEQA lead agency has not been identified, please contact the Environmental Review Unit for guidance.

²The Clean/Drinking Water State Revolving Fund (SRF) Programs require at least one (1) public hearing/meeting, for projects that are not exempt under CEQA, in which the CEQA document(s) must be adopted/certified. All environmental documents must be less than five (5) years old at the time a financing agreement is executed for a project.

³The CEQA process and applicable federal cross-cutter requirements must be completed prior to receiving a financing agreement for the project.

⁴All environmental documents must be circulated through the Governor's Office of Planning and Research, State Clearinghouse.

Project Setting:

Describe the current resource condition(s) and types of land use(s) in the project area and surrounding properties, and indicate if the project is located on tribal and/or federal land(s):

The project is not located on tribal and/or federal land(s). The project is located in the forested Santa Cruz Mountains (elevation range from ~390 feet to 780 feet above mean sea level). Surrounding properties are primarily rural residential land uses. See attachment for further explanation.

Environmental Setting:

Will the project:

Yes	No	
☒	☐	Be located in or adjacent to a sensitive biological area?
☒	☐	Involve potential impacts to state or federally listed threatened or endangered species?
☐	☒	Be located on or adjacent to wildlife migration routes?
☒	☐	Be located in or adjacent to recreational facilities or resources?
☒	☐	Be located on or adjacent to a unique stream or water body, or involve disturbance in a waterway or wetland?
☒	☐	Involve removal of mature trees or trees of local importance?
☒	☐	Involve a substantial alteration of ground contours?
☐	☒	Involve new or increased use of a critically over-drafted groundwater basin or groundwater basin subject to salinity intrusion?
☒	☐	Be located in an area with important geological resources (e.g., paleontological resources, mineral resources, etc.)?
☒	☐	Involve substantial excavation and soil removal?
☐	☒	Produce substantial quantities of dust, ash, smoke, fumes, odors, or other air quality pollutants?
☐	☒	Involve substantial change in noise or vibration levels beyond the project area or be located in an area with sensitive noise receptors?
☒	☐	Be located on slopes with a grade of 10 percent or more, on highly erodible soil, or in a geologically unstable area?
☐	☒	Involve disposal of hazardous, flammable, or explosive materials?
☒	☐	Be located within a 100-year flood zone and have the potential to redirect flood flows?
☐	☒	Increase traffic above existing levels, or cause potential traffic related impacts?
☐	☒	Involve substantial increase in energy consumption (e.g., electricity, oil, natural gas)?
☐	☒	Contribute to significant cumulative impacts associated with successive projects of the same type, at or near the project site, over time?
☐	☒	Include a reasonable possibility that the project will have a significant impact on the environment due to unusual circumstances?
☐	☒	Involve growth inducing activities?
☐	☒	Involve damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway?
☐	☒	Be located on a hazardous waste site that is included on any lists compiled pursuant to Section 65962.5 of the Government Code?
☐	☒	Increase health risks associated with hazardous chemicals?
☐	☒	Be located on a site or area that has the potential to be contaminated by hazardous materials?
☐	☒	Impact additional utilities services areas (e.g., gas lines, sewers, landfills, etc.)?
☐	☒	Involve a substantial adverse change in the significance of a historical resource?

If answers to any of the above questions are "Yes", explain:

See attachment for "yes" answers.

III. CEQA EXEMPTION INFORMATION

Categorical Exemptions (CE): California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, Article 19, Sections 15300 et seq. Check the class(es) that apply:

☐ Class 1: Existing Facilities	☐ Class 13: Acquisition of Lands for Wildlife Conservation Purposes
☐ Class 2: Replacement or Reconstruction	☐ Class 22: Educational or Training Programs Involving No Physical Changes
☐ Class 3: New Construction or Conversion of Small Structures	☐ Class 29: Cogeneration Projects at Existing Facilities
☐ Class 4: Minor Alterations to Land	☐ Other (list specific Class number): _____
☐ Class 6: Information Collection	
☐ Class 11: Accessory Structures	

Statutory Exemptions (SE): CCR, Title 14, Division 6, Chapter 3, Article 18, Sections 15260 et seq. Check the statute(s) that apply:

- ☐ 15262, Feasibility and Planning Studies: A project involving only feasibility or planning studies for possible future actions that the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an Environmental Impact Report or Negative Declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities.
- ☐ 15282, Other Statutory Exemptions: The installation of new pipeline or maintenance, repair, restoration, removal, or demolition of an existing pipeline as set forth in Section 21080.21 of the Public Resources Code, as long as the project does not exceed one mile in length.
- ☐ Other (list specific code reference): _____

Attach photos of the project area, as well as any documentation used to support the exemption determination. Explain how the project is consistent with the above listed SE(s) or CE(s) requirements by thoroughly describing the screening process and/or steps that were taken to determine if an exemption was appropriate for the project including, but not limited to, the Initial Study:

IV. EVALUATION FORM FOR FEDERAL ENVIRONMENTAL COORDINATION

Potential Co-Funding Sources

Will the project potentially be co-funded by any other federal agencies?

- ☒ No – No other federal agencies will provide funding for the project.
- ☐ Yes – The project will potentially receive funding from other federal agency(s). Please list the agency(ies) and explain the funding status:

United States Forest Service, Bureau of Land Management, and Other Federal Land
(<http://www.fs.usda.gov/r5>) (<https://www.blm.gov/california>)

Is any portion of the proposed project site located on United States Forest Service (USFS), Bureau of Land Management (BLM), or any other federally managed land? [For an interactive map outlining federally managed land, please visit: <https://www.blm.gov/maps/frequently-requested/california>.]

- ☒ No – The proposed project will not be located on USFS, BLM, or any other federally managed land.
- ☐ Yes – The proposed project will be located on USFS, BLM, or other federally managed land. Please explain, or indicate where more information can be found (e.g., biological report/assessment, CEQA document, etc.), and attach a colored map identifying the project location with respect to the USFS, BLM, or other federal land. Attach a copy of the appropriate authorization/permit for the use of federal land (e.g., USFS Special-Use Authorization, BLM Land Use Permit) or indicate the status of the authorization/permit below.

Please indicate the USFS Office, BLM District, or other federal regional unit in which the project is located and the contact information of the associated federal representative with whom the water system has been in contact:

USFS Office/BLM District/Federal Regional Unit: _____
(<https://www.fs.usda.gov/main/r5/about-region/offices>) (<https://www.blm.gov/contact/california>)

Contact Person: _____

Contact E-Mail/Phone: _____

Environmental Alternative Analysis

The SRF Programs require an environmental alternative analysis for projects that have a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report.

Please attach a copy of the environmental alternative analysis or indicate where it can be found (e.g., Project Technical Report/Engineering Report): **EIR Chapter 5**

Please briefly summarize the direct and indirect environmental impacts associated with each project alternative considered, including a “no project/no action” alternative, and the environmental considerations behind the selected project alternative. Also, include any mitigation measures to reduce potential environmental impacts:

See attachment for further explanation.

Archaeological and Historic Preservation Act (AHPA)

<https://www.nps.gov/archeology/tools/laws/AHPA.htm>

Will the project cause the irreparable loss or damage to a significant archaeological or historic resource or data through alteration of the terrain resulting from dam or reservoir construction (i.e., flooding, building of access roads, or construction of a reservoir) and require compliance under the AHPA?

☒ No – The project construction will not cause an irreparable loss or damage of significant archaeological or historic resources or data through alteration of the terrain resulting from dam or reservoir construction. The project does not require compliance with the AHPA.

☐ Yes – The project construction will cause an irreparable loss or damage of a significant archaeological or historic resources or data through alteration of the terrain resulting from dam or reservoir construction. The project requires compliance with the AHPA. Please explain, or indicate where this information can be found [e.g., Historic Properties Identification Report (HPIR) (see the National Historic Preservation Act below), CEQA document, etc.]:

The Cultural Resources Report for the proposed project (Appendix G-1 of the EIR) presents the results of a California Historical Resources Information System (CHRIS) records search, Native American Heritage Commission Sacred Lands File (SLF) search, an intensive pedestrian survey of the unpaved portions of the project site, a discussion of the potential project effects, and recommendations for protection of cultural resources in the project area. The results of the CHRIS and SLF searches were used to determine the likely presence or absence of cultural materials within the APE. No newly or previously recorded archaeological cultural resources or Native American resources were identified within the APE or 0.5-mile radius. The field survey did not identify any archaeological resources within the project site. The Historical Resources Evaluation Report for the project (Appendix G-2 of the EIR) presents the results of a CHRIS search, pedestrian survey of the project site for historic built environment resources, and building development and archival research. The evaluation found that the subject property appears eligible for the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) under Criterion A/1 at the local level of significance and for local listing under Santa Cruz County Criterion 2 for its associations with local water development. All proposed project activities were found to have a less-than-significant impact on historical resources.

Clean Air Act

(<https://www.epa.gov/laws-regulations/summary-clean-air-act>)

Name of Air Basin (<http://www.arb.ca.gov/ei/maps/statemap/abmap.htm>): North Central Coast Air Basin

Local Air District (<http://www.arb.ca.gov/capcoa/dismap.htm>): Monterey Bay Unified Air Pollution Control District

Complete the following table: [Project construction and operational air emissions can be estimated by using the California Emissions Estimator Model (CalEEMod): <http://caleemod.com/>]

Pollutant	Federal Status (Attainment, Nonattainment, Maintenance, or Unclassified)	Nonattainment Rates (i.e., marginal, moderate, serious, severe, or extreme)	Threshold of Significance for Project Air Basin (if applicable – contact Local Air District)	Estimated Construction Emissions (Tons/Year)	Estimated Operation Emissions (Tons/Year)
Ozone (O ₃)	Unclassifiable/Attainment	Not Applicable	Not Applicable	See O3 Precursors (NO _x and ROG)	Negligible/Same as Existing
Carbon Monoxide (CO)	Unclassifiable/Attainment	Not Applicable	Not Applicable	9.52	Negligible/Same as Existing
Oxides of Nitrogen (NO _x)	Unclassifiable/Attainment	Not Applicable	Not Applicable	17.09	Negligible/Same as Existing
Reactive Organic Gases (ROG)	Unclassifiable/Attainment	Not Applicable	Not Applicable	1.65	Negligible/Same as Existing
Volatile Organic Compounds (VOC)	Unclassifiable/Attainment	Not Applicable	Not Applicable	Same as ROG	Negligible/Same as Existing
Lead (Pb)	Unclassifiable/Attainment	Not Applicable	Not Applicable	Not Applicable	Negligible/Same as Existing
Particulate Matter less than 2.5 microns in diameter (PM _{2.5})	Unclassifiable/Attainment	Not Applicable	Not Applicable	0.78	Negligible/Same as Existing
Particulate Matter less than 10 microns in diameter (PM ₁₀)	Unclassifiable/Attainment	Not Applicable	Not Applicable	0.99	Negligible/Same as Existing
Sulfur Dioxide (SO ₂)	Unclassifiable/Attainment	Not Applicable	Not Applicable	0.03	Negligible/Same as Existing

Is the project subject to a General Conformity determination?

☒ No – The project is located in an attainment or unclassified area for all federal criteria pollutants, and/or the project emissions are below the federal *de minimis* levels. The project is not subject to General Conformity determination. Please include supporting documents utilized to compile the data, and any air quality studies/models (e.g., CalEEMod report) that have been completed for the project. Indicate where more information can be found (e.g., CEQA document, etc.):

Information is provided in EIR Section 4.2 and EIR Appendix D.

☐ Yes – The project is in a nonattainment area or maintenance area subject to maintenance plans for a federal criteria pollutant and project emissions are above the federal *de minimis* levels. The project is subject to General Conformity determination. Please include supporting documents utilized to compile the data, and any air quality studies/models (e.g., CalEEMod report) that have been completed for the project. Indicate where more information can be found (e.g., CEQA document, etc.):

Coastal Barriers Resources Act

(<https://www.fws.gov/ecological-services/habitat-conservation/coastal.html>)

Will the project impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters? (Note: Since there are currently no coastal barrier units in California, projects located in California are not expected to impact the Coastal Barrier Resources System. If there is a special circumstance in which the project may impact the Coastal Barrier Resource System, indicate your reasoning below.)

☒ No – The project will not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters.

☐ Yes – The project will impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets and near-shore waters. Describe the project location with respect to the Coastal Barrier Resources System, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.). Please provide the status of any consultation with the appropriate Coastal Zone management agency and the United States Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS):

Coastal Zone Management Act

(<http://coastal.ca.gov/cdp/cdp-forms.html> and/or <http://www.bcdc.ca.gov/>)

Is any portion of the project site located within the coastal zone? [NOTE: California's coastal zone generally extends 1,000 yards inland from the mean high tide line, but may extend further if the area is located in significant coastal estuarine, habitat, and/or recreational areas, or to a lesser extent if the area is located in a developed urban area or within a coastal zone of the San Francisco Bay Conservation and Development Commission (BCDC).] (To help determine if the project is located within a coastal zone, please visit <https://coastal.ca.gov/maps/> and/or <https://coast.noaa.gov/czm/media/StateCZBoundaries.pdf>, or contact your local California Coastal Commission office or the city or county in which the project is located.)

☒ No – The project is not within the coastal zone.

☐ Yes – The project is located within the coastal zone. Attach a copy of the coastal zone permit or coastal exemption, or indicate the status of the coastal zone permit below (http://www.coastal.ca.gov/enforcement/cdp_pamphlet.pdf). Describe the project location with respect to coastal areas, or indicate where this information can be found (e.g., CEQA document, biological report/assessment, etc.):

The project is located approximately 10 miles from the Pacific Ocean and is not within the coastal zone.

Endangered Species Act (ESA)

(<https://www.epa.gov/laws-regulations/summary-endangered-species-act>)

- **Required documents:** Attach a project-level biological report/assessment prepared by a qualified professional biologist that includes an up-to-date field survey and species list information (from the USFWS, the NMFS, the California Natural Diversity Database, and the California Native Plant Society) analyzing the project's direct and indirect impacts on special status species in the project area. An official species list is required from the USFWS and NMFS. Refer to the USFWS Midwest Region website for guidance on preparing a biological report/assessment that meets ESA, Section 7 requirements: <https://www.fws.gov/Midwest/endangered/section7/index.html>. Refer to the following resources for information regarding possible biological impacts and to obtain official and unofficial species lists for analysis: <https://ecos.fws.gov/ipac/>, <http://www.rareplants.cnps.org/>, <http://www.nmfs.noaa.gov/pr/consultation/>, and/or <https://www.wildlife.ca.gov/Data/CNDDB>.

Biological Field Survey Date(s): April 11-12, May 10, June 21, September 6, 2018

Does the project involve any direct or indirect impacts from construction or operation activities that may affect federally listed threatened or endangered species, or their critical habitat, that are known or have a potential to occur on the project site, in the surrounding area, or in the service area?

☐ No – The project will not have an impact on any federally listed species or their critical habitat. Please explain, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.).:

☒ Yes – The project will have an impact on one or more federally listed species or their critical habitat. Please provide information on the federally listed species that could potentially be affected by the project and any proposed avoidance and conservation measures. Please indicate below where more information can be found (e.g., biological report/assessment, CEQA document, etc.). If any consultations with state or federal agencies have been conducted for the project, please discuss the consultation efforts:

The project could affect the federally threatened steelhead (*Oncorhynchus mykiss irideus*), but would not result in significant or adverse impacts with implementation of mitigation measures and avoidance/minimization measures. More information can be found in the EIR (Section 4.3) and the Biological Resources Assessment (Appendix F-1 of the EIR).

Environmental Justice

(<https://www.epa.gov/environmentaljustice>)

Does the project involve an activity that is likely to be of particular interest to or have particular impact upon minority, low-income, or indigenous populations?

☒ No – The project is not likely to be of any particular interest to or have an impact on certain minority, low-income, or indigenous populations. Please explain, or indicate where this information can be found:

The Census Block Groups surrounding the project site have median household incomes that exceed U.S. Census Bureau weighted average poverty thresholds and do not have predominantly minority populations. See attachment for further explanation.

☐ Yes – The project is likely to be of particular interest to or have an impact on certain minority, low-income, or indigenous populations.

Check the appropriate box(es):

- ☐ The project is likely to affect the health of these populations.
- ☐ The project is likely to affect the environmental conditions of these populations.
- ☐ The project is likely to present an opportunity to address an existing disproportionate impact of these populations.
- ☐ The project is likely to result in the collection of information or data that could be used to assess potential impacts on the health or environmental conditions of these populations.
- ☐ The project is likely to affect the availability of information to these populations.
- ☐ Other reasons (please describe):

Please explain the selection above, or indicate where this information can be found:

Farmland Protection Policy Act

(http://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs143_008275)

Is any portion of the project located on prime, unique, or important farmland? (Please refer to the following resources regarding important farmland: <http://maps.conservation.ca.gov/ciff/ciff.html>, and or <http://www.conservation.ca.gov/DLRP/fmmp/Pages/Index.aspx>)

☒ No – The project is not located on and will not impact prime, unique, or important farmland. Please explain, or indicate where this information can be found (e.g., farmland conversion assessment, CEQA document, etc.):

No farmland is located on or near the project site. This is further described in EIR Section 4.1.

☐ Yes – The project is located on and/or will impact prime, unique, or important farmland. Attach documents/assessments evaluating the conversion of prime/unique farmland and farmland of statewide/local importance to non-agricultural uses, as well as any consultation(s) conducted with relevant agencies. Include information on the acreage that would be converted from important farmland to other uses. Indicate if any portion of the project boundaries is under a Williamson Act Contract, and specify the amount of acreage affected. Include this information here or indicate it can be found (e.g., farmland conversion assessment, CEQA document, etc.):

Fish and Wildlife Coordination Act (FWCA)

(<https://www.fws.gov/ecological-services/es-library/pdfs/fwca.pdf>)

Will the project impact any bodies of water by impounding, diverting, deepening a channel, or otherwise controlling/modifying flow (including navigation and drainage)?

- ☒ No – The project will not impact any bodies of water and will not require compliance with the FWCA.
- ☐ Yes – The project will impact a body of water and will require compliance with the FWCA. Consultation with the USFWS and the California Department of Fish and Wildlife will be required. Please discuss the potential project impacts to the water body, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.):

The proposed project would not impound, divert, deepen a channel, or otherwise control or modify flow for any purpose. Indirect impacts of construction would not result in significant impacts to the existing reservoir or Newell Creek with implementation of project Best Management Practices (BMPs) and mitigation measures.

Floodplain Management: Executive Orders 11988, 12148 and 13690

(<https://www.fema.gov/executive-order-11988-floodplain-management,Executive>,
<https://www.archives.gov/federal-register/codification/executive-order/12148.html>, and
<https://www.whitehouse.gov/the-press-office/2015/01/30/executive-order-establishing-federal-flood-risk-management-standard-and->)

- **Required documents:** Attach an official floodplain map that includes the project area. Please refer to the Federal Emergency Management Agency (FEMA) Flood Map Service Center for official floodplain maps: <https://msc.fema.gov/portal>. If the project area is unmapped by the FEMA, please explain below.

Is any portion of the project located within a 100-year floodplain as depicted on a floodplain map or otherwise designated by the FEMA?

- ☐ No – The project is not located within a 100-year floodplain.
- ☒ Yes – The project or a portion of the project is located within a 100-year floodplain. Attach any reports (floodplains/hydrological assessment) completed for the project, and provide information of any consultations completed with relevant agencies. Describe the floodplain and any proposed measures that will be implemented to minimize or avoid redirection of the flood flow by the project, or indicate where this information can be found (e.g., floodplains/hydrological assessment, CEQA document, etc.):

As mapped by FEMA, portion of the project site is located within Flood Zone A. The FEMA 100-year flood as shown would overflow the southeast portion of the dam, in the vicinity of the existing control house and dam access road, encompassing and overflowing the existing spillway. The proposed project would include construction of a new control house on the dam crest. The proposed control house, though its exact location on the dam crest has not yet been determined, would be located within the mapped FEMA flood zone; however, it would be sufficiently small such that it would not substantially impede or redirect flood flows. The City has completed an independent analysis of flood flows for the proposed project (AECOM, 2018). Based on this study, the proposed outlet structure would be located above the 100-year flood elevation. Similarly, the proposed culvert bridge to replace the existing spillway plunge pool concrete ford is designed to not be overtopped during a 200-year flood event based upon the project specific analysis. This information is described in EIR Section 4.8.

Magnuson-Stevens Fishery Conservation and Management Act

(<http://www.nmfs.noaa.gov/sfa/magact>)

Does the project involve any direct or indirect impacts from construction or operational activities or changes in water quality/quantity that may impact Essential Fish Habitat (EFH)? (Please refer to the NMFS Mapper to help determine the project's proximity and potential direct/indirect impacts to EFH, and to obtain a NMFS species list for the project location: http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html.)

☒ No – The project will not impact EFH. Please explain, or indicate where this information can be found (e.g., biological report/assessment, EFH impact assessment/evaluation, CEQA document, etc.):

See Biological Assessment for NOAA Fisheries.

☐ Yes – The project may adversely impact EFH and consultation with the NMFS will be required. Describe how EFH could potentially be impacted by this project and any proposed avoidance and conservation measures, or indicate where this information can be found (e.g., biological report/assessment, EFH impact assessment/evaluation, CEQA document, etc.). Please attach an official NMFS species list, obtained through the NMFS Mapper link above, and explain any previous consultations/coordination conducted with the NMFS for the project:

Migratory Bird Treaty Act

(<http://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>, and/or <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>)

Will the project impact protected migratory birds that are known or have a potential to occur on the project site, or the surrounding area? (Please refer to the USFWS's IPaC tool to request an official list of "birds of conservation concern" with the potential to occur in the project area: <https://ecos.fws.gov/ipac/>)

☐ No – The project will not impact protected migratory birds. Please explain, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.):

☒ Yes – The project may impact protected migratory birds. Attach documentation (e.g., biological report/assessment) that includes an official USFWS IPaC list of all the "birds of conservation concern" that could occur where the project is located. Discuss the project's direct and indirect impacts (such as noise, vibration impacts, or modification of habitat) to migratory birds, and the mitigation measures that will be implemented to reduce or eliminate these impacts. Please indicate where more information can be found [e.g., page number(s) of the biological report/assessment, CEQA document, etc.]:

See EIR Section 4.3 and Biological Resources Assessment.

National Historic Preservation Act (NHPA)

(<http://www.achp.gov/nhpa.html>)

- **Required documents:** A Historic Properties Identification Report (HPIR) written by a cultural resources professional who meets the Secretary of the Interior's Professional Qualification Standards in Archaeology or Architectural History (www.nps.gov/history/local-law/arch_stnds_9.htm), as appropriate. The report must include a current records search (not older than five years) from the California Historical Resources Information System (CHRIS) (http://ohp.parks.ca.gov/?page_id=1068) extending to a half-mile beyond the Project's area of potential effects (APE), maps showing all recorded resources and surveys in relation to the APE, records of Native American outreach (<http://nahc.ca.gov>), and resource records from the CHRIS search and newly identified resources. Please contact State Water Board staff to receive additional details. Refer to the OHP website (under the Section 106 Submission Checklists header) for guidance regarding the information required to consult under Section 106: http://ohp.parks.ca.gov/pages/1071/files/106Checklist_Details.pdf.

If the project is a type of activity that does not have the potential to cause effects to historic properties, a HPIR is not necessary. Contact the State Water Board to discuss this. This decision is based on the type of activities, not on the presence or absence of historic properties.

Note: Please do not upload confidential documents to the FAAST system. Contact the Project Manager or Environmental Review Unit staff for guidance regarding submission of confidential documents.

Identify the National Historic Preservation Act, Section 106 finding of effect contained in the cultural resources report:

- ☐ No Historic Properties Affected
☒ No Adverse Effect to Historic Properties
☐ Adverse Effect to Historic Properties

Provide a brief explanation for the above identified determination, or indicate where this information can be found (e.g., HPIR cultural report):

The Cultural Resources Report (Appendix G-1 of the EIR) did not identify any previously recorded or new archaeological resources in the project APE. The Cultural Resources Report concludes that the proposed project would have no adverse effect on archaeological resources under Section 106 of the NHPA.

The Historical Resources Evaluation Report (Appendix G-2 of the EIR) determined that the Newell Creek Dam and its associated features appear eligible for the NRHP under Criterion A and the CRHR under Criterion 1 at the local level of significance, and local listing under County of Santa Cruz Criterion 2 for its associations with local water development. Therefore, the Newell Creek Dam and its associated features is considered a historic property under Section 106 of the NHPA. The Historical Resources Evaluation Report concluded that the project would have no adverse effect on historic properties under Section 106 of the NHPA.

Protection of Wetlands

(<https://www.epa.gov/cwa-404/protection-wetlands>)

Will any portion of the project be located in or potentially affect a wetland?

(The USFWS National Wetlands Inventory contains a Wetlands Mapper that may help identify wetland locations:

<http://www.fws.gov/wetlands/Data/Mapper.html>)

☐ No – The project will not be located in and/or will not potentially affect a wetland. Please explain, or indicate this information can be found (e.g., wetland assessment/delineation report, biological report/assessment, CEQA document, etc.):

☒ Yes – The project will be located in and/or will potentially affect a wetland. Attach a wetland assessment/delineation report consistent with the USACE guidance (http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/trel08-28.pdf) describing the project's potential impacts to wetlands and/or potential wetland areas; and the avoidance, minimization, and conservation measures that will be implemented to reduce such impacts. Please indicate where more information can be found (e.g., wetland assessment/delineation report, biological report/assessment, CEQA document, etc.):

See Preliminary Jurisdictional Report (September 2018), included in EIR (Appendix F-2).

Rivers and Harbors Act, Section 10

(<https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899>)

Will the project involve the construction of structures or any other regulated activities in, under, or over navigable waters of the United States? (NOTE: Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway.)

☒ No – The project is not located in or near navigable waters of the United States. There will be no construction of structures, modification of existing structures, or any other regulated activity work in, under, or over navigable waters of the United States.

☐ Yes – The project will involve the construction of structures and/or one or more of the listed regulated activities in, under, or over navigable waters of the United States, and will require a Section 10 permit. Please provide a copy of the permit obtained from the USACE, or the current status of the permit. Indicate below where more information on the project's construction and regulated activities can be found (e.g., Project Technical Report/Engineering Report, CEQA document, etc.):

The project is not in or near navigable waters.

Safe Drinking Water Act, Sole Source Aquifer Protection

(<http://water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/index.cfm>)

Is the project located in an area designated by the USEPA, Region 9, as a Sole Source Aquifer? (Please refer to the USEPA's website for an interactive map of the Sole Source Aquifer locations: <https://www.epa.gov/dwssa>)

- ☐ No - The project is not within the boundaries of a Sole Source Aquifer.
- ☒ Yes – The project is located in and/or will impact the below-marked Sole Source Aquifer:

☐ Fresno County Aquifer (Recharge Area or Streamflow Source Zone)	☒ Santa Margarita Aquifer, Scotts Valley
☐ Campo/Cottonwood Creek Aquifer	☐ Ocotillo-Coyote Wells Aquifer

Provide the necessary information, including an alternative project location and/or adequate mitigation measures, for the State Water Board to initiate consultation with the USEPA, Region 9, Ground Water Office, or indicate where this information may be found (e.g., biological report/assessment, CEQA document, etc.):

While the project is located within an area designated as a sole source aquifer, the project would have no impact on the aquifer. As described in Section 4.8 of the EIR, the project is not located within a groundwater recharge area and would not involve the use of groundwater.



Wild and Scenic Rivers Act

(<http://www.rivers.gov/california.php>)

Identify the watershed within the project location: San Lorenzo watershed, Newell Creek sub-watershed
(<https://cfpub.epa.gov/surf/locate/index.cfm>)

Will the project affect a wild and scenic river?

- ☒ No – The project will not impact any of the wild and scenic rivers listed above. Please explain, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.):

The nearest wild and scenic river to the project site is the Big Sur River, located >60 miles south.

- ☐ Yes – The project will impact the below-marked wild and scenic river. Attach a map of the impacted wild and scenic river, and identify the relative project location.

☐ Amargosa River	☐ Cottonwood Creek	☐ Klamath River	☐ Sespe Creek
☐ American River (Lower)	☐ Eel River	☐ Merced River	☐ Sisquoc River
☐ American River (North Fork)	☐ Feather River	☐ Owens River Headwaters	☐ Smith River
☐ Bautista Creek	☐ Fuller Mill River	☐ Palm Canyon Creek	☐ Trinity River
☐ Big Sur River	☐ Kern River	☐ Piru Creek	☐ Tuolumne River
☐ Black Butte River	☐ Kings River	☐ San Jacinto River (North Fork)	

Explain how the project will impact the wild and scenic river, or indicate where this information can be found (e.g., biological report/assessment, CEQA document, etc.):

V. ENVIRONMENTAL PACKAGE ATTACHMENTS

E1 - CEQA DOCUMENTS ⁵	NOE	ND	MND	EIR
NOTICE OF EXEMPTION (NOE) FILED WITH STATE CLEARINGHOUSE AND COUNTY CLERK				
DRAFT AND FINAL INITIAL STUDY/NEGATIVE DECLARATION (ND)				
DRAFT AND FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (MND)				
DRAFT AND FINAL ENVIRONMENTAL IMPACT REPORT (EIR)				X
COMMENTS AND RESPONSES				
STATEMENT OF OVERRIDING CONSIDERATIONS (SOC)				
MITIGATION MONITORING AND REPORTING PLAN/PROGRAM (MMRP)				
RESOLUTION/MINUTES APPROVING THE CEQA DOCUMENT(S)				
NOTICE OF DETERMINATION (NOD) FILED WITH STATE CLEARINGHOUSE AND COUNTY CLERK				
E2 - FEDERAL CROSS-CUTTER DOCUMENTS	ATTACHED	N/A		
United States Forest Service, Bureau of Land Management, and Other Federal Land – Map of Federal Lands and the Federal Land Use Authorization/Permit, if applicable		X		
Environmental Alternative Analysis, if applicable	X			
Clean Air Act – CalEEMod Report or Other Air Quality Models/Studies Used	X			
Coastal Zone Management Act – Coastal Permit or Coastal Exemption, if applicable		X		
Endangered Species Act, Section 7 – Biological Report/Assessment	X			
Farmland Protection Policy Act – Farmland Conversion Assessment, if applicable		X		
Fish and Wildlife Coordination Act – Assessment of Impacts to Water Body, if applicable	X			
Floodplain Management – Official Floodplain Map (required) and Floodplains/Hydrological Assessment (if applicable)	X			
Magnuson-Stevens Fishery Conservation and Management Act – EFH Impact Assessment, Official NMFS Species List, if applicable	X			
Migratory Bird Treaty Act – List of Migratory Birds (May be Included in the Biological Report/Assessment)	X			
National Historical Preservation Act, Section 106 – Historic Properties Identification Report	X			
Protection of Wetlands – Wetland Assessment/Delineation Report, Clean Water Act Section 401 Certification and/or Clean Water Act Section 404 Permit, if applicable	X			
Rivers and Harbors Act, Section 10 – Section 10 Permit, if applicable				
Wild and Scenic Rivers Act – Map of Wild and Scenic Rivers Watershed, if applicable		X		
Other Federal Cross-Cutter Documentation (i.e. Coastal Barrier Resources Act, Environmental Justice, etc.), if applicable - Attachment - Explanations	X			
Other Documentation – _____				
Other Documentation – _____				
Other Documentation – _____				

⁵If a Joint CEQA/NEPA document is prepared for the project, please submit all relevant documents.

National Flood Hazard Layer FIRMette



37°6'19.81"N

122°4'44.67"W



USGS The National Map: Orthoimagery. Data refreshed October 2017.

Feet 1:6,000

2,000

1,500

1,000

500

0

37°55'1.12"N

122°4'7.21"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/6/2018 at 4:45:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Page 2 - Project Setting: Newell Creek Dam (NCD), which impounds Loch Lomond Reservoir (Reservoir), is located in unincorporated Santa Cruz County in the forested Santa Cruz Mountains, approximately 10 miles north of the City of Santa Cruz and two miles east of the community of Ben Lomond. NCD and the southern half of the Reservoir are located on an approximate 520-acre site owned by the City of Santa Cruz (Assessor's Parcel Number 076-251-24). Newell Creek feeds the Reservoir from the north, and continues south from the dam where it eventually joins the San Lorenzo River, which flows into the Pacific Ocean. Elevations in the vicinity of the dam range from approximately 780 feet above mean sea level above the dam to 390 feet above mean sea level at the dam toe. Access to NCD is provided by Newell Creek Road off Glen Arbor Road; Newell Creek Road is a private road for approximately 0.3 miles south of the toe of the dam. Surrounding properties are primarily rural residential uses with homes on large lots. The County's Ben Lomond Refuse Transfer Station, which accepts Class III non-hazardous residential, commercial and industrial waste that is trucked to the County's Buena Vista Landfill in southern Santa Cruz County, is located approximately 0.3 miles south of NCD.

Page 2 - Environmental Setting: Will the project:

- ***Be located in or adjacent to a sensitive biological area?*** Yes, the project is situated adjacent to Newell Creek and Loch Lomond Reservoir and the site contains four sensitive habitats: riparian (red alder-bigleaf maple community along Newell Creek), bigleaf maple stands, coast live oak – madrone woodland, and wetland habitats (seeps and seasonal wetlands).
- ***Involve potential impacts to state or federally listed threatened or endangered species?*** Yes, the proposed Project improvements could result in direct impacts to steelhead (*Oncorhynchus mykiss irideus*), a federally-listed threatened species, if present, in the upper reach of Newell Creek within the Project study area, and construction activities could result in indirect impacts to downstream water quality and steelhead habitat. The project could result in impacts to foothill yellow-legged frog, a candidate for California listing as threatened, if any individuals are present at the construction sites. The project could result in impacts to nesting birds, including bald eagle (*Haliaeetus leucocephalus*), a state listed threatened species, if vegetation removal and/or construction activities occur during the nesting season and nesting birds are present.
- ***Be located on or adjacent to recreational facilities or resources?*** Yes, the City also operates and maintains the Loch Lomond Recreation Area (LLRA), located north of NCD and accessed by local roads. The LLRA provides a range of recreational opportunities including boat rentals, picnicking, fishing, hiking, and natural resources interpretive programming. LLRA staff provide surveillance and security on surrounding City watershed lands. The LLRA is open during daytime hours between March and mid-October.
- ***Be located on or adjacent to a unique stream or water body, or involve disturbance in a waterway or wetland?*** Yes, the NCD impounds Loch Lomond Reservoir, and the toe of the dam is adjacent to Newell Creek. The project would include construction in the Reservoir, through and adjacent to a short segment of Newell Creek, and in seasonal wetlands.

- ***Involve removal of mature trees or trees of local importance?*** Trees will be removed as part of site preparation for construction staging and disposal areas, some of which may be mature. There are no trees of local importance.
- ***Involve a substantial alteration of ground contours?*** Yes, the project would involve Reservoir dredging to install the new intake structures, grading to create a level area at the tunnel portal and outlet structure site (“construction platform”), and potential permanent placement of excavation spoils in identified staging/disposal areas.
- ***Be located in an area with important geological resources (e.g., paleontological resources, mineral resources, etc.)?*** Yes, the project area contains a geological formation, Monterey Formation, that is considered sensitive for paleontological resources.
- ***Involve substantial excavation and soil removal?*** Yes, the project would result in excavation of the tunnel with approximately 22,600 cubic yards (cy) of excavated soil. Within the Reservoir, material would need to be dredged to provide an adequate foundation for the new inlets and connecting piping. The estimated quantity of dredged materials in the Reservoir is 23,000 - 34,000 cy.
- ***Be located on slopes with a grade of 10 percent or more, on highly erodible soil or in a geologically unstable area?*** Yes, portions of the tunnel portal site contain slopes that exceed 10%, and the Reservoir intake structure is located in areas of steeper slopes and loose surficial soils.
- ***Be located within a 100-year flood zone and have the potential to redirect flood flows?*** Yes, portions of the project are located within the 100-year flood zone of Newell Creek, but the project would not cause changes to or redirection of flood flows.

Page 5 – Environmental Alternatives Analysis. The following alternatives were considered and eliminated from further consideration due to feasibility, costs, and ability to meet project objectives: rehabilitation of the existing inlet/outlet works; alternative inlet/outlet location and alternative construction techniques; and reservoir intake design and dredging alternatives. The project EIR evaluated the following alternatives: No Project; Reduced Project; and Reduced Construction Area.

Under the No Project Alternative, the proposed Project would not be constructed. The City is currently operating under an “Interim Drawdown Plan” approved by the California Division of Safety of Dam (DSOD), but it is not expected that the City would be able to operate under the interim plan indefinitely. While none of the project components would be constructed under this alternative, it is likely that replacement of the inlet/outlet works would be required at some point in the future due to continued deterioration of these facilities and the need to meet DSOD requirements. Thus, the proposed Project may be deferred, but not entirely eliminated.

Under the Reduced Project alternative, the size of two project components would be reduced. One of the three proposed intake inlets would be eliminated and the inlet/outlet conduit tunnel would be reduced to a 10-foot diameter size rather than the proposed 14-foot diameter size. This alternative would result in impacts to biological resources, paleontological resources, forest resources, hazardous materials exposure, and water quality, but to a slightly lesser degree than the proposed project. All impacts would be mitigated to a less-than-significant level with implementation of project-proposed Best Management Practices (BMPs) and mitigation measures, which are included at the end of this Attachment.

Under the Reduced Construction Area alternative, construction staging areas would be eliminated and/or reduced in size. This alternative would result in impacts to biological resources, paleontological resources, forest resources, hazardous materials exposure, and water quality, but to a lesser degree than the proposed project. All impacts would be mitigated to a less-than-significant level with implementation of project-proposed Best Management Practices (BMPs) and mitigation measures, which are included at the end of this Attachment.

None of the alternatives, including the No Project Alternative, would eliminate significant impacts, although the Reduced Project and Reduced Construction Area alternatives would reduce the level of impact. Excluding the No Project Alternative, the Reduced Construction Area Alternative was determined the environmentally superior alternative of the CEQA alternatives considered, although it would not substantially lessen the identified significant impacts.

Page 9 – Environmental Justice Analysis. The project involves replacement of aging inlet/outlet works at the Newell Creek Dam in Santa Cruz County. The project site is not located on or near tribal lands as shown on U.S. Census Bureau maps (U.S. Census Bureau 2010). The following Census Tracts are located within 0.25 miles of the potential staging areas and project site: 1203.1 (Block Group 3) and 1206 (Block Group 3). The median household income for these census block groups is approximately \$50,909 and \$69,792, respectively (U.S. Census Bureau 2016). Average household size in these block groups is 2.67 people and 2.77 people, respectively (U.S. Census Bureau 2016). The U.S. Census Bureau identifies weighted average poverty thresholds by size of family in its Current Population Report. The threshold identified for families of two people is \$15,569; \$19,105 for families of three people; and \$24,563 for families of four people (U.S. Census Bureau 2017). The medium household income levels reported for the specific census block groups near the project site are above these thresholds. Block Group 3, Census Tract 1203.1 and Block Group 3, Census Tract 1206 have minority (i.e., non-white) populations of approximately 14% and 11%, respectively (U.S. Census Bureau 2016). Thus, the census block groups near the project site do not have predominantly minority populations. As demonstrated in the analysis of the project in the EIR, the project would result in temporary, short-term construction effects that may cause nuisances related to noise at some residences, but would not be significant with implementation of mitigation measures, and construction is not anticipated to cause significant, adverse effects. Additionally, the long-term purpose of the project is to update deteriorating infrastructure. As such, the project would ultimately increase the safety and reliability of water supplies for the Santa Cruz Water Department service area. In conclusion, the project would not disproportionately affect minority or low-income populations, nor would it have a particular impact on these populations.

PROJECT BEST MANAGEMENT PRACTICES

Erosion Control

1. Implement erosion control Best Management Practices (BMPs) for all construction activities occurring in or adjacent to jurisdictional aquatic resources, including the Reservoir, spillway, spillway plunge pool, Newell Creek, ephemeral drainage, and undisturbed wetlands. These measures may include, but are not limited to: (1) installation of silt fences, fiber rolls, and/or bales along limits of work/construction areas and from the edge of the water course; (2) covering of stockpiled spoils; (3) re-vegetation and physical stabilization of disturbed graded and staging areas; and (4) sediment control including fencing, dams, barriers, berms, traps, and associated basins.
2. Provide stockpile containment and exposed soil stabilization structures (e.g., Visqueen plastic sheeting, fiber rolls, gravel bags, and/or hydroseed).
3. Provide runoff control devices (e.g., fiber rolls, gravel bag barriers/chevrons, etc.) used during construction phases conducted during the rainy season.
4. Implement wind erosion (dust) controls, including use of a water truck;
5. Limit level of road use, including:
 - Limit road use based on road conditions, surfacing, cumulative rainfall, and saturation.
 - Close roads seasonally and as needed to prevent excessive erosion and sedimentation.
 - Restrict access on low-use roads with gates or other barriers.

Water Quality Protection

6. Utilize sediment curtains, silt fences and/or coffer dams where construction activities could cause sediment to enter Newell Creek. These measures would be placed at the perimeter of the construction zone to prevent sediment disturbed during excavation/grading activities from being transported and deposited outside of the construction zone. Silt fencing would be installed in upland areas based on topography and where construction occurs within 50 feet of Newell Creek or tributaries.
7. Silt curtains or silt screens shall be employed during dredging and disposal activities in the Reservoir to isolate the dredged material and maintain water quality elsewhere in the Reservoir in compliance with Central Coast RWQCB Basin Plan objectives. The silt curtains shall be designed and installed without holes in which pond turtles could become trapped. Silt curtains will encompass the in-reservoir work area and extend from the water surface to the bed of the reservoir.
8. Spoil disposal sites and other debris areas such as concrete wash sites shall be located, stabilized, and sediment control measures implemented so that sediment is not conveyed to Newell Creek.
9. Minimize potential for hazardous spills from heavy equipment by not storing equipment or fueling within a minimum of 65 feet of the active stream channel or water body unless approved by

permitting agencies along with implementation of additional spill prevention methods such as secondary containment and inspection.

10. Other than watercraft, heavy equipment (such as cranes) for loading water craft, barges, and in-reservoir equipment that cannot be readily removed from the Reservoir, no equipment fueling or servicing shall be done in the Reservoir, or within 50 feet of the Reservoir boundary.
11. Ensure that gas, oil, or any other substances that could be hazardous to aquatic life or pollute habitat are prevented from contaminating the soil and/or entering waters of the state and/or waters of the United States by storing these types of materials within an established containment area. Vehicles and equipment would have spill kits available, be checked daily for leaks, and would be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Any gas, oil, or other substance that could be considered hazardous provided on the barge, shall be stored in water-tight containers with secondary containment.
12. Prevent equipment fluid leaks through regular equipment inspections.
13. Tremie-placed concrete shall contain an anti-washout admixture and shall be placed in an area isolated from the main area of the reservoir or stream by a silt curtain or other means. Other fresh concrete shall be isolated from wetted channels for a period of 30 days after it is poured. If a 30-day curing period is not feasible, a concrete sealant as approved by NMFS and CDFW may be applied to the surfaces of the concrete structure. If a sealant is used, the manufacturer's guidelines for drying times would be followed before re-establishing surface flows within the work area.
14. Implement proper waste/trash management.

In-Channel Work and Fish Species Protection

15. Activities in the active (i.e., flowing) channel will be avoided whenever possible. If activities must be conducted in the active channel, best management practices #16, 17, and 21-27 shall be applied.
16. Isolate work areas as needed and bypass flowing water around work site (see dewatering measures below).
17. Personnel shall use the appropriate equipment for the job that minimizes disturbance to the channel bed and banks. Appropriately-tired vehicles, either tracked or wheeled, shall be used depending on the situation.

General Habitat Protection

18. When working in or adjacent to the active stream channel (i.e., construction of the culvert crossing and NCP crossing), avoid disturbance of retained riparian vegetation to the maximum extent practicable.
19. Restore all temporarily disturbed natural communities/areas by replanting native vegetation using a vegetation mix appropriate for the site.
20. Require decontamination of any vessels, including tools and equipment, prior to entering the Reservoir, to prevent introduction of invasive species into the Reservoir.

Dewatering

21. Prior to the start of work or during the installation of water diversion structures, native aquatic vertebrates shall be captured in the work area and transferred to another reach as determined by a qualified biologist. Capture and relocation of aquatic native vertebrates is not required at individual project sites when site conditions preclude reasonably effective operation of capture gear and equipment, or when the safety of the biologist conducting the capture may be compromised.
22. When work in a flowing stream is unavoidable, the work area will be isolated from the stream. This may be achieved by diverting the entire streamflow around the work area by a pipe or open channel. Cofferdams shall be installed both upstream and downstream of the work areas at locations determined suitable based on site specific conditions, including proximity to the construction zone and type of construction activities being conducted. Cofferdam construction shall be adequate to prevent seepage to the maximum extent feasible into or from the work area. Where feasible, water diversion techniques shall allow stream flows to gravity flow around or through the work site. If gravity flow is not feasible, stream flows may be pumped around the work site using pumps and screened intake hoses. Sumps or basins may also be used to collect water, where appropriate (e.g., in channels with low flows). The work area will remain isolated from flowing water until any necessary erosion protection is in place. All water shall be discharged in a non-erosive manner (e.g. gravel or vegetated bars, on hay bales, on plastic, on concrete, or in storm drains when equipped with filtering devices, etc.).
23. If a bypass will be of open channel design, the berm confining the channel may be constructed of material from the channel.
24. Diversions shall maintain ambient flows below the diversion, and waters discharged below the project site shall not be diminished or degraded by the diversion. All imported materials placed in the channel to dewater the channel shall be removed when the work is completed. Dirt, dust, or other potential discharge material in the work area will be contained and prevented from entering the flowing channel. Normal flows shall be restored to the affected stream as soon as is feasible and safe after completion of work at that location.
25. To the extent that stream bed design changes are not part of the project, the stream bed, including the low-flow channel, will be returned to as close to pre-project condition as possible unless the

pre-existing condition was detrimental to channel condition as determined by a qualified biologist or hydrologist.

26. All temporary diversion structures and the supportive material shall be removed as soon as reasonably possible, but no more than 72 hours after work is completed.
27. Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be completely removed upon finishing the work.

Others

28. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find. The archaeologist will determine whether additional study is warranted. Should it be required, the archaeologist may install temporary flagging around a resource to avoid any disturbances from construction equipment. Depending upon the significance of the find under CEQA (14 California Code of Regulations Section 15064.5(f); Public Resources Code Section 21082), the archaeologist may record the find to appropriate standards (thereby addressing any data potential) and allow work to continue. If the archaeologist observes the discovery to be potentially significant under CEQA, additional treatment may be required.
29. In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, the lead agency staff and the County Coroner must be immediately notified of the discovery. The coroner would provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, can occur until a determination has been made. If the County Coroner determines that the remains are, or are believed to be, Native American, the coroner would notify the NAHC within 24 hours. In accordance with Public Resources Code Section 5097.98, the Native American Heritage Commission must immediately notify those persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. Within 48 hours of this notification, the MLD would recommend to the lead agency her/his preferred treatment of the remains and associated grave goods.
30. Notify adjacent property owners of nighttime construction schedules. A "Construction Noise Coordinator" will be identified. The contact number for the Construction Noise Coordinator will be included on notices distributed to neighbors regarding planned nighttime construction activities. The Construction Noise Coordinator will be responsible for responding to any local complaints about construction noise. When a complaint is received, the Construction Noise Coordinator shall notify the City within 48 hours of the complaint, determine the cause of the noise complaint, and implement as possible reasonable measures to resolve the complaint, as deemed acceptable by the City.

MITIGATION MEASURES

Biological Resources

BIO-1A-1 All instream construction activities shall be limited to the low-flow period between June 15 through November 1, except by extension approved by CDFW and NMFS.

BIO-1A-2 If native fish or native aquatic vertebrates are present when cofferdams, water bypass structures, and silt barriers are to be installed, a native fish and aquatic vertebrate rescue and relocation plan shall be prepared, approved by CDFW and NOAA Fisheries, and implemented by a qualified biologist during dewatering of the spillway plunge pool and Newell Creek to ensure that significant numbers of native fish and aquatic vertebrates are not stranded.

BIO-1B-1 Not more than **48 hours prior** to commencement of construction activities occurring between March 1 and September 30 in or adjacent to Newell Creek associated with the installation of the NCP, new culvert bridge crossing downstream of the spillway plunge pool, and establishment of the construction platform work area at the toe of NCD, a qualified biologist, or trained designee (as approved by CDFW), shall conduct a pre-construction survey for foothill yellow-legged frog. The survey shall be conducted within suitable habitat that could be directly or indirectly impacted by construction activities associated with the project components and at the locations described above. The surveys shall be conducted pursuant to currently accepted methods/protocols for this species as determined by CDFW.

If no individual foothill yellow-legged frogs are observed during the pre-construction surveys, monitoring and inspection of suitable habitat shall occur **periodically each day** during construction activities implemented during March 1 – September 30, to ensure that no individual foothill yellow-legged frogs have moved into the work areas in the time since the focused pre-construction survey was completed.

If foothill yellow-legged frogs are detected during the pre-construction survey or during the monitoring and inspections during construction, CDFW shall be consulted to determine the appropriate course of action to avoid take of the species. Such actions could include avoidance of the occupied area until it is determined that the individual is no longer present in the habitat area to be disturbed; establishment of exclusion fencing or similar measures; increased frequency or duration of inspections and monitoring; and/or relocation of any individual frogs that could be adversely affected by the project.

BIO-1C-1 Due to the presence of suitable aquatic and upland habitats for Western pond turtle, Santa Cruz black salamander, and California giant salamander in the project construction footprint, wildlife exclusion fencing shall be installed to: (1) prevent individuals of these species from accessing the active work and staging areas; and (2) define the boundary of and protect all suitable aquatic and upland habitat areas that will not be directly affected

by construction activities. The wildlife exclusion fencing will be established between the identified construction areas and upland and aquatic habitats to be avoided.

The specific locations and placement of fencing will be determined by the City in coordination with a qualified biologist and will be based on the extent of proposed construction activities and field conditions at each work area. The fencing alignment and work areas enclosed by the fencing shall be thoroughly inspected by a qualified biologist prior to installation by searching under rocks, logs, leaf litter, etc. to find and relocate any individuals of these species in the area. Following completion of fencing installation, the fence alignment will be inspected once daily for the duration of construction activities by a qualified biologist, or trained designee (as approved by CDFW), to confirm the integrity and function of the fencing and ensure wildlife are not becoming entrapped in the fencing.

BIO-1C-2 Western Pond Turtle. Not more than **five** days prior to the commencement of construction activities in Loch Lomond Reservoir and any ground disturbing activities associated with establishment of Staging Areas 1 and 7, the access road to these staging areas, construction platform at the toe of NCD, and associated work areas in or adjacent to Newell Creek and spillway plunge pool, a qualified biologist shall conduct a focused survey for Western pond turtle, its nests, and/or eggs within these work areas and within **50 feet** of the construction/ground disturbance footprint. If no Western pond turtles are observed, construction activities may begin without the need for further surveys or protection measures. If Western pond turtles are observed, then a qualified biologist shall capture the turtles and translocate them to an area of equally suitable habitat away from the construction footprint. Approval from CDFW would be required prior to handling/translocating individuals of this species.

If occupied nests are observed during the pond turtle nesting season (**March – July**), the nests will be marked and fenced with exclusion fencing in such a manner that emerging young would not be able to move into areas where they could be crushed by vehicles or equipment. If nests cannot be avoided, construction activities within **50 feet** of the identified nest location shall be delayed until the qualified biologist determines that the nests are no longer occupied.

BIO-1C-3 Santa Cruz Black Salamander. Not more than 48 hours prior to initial ground disturbing activities, a pre-construction survey for Santa Cruz black salamander shall be conducted within all areas of Santa Cruz black salamander suitable habitat that will be directly or indirectly affected by project construction activities and within **50 feet** of such areas. Suitable habitat for this species in the study area consists of damp upland areas near/adjacent to existing aquatic features at the base of NCD including Newell Creek, the spillway plunge pool, seepage channel, ephemeral drainage, and seeps. Monitoring for this species shall also be conducted at least once daily during initial ground disturbing activities. If any individuals of Santa Cruz black salamander are observed during the pre-construction survey or subsequent monitoring, they shall be moved to the nearest

appropriate habitat outside of the construction footprint by a qualified biologist. Approval from CDFW would be required prior to handling/translocating individuals of this species.

BIO-1C-4 California Giant Salamander. Not more than **48 hours** prior to initial ground disturbing activities, a pre-construction survey for California giant salamander shall be conducted within all areas of suitable habitat for this species (i.e., Newell Creek, the seepage channel, seeps and surrounding upland areas associated with these aquatic features) that will be directly or indirectly affected by project construction activities and within **50 feet** of such areas. Monitoring for this species shall also be conducted at **least once daily during initial ground disturbing activities**. If any individuals of California giant salamander are observed during surveys, they shall be moved to the nearest appropriate habitat outside of the construction footprint by a qualified biologist. Approval from CDFW would be required prior to handling individuals of this species.

BIO-1C-5 San Francisco Dusky-footed Woodrat. Not more than thirty **(30) days** prior to commencement of ground disturbing activities at each work area, a qualified biologist shall conduct a pre-construction survey to locate existing San Francisco dusky-footed woodrat nests. Any nests that are identified in the construction footprint or within 20 feet shall be photographed, mapped and flagged or fenced for avoidance. For the protection of San Francisco dusky-footed woodrat individuals that may be present in the construction footprint, complete avoidance of San Francisco dusky-footed woodrat middens/nests is recommended.

If avoidance of identified middens/nests is not feasible, the following measures are recommended prior to the commencement of ground disturbing activities to avoid and reduce impacts on San Francisco dusky-footed woodrat:

- a) After obtaining approval from CDFW, a qualified biologist shall dismantle the nest by hand to allow for adult San Francisco dusky-footed woodrat individuals to escape (this work shall be conducted outside of the breeding season for this species which is **April through June**);
- b) If young are observed during the dismantling process, the qualified biologist shall stop work for a minimum of 24 hours to allow the adult woodrats to relocate their young;
- c) Once the nest is determined to be vacant, the dismantling process shall be completed and the nest materials shall be collected and moved to another suitable location nearby and outside of the construction footprint to allow for nest reconstruction; and
- d) Where feasible, piles of cut vegetation and slash generated by project clearing and grubbing activities shall be left outside of, but near the work area, to provide refuge for woodrats that may become displaced by project activities.

BIO-1C-6 Special-status Bats. Not more than **15 days prior** to the initiation of any construction activities that involve tree trimming or removal, including clearing and grubbing of work areas and staging areas, that could affect potential daytime or maternity roost sites, a focused visual survey shall be completed by a qualified biologist to determine if any

potential roost sites are present. Surveys for daytime roosts are required year round while surveys for potential maternity roost sites are only required from April through July.

If active daytime roosts are discovered, disturbance to the roost site shall not occur until it is determined by the biologist that any bats using the roost are no longer present.

If active maternity roosts are discovered that could be directly impacted by tree trimming/removal and/or project construction activities, an appropriate no disturbance buffer will be established by a qualified biologist in coordination with City staff and maintained until it is determined by the biologist that all young have fledged and are no longer dependent upon the roost site for survival. The no disturbance buffer distances will be a minimum of 25 feet, but this distance may be increased or decreased based on site specific conditions, including location and relationship of the roost site to the construction zone, and type of construction activities being conducted.

- BIO-1D-1** If ground disturbing activities will occur in Staging Areas 5-7 or are proposed outside of these or any of the other (previously surveyed) staging or work areas, protocol-level surveys shall be performed for woodland woollythreads plant species during the blooming period for this species which is typically **March to July**. If this species is not detected, no further surveys or mitigation would be necessary. If any individuals or populations of woodland woollythreads are detected, the location(s) shall be mapped, and a mitigation plan shall be prepared and implemented that includes, but is not limited to, the following elements and criteria:
- a) A description of any areas of habitat occupied by special-status plants to be preserved and/or removed by the project;
 - b) Identification and evaluation of the suitability of on-site or off-site areas for preservation, restoration, enhancement or translocation;
 - c) Analysis of species-specific requirements and considerations and specific criteria for success relative to the project's impact on this species and restoration, enhancement or translocation.
 - d) A description of proposed methods of preservation, restoration, enhancement, and/or translocation;
 - e) A description of specific performance standards, including a required replacement ratio and minimum success standard of 1:1 for impacted individuals or populations;
 - f) A monitoring and reporting program to ensure mitigation success; and
 - g) A description of adaptive management and associated remedial measures to be implemented in the event that performance standards are not achieved.
- BIO-2-1** When working in or adjacent to the active stream channel (i.e., construction of the culvert bridge crossing and NCP crossing), avoid disturbance of retained riparian vegetation (Red alder-Bigleaf maple forest), to the maximum extent practicable.
- BIO-2-2** For unavoidable impacts to the Red alder-bigleaf maple forest (which constitutes the only riparian community in the study area), coast live oak-madrone woodland, and bigleaf

maple forest communities, a project-specific revegetation and restoration plan shall be developed and implemented. The plan shall specify the criteria and standards by which the revegetation and restoration actions will compensate for impacts of the proposed project on these communities and shall at a minimum include discussion of the following:

- a) the restoration objectives and type and amount of restoration to be implemented (in-kind at a minimum restoration to impact ratio of 1:1);
- b) the location of the proposed restoration site(s) (either on-site or within the San Lorenzo River watershed, if possible);
- c) the methods to be employed for restoration implementation;
- d) success criteria and a monitoring program to ensure vegetation community restoration success;
- e) adaptive management and remedial measures to be implemented in the event that performance stands are not achieved; and
- f) a mechanism for long term management and protection of the restoration area.

BIO-3-1 Future refinements to the proposed project (i.e., as project components are further developed from the 50% design level to 100% design) shall endeavor to avoid jurisdictional aquatic resources, to the extent practicable, through project design changes or implementation of alternative construction methodologies.

BIO-3-2 For unavoidable impacts to jurisdictional aquatic resources, a project-specific mitigation plan shall be developed, approved by the ACOE and RWQCB through their respective regulatory permitting processes, and implemented. The mitigation plan shall specify the criteria and standards by which the mitigation will compensate for impacts of the proposed project and include discussion of the following:

- a) the mitigation objectives and type and amount of mitigation to be implemented (in-kind mitigation at a minimum mitigation ratio of 1:1);
- b) the location of the proposed mitigation site(s) (within the San Lorenzo River watershed, if possible);
- c) the methods to be employed for mitigation implementation (wetland establishment, re-establishment, enhancement, preservation);
- d) success criteria and a monitoring program to ensure mitigation success;
- e) adaptive management and remedial measures in the event that performance stands are not achieved; and
- f) a mechanism for long term management and protection of the mitigation area.

BIO-3-3 Where feasible and appropriate, all jurisdictional aquatic resources not directly affected by construction activities will be avoided and protected by establishing staking, flagging or fencing between the identified construction areas and aquatic resources to be avoided/preserved.

BIO-4-1 If ground disturbing activities are to commence during the nesting season (**February 1 – August 31**), no more than **two weeks** prior to any ground disturbing activities, including removal of vegetation and clearing and grubbing activities, a nesting bird survey shall be completed by a qualified biologist to determine if any native birds are nesting in or

adjacent to the study area (including within a 50-foot buffer for passerine species and a 250-foot buffer for raptors). If any active nests of native birds are observed during surveys, a suitable avoidance buffer from the nests should be determined by a qualified biologist in coordination with City staff, based on species, location, and extent and type of planned construction activity. Impacts to active nests shall be avoided until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.

BIO-4-2 A focused nest survey shall be conducted by a qualified biologist if construction activities are initiated during the nesting season for bald eagle (February—July for this species in California). The survey shall be conducted not more than 30 days prior to the initiation of construction activities including tree removal, other site preparation or ground disturbing activities adjacent to the Reservoir (e.g., clearing and grubbing/grading for establishment of staging areas), or any in-reservoir work, a focused nest survey shall be conducted by a qualified biologist. Surveys shall be conducted within all suitable nest habitat within the study area and within one half mile (or as otherwise determined appropriate by the qualified biologist) of the study area. If an active nest is located, the biologist, in coordination with City staff, shall determine the level of direct/indirect impacts that would likely occur to the nest and tree if construction activity will occur during the nesting season. The determination shall be made taking into consideration the type/extent of the activity, the location of the nest, and the direct line of sight of the activity from the nest. If no-disturbance buffers are determined to be necessary to protect nesting bald eagles, the buffer distances shall be established based on application of the criteria and standards described in the National Bald Eagle Management Guidelines (USFWS 2007).

If it is determined that no direct impacts to an active nest will occur (i.e., the tree would not be removed, trimmed, etc.), measures to mitigate indirect impacts will be taken depending on if there is visual line of sight to the construction activity

- a) If the tree with an active nest is within a visual line of sight of construction activity, then efforts will be made to conduct the construction activity outside the period when the nest is occupied, as determined by the biologist. Construction can begin/continue once it is determined that any young have fledged from the nest and are no longer dependent upon the nest for survival.
- b) If the tree with an active nest is outside the direct line of site from the construction area, but construction will occur during the period of time the nest is active, an appropriate no disturbance buffer, taking into consideration factors such as the type/extent of the activity, the age of any young in the nest, tree cover, and topography, shall be established and maintained, until any young have fledged from the nest and are no longer dependent upon the nest for survival.
- c) If it is determined that a tree with an active bald eagle nest will be directly impacted (i.e., removed, trimmed, etc.) or that indirect impacts could result in take (e.g., nest abandonment, nest failure) of eggs or young in the nest, then the CDFW shall be consulted regarding the need for an Incidental Take Permit pursuant to Section 2081 of the California Fish and Game Code, and the USFWS shall be consulted to determine the need for a take permit pursuant to the BAGEPA.

- BIO-8-1.** A Turbidity Monitoring Plan (Plan) shall be developed, submitted to RWQCB for review and approval, and implemented to guide appropriate management practices and corrective actions to ensure elevated turbidity levels in Loch Lomond Reservoir do not occur. This Plan would protect water quality in Loch Lomond Reservoir and ensure turbid water and/or water with elevated levels of contaminants are not released into Newell Creek. The Plan will describe the sampling methods, frequency, and criteria as well as thresholds for corrective action. The Plan will also specify a program for monitoring and reporting to the Central Coast RWQCB.

Cultural Resources

- CUL-5-1:** Prior to commencement of any grading activity on-site, the City shall retain a qualified paleontologist to prepare a Paleontological Resources Impact Mitigation Program (PRIMP), consistent with the guidelines of the Society of Vertebrate Paleontology (SVP) (2010) that outlines requirements for: worker environmental awareness training; locations and timing of construction monitoring; procedures for discoveries treatment; and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management.

The qualified paleontologist shall attend a preconstruction meeting to provide construction worker training regarding procedures in the event of discovery of paleontological resources during construction. Monitoring shall consist of onsite spot-checking once a week for five weeks during the excavation for the staging area, for two days during the first week of the tunnel excavation (to get a sense of the equipment operations), and several intermittent spot-checks thereafter. Monitoring of excavation shall consist of reviewing tunnel spoils but not entering the tunnel.

In the event that significant paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall coordinate with the Construction Manager or City Staff to temporarily halt and/or divert grading activity within a 50-foot radius to examine the resource. If the find is significant, the City shall require treatment of the find in accordance with the recommendations of the paleontologist, which may include, but are not limited to, specimen recovery and curation or thorough documentation. Once documentation and/or collection of the find is completed, grading may recommence in the area of the find.

Forest Resources

- FOR-1** Replant trees removed in temporarily disturbed construction staging areas or spoils disposal areas where planting would meet forest management or habitat enhancement goals and recommendations identified in the City's Watershed Lands Management Plan (City of Santa Cruz 2013) or the Watershed Resources Management Plan Planning Analysis and Recommendations Report (Swanson et al. 2002).

FOR-2 Implement forest management measures on retained forest land consistent with City's Watershed Management Plan (City of Santa Cruz 2013). Management acreage should equal the total of permanently impacted forest land. Management may include:

- Recruitment of snags or other elements to facilitate the development of late-seral forest conditions.
- Removal of dead, dying, diseased, or hazardous trees.
- Management of fuel loads (e.g., fuel breaks, treatment of ladder fuels) to minimize the threat of catastrophic wildfire.
- Treatment and/or removal of invasive species, notably French broom.

FOR-3 Implement measures to protect retained trees/stands from construction damage. This would be based on a project-specific Tree Protection Plan prepared by an International Society of Arboriculture (ISA) Certified Arborist or Registered Professional Forester (RPF). The intent of the Plan is to minimize the potential for tree damage or mortality caused by construction-related activity. The Plan should address retained trees/stands adjacent to areas where soil disturbance is proposed and where tools or equipment have the potential for damaging tree roots and canopies. The Plan should include specific protection measures for the root zone, bole, and canopies of retained trees. The Plan should be consistent with ANSI A300 standards (ANSI 2012) for management and protection of trees during site development and construction activities and should include a construction monitoring and reporting component.

FOR-4 Implement measures to minimize the potential for tree-related pathogen spread. Sanitize tools and equipment used in vegetation clearing (including tree removal) operations. If soil is collected on equipment, rinse equipment on site with a portable water tank or water truck, or at a designated rinsing station, to remove soil-borne pathogens and prevent transport to new sites. Implement additional prevention methods for SOD when applicable (University of California 2010, COMTF 2014) and pitch canker (University of California 2013). Inspect loads of logs and equipment leaving the site to ensure that no host material is being transported without a permit (if material is being transported to a location outside the SOD Regulated Area). If importing vegetative material for restoration purposes, ensure that material that has been produced in conformance with the latest horticultural standards in pest and disease avoidance and sanitation by confirming that the supplying nursery has a USDA Compliance Agreement in place.

Hazards and Hazardous Materials

HAZ-1B-1 The City shall test representative bedrock/soil spoil samples, to be exported offsite, in accordance with the acceptance criteria of the anticipated disposal facility.

HAZ-1B-2 In the event that offsite disposal of spoils would occur at construction projects in the area, the City shall test representative bedrock/soil spoil samples, to be exported offsite, in accordance with regulatory criteria with respect to reuse on other properties within Santa Cruz County.

- HAZ-2A-1** The City shall direct the contractor to wash out concrete trucks in a designated area, either on site or off site, where the material cannot run off into Loch Lomond Reservoir or Newell Creek. This area shall be specified on all applicable construction plans and be in place before any concrete is poured. The City shall direct the contractor to service construction vehicles in a manner that contains fluids, such as lubricants, within an impervious area to avoid spill-related water quality impacts.
- HAZ-2A-2** The City shall direct the contractor to inspect and, as necessary, service all equipment before it enters the construction site and regularly thereafter, and before working adjacent to the Loch Lomond Reservoir and Newell Creek, to avoid equipment leak-related water quality impacts. The City shall direct the contractor to repair any leaks or hoses/fittings in poor condition before the equipment begins operating.
- HAZ-2A-3** The City shall direct the contractor to prepare a spill contingency/containment plan prior to equipment use on the Project site, including in-reservoir and on the ground construction. The City shall direct the contractor to follow the spill contingency/containment plan, which shall include, but not be limited to:
- a) Specific bermed equipment maintenance and refueling areas.
 - b) Spill containment boom around the dredge.
 - c) Bermed and lined hazardous materials storage areas on-site that are covered during the rainy season.
 - d) Hazardous material spill cleanup equipment for onshore areas (e.g., absorbent pads, shovels, and bags to contain contaminated soil) and within the reservoir (e.g., skimmers, socks and boom, absorbent pads, dispersants).
 - e) Workers trained in the location and use of cleanup equipment.
- HAZ-2B-1** The City shall direct the contractor to consult with an industrial hygienist to determine the appropriate level of personal protective equipment (PPE), if any, would be required for construction personnel during handling of Reservoir bottom sediments and participation in tunneling, excavating, stockpiling, and handling of on-site bedrock and associated spoils. The contractor shall implement the recommendations by the industrial hygienist in order to minimize potential exposure of construction personnel to metals concentrations in bedrock/sediments during construction. All recommendations shall be completed in accordance with Occupational Safety and Health Administration (OSHA) Training Requirements (29 CFR 1910.132 and 1910.134, Subpart I – Personal Protective Equipment).

Hydrology and Water Quality

- HYDRO-4-1** Develop and maintain construction access roads to minimize erosion and sediment generation in accordance with recommendations in the Draft Watershed Lands Management Plan, including, but not limited to:
- a) Install and maintain effective water bars and rolling drain dips.
 - b) Maintain out-sloped roads wherever possible.

- c) Surface and/or resurface Project access roads with rock or other appropriate material to reduce erosion where road surface is visibly eroding and being transported off of the road, particularly where sediment can enter a watercourse.
- d) Reduce the use of inside ditches and culverts by installing rolling dips at appropriate intervals.

HYDRO-4-2 Conduct field inspections of roads and drainage systems, including:

- a) Conduct field inspections prior to the rainy season, and during rainfall events greater than 2 inches, as needed.
- b) Clear road inlets, culverts, and other stream crossing structures of obstructions prior to and throughout the wet season.

APPENDIX D
AIR MODELING TECHNICAL DATA

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Newell Creek Dam Inlet/Outlet Replacement Project - Accelerated Schedule Energy Demand

Construction Worker Gasoline Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	162	1.31	9.13	143.43
Develop Staging Areas	162	1.31	9.13	143.43
Construct NCP Bypass	1,512	12.22	9.13	1,338.64
Install Boat Launch/Silt Curtain	0	0.00	9.13	0.00
Dredge and Drill Shafts	0	0.00	9.13	0.00
Access Road Improvement	108	0.87	9.13	95.62
Grade Portal Platform	972	7.86	9.13	860.56
Install Culvert Bridge	1,296	10.48	9.13	1,147.40
Construct Intake/Air Vent	0	0.00	9.13	0.00
Tunnel Excavation	3,402	27.50	9.13	3,011.95
Inlet Control House	0	0.00	9.13	0.00
Inlet/Outlet Conduit/Backfill Tunnel	1,674	13.44	9.13	1,472.12
Start Outlet Yard Construction	1,350	10.53	9.13	1,153.81
Complete Outlet Yard Construction	702	5.48	9.13	599.98
Electrical Controls Installation	486	3.79	9.13	415.37
Perform Start-Up Testing	864	6.74	9.13	738.43
Decommission Existing Outlet	1,350	10.53	9.13	1,153.81
Total				12,274.56

Construction Vendor Diesel Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	18	0.33	10.21	32.46
Develop Staging Areas	18	0.33	10.21	32.46
Construct NCP Bypass	168	3.09	10.21	302.91
Install Boat Launch/Silt Curtain	0	0.00	10.21	0.00
Dredge and Drill Shafts	102	1.88	10.21	183.91
Access Road Improvement	12	0.22	10.21	21.64
Grade Portal Platform	108	1.99	10.21	194.73
Install Culvert Bridge	144	2.65	10.21	259.64
Construct Intake/Air Vent	309	5.69	10.21	557.14
Tunnel Excavation	567	10.44	10.21	1,022.33
Inlet Control House	90	1.66	10.21	162.27
Inlet/Outlet Conduit/Backfill Tunnel	279	5.13	10.21	502.24
Start Outlet Yard Construction	225	4.11	10.21	402.32
Complete Outlet Yard Construction	117	2.14	10.21	209.21
Electrical Controls Installation	54	0.99	10.21	96.55
Perform Start-Up Testing	96	1.75	10.21	171.66
Decommission Existing Outlet	225	4.11	10.21	402.32
Total				4,553.78

Construction Haul Diesel Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	0	0.00	10.21	0.00
Develop Staging Areas	200	8.47	10.21	829.54
Construct NCP Bypass	176	7.45	10.21	730.00
Install Boat Launch/Silt Curtain	24	1.35	10.21	132.38
Dredge and Drill Shafts	0	0.00	10.21	0.00
Access Road Improvement	20	0.85	10.21	82.96
Grade Portal Platform	346	14.65	10.21	1,435.10
Install Culvert Bridge	6	0.34	10.21	33.10
Construct Intake/Air Vent	0	0.00	10.21	0.00
Tunnel Excavation	0	0.00	10.21	0.00
Inlet Control House	0	0.00	10.21	0.00
Inlet/Outlet Conduit/Backfill Tunnel	0	0.00	10.21	0.00
Start Outlet Yard Construction	0	0.00	10.21	0.00
Complete Outlet Yard Construction	0	0.00	10.21	0.00
Electrical Controls Installation	0	0.00	10.21	0.00
Perform Start-Up Testing	0	0.00	10.21	0.00
Decommission Existing Outlet	0	0.00	10.21	0.00
Total				3,243.08

Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	3	5.41	10.21	530.10
Develop Staging Areas	11	26.00	10.21	2,546.81
Construct NCP Bypass	10	192.83	10.21	18,886.25
Install Boat Launch/Silt Curtain	10	90.06	10.21	8,820.95
Dredge and Drill Shafts	6	149.72	10.21	14,663.97
Access Road Improvement	9	12.03	10.21	1,178.14
Grade Portal Platform	14	143.49	10.21	14,053.64
Install Culvert Bridge	8	105.62	10.21	10,344.62
Construct Intake/Air Vent	7	361.29	10.21	35,386.09
Tunnel Excavation	9	601.13	10.21	58,876.98
Inlet Control House	8	60.44	10.21	5,919.46
Inlet/Outlet Conduit/Backfill Tunnel	10	96.79	10.21	9,480.19
Start Outlet Yard Construction	11	100.02	10.21	9,795.97
Complete Outlet Yard Construction	10	72.15	10.21	7,066.64
Electrical Controls Installation	7	22.96	10.21	2,248.57
Perform Start-Up Testing	1	8.11	10.21	794.46
Decommission Existing Outlet	4	51.60	10.21	5,053.56
Total				205,646.40

Construction Boat Diesel Demand

Phase	No. of Boats	Boat CO₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	0	0	10.21	0.00
Develop Staging Areas	0	0	10.21	0.00
Construct NCP Bypass	0	0	10.21	0.00
Install Boat Launch/Silt Curtain	0	0	10.21	0.00
Dredge and Drill Shafts	2	60	10.21	5,832.22
Access Road Improvement	0	0	10.21	0.00
Grade Portal Platform	0	0	10.21	0.00
Install Culvert Bridge	0	0	10.21	0.00
Construct Intake/Air Vent	2	180	10.21	17,668.20
Tunnel Excavation	0	0	10.21	0.00
Inlet Control House	0	0	10.21	0.00
Inlet/Outlet Conduit/Backfill Tunnel	0	0	10.21	0.00
Start Outlet Yard Construction	0	0	10.21	0.00
Complete Outlet Yard Construction	0	0	10.21	0.00
Electrical Controls Installation	0	0	10.21	0.00
Perform Start-Up Testing	0	0	10.21	0.00
Decommission Existing Outlet	0	0	10.21	0.00
Total				23,500.42

Newell Creek Dam Inlet/Outlet Replacement Project Construction CO2 Emissions - Accelerated Schedule

Phase Number	Phase Name	Equipment CO2 MT/yr	Hauling CO2 MT/yr	Vendor CO2 MT/yr	Worker CO2 MT/yr
1	Mobilization	5.4123	0	0.3314	1.3095
2	Develop Staging Areas	26.0029	8.4696	0.3314	1.3095
3	Construct NCP Bypass	192.8286	7.4533	3.0927	12.2218
4	Install Boat Launch/Silt Curtain	90.0619	1.3516	0	0
5	Dredge and Drill Shafts	149.7191	0	1.8777	0
6	Access Road Improvement	12.0288	0.847	0.2209	0.873
7	Grade Portal Platform	143.4877	14.6524	1.9882	7.8569
8	Install Culvert Bridge	105.6186	0.3379	2.6509	10.4758
9	Construct Intake/Air Vent - 2021	361.292	0	5.6884	0
10	Tunnel Excavation - 2021	601.134	0	10.438	27.4991
11	Inlet Control House	60.4377	0	1.6568	0
12	Inlet/Outlet Conduit/Backfill Tunnel	78.0574	0	4.1421	10.9123
	Inlet/Outlet Conduit/Backfill Tunnel -	18.7353	0	0.9858	2.5282
13	Start Outlet Yard Construction	100.0169	0	4.1077	10.5343
14	Complete Outlet Yard Construction	72.1504	0	2.136	5.4778
15	Electrical Controls Installation	22.9579	0	0.9858	3.7923
16	Perform Start-Up Testing	8.1114	0	1.7526	6.7419
17	Decommission Existing Outlet	51.5968	0	4.1077	10.5343

*These values are from the CalEEMod Annual Outputs

Newell Creek Dam Inlet/Outlet Replacement Project Boat CO2 Emissions - Accelerated Schedule

Phase	Boat	Work Days	Hrs/day	CO2 lb/hr	CO2 lb/day	CO2 MT per phase
Dredge and Drill Shafts	Crew	34	16	19.806	316.896	4.887213823
	Push	34	16	221.515	3544.24	54.65975815
Construct Intake/Air Vent	Crew	103	16	19.806	316.896	14.80538305
	Push	103	16	221.515	3544.24	165.5869144

*These values are from the SMAQMD Harborcraft, Dredge, and Barge Emission Factor Calculator Outputs

Newell Creek Dam Inlet/Outlet Construction - Santa Cruz County, Summer

Newell Creek Dam Inlet/Outlet Construction

Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.15	1000sqft	4.00	150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	499.66	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity adjusted based on 33% RPS reported in the PG&E 2016 Power Content Label

Land Use - Dam crest control building. Non-submerged disturbed area estimated at 4 acres

Construction Phase - Construction phases and schedule provided by AECOM

Off-road Equipment - Equipment list adjusted to match information provided by AECOM

Trips and VMT - Based on information from AECOM

Grading - Material volumes provided by AECOM

Vehicle Trips - Modeled construction only

Area Coating - Modeled construction only

Energy Use - Modeled construction only

Water And Wastewater - Modeled construction only

Solid Waste - Modeled construction only

Construction Off-road Equipment Mitigation - Water exposed areas 2x per day and limit vehicle speeds on unpaved roads to 15 mph

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	8.00	28.00
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[illegible]

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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	10.3047	102.0158	68.3499	0.2058	13.1708	3.8912	16.4944	6.8949	3.6072	9.9879	0.0000	20,005.4888	20,005.4888	5.5231	0.0000	20,143.5668
2022	8.0396	63.9580	64.3253	0.1954	0.7273	2.6747	3.4020	0.1947	2.5369	2.7315	0.0000	19,236.7145	19,236.7145	4.4994	0.0000	19,345.1804
2023	1.6143	12.4714	11.4579	0.0378	0.7070	0.4691	1.1761	0.1888	0.4331	0.6219	0.0000	3,675.3289	3,675.3289	0.9329	0.0000	3,698.6512
Maximum	10.3047	102.0158	68.3499	0.2058	13.1708	3.8912	16.4944	6.8949	3.6072	9.9879	0.0000	20,005.4888	20,005.4888	5.5231	0.0000	20,143.5668

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	lb/day										lb/day					
2021	10.3047	102.0158	68.3499	0.2058	6.4452	3.8912	9.7687	3.2419	3.6072	6.3349	0.0000	20,005.4888	20,005.4888	5.5231	0.0000	20,143.5668
2022	8.0396	63.9580	64.3253	0.1954	0.7273	2.6747	3.4020	0.1947	2.5369	2.7315	0.0000	19,236.7145	19,236.7145	4.4994	0.0000	19,345.1804
2023	1.6143	12.4714	11.4579	0.0378	0.7070	0.4691	1.1761	0.1888	0.4331	0.6219	0.0000	3,675.3289	3,675.3289	0.9329	0.0000	3,698.6512
Maximum	10.3047	102.0158	68.3499	0.2058	6.4452	3.8912	9.7687	3.2419	3.6072	6.3349	0.0000	20,005.4888	20,005.4888	5.5231	0.0000	20,143.5668

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	46.05	0.00	31.92	50.19	0.00	27.38	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	Mobilization	Site Preparation	2/26/2021	3/4/2021	5	5	
2	Develop Staging Areas	Site Preparation	3/5/2021	3/11/2021	5	5	
3	Construct NCP Bypass	Grading	3/12/2021	5/12/2021	5	44	
4	Install Boat Launch/Silt Curtain	Building Construction	3/12/2021	4/8/2021	5	20	
5	Dredge and Drill Shafts	Building Construction	4/9/2021	6/24/2021	5	55	
6	Access Road Improvement	Grading	5/13/2021	5/17/2021	5	3	
7	Grade Portal Platform	Grading	5/18/2021	6/24/2021	5	28	
8	Install Culvert Bridge	Building Construction	6/28/2021	8/18/2021	5	38	
9	Construct Intake/Air Vent	Building Construction	6/28/2021	2/11/2022	5	165	
10	Tunnel Excavation	Building Construction	8/20/2021	3/17/2022	5	150	
11	Inlet Control House	Building Construction	2/25/2022	5/19/2022	5	60	
12	Inlet/Outlet Conduit/Backfill Tunnel	Building Construction	3/30/2022	7/12/2022	5	75	
13	Start Outlet Yard Construction	Building Construction	7/15/2022	9/8/2022	5	40	
14	Complete Outlet Yard Construction	Building Construction	9/12/2022	10/7/2022	5	20	
15	Electrical Controls Installation	Building Construction	10/10/2022	10/28/2022	5	15	
16	Perform Start-Up Testing	Building Construction	10/31/2022	12/2/2022	5	25	
17	Decommission Existing Outlet	Building Construction	12/8/2022	2/1/2023	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Off-Highway Trucks	1	10.00	464	0.38
Mobilization	Rough Terrain Forklifts	1	10.00	97	0.40

Mobilization	Rubber Tired Dozers	0	0.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Develop Staging Areas	Cranes	1	10.00	231	0.29
Develop Staging Areas	Excavators	1	10.00	308	0.38
Develop Staging Areas	Off-Highway Trucks	3	8.00	464	0.38
Develop Staging Areas	Off-Highway Trucks	2	4.00	402	0.38
Develop Staging Areas	Rubber Tired Dozers	2	8.00	228	0.40
Develop Staging Areas	Tractors/Loaders/Backhoes	2	8.00	130	0.37
Construct NCP Bypass	Cranes	1	10.00	231	0.29
Construct NCP Bypass	Excavators	1	10.00	345	0.38
Construct NCP Bypass	Graders	1	10.00	240	0.41
Construct NCP Bypass	Off-Highway Trucks	2	8.00	464	0.38
Construct NCP Bypass	Off-Highway Trucks	1	4.00	402	0.38
Construct NCP Bypass	Rollers	1	4.00	156	0.38
Construct NCP Bypass	Rough Terrain Forklifts	1	10.00	97	0.40
Construct NCP Bypass	Rubber Tired Dozers	1	10.00	228	0.40
Construct NCP Bypass	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Install Boat Launch/Silt Curtain	Cranes	1	10.00	231	0.29
Install Boat Launch/Silt Curtain	Excavators	1	10.00	308	0.38
Install Boat Launch/Silt Curtain	Forklifts	0	0.00	89	0.20
Install Boat Launch/Silt Curtain	Generator Sets	1	16.00	84	0.74
Install Boat Launch/Silt Curtain	Graders	1	10.00	240	0.41
Install Boat Launch/Silt Curtain	Off-Highway Trucks	2	10.00	464	0.38
Install Boat Launch/Silt Curtain	Off-Highway Trucks	1	4.00	402	0.38
Install Boat Launch/Silt Curtain	Rollers	1	4.00	156	0.38
Install Boat Launch/Silt Curtain	Rough Terrain Forklifts	1	10.00	97	0.40
Install Boat Launch/Silt Curtain	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Install Boat Launch/Silt Curtain	Welders	0	0.00	46	0.45
Dredge and Drill Shafts	Air Compressors	1	10.00	50	0.48
Dredge and Drill Shafts	Bore/Drill Rigs	1	10.00	221	0.50
Dredge and Drill Shafts	Cranes	1	10.00	231	0.29
Dredge and Drill Shafts	Excavators	1	10.00	158	0.38

Dredge and Drill Shafts	Forklifts	0	0.00	89	0.20
Dredge and Drill Shafts	Generator Sets	0	0.00	84	0.74
Dredge and Drill Shafts	Generator Sets	1	10.00	335	0.74
Dredge and Drill Shafts	Other General Industrial Equipment	1	10.00	50	0.34
Dredge and Drill Shafts	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Dredge and Drill Shafts	Welders	0	0.00	46	0.45
Access Road Improvement	Excavators	1	10.00	308	0.38
Access Road Improvement	Graders	1	10.00	240	0.41
Access Road Improvement	Off-Highway Trucks	2	8.00	464	0.38
Access Road Improvement	Off-Highway Trucks	1	4.00	402	0.38
Access Road Improvement	Rollers	1	4.00	156	0.38
Access Road Improvement	Rough Terrain Forklifts	1	10.00	97	0.40
Access Road Improvement	Rubber Tired Dozers	1	10.00	228	0.40
Access Road Improvement	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Grade Portal Platform	Cement and Mortar Mixers	4	8.00	9	0.56
Grade Portal Platform	Cranes	1	10.00	231	0.29
Grade Portal Platform	Excavators	0	0.00	158	0.38
Grade Portal Platform	Graders	0	0.00	187	0.41
Grade Portal Platform	Off-Highway Trucks	3	8.00	464	0.38
Grade Portal Platform	Off-Highway Trucks	2	4.00	402	0.38
Grade Portal Platform	Rubber Tired Dozers	2	8.00	228	0.40
Grade Portal Platform	Tractors/Loaders/Backhoes	2	8.00	130	0.37
Install Culvert Bridge	Cranes	1	10.00	231	0.29
Install Culvert Bridge	Excavators	1	10.00	308	0.38
Install Culvert Bridge	Forklifts	0	0.00	89	0.20
Install Culvert Bridge	Generator Sets	0	0.00	84	0.74
Install Culvert Bridge	Off-Highway Trucks	1	10.00	464	0.38
Install Culvert Bridge	Rollers	1	4.00	156	0.38
Install Culvert Bridge	Rough Terrain Forklifts	2	8.00	97	0.40
Install Culvert Bridge	Rubber Tired Dozers	1	10.00	228	0.40
Install Culvert Bridge	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Install Culvert Bridge	Welders	0	0.00	46	0.45

Construct Intake/Air Vent	Air Compressors	1	10.00	50	0.48
Construct Intake/Air Vent	Cement and Mortar Mixers	2	8.00	9	0.56
Construct Intake/Air Vent	Cranes	1	10.00	231	0.29
Construct Intake/Air Vent	Forklifts	0	0.00	89	0.20
Construct Intake/Air Vent	Generator Sets	0	0.00	84	0.74
Construct Intake/Air Vent	Generator Sets	1	10.00	335	0.74
Construct Intake/Air Vent	Other General Industrial Equipment	1	10.00	50	0.34
Construct Intake/Air Vent	Rough Terrain Forklifts	1	10.00	97	0.40
Construct Intake/Air Vent	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Construct Intake/Air Vent	Welders	0	0.00	46	0.45
Tunnel Excavation	Air Compressors	2	10.00	78	0.48
Tunnel Excavation	Bore/Drill Rigs	1	16.00	512	0.50
Tunnel Excavation	Cement and Mortar Mixers	1	16.00	9	0.56
Tunnel Excavation	Cranes	0	0.00	231	0.29
Tunnel Excavation	Forklifts	0	0.00	89	0.20
Tunnel Excavation	Generator Sets	1	16.00	84	0.74
Tunnel Excavation	Off-Highway Trucks	2	16.00	464	0.38
Tunnel Excavation	Other General Industrial Equipment	2	16.00	88	0.34
Tunnel Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Tunnel Excavation	Welders	0	0.00	46	0.45
Inlet Control House	Cement and Mortar Mixers	2	8.00	9	0.56
Inlet Control House	Cranes	1	4.00	231	0.29
Inlet Control House	Excavators	1	4.00	308	0.38
Inlet Control House	Forklifts	0	0.00	89	0.20
Inlet Control House	Generator Sets	0	0.00	84	0.74
Inlet Control House	Graders	1	4.00	240	0.41
Inlet Control House	Off-Highway Trucks	1	4.00	464	0.38
Inlet Control House	Rough Terrain Forklifts	1	4.00	97	0.40
Inlet Control House	Tractors/Loaders/Backhoes	1	4.00	61	0.37
Inlet Control House	Welders	0	0.00	46	0.45
Inlet/Outlet Conduit/Backfill Tunnel	Air Compressors	2	10.00	78	0.48
Inlet/Outlet Conduit/Backfill Tunnel	Cement and Mortar Mixers	4	10.00	9	0.56

Inlet/Outlet Conduit/Backfill Tunnel	Cranes	0	0.00	231	0.29
Inlet/Outlet Conduit/Backfill Tunnel	Forklifts	0	0.00	89	0.20
Inlet/Outlet Conduit/Backfill Tunnel	Generator Sets	1	10.00	84	0.74
Inlet/Outlet Conduit/Backfill Tunnel	Rough Terrain Forklifts	2	10.00	97	0.40
Inlet/Outlet Conduit/Backfill Tunnel	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Inlet/Outlet Conduit/Backfill Tunnel	Welders	0	0.00	46	0.45
Start Outlet Yard Construction	Cement and Mortar Mixers	2	4.00	9	0.56
Start Outlet Yard Construction	Cranes	1	10.00	231	0.29
Start Outlet Yard Construction	Excavators	1	10.00	308	0.38
Start Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Start Outlet Yard Construction	Generator Sets	1	10.00	84	0.74
Start Outlet Yard Construction	Graders	1	4.00	240	0.41
Start Outlet Yard Construction	Off-Highway Trucks	1	4.00	464	0.38
Start Outlet Yard Construction	Rollers	1	4.00	156	0.38
Start Outlet Yard Construction	Rough Terrain Forklifts	2	10.00	97	0.40
Start Outlet Yard Construction	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Start Outlet Yard Construction	Welders	0	0.00	46	0.45
Complete Outlet Yard Construction	Cement and Mortar Mixers	1	4.00	9	0.56
Complete Outlet Yard Construction	Cranes	1	10.00	231	0.29
Complete Outlet Yard Construction	Excavators	1	10.00	308	0.38
Complete Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Complete Outlet Yard Construction	Generator Sets	1	10.00	84	0.74
Complete Outlet Yard Construction	Graders	1	10.00	240	0.41
Complete Outlet Yard Construction	Off-Highway Trucks	1	10.00	464	0.38
Complete Outlet Yard Construction	Rollers	1	10.00	156	0.38
Complete Outlet Yard Construction	Rough Terrain Forklifts	2	10.00	97	0.40
Complete Outlet Yard Construction	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Complete Outlet Yard Construction	Welders	0	0.00	46	0.45
Electrical Controls Installation	Cranes	1	10.00	231	0.29
Electrical Controls Installation	Excavators	1	4.00	308	0.38
Electrical Controls Installation	Forklifts	0	0.00	89	0.20
Electrical Controls Installation	Generator Sets	2	10.00	84	0.74

Electrical Controls Installation	Rough Terrain Forklifts	2	4.00	97	0.40
Electrical Controls Installation	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Electrical Controls Installation	Welders	0	0.00	46	0.45
Perform Start-Up Testing	Cranes	1	10.00	231	0.29
Perform Start-Up Testing	Forklifts	0	0.00	89	0.20
Perform Start-Up Testing	Generator Sets	0	0.00	84	0.74
Perform Start-Up Testing	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Perform Start-Up Testing	Welders	0	0.00	46	0.45
Decommission Existing Outlet	Cement and Mortar Mixers	1	10.00	9	0.56
Decommission Existing Outlet	Cranes	1	10.00	231	0.29
Decommission Existing Outlet	Forklifts	0	0.00	89	0.20
Decommission Existing Outlet	Generator Sets	0	0.00	84	0.74
Decommission Existing Outlet	Off-Highway Trucks	1	10.00	464	0.38
Decommission Existing Outlet	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Decommission Existing Outlet	Welders	0	0.00	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
Mobilization	3	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Develop Staging Areas	11	0.00	0.00	200.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construct NCP Runway	10	34.00	4.00	176.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Boat Launch/Silt Curtain	10	34.00	4.00	24.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Dredge and Drill Shafts	6	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Access Road Improvement	9	34.00	4.00	20.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Grade Portal Platform	14	0.00	2.00	346.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Culvert Bridge	8	34.00	4.00	6.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Construct Intake/Air Vent	7	0.00	2.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Tunnel Excavation	9	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet Control House	8	0.00	2.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet/Outlet Conduit/Backfill	10	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

Start Outlet Yard	11	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Complete Outlet Yard	10	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Electrical Controls	7	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Perform Start-Up	1	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Decommission	4	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1708	11.0390	9.7587	0.0257		0.4422	0.4422		0.4068	0.4068		2,485.8627	2,485.8627	0.8040		2,505.9622
Total	1.1708	11.0390	9.7587	0.0257	0.0000	0.4422	0.4422	0.0000	0.4068	0.4068		2,485.8627	2,485.8627	0.8040		2,505.9622

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	lb/day										lb/day					
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
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944

Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2877	0.8368	2.6454	7.9300e-003	0.6867	7.2000e-003	0.6939	0.1830	6.7300e-003	0.1897		799.0669	799.0669	0.0294		799.8019

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1708	11.0390	9.7587	0.0257		0.4422	0.4422		0.4068	0.4068	0.0000	2,485.8627	2,485.8627	0.8040		2,505.9622
Total	1.1708	11.0390	9.7587	0.0257	0.0000	0.4422	0.4422	0.0000	0.4068	0.4068	0.0000	2,485.8627	2,485.8627	0.8040		2,505.9622

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	lb/day										lb/day					
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
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2877	0.8368	2.6454	7.9300e-003	0.6867	7.2000e-003	0.6939	0.1830	6.7300e-003	0.1897		799.0669	799.0669	0.0294		799.8019

3.3 Develop Staging Areas - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.1503	0.0000	12.1503	6.6365	0.0000	6.6365			0.0000			0.0000
Off-Road	5.8957	56.7403	34.0687	0.1026		2.3823	2.3823		2.1917	2.1917		9,936.4800	9,936.4800	3.2137		10,016.8215
Total	5.8957	56.7403	34.0687	0.1026	12.1503	2.3823	14.5326	6.6365	2.1917	8.8282		9,936.4800	9,936.4800	3.2137		10,016.8215

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	lb/day										lb/day					
Hauling	0.3256	13.3780	3.0066	0.0351	0.7620	0.0541	0.8161	0.2082	0.0518	0.2600		3,753.8930	3,753.8930	0.1463		3,757.5508
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.3256	13.3780	3.0066	0.0351	0.7620	0.0541	0.8161	0.2082	0.0518	0.2600		3,753.8930	3,753.8930	0.1463		3,757.5508

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	lb/day										lb/day					
Fugitive Dust					5.4676	0.0000	5.4676	2.9864	0.0000	2.9864			0.0000			0.0000

Off-Road	5.8957	56.7403	34.0687	0.1026		2.3823	2.3823		2.1917	2.1917	0.0000	9,936.480 0	9,936.480 0	3.2137		10,016.82 15
Total	5.8957	56.7403	34.0687	0.1026	5.4676	2.3823	7.8499	2.9864	2.1917	5.1782	0.0000	9,936.480 0	9,936.480 0	3.2137		10,016.82 15

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	lb/day										lb/day					
Hauling	0.3256	13.3780	3.0066	0.0351	0.7620	0.0541	0.8161	0.2082	0.0518	0.2600		3,753.893 0	3,753.893 0	0.1463		3,757.550 8
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.3256	13.3780	3.0066	0.0351	0.7620	0.0541	0.8161	0.2082	0.0518	0.2600		3,753.893 0	3,753.893 0	0.1463		3,757.550 8

3.4 Construct NCP Bypass - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2010	0.0000	8.2010	4.2110	0.0000	4.2110			0.0000			0.0000
Off-Road	4.9090	50.7928	28.8612	0.0876		2.0034	2.0034		1.8431	1.8431		8,480.228 2	8,480.228 2	2.7427		8,548.795 1
Total	4.9090	50.7928	28.8612	0.0876	8.2010	2.0034	10.2044	4.2110	1.8431	6.0541		8,480.228 2	8,480.228 2	2.7427		8,548.795 1

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	lb/day										lb/day					
Hauling	0.0326	1.3378	0.3007	3.5100e-003	0.0762	5.4100e-003	0.0816	0.0208	5.1800e-003	0.0260		375.3893	375.3893	0.0146		375.7551
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.3202	2.1746	2.9461	0.0114	0.7629	0.0126	0.7755	0.2038	0.0119	0.2157		1,174.4562	1,174.4562	0.0440		1,175.5570

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	lb/day										lb/day					
Fugitive Dust					3.6905	0.0000	3.6905	1.8949	0.0000	1.8949			0.0000			0.0000
Off-Road	4.9090	50.7928	28.8612	0.0876		2.0034	2.0034		1.8431	1.8431	0.0000	8,480.2282	8,480.2282	2.7427		8,548.7951
Total	4.9090	50.7928	28.8612	0.0876	3.6905	2.0034	5.6938	1.8949	1.8431	3.7380	0.0000	8,480.2282	8,480.2282	2.7427		8,548.7951

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	lb/day										lb/day					
Hauling	0.0326	1.3378	0.3007	3.5100e-003	0.0762	5.4100e-003	0.0816	0.0208	5.1800e-003	0.0260		375.3893	375.3893	0.0146		375.7551

Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.3202	2.1746	2.9461	0.0114	0.7629	0.0126	0.7755	0.2038	0.0119	0.2157		1,174.4562	1,174.4562	0.0440		1,175.5570

3.5 Install Boat Launch/Silt Curtain - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434		9,402.1685	9,402.1685	2.7014		9,469.7044
Total	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434		9,402.1685	9,402.1685	2.7014		9,469.7044

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	lb/day										lb/day					
Hauling	0.0126	0.5054	0.1169	1.4000e-003	0.0312	2.1800e-003	0.0333	8.5200e-003	2.0800e-003	0.0106		149.5691	149.5691	5.5800e-003		149.7085
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.3003	1.3422	2.7622	9.3300e-003	0.7178	9.3800e-003	0.7272	0.1915	8.8100e-003	0.2003		948.6360	948.6360	0.0350		949.5104

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	lb/day										lb/day					
Off-Road	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434	0.0000	9,402.1685	9,402.1685	2.7014		9,469.7043
Total	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434	0.0000	9,402.1685	9,402.1685	2.7014		9,469.7043

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	lb/day										lb/day					
Hauling	0.0126	0.5054	0.1169	1.4000e-003	0.0312	2.1800e-003	0.0333	8.5200e-003	2.0800e-003	0.0106		149.5691	149.5691	5.5800e-003		149.7085
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.3003	1.3422	2.7622	9.3300e-003	0.7178	9.3800e-003	0.7272	0.1915	8.8100e-003	0.2003		948.6360	948.6360	0.0350		949.5104

3.6 Dredge and Drill Shafts - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260		6,067.5386	6,067.5386	0.9849		6,092.1614

Total	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260		6,067.538 6	6,067.538 6	0.9849		6,092.161 4

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	lb/day										lb/day					
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
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2877	0.8368	2.6454	7.9300e-003	0.6867	7.2000e-003	0.6939	0.1830	6.7300e-003	0.1897		799.0669	799.0669	0.0294		799.8019

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	lb/day										lb/day					
Off-Road	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260	0.0000	6,067.538 6	6,067.538 6	0.9849		6,092.161 4
Total	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260	0.0000	6,067.538 6	6,067.538 6	0.9849		6,092.161 4

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	lb/day										lb/day					
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
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2877	0.8368	2.6454	7.9300e-003	0.6867	7.2000e-003	0.6939	0.1830	6.7300e-003	0.1897		799.0669	799.0669	0.0294		799.8019

3.7 Access Road Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2099	0.0000	8.2099	4.2122	0.0000	4.2122			0.0000			0.0000
Off-Road	4.3485	44.3183	26.0455	0.0789		1.7435	1.7435		1.6040	1.6040		7,636.2380	7,636.2380	2.4697		7,697.9809
Total	4.3485	44.3183	26.0455	0.0789	8.2099	1.7435	9.9533	4.2122	1.6040	5.8162		7,636.2380	7,636.2380	2.4697		7,697.9809

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	lb/day										lb/day					
Hauling	0.0543	2.2297	0.5011	5.8500e-003	0.1270	9.0200e-003	0.1360	0.0347	8.6300e-003	0.0433		625.6488	625.6488	0.0244		626.2585

Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.3419	3.0665	3.1465	0.0138	0.8137	0.0162	0.8299	0.2177	0.0154	0.2331		1,424.7157	1,424.7157	0.0538		1,426.0604

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	lb/day										lb/day					
Fugitive Dust					3.6944	0.0000	3.6944	1.8955	0.0000	1.8955			0.0000			0.0000
Off-Road	4.3485	44.3183	26.0455	0.0789		1.7435	1.7435		1.6040	1.6040	0.0000	7,636.2380	7,636.2380	2.4697		7,697.9809
Total	4.3485	44.3183	26.0455	0.0789	3.6944	1.7435	5.4379	1.8955	1.6040	3.4995	0.0000	7,636.2380	7,636.2380	2.4697		7,697.9809

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	lb/day										lb/day					
Hauling	0.0543	2.2297	0.5011	5.8500e-003	0.1270	9.0200e-003	0.1360	0.0347	8.6300e-003	0.0433		625.6488	625.6488	0.0244		626.2585
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.3419	3.0665	3.1465	0.0138	0.8137	0.0162	0.8299	0.2177	0.0154	0.2331		1,424.7157	1,424.7157	0.0538		1,426.0604

3.8 Grade Portal Platform - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.2285	0.0000	12.2285	6.6418	0.0000	6.6418			0.0000			0.0000
Off-Road	5.7618	54.7768	32.4954	0.0929		2.3245	2.3245		2.1431	2.1431		8,926.8008	8,926.8008	2.8427		8,997.8691
Total	5.7618	54.7768	32.4954	0.0929	12.2285	2.3245	14.5530	6.6418	2.1431	8.7849		8,926.8008	8,926.8008	2.8427		8,997.8691

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	lb/day										lb/day					
Hauling	0.1006	4.1328	0.9288	0.0108	0.2354	0.0167	0.2521	0.0643	0.0160	0.0803		1,159.6848	1,159.6848	0.0452		1,160.8148
Vendor	8.9200e-003	0.3003	0.0768	7.7000e-004	0.0203	1.1100e-003	0.0214	5.8300e-003	1.0600e-003	6.9000e-003		81.6790	81.6790	2.7300e-003		81.7472
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1095	4.4331	1.0056	0.0116	0.2557	0.0178	0.2735	0.0702	0.0171	0.0872		1,241.3638	1,241.3638	0.0479		1,242.5620

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	lb/day										lb/day					
Fugitive Dust					5.5028	0.0000	5.5028	2.9888	0.0000	2.9888			0.0000			0.0000

Off-Road	5.7618	54.7768	32.4954	0.0929		2.3245	2.3245		2.1431	2.1431	0.0000	8,926.800 7	8,926.800 7	2.8427		8,997.869 1
Total	5.7618	54.7768	32.4954	0.0929	5.5028	2.3245	7.8273	2.9888	2.1431	5.1319	0.0000	8,926.800 7	8,926.800 7	2.8427		8,997.869 1

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	lb/day										lb/day					
Hauling	0.1006	4.1328	0.9288	0.0108	0.2354	0.0167	0.2521	0.0643	0.0160	0.0803		1,159.684 8	1,159.684 8	0.0452		1,160.814 8
Vendor	8.9200e-003	0.3003	0.0768	7.7000e-004	0.0203	1.1100e-003	0.0214	5.8300e-003	1.0600e-003	6.9000e-003		81.6790	81.6790	2.7300e-003		81.7472
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1095	4.4331	1.0056	0.0116	0.2557	0.0178	0.2735	0.0702	0.0171	0.0872		1,241.363 8	1,241.363 8	0.0479		1,242.562 0

3.9 Install Culvert Bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928		5,840.217 2	5,840.217 2	1.8888		5,887.438 4
Total	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928		5,840.217 2	5,840.217 2	1.8888		5,887.438 4

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	lb/day										lb/day					
Hauling	1.6600e-003	0.0665	0.0154	1.8000e-004	4.1000e-003	2.9000e-004	4.3900e-003	1.1200e-003	2.7000e-004	1.3900e-003		19.6801	19.6801	7.3000e-004		19.6985
Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2893	0.9033	2.6608	8.1100e-003	0.6908	7.4900e-003	0.6983	0.1841	7.0000e-003	0.1911		818.7470	818.7470	0.0301		819.5004

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	lb/day										lb/day					
Off-Road	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928	0.0000	5,840.2172	5,840.2172	1.8888		5,887.4383
Total	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928	0.0000	5,840.2172	5,840.2172	1.8888		5,887.4383

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	lb/day										lb/day					
Hauling	1.6600e-003	0.0665	0.0154	1.8000e-004	4.1000e-003	2.9000e-004	4.3900e-003	1.1200e-003	2.7000e-004	1.3900e-003		19.6801	19.6801	7.3000e-004		19.6985

Vendor	0.0178	0.6006	0.1536	1.5400e-003	0.0406	2.2200e-003	0.0428	0.0117	2.1300e-003	0.0138		163.3580	163.3580	5.4600e-003		163.4944
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2893	0.9033	2.6608	8.1100e-003	0.6908	7.4900e-003	0.6983	0.1841	7.0000e-003	0.1911		818.7470	818.7470	0.0301		819.5004

3.10 Construct Intake/Air Vent - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989		4,807.9486	4,807.9486	0.5554		4,821.8322
Total	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989		4,807.9486	4,807.9486	0.5554		4,821.8322

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	lb/day										lb/day					
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
Vendor	8.9200e-003	0.3003	0.0768	7.7000e-004	0.0203	1.1100e-003	0.0214	5.8300e-003	1.0600e-003	6.9000e-003		81.6790	81.6790	2.7300e-003		81.7472
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.9200e-003	0.3003	0.0768	7.7000e-004	0.0203	1.1100e-003	0.0214	5.8300e-003	1.0600e-003	6.9000e-003		81.6790	81.6790	2.7300e-003		81.7472

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	lb/day										lb/day					
Off-Road	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989	0.0000	4,807.9485	4,807.9485	0.5554		4,821.8322
Total	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989	0.0000	4,807.9485	4,807.9485	0.5554		4,821.8322

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	lb/day										lb/day					
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
Vendor	8.9200e-003	0.3003	0.0768	7.7000e-004	0.0203	1.1100e-003	0.0214	5.8300e-003	1.0600e-003	6.9000e-003		81.6790	81.6790	2.7300e-003		81.7472
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.9200e-003	0.3003	0.0768	7.7000e-004	0.0203	1.1100e-003	0.0214	5.8300e-003	1.0600e-003	6.9000e-003		81.6790	81.6790	2.7300e-003		81.7472

3.10 Construct Intake/Air Vent - 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	lb/day										lb/day					
Off-Road	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943		4,808.0451	4,808.0451	0.5517		4,821.8370

Total	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943		4,808.045 1	4,808.045 1	0.5517		4,821.837 0

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	lb/day										lb/day					
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
Vendor	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746

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	lb/day										lb/day					
Off-Road	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943	0.0000	4,808.045 1	4,808.045 1	0.5517		4,821.837 0
Total	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943	0.0000	4,808.045 1	4,808.045 1	0.5517		4,821.837 0

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	lb/day										lb/day					
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
Vendor	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746

3.11 Tunnel Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719		13,461.1637	13,461.1637	3.7530		13,554.9880
Total	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719		13,461.1637	13,461.1637	3.7530		13,554.9880

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	lb/day										lb/day					
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

Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2966	1.1371	2.7222	8.7000e-003	0.7070	8.3200e-003	0.7153	0.1888	7.7900e-003	0.1966		880.7459	880.7459	0.0321		881.5491

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	lb/day										lb/day					
Off-Road	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719	0.0000	13,461.1637	13,461.1637	3.7530		13,554.9879
Total	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719	0.0000	13,461.1637	13,461.1637	3.7530		13,554.9879

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	lb/day										lb/day					
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
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.2698	0.2363	2.4918	6.3900e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		635.7089	635.7089	0.0240		636.3075
Total	0.2966	1.1371	2.7222	8.7000e-003	0.7070	8.3200e-003	0.7153	0.1888	7.7900e-003	0.1966		880.7459	880.7459	0.0321		881.5491

3.11 Tunnel Excavation - 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	lb/day										lb/day					
Off-Road	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344		13,490.9485	13,490.9485	3.7549		13,584.8214
Total	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344		13,490.9485	13,490.9485	3.7549		13,584.8214

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

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	lb/day										lb/day					
Off-Road	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344	0.0000	13,490.9485	13,490.9485	3.7549		13,584.8214

Total	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344	0.0000	13,490.94 85	13,490.94 85	3.7549		13,584.82 14

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

3.12 Inlet Control House - 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	lb/day										lb/day					
Off-Road	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670		2,271.470 8	2,271.470 8	0.7125		2,289.282 1
Total	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670		2,271.470 8	2,271.470 8	0.7125		2,289.282 1

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	lb/day										lb/day					
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
Vendor	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746

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	lb/day										lb/day					
Off-Road	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670	0.0000	2,271.4708	2,271.4708	0.7125		2,289.2821
Total	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670	0.0000	2,271.4708	2,271.4708	0.7125		2,289.2821

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	lb/day										lb/day					
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

Vendor	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.2300e-003	0.2820	0.0704	7.6000e-004	0.0203	9.8000e-004	0.0213	5.8300e-003	9.4000e-004	6.7700e-003		81.0083	81.0083	2.6500e-003		81.0746

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 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	lb/day										lb/day					
Off-Road	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079		3,015.6882	3,015.6882	0.4627		3,027.2545
Total	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079		3,015.6882	3,015.6882	0.4627		3,027.2545

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

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	lb/day										lb/day					
Off-Road	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079	0.0000	3,015.6882	3,015.6882	0.4627		3,027.2545
Total	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079	0.0000	3,015.6882	3,015.6882	0.4627		3,027.2545

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

3.14 Start Outlet Yard 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	lb/day										lb/day					
Off-Road	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750		5,182.3423	5,182.3423	1.4501		5,218.5949

Total	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750		5,182.342 3	5,182.342 3	1.4501		5,218.594 9

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

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	lb/day										lb/day					
Off-Road	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750	0.0000	5,182.342 3	5,182.342 3	1.4501		5,218.594 9
Total	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750	0.0000	5,182.342 3	5,182.342 3	1.4501		5,218.594 9

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

3.15 Complete Outlet Yard 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	lb/day										lb/day					
Off-Road	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890		7,251.6123	7,251.6123	2.1249		7,304.7346
Total	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890		7,251.6123	7,251.6123	2.1249		7,304.7346

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	lb/day										lb/day					
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

Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

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	lb/day										lb/day					
Off-Road	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890	0.0000	7,251.6122	7,251.6122	2.1249		7,304.7346
Total	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890	0.0000	7,251.6122	7,251.6122	2.1249		7,304.7346

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

3.16 Electrical Controls Installation - 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	lb/day										lb/day					
Off-Road	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811		3,263.0886	3,263.0886	0.6256		3,278.7285
Total	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811		3,263.0886	3,263.0886	0.6256		3,278.7285

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	lb/day										lb/day					
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
Vendor	0.0165	0.5641	0.1408	1.5300e-003	0.0406	1.9600e-003	0.0426	0.0117	1.8800e-003	0.0135		162.0167	162.0167	5.3000e-003		162.1492
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2687	0.7761	2.4207	7.6900e-003	0.6867	6.7700e-003	0.6935	0.1830	6.3200e-003	0.1893		775.7043	775.7043	0.0268		776.3729

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	lb/day										lb/day					
Off-Road	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811	0.0000	3,263.0886	3,263.0886	0.6256		3,278.7285

Total	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811	0.0000	3,263.0886	3,263.0886	0.6256		3,278.7285

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	lb/day										lb/day					
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
Vendor	0.0165	0.5641	0.1408	1.5300e-003	0.0406	1.9600e-003	0.0426	0.0117	1.8800e-003	0.0135		162.0167	162.0167	5.3000e-003		162.1492
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2687	0.7761	2.4207	7.6900e-003	0.6867	6.7700e-003	0.6935	0.1830	6.3200e-003	0.1893		775.7043	775.7043	0.0268		776.3729

3.17 Perform Start-Up Testing - 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	lb/day										lb/day					
Off-Road	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998		698.5379	698.5379	0.2259		704.1860
Total	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998		698.5379	698.5379	0.2259		704.1860

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	lb/day										lb/day					
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
Vendor	0.0165	0.5641	0.1408	1.5300e-003	0.0406	1.9600e-003	0.0426	0.0117	1.8800e-003	0.0135		162.0167	162.0167	5.3000e-003		162.1492
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2687	0.7761	2.4207	7.6900e-003	0.6867	6.7700e-003	0.6935	0.1830	6.3200e-003	0.1893		775.7043	775.7043	0.0268		776.3729

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	lb/day										lb/day					
Off-Road	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998	0.0000	698.5379	698.5379	0.2259		704.1860
Total	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998	0.0000	698.5379	698.5379	0.2259		704.1860

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	lb/day										lb/day					
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

Vendor	0.0165	0.5641	0.1408	1.5300e-003	0.0406	1.9600e-003	0.0426	0.0117	1.8800e-003	0.0135		162.0167	162.0167	5.3000e-003		162.1492
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2687	0.7761	2.4207	7.6900e-003	0.6867	6.7700e-003	0.6935	0.1830	6.3200e-003	0.1893		775.7043	775.7043	0.0268		776.3729

3.18 Decommission Existing Outlet - 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	lb/day										lb/day					
Off-Road	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766		2,843.7842	2,843.7842	0.9059		2,866.4309
Total	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766		2,843.7842	2,843.7842	0.9059		2,866.4309

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

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	lb/day										lb/day					
Off-Road	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766	0.0000	2,843.7842	2,843.7842	0.9059		2,866.4309
Total	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766	0.0000	2,843.7842	2,843.7842	0.9059		2,866.4309

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.2523	0.2120	2.2800	6.1600e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		613.6876	613.6876	0.0215		614.2238
Total	0.2770	1.0581	2.4911	8.4500e-003	0.7070	7.7500e-003	0.7147	0.1888	7.2600e-003	0.1961		856.7126	856.7126	0.0294		857.4475

3.18 Decommission Existing Outlet - 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	lb/day										lb/day					
Off-Road	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272		2,845.3388	2,845.3388	0.9064		2,867.9981

Total	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272		2,845.338 8	2,845.338 8	0.9064		2,867.998 1

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	lb/day										lb/day					
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
Vendor	0.0194	0.6963	0.1901	2.2500e-003	0.0609	1.6500e-003	0.0625	0.0175	1.5800e-003	0.0191		238.7747	238.7747	7.3000e-003		238.9571
Worker	0.2363	0.1905	2.0908	5.9300e-003	0.6461	4.6500e-003	0.6507	0.1713	4.2900e-003	0.1756		591.2154	591.2154	0.0192		591.6960
Total	0.2556	0.8868	2.2809	8.1800e-003	0.7070	6.3000e-003	0.7133	0.1888	5.8700e-003	0.1947		829.9901	829.9901	0.0265		830.6531

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	lb/day										lb/day					
Off-Road	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272	0.0000	2,845.338 7	2,845.338 7	0.9064		2,867.998 1
Total	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272	0.0000	2,845.338 7	2,845.338 7	0.9064		2,867.998 1

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	lb/day										lb/day					
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
Vendor	0.0194	0.6963	0.1901	2.2500e-003	0.0609	1.6500e-003	0.0625	0.0175	1.5800e-003	0.0191		238.7747	238.7747	7.3000e-003		238.9571
Worker	0.2363	0.1905	2.0908	5.9300e-003	0.6461	4.6500e-003	0.6507	0.1713	4.2900e-003	0.1756		591.2154	591.2154	0.0192		591.6960
Total	0.2556	0.8868	2.2809	8.1800e-003	0.7070	6.3000e-003	0.7133	0.1888	5.8700e-003	0.1947		829.9901	829.9901	0.0265		830.6531

Newell Creek Dam Inlet/Outlet Construction - Santa Cruz County, Winter

Newell Creek Dam Inlet/Outlet Construction

Santa Cruz County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.15	1000sqft	4.00	150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	499.66	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity adjusted based on 33% RPS reported in the PG&E 2016 Power Content Label

Land Use - Dam crest control building. Non-submerged disturbed area estimated at 4 acres

Construction Phase - Construction phases and schedule provided by AECOM

Off-road Equipment - Equipment list adjusted to match information provided by AECOM

Trips and VMT - Based on information from AECOM

Grading - Material volumes provided by AECOM

Vehicle Trips - Modeled construction only

Area Coating - Modeled construction only

Energy Use - Modeled construction only

Water And Wastewater - Modeled construction only

Solid Waste - Modeled construction only

Construction Off-road Equipment Mitigation - Water exposed areas 2x per day and limit vehicle speeds on unpaved roads to 15 mph

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	230.00	60.00
tblConstructionPhase	NumDays	230.00	75.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	230.00	15.00
tblConstructionPhase	NumDays	230.00	25.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	230.00	55.00
tblConstructionPhase	NumDays	230.00	38.00
tblConstructionPhase	NumDays	230.00	165.00
tblConstructionPhase	NumDays	8.00	44.00
tblConstructionPhase	NumDays	8.00	3.00
tblConstructionPhase	NumDays	8.00	28.00
tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	2,111.00
tblGrading	MaterialExported	0.00	240.00
tblGrading	MaterialExported	0.00	4,150.00
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[illegible]

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tblTripsAndVMT	HaulingTripNumber	670.00	176.00
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	10.4052	102.1949	68.2459	0.2050	13.1708	3.8915	16.4949	6.8949	3.6075	9.9884	0.0000	19,933.9779	19,933.9779	5.5220	0.0000	20,072.0272
2022	8.0877	64.0267	64.2778	0.1950	0.7273	2.6749	3.4021	0.1947	2.5370	2.7317	0.0000	19,202.5635	19,202.5635	4.4989	0.0000	19,311.0158
2023	1.6597	12.5265	11.4009	0.0375	0.7070	0.4692	1.1761	0.1888	0.4331	0.6220	0.0000	3,643.4976	3,643.4976	0.9322	0.0000	3,666.8028
Maximum	10.4052	102.1949	68.2459	0.2050	13.1708	3.8915	16.4949	6.8949	3.6075	9.9884	0.0000	19,933.9779	19,933.9779	5.5220	0.0000	20,072.0272

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	lb/day										lb/day					
2021	10.4052	102.1949	68.2459	0.2050	6.4452	3.8915	9.7693	3.2419	3.6075	6.3354	0.0000	19,933.9779	19,933.9779	5.5220	0.0000	20,072.0271
2022	8.0877	64.0267	64.2778	0.1950	0.7273	2.6749	3.4021	0.1947	2.5370	2.7317	0.0000	19,202.5635	19,202.5635	4.4989	0.0000	19,311.0158
2023	1.6597	12.5265	11.4009	0.0375	0.7070	0.4692	1.1761	0.1888	0.4331	0.6220	0.0000	3,643.4976	3,643.4976	0.9322	0.0000	3,666.8028
Maximum	10.4052	102.1949	68.2459	0.2050	6.4452	3.8915	9.7693	3.2419	3.6075	6.3354	0.0000	19,933.9779	19,933.9779	5.5220	0.0000	20,072.0271

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	46.05	0.00	31.92	50.19	0.00	27.38	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	Mobilization	Site Preparation	2/26/2021	3/4/2021	5	5	
2	Develop Staging Areas	Site Preparation	3/5/2021	3/11/2021	5	5	
3	Construct NCP Bypass	Grading	3/12/2021	5/12/2021	5	44	
4	Install Boat Launch/Silt Curtain	Building Construction	3/12/2021	4/8/2021	5	20	
5	Dredge and Drill Shafts	Building Construction	4/9/2021	6/24/2021	5	55	
6	Access Road Improvement	Grading	5/13/2021	5/17/2021	5	3	
7	Grade Portal Platform	Grading	5/18/2021	6/24/2021	5	28	
8	Install Culvert Bridge	Building Construction	6/28/2021	8/18/2021	5	38	
9	Construct Intake/Air Vent	Building Construction	6/28/2021	2/11/2022	5	165	
10	Tunnel Excavation	Building Construction	8/20/2021	3/17/2022	5	150	
11	Inlet Control House	Building Construction	2/25/2022	5/19/2022	5	60	
12	Inlet/Outlet Conduit/Backfill Tunnel	Building Construction	3/30/2022	7/12/2022	5	75	
13	Start Outlet Yard Construction	Building Construction	7/15/2022	9/8/2022	5	40	
14	Complete Outlet Yard Construction	Building Construction	9/12/2022	10/7/2022	5	20	
15	Electrical Controls Installation	Building Construction	10/10/2022	10/28/2022	5	15	
16	Perform Start-Up Testing	Building Construction	10/31/2022	12/2/2022	5	25	
17	Decommission Existing Outlet	Building Construction	12/8/2022	2/1/2023	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Off-Highway Trucks	1	10.00	464	0.38
Mobilization	Rough Terrain Forklifts	1	10.00	97	0.40

Mobilization	Rubber Tired Dozers	0	0.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Develop Staging Areas	Cranes	1	10.00	231	0.29
Develop Staging Areas	Excavators	1	10.00	308	0.38
Develop Staging Areas	Off-Highway Trucks	3	8.00	464	0.38
Develop Staging Areas	Off-Highway Trucks	2	4.00	402	0.38
Develop Staging Areas	Rubber Tired Dozers	2	8.00	228	0.40
Develop Staging Areas	Tractors/Loaders/Backhoes	2	8.00	130	0.37
Construct NCP Bypass	Cranes	1	10.00	231	0.29
Construct NCP Bypass	Excavators	1	10.00	345	0.38
Construct NCP Bypass	Graders	1	10.00	240	0.41
Construct NCP Bypass	Off-Highway Trucks	2	8.00	464	0.38
Construct NCP Bypass	Off-Highway Trucks	1	4.00	402	0.38
Construct NCP Bypass	Rollers	1	4.00	156	0.38
Construct NCP Bypass	Rough Terrain Forklifts	1	10.00	97	0.40
Construct NCP Bypass	Rubber Tired Dozers	1	10.00	228	0.40
Construct NCP Bypass	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Install Boat Launch/Silt Curtain	Cranes	1	10.00	231	0.29
Install Boat Launch/Silt Curtain	Excavators	1	10.00	308	0.38
Install Boat Launch/Silt Curtain	Forklifts	0	0.00	89	0.20
Install Boat Launch/Silt Curtain	Generator Sets	1	16.00	84	0.74
Install Boat Launch/Silt Curtain	Graders	1	10.00	240	0.41
Install Boat Launch/Silt Curtain	Off-Highway Trucks	2	10.00	464	0.38
Install Boat Launch/Silt Curtain	Off-Highway Trucks	1	4.00	402	0.38
Install Boat Launch/Silt Curtain	Rollers	1	4.00	156	0.38
Install Boat Launch/Silt Curtain	Rough Terrain Forklifts	1	10.00	97	0.40
Install Boat Launch/Silt Curtain	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Install Boat Launch/Silt Curtain	Welders	0	0.00	46	0.45
Dredge and Drill Shafts	Air Compressors	1	10.00	50	0.48
Dredge and Drill Shafts	Bore/Drill Rigs	1	10.00	221	0.50
Dredge and Drill Shafts	Cranes	1	10.00	231	0.29
Dredge and Drill Shafts	Excavators	1	10.00	158	0.38

Dredge and Drill Shafts	Forklifts	0	0.00	89	0.20
Dredge and Drill Shafts	Generator Sets	0	0.00	84	0.74
Dredge and Drill Shafts	Generator Sets	1	10.00	335	0.74
Dredge and Drill Shafts	Other General Industrial Equipment	1	10.00	50	0.34
Dredge and Drill Shafts	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Dredge and Drill Shafts	Welders	0	0.00	46	0.45
Access Road Improvement	Excavators	1	10.00	308	0.38
Access Road Improvement	Graders	1	10.00	240	0.41
Access Road Improvement	Off-Highway Trucks	2	8.00	464	0.38
Access Road Improvement	Off-Highway Trucks	1	4.00	402	0.38
Access Road Improvement	Rollers	1	4.00	156	0.38
Access Road Improvement	Rough Terrain Forklifts	1	10.00	97	0.40
Access Road Improvement	Rubber Tired Dozers	1	10.00	228	0.40
Access Road Improvement	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Grade Portal Platform	Cement and Mortar Mixers	4	8.00	9	0.56
Grade Portal Platform	Cranes	1	10.00	231	0.29
Grade Portal Platform	Excavators	0	0.00	158	0.38
Grade Portal Platform	Graders	0	0.00	187	0.41
Grade Portal Platform	Off-Highway Trucks	3	8.00	464	0.38
Grade Portal Platform	Off-Highway Trucks	2	4.00	402	0.38
Grade Portal Platform	Rubber Tired Dozers	2	8.00	228	0.40
Grade Portal Platform	Tractors/Loaders/Backhoes	2	8.00	130	0.37
Install Culvert Bridge	Cranes	1	10.00	231	0.29
Install Culvert Bridge	Excavators	1	10.00	308	0.38
Install Culvert Bridge	Forklifts	0	0.00	89	0.20
Install Culvert Bridge	Generator Sets	0	0.00	84	0.74
Install Culvert Bridge	Off-Highway Trucks	1	10.00	464	0.38
Install Culvert Bridge	Rollers	1	4.00	156	0.38
Install Culvert Bridge	Rough Terrain Forklifts	2	8.00	97	0.40
Install Culvert Bridge	Rubber Tired Dozers	1	10.00	228	0.40
Install Culvert Bridge	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Install Culvert Bridge	Welders	0	0.00	46	0.45

Construct Intake/Air Vent	Air Compressors	1	10.00	50	0.48
Construct Intake/Air Vent	Cement and Mortar Mixers	2	8.00	9	0.56
Construct Intake/Air Vent	Cranes	1	10.00	231	0.29
Construct Intake/Air Vent	Forklifts	0	0.00	89	0.20
Construct Intake/Air Vent	Generator Sets	0	0.00	84	0.74
Construct Intake/Air Vent	Generator Sets	1	10.00	335	0.74
Construct Intake/Air Vent	Other General Industrial Equipment	1	10.00	50	0.34
Construct Intake/Air Vent	Rough Terrain Forklifts	1	10.00	97	0.40
Construct Intake/Air Vent	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Construct Intake/Air Vent	Welders	0	0.00	46	0.45
Tunnel Excavation	Air Compressors	2	10.00	78	0.48
Tunnel Excavation	Bore/Drill Rigs	1	16.00	512	0.50
Tunnel Excavation	Cement and Mortar Mixers	1	16.00	9	0.56
Tunnel Excavation	Cranes	0	0.00	231	0.29
Tunnel Excavation	Forklifts	0	0.00	89	0.20
Tunnel Excavation	Generator Sets	1	16.00	84	0.74
Tunnel Excavation	Off-Highway Trucks	2	16.00	464	0.38
Tunnel Excavation	Other General Industrial Equipment	2	16.00	88	0.34
Tunnel Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Tunnel Excavation	Welders	0	0.00	46	0.45
Inlet Control House	Cement and Mortar Mixers	2	8.00	9	0.56
Inlet Control House	Cranes	1	4.00	231	0.29
Inlet Control House	Excavators	1	4.00	308	0.38
Inlet Control House	Forklifts	0	0.00	89	0.20
Inlet Control House	Generator Sets	0	0.00	84	0.74
Inlet Control House	Graders	1	4.00	240	0.41
Inlet Control House	Off-Highway Trucks	1	4.00	464	0.38
Inlet Control House	Rough Terrain Forklifts	1	4.00	97	0.40
Inlet Control House	Tractors/Loaders/Backhoes	1	4.00	61	0.37
Inlet Control House	Welders	0	0.00	46	0.45
Inlet/Outlet Conduit/Backfill Tunnel	Air Compressors	2	10.00	78	0.48
Inlet/Outlet Conduit/Backfill Tunnel	Cement and Mortar Mixers	4	10.00	9	0.56

Inlet/Outlet Conduit/Backfill Tunnel	Cranes	0	0.00	231	0.29
Inlet/Outlet Conduit/Backfill Tunnel	Forklifts	0	0.00	89	0.20
Inlet/Outlet Conduit/Backfill Tunnel	Generator Sets	1	10.00	84	0.74
Inlet/Outlet Conduit/Backfill Tunnel	Rough Terrain Forklifts	2	10.00	97	0.40
Inlet/Outlet Conduit/Backfill Tunnel	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Inlet/Outlet Conduit/Backfill Tunnel	Welders	0	0.00	46	0.45
Start Outlet Yard Construction	Cement and Mortar Mixers	2	4.00	9	0.56
Start Outlet Yard Construction	Cranes	1	10.00	231	0.29
Start Outlet Yard Construction	Excavators	1	10.00	308	0.38
Start Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Start Outlet Yard Construction	Generator Sets	1	10.00	84	0.74
Start Outlet Yard Construction	Graders	1	4.00	240	0.41
Start Outlet Yard Construction	Off-Highway Trucks	1	4.00	464	0.38
Start Outlet Yard Construction	Rollers	1	4.00	156	0.38
Start Outlet Yard Construction	Rough Terrain Forklifts	2	10.00	97	0.40
Start Outlet Yard Construction	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Start Outlet Yard Construction	Welders	0	0.00	46	0.45
Complete Outlet Yard Construction	Cement and Mortar Mixers	1	4.00	9	0.56
Complete Outlet Yard Construction	Cranes	1	10.00	231	0.29
Complete Outlet Yard Construction	Excavators	1	10.00	308	0.38
Complete Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Complete Outlet Yard Construction	Generator Sets	1	10.00	84	0.74
Complete Outlet Yard Construction	Graders	1	10.00	240	0.41
Complete Outlet Yard Construction	Off-Highway Trucks	1	10.00	464	0.38
Complete Outlet Yard Construction	Rollers	1	10.00	156	0.38
Complete Outlet Yard Construction	Rough Terrain Forklifts	2	10.00	97	0.40
Complete Outlet Yard Construction	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Complete Outlet Yard Construction	Welders	0	0.00	46	0.45
Electrical Controls Installation	Cranes	1	10.00	231	0.29
Electrical Controls Installation	Excavators	1	4.00	308	0.38
Electrical Controls Installation	Forklifts	0	0.00	89	0.20
Electrical Controls Installation	Generator Sets	2	10.00	84	0.74

Electrical Controls Installation	Rough Terrain Forklifts	2	4.00	97	0.40
Electrical Controls Installation	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Electrical Controls Installation	Welders	0	0.00	46	0.45
Perform Start-Up Testing	Cranes	1	10.00	231	0.29
Perform Start-Up Testing	Forklifts	0	0.00	89	0.20
Perform Start-Up Testing	Generator Sets	0	0.00	84	0.74
Perform Start-Up Testing	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Perform Start-Up Testing	Welders	0	0.00	46	0.45
Decommission Existing Outlet	Cement and Mortar Mixers	1	10.00	9	0.56
Decommission Existing Outlet	Cranes	1	10.00	231	0.29
Decommission Existing Outlet	Forklifts	0	0.00	89	0.20
Decommission Existing Outlet	Generator Sets	0	0.00	84	0.74
Decommission Existing Outlet	Off-Highway Trucks	1	10.00	464	0.38
Decommission Existing Outlet	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Decommission Existing Outlet	Welders	0	0.00	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
Mobilization	3	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Develop Staging Areas	11	0.00	0.00	200.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construct NCP Runway	10	34.00	4.00	176.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Boat Launch/Silt Curtain	10	34.00	4.00	24.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Dredge and Drill Shafts	6	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Access Road Improvement	9	34.00	4.00	20.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Grade Portal Platform	14	0.00	2.00	346.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Culvert Bridge	8	34.00	4.00	6.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Construct Intake/Air Vent	7	0.00	2.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Tunnel Excavation	9	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet Control House	8	0.00	2.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet/Outlet Conduit/Backfill	10	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

Start Outlet Yard	11	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construction Complete Outlet Yard	10	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construction Electrical Controls	7	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Installation Perform Start-Up	1	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Testing Decommission	4	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Existing Outlet										

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1708	11.0390	9.7587	0.0257		0.4422	0.4422		0.4068	0.4068		2,485.8627	2,485.8627	0.8040		2,505.9622
Total	1.1708	11.0390	9.7587	0.0257	0.0000	0.4422	0.4422	0.0000	0.4068	0.4068		2,485.8627	2,485.8627	0.8040		2,505.9622

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	lb/day										lb/day					
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
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834

Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3374	0.9045	2.5841	7.6000e-003	0.6867	7.2800e-003	0.6940	0.1830	6.8000e-003	0.1898		766.3188	766.3188	0.0285		767.0316

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1708	11.0390	9.7587	0.0257		0.4422	0.4422		0.4068	0.4068	0.0000	2,485.8627	2,485.8627	0.8040		2,505.9622
Total	1.1708	11.0390	9.7587	0.0257	0.0000	0.4422	0.4422	0.0000	0.4068	0.4068	0.0000	2,485.8627	2,485.8627	0.8040		2,505.9622

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	lb/day										lb/day					
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
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3374	0.9045	2.5841	7.6000e-003	0.6867	7.2800e-003	0.6940	0.1830	6.8000e-003	0.1898		766.3188	766.3188	0.0285		767.0316

3.3 Develop Staging Areas - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.1503	0.0000	12.1503	6.6365	0.0000	6.6365			0.0000			0.0000
Off-Road	5.8957	56.7403	34.0687	0.1026		2.3823	2.3823		2.1917	2.1917		9,936.480 0	9,936.480 0	3.2137		10,016.82 15
Total	5.8957	56.7403	34.0687	0.1026	12.1503	2.3823	14.5326	6.6365	2.1917	8.8282		9,936.480 0	9,936.480 0	3.2137		10,016.82 15

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	lb/day										lb/day					
Hauling	0.3340	13.6770	3.1543	0.0347	0.7620	0.0555	0.8174	0.2082	0.0531	0.2613		3,707.625 6	3,707.625 6	0.1512		3,711.404 7
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.3340	13.6770	3.1543	0.0347	0.7620	0.0555	0.8174	0.2082	0.0531	0.2613		3,707.625 6	3,707.625 6	0.1512		3,711.404 7

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	lb/day										lb/day					
Fugitive Dust					5.4676	0.0000	5.4676	2.9864	0.0000	2.9864			0.0000			0.0000

Off-Road	5.8957	56.7403	34.0687	0.1026		2.3823	2.3823		2.1917	2.1917	0.0000	9,936.480 0	9,936.480 0	3.2137		10,016.82 15
Total	5.8957	56.7403	34.0687	0.1026	5.4676	2.3823	7.8499	2.9864	2.1917	5.1782	0.0000	9,936.480 0	9,936.480 0	3.2137		10,016.82 15

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	lb/day										lb/day					
Hauling	0.3340	13.6770	3.1543	0.0347	0.7620	0.0555	0.8174	0.2082	0.0531	0.2613		3,707.625 6	3,707.625 6	0.1512		3,711.404 7
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.3340	13.6770	3.1543	0.0347	0.7620	0.0555	0.8174	0.2082	0.0531	0.2613		3,707.625 6	3,707.625 6	0.1512		3,711.404 7

3.4 Construct NCP Bypass - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2010	0.0000	8.2010	4.2110	0.0000	4.2110			0.0000			0.0000
Off-Road	4.9090	50.7928	28.8612	0.0876		2.0034	2.0034		1.8431	1.8431		8,480.228 2	8,480.228 2	2.7427		8,548.795 1
Total	4.9090	50.7928	28.8612	0.0876	8.2010	2.0034	10.2044	4.2110	1.8431	6.0541		8,480.228 2	8,480.228 2	2.7427		8,548.795 1

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	lb/day										lb/day					
Hauling	0.0334	1.3677	0.3154	3.4700e-003	0.0762	5.5500e-003	0.0817	0.0208	5.3100e-003	0.0261		370.7626	370.7626	0.0151		371.1405
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3708	2.2722	2.8996	0.0111	0.7629	0.0128	0.7757	0.2038	0.0121	0.2159		1,137.0814	1,137.0814	0.0436		1,138.1721

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	lb/day										lb/day					
Fugitive Dust					3.6905	0.0000	3.6905	1.8949	0.0000	1.8949			0.0000			0.0000
Off-Road	4.9090	50.7928	28.8612	0.0876		2.0034	2.0034		1.8431	1.8431	0.0000	8,480.2282	8,480.2282	2.7427		8,548.7951
Total	4.9090	50.7928	28.8612	0.0876	3.6905	2.0034	5.6938	1.8949	1.8431	3.7380	0.0000	8,480.2282	8,480.2282	2.7427		8,548.7951

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	lb/day										lb/day					
Hauling	0.0334	1.3677	0.3154	3.4700e-003	0.0762	5.5500e-003	0.0817	0.0208	5.3100e-003	0.0261		370.7626	370.7626	0.0151		371.1405

Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3708	2.2722	2.8996	0.0111	0.7629	0.0128	0.7757	0.2038	0.0121	0.2159		1,137.0814	1,137.0814	0.0436		1,138.1721

3.5 Install Boat Launch/Silt Curtain - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434		9,402.1685	9,402.1685	2.7014		9,469.7044
Total	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434		9,402.1685	9,402.1685	2.7014		9,469.7044

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	lb/day										lb/day					
Hauling	0.0128	0.5193	0.1206	1.3800e-003	0.0312	2.2200e-003	0.0334	8.5200e-003	2.1200e-003	0.0106		148.1811	148.1811	5.7200e-003		148.3240
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3502	1.4238	2.7047	8.9800e-003	0.7178	9.5000e-003	0.7273	0.1915	8.9200e-003	0.2004		914.4999	914.4999	0.0342		915.3556

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	lb/day										lb/day					
Off-Road	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434	0.0000	9,402.1685	9,402.1685	2.7014		9,469.7043
Total	4.7752	47.7062	33.7804	0.0974		1.8658	1.8658		1.7434	1.7434	0.0000	9,402.1685	9,402.1685	2.7014		9,469.7043

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	lb/day										lb/day					
Hauling	0.0128	0.5193	0.1206	1.3800e-003	0.0312	2.2200e-003	0.0334	8.5200e-003	2.1200e-003	0.0106		148.1811	148.1811	5.7200e-003		148.3240
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3502	1.4238	2.7047	8.9800e-003	0.7178	9.5000e-003	0.7273	0.1915	8.9200e-003	0.2004		914.4999	914.4999	0.0342		915.3556

3.6 Dredge and Drill Shafts - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260		6,067.5386	6,067.5386	0.9849		6,092.1614

Total	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260		6,067.5386	6,067.5386	0.9849		6,092.1614

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	lb/day										lb/day					
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
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3374	0.9045	2.5841	7.6000e-003	0.6867	7.2800e-003	0.6940	0.1830	6.8000e-003	0.1898		766.3188	766.3188	0.0285		767.0316

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	lb/day										lb/day					
Off-Road	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260	0.0000	6,067.5386	6,067.5386	0.9849		6,092.1614
Total	2.8627	24.9605	19.2523	0.0585		0.9740	0.9740		0.9260	0.9260	0.0000	6,067.5386	6,067.5386	0.9849		6,092.1614

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	lb/day										lb/day					
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
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3374	0.9045	2.5841	7.6000e-003	0.6867	7.2800e-003	0.6940	0.1830	6.8000e-003	0.1898		766.3188	766.3188	0.0285		767.0316

3.7 Access Road Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2099	0.0000	8.2099	4.2122	0.0000	4.2122			0.0000			0.0000
Off-Road	4.3485	44.3183	26.0455	0.0789		1.7435	1.7435		1.6040	1.6040		7,636.2380	7,636.2380	2.4697		7,697.9809
Total	4.3485	44.3183	26.0455	0.0789	8.2099	1.7435	9.9533	4.2122	1.6040	5.8162		7,636.2380	7,636.2380	2.4697		7,697.9809

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	lb/day										lb/day					
Hauling	0.0557	2.2795	0.5257	5.7800e-003	0.1270	9.2500e-003	0.1362	0.0347	8.8500e-003	0.0436		617.9376	617.9376	0.0252		618.5674

Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3930	3.1840	3.1099	0.0134	0.8137	0.0165	0.8302	0.2177	0.0157	0.2333		1,384.2564	1,384.2564	0.0537		1,385.5991

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	lb/day										lb/day					
Fugitive Dust					3.6944	0.0000	3.6944	1.8955	0.0000	1.8955			0.0000			0.0000
Off-Road	4.3485	44.3183	26.0455	0.0789		1.7435	1.7435		1.6040	1.6040	0.0000	7,636.2380	7,636.2380	2.4697		7,697.9809
Total	4.3485	44.3183	26.0455	0.0789	3.6944	1.7435	5.4379	1.8955	1.6040	3.4995	0.0000	7,636.2380	7,636.2380	2.4697		7,697.9809

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	lb/day										lb/day					
Hauling	0.0557	2.2795	0.5257	5.7800e-003	0.1270	9.2500e-003	0.1362	0.0347	8.8500e-003	0.0436		617.9376	617.9376	0.0252		618.5674
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3930	3.1840	3.1099	0.0134	0.8137	0.0165	0.8302	0.2177	0.0157	0.2333		1,384.2564	1,384.2564	0.0537		1,385.5991

3.8 Grade Portal Platform - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.2285	0.0000	12.2285	6.6418	0.0000	6.6418			0.0000			0.0000
Off-Road	5.7618	54.7768	32.4954	0.0929		2.3245	2.3245		2.1431	2.1431		8,926.8008	8,926.8008	2.8427		8,997.8691
Total	5.7618	54.7768	32.4954	0.0929	12.2285	2.3245	14.5530	6.6418	2.1431	8.7849		8,926.8008	8,926.8008	2.8427		8,997.8691

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	lb/day										lb/day					
Hauling	0.1032	4.2252	0.9745	0.0107	0.2354	0.0171	0.2525	0.0643	0.0164	0.0807		1,145.3915	1,145.3915	0.0467		1,146.5589
Vendor	9.4000e-003	0.3051	0.0847	7.6000e-004	0.0203	1.1500e-003	0.0214	5.8300e-003	1.1000e-003	6.9300e-003		80.4699	80.4699	2.8700e-003		80.5417
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1126	4.5303	1.0592	0.0115	0.2557	0.0183	0.2740	0.0702	0.0175	0.0877		1,225.8613	1,225.8613	0.0496		1,227.1006

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	lb/day										lb/day					
Fugitive Dust					5.5028	0.0000	5.5028	2.9888	0.0000	2.9888			0.0000			0.0000

Off-Road	5.7618	54.7768	32.4954	0.0929		2.3245	2.3245		2.1431	2.1431	0.0000	8,926.8007	8,926.8007	2.8427		8,997.8691
Total	5.7618	54.7768	32.4954	0.0929	5.5028	2.3245	7.8273	2.9888	2.1431	5.1319	0.0000	8,926.8007	8,926.8007	2.8427		8,997.8691

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	lb/day										lb/day					
Hauling	0.1032	4.2252	0.9745	0.0107	0.2354	0.0171	0.2525	0.0643	0.0164	0.0807		1,145.3915	1,145.3915	0.0467		1,146.5589
Vendor	9.4000e-003	0.3051	0.0847	7.6000e-004	0.0203	1.1500e-003	0.0214	5.8300e-003	1.1000e-003	6.9300e-003		80.4699	80.4699	2.8700e-003		80.5417
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1126	4.5303	1.0592	0.0115	0.2557	0.0183	0.2740	0.0702	0.0175	0.0877		1,225.8613	1,225.8613	0.0496		1,227.1006

3.9 Install Culvert Bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928		5,840.2172	5,840.2172	1.8888		5,887.4384
Total	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928		5,840.2172	5,840.2172	1.8888		5,887.4384

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	lb/day										lb/day					
Hauling	1.6900e-003	0.0683	0.0159	1.8000e-004	4.1000e-003	2.9000e-004	4.3900e-003	1.1200e-003	2.8000e-004	1.4000e-003		19.4975	19.4975	7.5000e-004		19.5163
Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3391	0.9728	2.6000	7.7800e-003	0.6908	7.5700e-003	0.6984	0.1841	7.0800e-003	0.1912		785.8163	785.8163	0.0293		786.5479

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	lb/day										lb/day					
Off-Road	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928	0.0000	5,840.2172	5,840.2172	1.8888		5,887.4383
Total	3.4536	35.4757	22.9014	0.0603		1.5139	1.5139		1.3928	1.3928	0.0000	5,840.2172	5,840.2172	1.8888		5,887.4383

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	lb/day										lb/day					
Hauling	1.6900e-003	0.0683	0.0159	1.8000e-004	4.1000e-003	2.9000e-004	4.3900e-003	1.1200e-003	2.8000e-004	1.4000e-003		19.4975	19.4975	7.5000e-004		19.5163

Vendor	0.0188	0.6102	0.1694	1.5200e-003	0.0406	2.3000e-003	0.0429	0.0117	2.2000e-003	0.0139		160.9397	160.9397	5.7500e-003		161.0834
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3391	0.9728	2.6000	7.7800e-003	0.6908	7.5700e-003	0.6984	0.1841	7.0800e-003	0.1912		785.8163	785.8163	0.0293		786.5479

3.10 Construct Intake/Air Vent - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989		4,807.9486	4,807.9486	0.5554		4,821.8322
Total	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989		4,807.9486	4,807.9486	0.5554		4,821.8322

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	lb/day										lb/day					
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
Vendor	9.4000e-003	0.3051	0.0847	7.6000e-004	0.0203	1.1500e-003	0.0214	5.8300e-003	1.1000e-003	6.9300e-003		80.4699	80.4699	2.8700e-003		80.5417
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	9.4000e-003	0.3051	0.0847	7.6000e-004	0.0203	1.1500e-003	0.0214	5.8300e-003	1.1000e-003	6.9300e-003		80.4699	80.4699	2.8700e-003		80.5417

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	lb/day										lb/day					
Off-Road	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989	0.0000	4,807.9485	4,807.9485	0.5554		4,821.8322
Total	2.5204	21.1816	15.9684	0.0459		0.8333	0.8333		0.7989	0.7989	0.0000	4,807.9485	4,807.9485	0.5554		4,821.8322

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	lb/day										lb/day					
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
Vendor	9.4000e-003	0.3051	0.0847	7.6000e-004	0.0203	1.1500e-003	0.0214	5.8300e-003	1.1000e-003	6.9300e-003		80.4699	80.4699	2.8700e-003		80.5417
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	9.4000e-003	0.3051	0.0847	7.6000e-004	0.0203	1.1500e-003	0.0214	5.8300e-003	1.1000e-003	6.9300e-003		80.4699	80.4699	2.8700e-003		80.5417

3.10 Construct Intake/Air Vent - 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	lb/day										lb/day					
Off-Road	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943		4,808.0451	4,808.0451	0.5517		4,821.8370

Total	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943		4,808.045 1	4,808.045 1	0.5517		4,821.837 0

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	lb/day										lb/day					
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
Vendor	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608

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	lb/day										lb/day					
Off-Road	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943	0.0000	4,808.045 1	4,808.045 1	0.5517		4,821.837 0
Total	2.3203	19.0641	15.6938	0.0459		0.7238	0.7238		0.6943	0.6943	0.0000	4,808.045 1	4,808.045 1	0.5517		4,821.837 0

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	lb/day										lb/day					
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
Vendor	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608

3.11 Tunnel Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719		13,461.1637	13,461.1637	3.7530		13,554.9880
Total	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719		13,461.1637	13,461.1637	3.7530		13,554.9880

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	lb/day										lb/day					
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

Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3468	1.2096	2.6689	8.3600e-003	0.7070	8.4300e-003	0.7154	0.1888	7.9000e-003	0.1967		846.7887	846.7887	0.0314		847.5733

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	lb/day										lb/day					
Off-Road	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719	0.0000	13,461.1637	13,461.1637	3.7530		13,554.9879
Total	6.0926	52.9313	47.3557	0.1400		2.4105	2.4105		2.2719	2.2719	0.0000	13,461.1637	13,461.1637	3.7530		13,554.9879

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	lb/day										lb/day					
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
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.3186	0.2943	2.4147	6.0800e-003	0.6461	4.9800e-003	0.6511	0.1713	4.6000e-003	0.1759		605.3791	605.3791	0.0228		605.9482
Total	0.3468	1.2096	2.6689	8.3600e-003	0.7070	8.4300e-003	0.7154	0.1888	7.9000e-003	0.1967		846.7887	846.7887	0.0314		847.5733

3.11 Tunnel Excavation - 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	lb/day										lb/day					
Off-Road	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344		13,490.9485	13,490.9485	3.7549		13,584.8214
Total	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344		13,490.9485	13,490.9485	3.7549		13,584.8214

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

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	lb/day										lb/day					
Off-Road	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344	0.0000	13,490.9485	13,490.9485	3.7549		13,584.8214

Total	5.4341	43.5537	46.0700	0.1403		1.9422	1.9422		1.8344	1.8344	0.0000	13,490.94 85	13,490.94 85	3.7549		13,584.82 14

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

3.12 Inlet Control House - 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	lb/day										lb/day					
Off-Road	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670		2,271.470 8	2,271.470 8	0.7125		2,289.282 1
Total	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670		2,271.470 8	2,271.470 8	0.7125		2,289.282 1

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	lb/day										lb/day					
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
Vendor	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608

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	lb/day										lb/day					
Off-Road	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670	0.0000	2,271.4708	2,271.4708	0.7125		2,289.2821
Total	1.1134	10.8368	7.5152	0.0238		0.3964	0.3964		0.3670	0.3670	0.0000	2,271.4708	2,271.4708	0.7125		2,289.2821

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	lb/day										lb/day					
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

Vendor	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	8.6700e-003	0.2862	0.0776	7.5000e-004	0.0203	1.0200e-003	0.0213	5.8300e-003	9.7000e-004	6.8000e-003		79.7910	79.7910	2.7900e-003		79.8608

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 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	lb/day										lb/day					
Off-Road	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079		3,015.6882	3,015.6882	0.4627		3,027.2545
Total	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079		3,015.6882	3,015.6882	0.4627		3,027.2545

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

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	lb/day										lb/day					
Off-Road	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079	0.0000	3,015.6882	3,015.6882	0.4627		3,027.2545
Total	1.7888	15.1031	19.4910	0.0325		0.7236	0.7236		0.7079	0.7079	0.0000	3,015.6882	3,015.6882	0.4627		3,027.2545

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

3.14 Start Outlet Yard 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	lb/day										lb/day					
Off-Road	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750		5,182.3423	5,182.3423	1.4501		5,218.5949

Total	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750		5,182.342 3	5,182.342 3	1.4501		5,218.594 9

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

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	lb/day										lb/day					
Off-Road	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750	0.0000	5,182.342 3	5,182.342 3	1.4501		5,218.594 9
Total	2.3255	23.4353	21.8819	0.0539		0.9339	0.9339		0.8750	0.8750	0.0000	5,182.342 3	5,182.342 3	1.4501		5,218.594 9

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

3.15 Complete Outlet Yard 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	lb/day										lb/day					
Off-Road	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890		7,251.6123	7,251.6123	2.1249		7,304.7346
Total	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890		7,251.6123	7,251.6123	2.1249		7,304.7346

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	lb/day										lb/day					
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

Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

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	lb/day										lb/day					
Off-Road	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890	0.0000	7,251.6122	7,251.6122	2.1249		7,304.7346
Total	3.2819	33.1306	28.5770	0.0752		1.2758	1.2758		1.1890	1.1890	0.0000	7,251.6122	7,251.6122	2.1249		7,304.7346

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

3.16 Electrical Controls Installation - 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	lb/day										lb/day					
Off-Road	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811		3,263.0886	3,263.0886	0.6256		3,278.7285
Total	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811		3,263.0886	3,263.0886	0.6256		3,278.7285

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	lb/day										lb/day					
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
Vendor	0.0173	0.5724	0.1553	1.5100e-003	0.0406	2.0300e-003	0.0426	0.0117	1.9400e-003	0.0136		159.5820	159.5820	5.5900e-003		159.7216
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3159	0.8364	2.3587	7.3800e-003	0.6867	6.8400e-003	0.6935	0.1830	6.3800e-003	0.1894		743.9880	743.9880	0.0259		744.6359

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	lb/day										lb/day					
Off-Road	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811	0.0000	3,263.0886	3,263.0886	0.6256		3,278.7285

Total	1.6166	15.8036	16.1766	0.0341		0.7084	0.7084		0.6811	0.6811	0.0000	3,263.0886	3,263.0886	0.6256		3,278.7285

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	lb/day										lb/day					
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
Vendor	0.0173	0.5724	0.1553	1.5100e-003	0.0406	2.0300e-003	0.0426	0.0117	1.9400e-003	0.0136		159.5820	159.5820	5.5900e-003		159.7216
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3159	0.8364	2.3587	7.3800e-003	0.6867	6.8400e-003	0.6935	0.1830	6.3800e-003	0.1894		743.9880	743.9880	0.0259		744.6359

3.17 Perform Start-Up Testing - 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	lb/day										lb/day					
Off-Road	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998		698.5379	698.5379	0.2259		704.1860
Total	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998		698.5379	698.5379	0.2259		704.1860

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	lb/day										lb/day					
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
Vendor	0.0173	0.5724	0.1553	1.5100e-003	0.0406	2.0300e-003	0.0426	0.0117	1.9400e-003	0.0136		159.5820	159.5820	5.5900e-003		159.7216
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3159	0.8364	2.3587	7.3800e-003	0.6867	6.8400e-003	0.6935	0.1830	6.3800e-003	0.1894		743.9880	743.9880	0.0259		744.6359

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	lb/day										lb/day					
Off-Road	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998	0.0000	698.5379	698.5379	0.2259		704.1860
Total	0.4662	5.2303	2.3654	7.2100e-003		0.2172	0.2172		0.1998	0.1998	0.0000	698.5379	698.5379	0.2259		704.1860

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	lb/day										lb/day					
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

Vendor	0.0173	0.5724	0.1553	1.5100e-003	0.0406	2.0300e-003	0.0426	0.0117	1.9400e-003	0.0136		159.5820	159.5820	5.5900e-003		159.7216
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3159	0.8364	2.3587	7.3800e-003	0.6867	6.8400e-003	0.6935	0.1830	6.3800e-003	0.1894		743.9880	743.9880	0.0259		744.6359

3.18 Decommission Existing Outlet - 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	lb/day										lb/day					
Off-Road	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766		2,843.7842	2,843.7842	0.9059		2,866.4309
Total	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766		2,843.7842	2,843.7842	0.9059		2,866.4309

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

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	lb/day										lb/day					
Off-Road	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766	0.0000	2,843.784 2	2,843.784 2	0.9059		2,866.430 9
Total	1.4315	12.7987	9.3561	0.0296		0.5165	0.5165		0.4766	0.4766	0.0000	2,843.784 2	2,843.784 2	0.9059		2,866.430 9

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.2986	0.2640	2.2034	5.8700e-003	0.6461	4.8100e-003	0.6509	0.1713	4.4400e-003	0.1758		584.4060	584.4060	0.0203		584.9143
Total	0.3246	1.1227	2.4363	8.1300e-003	0.7070	7.8600e-003	0.7148	0.1888	7.3600e-003	0.1962		823.7790	823.7790	0.0287		824.4967

3.18 Decommission Existing Outlet - 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	lb/day										lb/day					
Off-Road	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272		2,845.338 8	2,845.338 8	0.9064		2,867.998 1

Total	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272		2,845.338 8	2,845.338 8	0.9064		2,867.998 1

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	lb/day										lb/day					
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
Vendor	0.0205	0.7048	0.2088	2.2200e-003	0.0609	1.7200e-003	0.0626	0.0175	1.6500e-003	0.0192		235.1521	235.1521	7.6700e-003		235.3439
Worker	0.2805	0.2372	2.0151	5.6500e-003	0.6461	4.6500e-003	0.6507	0.1713	4.2900e-003	0.1756		563.0068	563.0068	0.0182		563.4608
Total	0.3010	0.9420	2.2238	7.8700e-003	0.7070	6.3700e-003	0.7133	0.1888	5.9400e-003	0.1948		798.1589	798.1589	0.0258		798.8047

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	lb/day										lb/day					
Off-Road	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272	0.0000	2,845.338 7	2,845.338 7	0.9064		2,867.998 1
Total	1.3587	11.5845	9.1771	0.0296		0.4628	0.4628		0.4272	0.4272	0.0000	2,845.338 7	2,845.338 7	0.9064		2,867.998 1

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	lb/day										lb/day					
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
Vendor	0.0205	0.7048	0.2088	2.2200e-003	0.0609	1.7200e-003	0.0626	0.0175	1.6500e-003	0.0192		235.1521	235.1521	7.6700e-003		235.3439
Worker	0.2805	0.2372	2.0151	5.6500e-003	0.6461	4.6500e-003	0.6507	0.1713	4.2900e-003	0.1756		563.0068	563.0068	0.0182		563.4608
Total	0.3010	0.9420	2.2238	7.8700e-003	0.7070	6.3700e-003	0.7133	0.1888	5.9400e-003	0.1948		798.1589	798.1589	0.0258		798.8047

Newell Creek Dam Inlet/Outlet Construction - Santa Cruz County, Annual

Newell Creek Dam Inlet/Outlet Construction

Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.15	1000sqft	4.00	150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	499.66	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity adjusted based on 33% RPS reported in the PG&E 2016 Power Content Label

Land Use - Dam crest control building. Non-submerged disturbed area estimated at 4 acres

Construction Phase - Construction phases and schedule provided by AECOM

Off-road Equipment - Equipment list adjusted to match information provided by AECOM

Trips and VMT - Based on information from AECOM

Grading - Material volumes provided by AECOM

Vehicle Trips - Modeled construction only

Area Coating - Modeled construction only

Energy Use - Modeled construction only

Water And Wastewater - Modeled construction only

Solid Waste - Modeled construction only

Construction Off-road Equipment Mitigation - Water exposed areas 2x per day and limit vehicle speeds on unpaved roads to 15 mph

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	230.00	60.00
tblConstructionPhase	NumDays	230.00	75.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	230.00	15.00
tblConstructionPhase	NumDays	230.00	25.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	230.00	55.00
tblConstructionPhase	NumDays	230.00	38.00
tblConstructionPhase	NumDays	230.00	165.00
tblConstructionPhase	NumDays	8.00	44.00
tblConstructionPhase	NumDays	8.00	3.00
tblConstructionPhase	NumDays	8.00	28.00
tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	2,111.00
tblGrading	MaterialExported	0.00	240.00
tblGrading	MaterialExported	0.00	4,150.00
tblGrading	MaterialExported	0.00	2,399.00
tblGrading	MaterialImported	0.00	3,250.00
tblGrading	MaterialImported	0.00	369.00
tblGrading	MaterialImported	0.00	6,388.00
tblGrading	MaterialImported	0.00	3,693.00
tblLandUse	LotAcreage	0.00	4.00
tblOffRoadEquipment	HorsePower	158.00	345.00

tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	84.00	335.00
tblOffRoadEquipment	HorsePower	84.00	335.00
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tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	158.00	308.00

[illegible]

tblOffRoadEquipment	UsageHours	7.00	4.00
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tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
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tblOffRoadEquipment	UsageHours	8.00	10.00
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tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
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tblOffRoadEquipment	UsageHours	8.00	10.00

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tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
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tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
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tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	0.00
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tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
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tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	499.66
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	22.00
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tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripLength	20.00	22.00
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tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
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tblTripsAndVMT	HaulingTripNumber	762.00	200.00
tblTripsAndVMT	HaulingTripNumber	670.00	176.00
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[illegible]

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tblTripsAndVMT	WorkerTripNumber	23.00	34.00
tblTripsAndVMT	WorkerTripNumber	35.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	34.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

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					
2021	0.9110	8.2157	6.2593	0.0186	0.4905	0.3341	0.8245	0.2343	0.3133	0.5477	0.0000	1,672.6960	1,672.6960	0.3874	0.0000	1,682.3805
2022	0.4272	3.5887	3.6822	9.8600e-003	0.0843	0.1472	0.2315	0.0226	0.1395	0.1621	0.0000	866.1868	866.1868	0.1972	0.0000	871.1178
2023	0.0187	0.1438	0.1304	4.3000e-004	7.8400e-003	5.3900e-003	0.0132	2.1000e-003	4.9800e-003	7.0800e-003	0.0000	38.0382	38.0382	9.7200e-003	0.0000	38.2812
Maximum	0.9110	8.2157	6.2593	0.0186	0.4905	0.3341	0.8245	0.2343	0.3133	0.5477	0.0000	1,672.6960	1,672.6960	0.3874	0.0000	1,682.3805

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.9110	8.2157	6.2593	0.0186	0.2736	0.3341	0.6077	0.1196	0.3133	0.4330	0.0000	1,672.6942	1,672.6942	0.3874	0.0000	1,682.3786
2022	0.4272	3.5887	3.6822	9.8600e-003	0.0843	0.1472	0.2315	0.0226	0.1395	0.1621	0.0000	866.1859	866.1859	0.1972	0.0000	871.1169
2023	0.0187	0.1438	0.1304	4.3000e-004	7.8400e-003	5.3900e-003	0.0132	2.1000e-003	4.9800e-003	7.0800e-003	0.0000	38.0381	38.0381	9.7200e-003	0.0000	38.2812
Maximum	0.9110	8.2157	6.2593	0.0186	0.2736	0.3341	0.6077	0.1196	0.3133	0.4330	0.0000	1,672.6942	1,672.6942	0.3874	0.0000	1,682.3786

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	37.22	0.00	20.28	44.28	0.00	16.00	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	2-26-2021	5-25-2021	2.8220	2.8220
2	5-26-2021	8-25-2021	2.3881	2.3881
3	8-26-2021	11-25-2021	2.7780	2.7780
4	11-26-2021	2-25-2022	2.4259	2.4259
5	2-26-2022	5-25-2022	1.0943	1.0943
6	5-26-2022	8-25-2022	0.7189	0.7189
7	8-26-2022	11-25-2022	0.6759	0.6759
8	11-26-2022	2-25-2023	0.3136	0.3136
		Highest	2.8220	2.8220

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	2/26/2021	3/4/2021	5	5	
2	Develop Staging Areas	Site Preparation	3/5/2021	3/11/2021	5	5	
3	Construct NCP Bypass	Grading	3/12/2021	5/12/2021	5	44	
4	Install Boat Launch/Silt Curtain	Building Construction	3/12/2021	4/8/2021	5	20	
5	Dredge and Drill Shafts	Building Construction	4/9/2021	6/24/2021	5	55	
6	Access Road Improvement	Grading	5/13/2021	5/17/2021	5	3	
7	Grade Portal Platform	Grading	5/18/2021	6/24/2021	5	28	
8	Install Culvert Bridge	Building Construction	6/28/2021	8/18/2021	5	38	
9	Construct Intake/Air Vent	Building Construction	6/28/2021	2/11/2022	5	165	
10	Tunnel Excavation	Building Construction	8/20/2021	3/17/2022	5	150	
11	Inlet Control House	Building Construction	2/25/2022	5/19/2022	5	60	
12	Inlet/Outlet Conduit/Backfill	Building Construction	3/30/2022	7/12/2022	5	75	
13	Start Outlet Yard Construction	Building Construction	7/15/2022	9/8/2022	5	40	
14	Complete Outlet Yard Construction	Building Construction	9/12/2022	10/7/2022	5	20	
15	Electrical Controls Installation	Building Construction	10/10/2022	10/28/2022	5	15	
16	Perform Start-Up Testing	Building Construction	10/31/2022	12/2/2022	5	25	
17	Decommission Existing Outlet	Building Construction	12/8/2022	2/1/2023	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Off-Highway Trucks	1	10.00	464	0.38
Mobilization	Rough Terrain Forklifts	1	10.00	97	0.40
Mobilization	Rubber Tired Dozers	0	0.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Develop Staging Areas	Cranes	1	10.00	231	0.29
Develop Staging Areas	Excavators	1	10.00	308	0.38
Develop Staging Areas	Off-Highway Trucks	3	8.00	464	0.38
Develop Staging Areas	Off-Highway Trucks	2	4.00	402	0.38
Develop Staging Areas	Rubber Tired Dozers	2	8.00	228	0.40
Develop Staging Areas	Tractors/Loaders/Backhoes	2	8.00	130	0.37
Construct NCP Bypass	Cranes	1	10.00	231	0.29
Construct NCP Bypass	Excavators	1	10.00	345	0.38
Construct NCP Bypass	Graders	1	10.00	240	0.41
Construct NCP Bypass	Off-Highway Trucks	2	8.00	464	0.38
Construct NCP Bypass	Off-Highway Trucks	1	4.00	402	0.38
Construct NCP Bypass	Rollers	1	4.00	156	0.38
Construct NCP Bypass	Rough Terrain Forklifts	1	10.00	97	0.40
Construct NCP Bypass	Rubber Tired Dozers	1	10.00	228	0.40
Construct NCP Bypass	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Install Boat Launch/Silt Curtain	Cranes	1	10.00	231	0.29
Install Boat Launch/Silt Curtain	Excavators	1	10.00	308	0.38
Install Boat Launch/Silt Curtain	Forklifts	0	0.00	89	0.20
Install Boat Launch/Silt Curtain	Generator Sets	1	16.00	84	0.74

Install Boat Launch/Silt Curtain	Graders	1	10.00	240	0.41
Install Boat Launch/Silt Curtain	Off-Highway Trucks	2	10.00	464	0.38
Install Boat Launch/Silt Curtain	Off-Highway Trucks	1	4.00	402	0.38
Install Boat Launch/Silt Curtain	Rollers	1	4.00	156	0.38
Install Boat Launch/Silt Curtain	Rough Terrain Forklifts	1	10.00	97	0.40
Install Boat Launch/Silt Curtain	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Install Boat Launch/Silt Curtain	Welders	0	0.00	46	0.45
Dredge and Drill Shafts	Air Compressors	1	10.00	50	0.48
Dredge and Drill Shafts	Bore/Drill Rigs	1	10.00	221	0.50
Dredge and Drill Shafts	Cranes	1	10.00	231	0.29
Dredge and Drill Shafts	Excavators	1	10.00	158	0.38
Dredge and Drill Shafts	Forklifts	0	0.00	89	0.20
Dredge and Drill Shafts	Generator Sets	0	0.00	84	0.74
Dredge and Drill Shafts	Generator Sets	1	10.00	335	0.74
Dredge and Drill Shafts	Other General Industrial Equipment	1	10.00	50	0.34
Dredge and Drill Shafts	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Dredge and Drill Shafts	Welders	0	0.00	46	0.45
Access Road Improvement	Excavators	1	10.00	308	0.38
Access Road Improvement	Graders	1	10.00	240	0.41
Access Road Improvement	Off-Highway Trucks	2	8.00	464	0.38
Access Road Improvement	Off-Highway Trucks	1	4.00	402	0.38
Access Road Improvement	Rollers	1	4.00	156	0.38
Access Road Improvement	Rough Terrain Forklifts	1	10.00	97	0.40
Access Road Improvement	Rubber Tired Dozers	1	10.00	228	0.40
Access Road Improvement	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Grade Portal Platform	Cement and Mortar Mixers	4	8.00	9	0.56
Grade Portal Platform	Cranes	1	10.00	231	0.29
Grade Portal Platform	Excavators	0	0.00	158	0.38
Grade Portal Platform	Graders	0	0.00	187	0.41
Grade Portal Platform	Off-Highway Trucks	3	8.00	464	0.38
Grade Portal Platform	Off-Highway Trucks	2	4.00	402	0.38
Grade Portal Platform	Rubber Tired Dozers	2	8.00	228	0.40

Grade Portal Platform	Tractors/Loaders/Backhoes	2	8.00	130	0.37
Install Culvert Bridge	Cranes	1	10.00	231	0.29
Install Culvert Bridge	Excavators	1	10.00	308	0.38
Install Culvert Bridge	Forklifts	0	0.00	89	0.20
Install Culvert Bridge	Generator Sets	0	0.00	84	0.74
Install Culvert Bridge	Off-Highway Trucks	1	10.00	464	0.38
Install Culvert Bridge	Rollers	1	4.00	156	0.38
Install Culvert Bridge	Rough Terrain Forklifts	2	8.00	97	0.40
Install Culvert Bridge	Rubber Tired Dozers	1	10.00	228	0.40
Install Culvert Bridge	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Install Culvert Bridge	Welders	0	0.00	46	0.45
Construct Intake/Air Vent	Air Compressors	1	10.00	50	0.48
Construct Intake/Air Vent	Cement and Mortar Mixers	2	8.00	9	0.56
Construct Intake/Air Vent	Cranes	1	10.00	231	0.29
Construct Intake/Air Vent	Forklifts	0	0.00	89	0.20
Construct Intake/Air Vent	Generator Sets	0	0.00	84	0.74
Construct Intake/Air Vent	Generator Sets	1	10.00	335	0.74
Construct Intake/Air Vent	Other General Industrial Equipment	1	10.00	50	0.34
Construct Intake/Air Vent	Rough Terrain Forklifts	1	10.00	97	0.40
Construct Intake/Air Vent	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Construct Intake/Air Vent	Welders	0	0.00	46	0.45
Tunnel Excavation	Air Compressors	2	10.00	78	0.48
Tunnel Excavation	Bore/Drill Rigs	1	16.00	512	0.50
Tunnel Excavation	Cement and Mortar Mixers	1	16.00	9	0.56
Tunnel Excavation	Cranes	0	0.00	231	0.29
Tunnel Excavation	Forklifts	0	0.00	89	0.20
Tunnel Excavation	Generator Sets	1	16.00	84	0.74
Tunnel Excavation	Off-Highway Trucks	2	16.00	464	0.38
Tunnel Excavation	Other General Industrial Equipment	2	16.00	88	0.34
Tunnel Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Tunnel Excavation	Welders	0	0.00	46	0.45
Inlet Control House	Cement and Mortar Mixers	2	8.00	9	0.56

Inlet Control House	Cranes	1	4.00	231	0.29
Inlet Control House	Excavators	1	4.00	308	0.38
Inlet Control House	Forklifts	0	0.00	89	0.20
Inlet Control House	Generator Sets	0	0.00	84	0.74
Inlet Control House	Graders	1	4.00	240	0.41
Inlet Control House	Off-Highway Trucks	1	4.00	464	0.38
Inlet Control House	Rough Terrain Forklifts	1	4.00	97	0.40
Inlet Control House	Tractors/Loaders/Backhoes	1	4.00	61	0.37
Inlet Control House	Welders	0	0.00	46	0.45
Inlet/Outlet Conduit/Backfill Tunnel	Air Compressors	2	10.00	78	0.48
Inlet/Outlet Conduit/Backfill Tunnel	Cement and Mortar Mixers	4	10.00	9	0.56
Inlet/Outlet Conduit/Backfill Tunnel	Cranes	0	0.00	231	0.29
Inlet/Outlet Conduit/Backfill Tunnel	Forklifts	0	0.00	89	0.20
Inlet/Outlet Conduit/Backfill Tunnel	Generator Sets	1	10.00	84	0.74
Inlet/Outlet Conduit/Backfill Tunnel	Rough Terrain Forklifts	2	10.00	97	0.40
Inlet/Outlet Conduit/Backfill Tunnel	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Inlet/Outlet Conduit/Backfill Tunnel	Welders	0	0.00	46	0.45
Start Outlet Yard Construction	Cement and Mortar Mixers	2	4.00	9	0.56
Start Outlet Yard Construction	Cranes	1	10.00	231	0.29
Start Outlet Yard Construction	Excavators	1	10.00	308	0.38
Start Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Start Outlet Yard Construction	Generator Sets	1	10.00	84	0.74
Start Outlet Yard Construction	Graders	1	4.00	240	0.41
Start Outlet Yard Construction	Off-Highway Trucks	1	4.00	464	0.38
Start Outlet Yard Construction	Rollers	1	4.00	156	0.38
Start Outlet Yard Construction	Rough Terrain Forklifts	2	10.00	97	0.40
Start Outlet Yard Construction	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Start Outlet Yard Construction	Welders	0	0.00	46	0.45
Complete Outlet Yard Construction	Cement and Mortar Mixers	1	4.00	9	0.56
Complete Outlet Yard Construction	Cranes	1	10.00	231	0.29
Complete Outlet Yard Construction	Excavators	1	10.00	308	0.38
Complete Outlet Yard Construction	Forklifts	0	0.00	89	0.20

Complete Outlet Yard Construction	Generator Sets	1	10.00	84	0.74
Complete Outlet Yard Construction	Graders	1	10.00	240	0.41
Complete Outlet Yard Construction	Off-Highway Trucks	1	10.00	464	0.38
Complete Outlet Yard Construction	Rollers	1	10.00	156	0.38
Complete Outlet Yard Construction	Rough Terrain Forklifts	2	10.00	97	0.40
Complete Outlet Yard Construction	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Complete Outlet Yard Construction	Welders	0	0.00	46	0.45
Electrical Controls Installation	Cranes	1	10.00	231	0.29
Electrical Controls Installation	Excavators	1	4.00	308	0.38
Electrical Controls Installation	Forklifts	0	0.00	89	0.20
Electrical Controls Installation	Generator Sets	2	10.00	84	0.74
Electrical Controls Installation	Rough Terrain Forklifts	2	4.00	97	0.40
Electrical Controls Installation	Tractors/Loaders/Backhoes	1	4.00	130	0.37
Electrical Controls Installation	Welders	0	0.00	46	0.45
Perform Start-Up Testing	Cranes	1	10.00	231	0.29
Perform Start-Up Testing	Forklifts	0	0.00	89	0.20
Perform Start-Up Testing	Generator Sets	0	0.00	84	0.74
Perform Start-Up Testing	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Perform Start-Up Testing	Welders	0	0.00	46	0.45
Decommission Existing Outlet	Cement and Mortar Mixers	1	10.00	9	0.56
Decommission Existing Outlet	Cranes	1	10.00	231	0.29
Decommission Existing Outlet	Forklifts	0	0.00	89	0.20
Decommission Existing Outlet	Generator Sets	0	0.00	84	0.74
Decommission Existing Outlet	Off-Highway Trucks	1	10.00	464	0.38
Decommission Existing Outlet	Tractors/Loaders/Backhoes	1	10.00	61	0.37
Decommission Existing Outlet	Welders	0	0.00	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
Mobilization	3	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

Develop Staging	11	0.00	0.00	200.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construct NCP	10	34.00	4.00	176.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Boat	10	34.00	4.00	24.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Dredge and Drill	6	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Access Road	9	34.00	4.00	20.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Grade Portal Platform	14	0.00	2.00	346.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Culvert Bridge	8	34.00	4.00	6.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Construct Intake/Air Vent	7	0.00	2.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Tunnel Excavation	9	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet Control House	8	0.00	2.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet/Outlet	10	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Start Outlet Yard	11	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Complete Outlet Yard	10	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Electrical Controls	7	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Perform Start-Up	1	34.00	4.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Decommission	4	34.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9300e-003	0.0276	0.0244	6.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	5.6378	5.6378	1.8200e-003	0.0000	5.6834

Total	2.9300e-003	0.0276	0.0244	6.0000e-005	0.0000	1.1100e-003	1.1100e-003	0.0000	1.0200e-003	1.0200e-003	0.0000	5.6378	5.6378	1.8200e-003	0.0000	5.6834

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	5.0000e-005	1.5300e-003	4.0000e-004	0.0000	1.0000e-004	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3682	0.3682	1.0000e-005	0.0000	0.3685
Worker	7.0000e-004	6.7000e-004	5.8700e-003	2.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.3000e-004	0.0000	1.3742	1.3742	5.0000e-005	0.0000	1.3754
Total	7.5000e-004	2.2000e-003	6.2700e-003	2.0000e-005	1.6600e-003	2.0000e-005	1.6700e-003	4.4000e-004	2.0000e-005	4.6000e-004	0.0000	1.7423	1.7423	6.0000e-005	0.0000	1.7439

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9300e-003	0.0276	0.0244	6.0000e-005		1.1100e-003	1.1100e-003		1.0200e-003	1.0200e-003	0.0000	5.6378	5.6378	1.8200e-003	0.0000	5.6834
Total	2.9300e-003	0.0276	0.0244	6.0000e-005	0.0000	1.1100e-003	1.1100e-003	0.0000	1.0200e-003	1.0200e-003	0.0000	5.6378	5.6378	1.8200e-003	0.0000	5.6834

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	5.0000e-005	1.5300e-003	4.0000e-004	0.0000	1.0000e-004	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3682	0.3682	1.0000e-005	0.0000	0.3685
Worker	7.0000e-004	6.7000e-004	5.8700e-003	2.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.3000e-004	0.0000	1.3742	1.3742	5.0000e-005	0.0000	1.3754
Total	7.5000e-004	2.2000e-003	6.2700e-003	2.0000e-005	1.6600e-003	2.0000e-005	1.6700e-003	4.4000e-004	2.0000e-005	4.6000e-004	0.0000	1.7423	1.7423	6.0000e-005	0.0000	1.7439

3.3 Develop Staging Areas - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0304	0.0000	0.0304	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1419	0.0852	2.6000e-004		5.9600e-003	5.9600e-003		5.4800e-003	5.4800e-003	0.0000	22.5356	22.5356	7.2900e-003	0.0000	22.7178
Total	0.0147	0.1419	0.0852	2.6000e-004	0.0304	5.9600e-003	0.0363	0.0166	5.4800e-003	0.0221	0.0000	22.5356	22.5356	7.2900e-003	0.0000	22.7178

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	8.2000e-004	0.0341	7.6600e-003	9.0000e-005	1.8400e-003	1.4000e-004	1.9800e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	8.4696	8.4696	3.4000e-004	0.0000	8.4780
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.2000e-004	0.0341	7.6600e-003	9.0000e-005	1.8400e-003	1.4000e-004	1.9800e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	8.4696	8.4696	3.4000e-004	0.0000	8.4780

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					0.0137	0.0000	0.0137	7.4700e-003	0.0000	7.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1419	0.0852	2.6000e-004		5.9600e-003	5.9600e-003		5.4800e-003	5.4800e-003	0.0000	22.5355	22.5355	7.2900e-003	0.0000	22.7177
Total	0.0147	0.1419	0.0852	2.6000e-004	0.0137	5.9600e-003	0.0196	7.4700e-003	5.4800e-003	0.0130	0.0000	22.5355	22.5355	7.2900e-003	0.0000	22.7177

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	8.2000e-004	0.0341	7.6600e-003	9.0000e-005	1.8400e-003	1.4000e-004	1.9800e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	8.4696	8.4696	3.4000e-004	0.0000	8.4780
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.2000e-004	0.0341	7.6600e-003	9.0000e-005	1.8400e-003	1.4000e-004	1.9800e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	8.4696	8.4696	3.4000e-004	0.0000	8.4780

3.4 Construct NCP Bypass - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1804	0.0000	0.1804	0.0926	0.0000	0.0926	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1174	0.6350	1.9300e-003		0.0441	0.0441		0.0406	0.0406	0.0000	169.2489	169.2489	0.0547	0.0000	170.6174
Total	0.1080	1.1174	0.6350	1.9300e-003	0.1804	0.0441	0.2245	0.0926	0.0406	0.1332	0.0000	169.2489	169.2489	0.0547	0.0000	170.6174

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	7.2000e-004	0.0300	6.7400e-003	8.0000e-005	1.6200e-003	1.2000e-004	1.7400e-003	4.4000e-004	1.2000e-004	5.6000e-004	0.0000	7.4533	7.4533	3.0000e-004	0.0000	7.4607
Vendor	4.0000e-004	0.0134	3.5400e-003	3.0000e-005	8.7000e-004	5.0000e-005	9.2000e-004	2.5000e-004	5.0000e-005	3.0000e-004	0.0000	3.2400	3.2400	1.1000e-004	0.0000	3.2428
Worker	6.1900e-003	5.9300e-003	0.0516	1.3000e-004	0.0137	1.1000e-004	0.0138	3.6400e-003	1.0000e-004	3.7400e-003	0.0000	12.0925	12.0925	4.5000e-004	0.0000	12.1038
Total	7.3100e-003	0.0494	0.0619	2.4000e-004	0.0162	2.8000e-004	0.0165	4.3300e-003	2.7000e-004	4.6000e-003	0.0000	22.7858	22.7858	8.6000e-004	0.0000	22.8073

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					0.0812	0.0000	0.0812	0.0417	0.0000	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1080	1.1174	0.6350	1.9300e-003		0.0441	0.0441		0.0406	0.0406	0.0000	169.2487	169.2487	0.0547	0.0000	170.6172
Total	0.1080	1.1174	0.6350	1.9300e-003	0.0812	0.0441	0.1253	0.0417	0.0406	0.0822	0.0000	169.2487	169.2487	0.0547	0.0000	170.6172

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	7.2000e-004	0.0300	6.7400e-003	8.0000e-005	1.6200e-003	1.2000e-004	1.7400e-003	4.4000e-004	1.2000e-004	5.6000e-004	0.0000	7.4533	7.4533	3.0000e-004	0.0000	7.4607
Vendor	4.0000e-004	0.0134	3.5400e-003	3.0000e-005	8.7000e-004	5.0000e-005	9.2000e-004	2.5000e-004	5.0000e-005	3.0000e-004	0.0000	3.2400	3.2400	1.1000e-004	0.0000	3.2428
Worker	6.1900e-003	5.9300e-003	0.0516	1.3000e-004	0.0137	1.1000e-004	0.0138	3.6400e-003	1.0000e-004	3.7400e-003	0.0000	12.0925	12.0925	4.5000e-004	0.0000	12.1038
Total	7.3100e-003	0.0494	0.0619	2.4000e-004	0.0162	2.8000e-004	0.0165	4.3300e-003	2.7000e-004	4.6000e-003	0.0000	22.7858	22.7858	8.6000e-004	0.0000	22.8073

3.5 Install Boat Launch/Silt Curtain - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4771	0.3378	9.7000e-004		0.0187	0.0187		0.0174	0.0174	0.0000	85.2950	85.2950	0.0245	0.0000	85.9077
Total	0.0478	0.4771	0.3378	9.7000e-004		0.0187	0.0187		0.0174	0.0174	0.0000	85.2950	85.2950	0.0245	0.0000	85.9077

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	1.3000e-004	5.1700e-003	1.1800e-003	1.0000e-005	3.0000e-004	2.0000e-005	3.2000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3516	1.3516	5.0000e-005	0.0000	1.3529
Vendor	1.8000e-004	6.1000e-003	1.6100e-003	2.0000e-005	3.9000e-004	2.0000e-005	4.2000e-004	1.1000e-004	2.0000e-005	1.4000e-004	0.0000	1.4727	1.4727	5.0000e-005	0.0000	1.4740
Worker	2.8100e-003	2.7000e-003	0.0235	6.0000e-005	6.2300e-003	5.0000e-005	6.2800e-003	1.6600e-003	5.0000e-005	1.7000e-003	0.0000	5.4966	5.4966	2.1000e-004	0.0000	5.5018
Total	3.1200e-003	0.0140	0.0263	9.0000e-005	6.9200e-003	9.0000e-005	7.0200e-003	1.8500e-003	9.0000e-005	1.9400e-003	0.0000	8.3209	8.3209	3.1000e-004	0.0000	8.3286

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	0.0478	0.4771	0.3378	9.7000e-004		0.0187	0.0187		0.0174	0.0174	0.0000	85.2949	85.2949	0.0245	0.0000	85.9076
Total	0.0478	0.4771	0.3378	9.7000e-004		0.0187	0.0187		0.0174	0.0174	0.0000	85.2949	85.2949	0.0245	0.0000	85.9076

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	1.3000e-004	5.1700e-003	1.1800e-003	1.0000e-005	3.0000e-004	2.0000e-005	3.2000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3516	1.3516	5.0000e-005	0.0000	1.3529

Vendor	1.8000e-004	6.1000e-003	1.6100e-003	2.0000e-005	3.9000e-004	2.0000e-005	4.2000e-004	1.1000e-004	2.0000e-005	1.4000e-004	0.0000	1.4727	1.4727	5.0000e-005	0.0000	1.4740
Worker	2.8100e-003	2.7000e-003	0.0235	6.0000e-005	6.2300e-003	5.0000e-005	6.2800e-003	1.6600e-003	5.0000e-005	1.7000e-003	0.0000	5.4966	5.4966	2.1000e-004	0.0000	5.5018
Total	3.1200e-003	0.0140	0.0263	9.0000e-005	6.9200e-003	9.0000e-005	7.0200e-003	1.8500e-003	9.0000e-005	1.9400e-003	0.0000	8.3209	8.3209	3.1000e-004	0.0000	8.3286

3.6 Dredge and Drill Shafts - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0787	0.6864	0.5294	1.6100e-003		0.0268	0.0268		0.0255	0.0255	0.0000	151.3704	151.3704	0.0246	0.0000	151.9847
Total	0.0787	0.6864	0.5294	1.6100e-003		0.0268	0.0268		0.0255	0.0255	0.0000	151.3704	151.3704	0.0246	0.0000	151.9847

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	5.0000e-004	0.0168	4.4200e-003	4.0000e-005	1.0800e-003	6.0000e-005	1.1400e-003	3.1000e-004	6.0000e-005	3.7000e-004	0.0000	4.0500	4.0500	1.4000e-004	0.0000	4.0535
Worker	7.7400e-003	7.4100e-003	0.0645	1.7000e-004	0.0171	1.4000e-004	0.0173	4.5500e-003	1.3000e-004	4.6800e-003	0.0000	15.1156	15.1156	5.7000e-004	0.0000	15.1298
Total	8.2400e-003	0.0242	0.0690	2.1000e-004	0.0182	2.0000e-004	0.0184	4.8600e-003	1.9000e-004	5.0500e-003	0.0000	19.1656	19.1656	7.1000e-004	0.0000	19.1833

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	0.0787	0.6864	0.5294	1.6100e-003		0.0268	0.0268		0.0255	0.0255	0.0000	151.3702	151.3702	0.0246	0.0000	151.9845
Total	0.0787	0.6864	0.5294	1.6100e-003		0.0268	0.0268		0.0255	0.0255	0.0000	151.3702	151.3702	0.0246	0.0000	151.9845

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	5.0000e-004	0.0168	4.4200e-003	4.0000e-005	1.0800e-003	6.0000e-005	1.1400e-003	3.1000e-004	6.0000e-005	3.7000e-004	0.0000	4.0500	4.0500	1.4000e-004	0.0000	4.0535
Worker	7.7400e-003	7.4100e-003	0.0645	1.7000e-004	0.0171	1.4000e-004	0.0173	4.5500e-003	1.3000e-004	4.6800e-003	0.0000	15.1156	15.1156	5.7000e-004	0.0000	15.1298
Total	8.2400e-003	0.0242	0.0690	2.1000e-004	0.0182	2.0000e-004	0.0184	4.8600e-003	1.9000e-004	5.0500e-003	0.0000	19.1656	19.1656	7.1000e-004	0.0000	19.1833

3.7 Access Road Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0123	0.0000	0.0123	6.3200e-003	0.0000	6.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	6.5200e-003	0.0665	0.0391	1.2000e-004		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	10.3912	10.3912	3.3600e-003	0.0000	10.4752
Total	6.5200e-003	0.0665	0.0391	1.2000e-004	0.0123	2.6200e-003	0.0149	6.3200e-003	2.4100e-003	8.7300e-003	0.0000	10.3912	10.3912	3.3600e-003	0.0000	10.4752

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	3.4100e-003	7.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8470	0.8470	3.0000e-005	0.0000	0.8478
Vendor	3.0000e-005	9.2000e-004	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2209	0.2209	1.0000e-005	0.0000	0.2211
Worker	4.2000e-004	4.0000e-004	3.5200e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8245	0.8245	3.0000e-005	0.0000	0.8253
Total	5.3000e-004	4.7300e-003	4.5300e-003	2.0000e-005	1.1700e-003	2.0000e-005	1.2000e-003	3.2000e-004	2.0000e-005	3.4000e-004	0.0000	1.8924	1.8924	7.0000e-005	0.0000	1.8942

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					5.5400e-003	0.0000	5.5400e-003	2.8400e-003	0.0000	2.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5200e-003	0.0665	0.0391	1.2000e-004		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	10.3912	10.3912	3.3600e-003	0.0000	10.4752
Total	6.5200e-003	0.0665	0.0391	1.2000e-004	5.5400e-003	2.6200e-003	8.1600e-003	2.8400e-003	2.4100e-003	5.2500e-003	0.0000	10.3912	10.3912	3.3600e-003	0.0000	10.4752

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	3.4100e-003	7.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8470	0.8470	3.0000e-005	0.0000	0.8478
Vendor	3.0000e-005	9.2000e-004	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2209	0.2209	1.0000e-005	0.0000	0.2211
Worker	4.2000e-004	4.0000e-004	3.5200e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8245	0.8245	3.0000e-005	0.0000	0.8253
Total	5.3000e-004	4.7300e-003	4.5300e-003	2.0000e-005	1.1700e-003	2.0000e-005	1.2000e-003	3.2000e-004	2.0000e-005	3.4000e-004	0.0000	1.8924	1.8924	7.0000e-005	0.0000	1.8942

3.8 Grade Portal Platform - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1712	0.0000	0.1712	0.0930	0.0000	0.0930	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0807	0.7669	0.4549	1.3000e-003		0.0325	0.0325		0.0300	0.0300	0.0000	113.3756	113.3756	0.0361	0.0000	114.2782
Total	0.0807	0.7669	0.4549	1.3000e-003	0.1712	0.0325	0.2037	0.0930	0.0300	0.1230	0.0000	113.3756	113.3756	0.0361	0.0000	114.2782

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	1.4200e-003	0.0591	0.0133	1.5000e-004	3.1900e-003	2.4000e-004	3.4300e-003	8.7000e-004	2.3000e-004	1.1000e-003	0.0000	14.6524	14.6524	5.8000e-004	0.0000	14.6670

Vendor	1.3000e-004	4.2700e-003	1.1300e-003	1.0000e-005	2.8000e-004	2.0000e-005	2.9000e-004	8.0000e-005	2.0000e-005	9.0000e-005	0.0000	1.0309	1.0309	4.0000e-005	0.0000	1.0318
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5500e-003	0.0633	0.0144	1.6000e-004	3.4700e-003	2.6000e-004	3.7200e-003	9.5000e-004	2.5000e-004	1.1900e-003	0.0000	15.6833	15.6833	6.2000e-004	0.0000	15.6988

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					0.0770	0.0000	0.0770	0.0418	0.0000	0.0418	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0807	0.7669	0.4549	1.3000e-003		0.0325	0.0325		0.0300	0.0300	0.0000	113.3755	113.3755	0.0361	0.0000	114.2781
Total	0.0807	0.7669	0.4549	1.3000e-003	0.0770	0.0325	0.1096	0.0418	0.0300	0.0718	0.0000	113.3755	113.3755	0.0361	0.0000	114.2781

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	1.4200e-003	0.0591	0.0133	1.5000e-004	3.1900e-003	2.4000e-004	3.4300e-003	8.7000e-004	2.3000e-004	1.1000e-003	0.0000	14.6524	14.6524	5.8000e-004	0.0000	14.6670
Vendor	1.3000e-004	4.2700e-003	1.1300e-003	1.0000e-005	2.8000e-004	2.0000e-005	2.9000e-004	8.0000e-005	2.0000e-005	9.0000e-005	0.0000	1.0309	1.0309	4.0000e-005	0.0000	1.0318
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5500e-003	0.0633	0.0144	1.6000e-004	3.4700e-003	2.6000e-004	3.7200e-003	9.5000e-004	2.5000e-004	1.1900e-003	0.0000	15.6833	15.6833	6.2000e-004	0.0000	15.6988

3.9 Install Culvert Bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.6740	0.4351	1.1500e-003		0.0288	0.0288		0.0265	0.0265	0.0000	100.6650	100.6650	0.0326	0.0000	101.4789
Total	0.0656	0.6740	0.4351	1.1500e-003		0.0288	0.0288		0.0265	0.0265	0.0000	100.6650	100.6650	0.0326	0.0000	101.4789

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	1.2900e-003	3.0000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3379	0.3379	1.0000e-005	0.0000	0.3382
Vendor	3.5000e-004	0.0116	3.0600e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.2000e-004	4.0000e-005	2.6000e-004	0.0000	2.7982	2.7982	1.0000e-004	0.0000	2.8006
Worker	5.3400e-003	5.1200e-003	0.0446	1.2000e-004	0.0118	9.0000e-005	0.0119	3.1500e-003	9.0000e-005	3.2300e-003	0.0000	10.4435	10.4435	3.9000e-004	0.0000	10.4533
Total	5.7200e-003	0.0180	0.0479	1.5000e-004	0.0127	1.4000e-004	0.0128	3.3900e-003	1.4000e-004	3.5200e-003	0.0000	13.5796	13.5796	5.0000e-004	0.0000	13.5921

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	0.0656	0.6740	0.4351	1.1500e-003		0.0288	0.0288		0.0265	0.0265	0.0000	100.6648	100.6648	0.0326	0.0000	101.4788

Total	0.0656	0.6740	0.4351	1.1500e-003		0.0288	0.0288		0.0265	0.0265	0.0000	100.6648	100.6648	0.0326	0.0000	101.4788

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	1.2900e-003	3.0000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3379	0.3379	1.0000e-005	0.0000	0.3382
Vendor	3.5000e-004	0.0116	3.0600e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.2000e-004	4.0000e-005	2.6000e-004	0.0000	2.7982	2.7982	1.0000e-004	0.0000	2.8006
Worker	5.3400e-003	5.1200e-003	0.0446	1.2000e-004	0.0118	9.0000e-005	0.0119	3.1500e-003	9.0000e-005	3.2300e-003	0.0000	10.4435	10.4435	3.9000e-004	0.0000	10.4533
Total	5.7200e-003	0.0180	0.0479	1.5000e-004	0.0127	1.4000e-004	0.0128	3.3900e-003	1.4000e-004	3.5200e-003	0.0000	13.5796	13.5796	5.0000e-004	0.0000	13.5921

3.10 Construct Intake/Air Vent - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1701	1.4298	1.0779	3.1000e-003		0.0563	0.0563		0.0539	0.0539	0.0000	294.4146	294.4146	0.0340	0.0000	295.2648
Total	0.1701	1.4298	1.0779	3.1000e-003		0.0563	0.0563		0.0539	0.0539	0.0000	294.4146	294.4146	0.0340	0.0000	295.2648

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	0.0206	5.4300e-003	5.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.8000e-004	7.0000e-005	4.6000e-004	0.0000	4.9705	4.9705	1.7000e-004	0.0000	4.9748
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.1000e-004	0.0206	5.4300e-003	5.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.8000e-004	7.0000e-005	4.6000e-004	0.0000	4.9705	4.9705	1.7000e-004	0.0000	4.9748

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	0.1701	1.4298	1.0779	3.1000e-003		0.0563	0.0563		0.0539	0.0539	0.0000	294.4142	294.4142	0.0340	0.0000	295.2644
Total	0.1701	1.4298	1.0779	3.1000e-003		0.0563	0.0563		0.0539	0.0539	0.0000	294.4142	294.4142	0.0340	0.0000	295.2644

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	0.0206	5.4300e-003	5.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.8000e-004	7.0000e-005	4.6000e-004	0.0000	4.9705	4.9705	1.7000e-004	0.0000	4.9748
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.1000e-004	0.0206	5.4300e-003	5.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.8000e-004	7.0000e-005	4.6000e-004	0.0000	4.9705	4.9705	1.7000e-004	0.0000	4.9748

3.10 Construct Intake/Air Vent - 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	0.0348	0.2860	0.2354	6.9000e-004		0.0109	0.0109		0.0104	0.0104	0.0000	65.4268	65.4268	7.5100e-003	0.0000	65.6145
Total	0.0348	0.2860	0.2354	6.9000e-004		0.0109	0.0109		0.0104	0.0104	0.0000	65.4268	65.4268	7.5100e-003	0.0000	65.6145

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	1.3000e-004	4.3000e-003	1.1100e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0954	1.0954	4.0000e-005	0.0000	1.0963
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3000e-004	4.3000e-003	1.1100e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0954	1.0954	4.0000e-005	0.0000	1.0963

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	0.0348	0.2860	0.2354	6.9000e-004		0.0109	0.0109		0.0104	0.0104	0.0000	65.4267	65.4267	7.5100e-003	0.0000	65.6144
Total	0.0348	0.2860	0.2354	6.9000e-004		0.0109	0.0109		0.0104	0.0104	0.0000	65.4267	65.4267	7.5100e-003	0.0000	65.6144

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	1.3000e-004	4.3000e-003	1.1100e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0954	1.0954	4.0000e-005	0.0000	1.0963
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3000e-004	4.3000e-003	1.1100e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0954	1.0954	4.0000e-005	0.0000	1.0963

3.11 Tunnel Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2925	2.5407	2.2731	6.7200e-003		0.1157	0.1157		0.1091	0.1091	0.0000	586.1646	586.1646	0.1634	0.0000	590.2502

Total	0.2925	2.5407	2.2731	6.7200e-003		0.1157	0.1157		0.1091	0.1091	0.0000	586.1646	586.1646	0.1634	0.0000	590.2502

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	1.3100e-003	0.0440	0.0116	1.1000e-004	2.8300e-003	1.6000e-004	3.0000e-003	8.2000e-004	1.6000e-004	9.7000e-004	0.0000	10.6037	10.6037	3.7000e-004	0.0000	10.6128
Worker	0.0135	0.0129	0.1126	2.9000e-004	0.0299	2.4000e-004	0.0301	7.9500e-003	2.2000e-004	8.1700e-003	0.0000	26.3836	26.3836	9.9000e-004	0.0000	26.4084
Total	0.0148	0.0569	0.1242	4.0000e-004	0.0327	4.0000e-004	0.0331	8.7700e-003	3.8000e-004	9.1400e-003	0.0000	36.9873	36.9873	1.3600e-003	0.0000	37.0212

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	0.2925	2.5407	2.2731	6.7200e-003		0.1157	0.1157		0.1091	0.1091	0.0000	586.1639	586.1639	0.1634	0.0000	590.2495
Total	0.2925	2.5407	2.2731	6.7200e-003		0.1157	0.1157		0.1091	0.1091	0.0000	586.1639	586.1639	0.1634	0.0000	590.2495

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	1.3100e-003	0.0440	0.0116	1.1000e-004	2.8300e-003	1.6000e-004	3.0000e-003	8.2000e-004	1.6000e-004	9.7000e-004	0.0000	10.6037	10.6037	3.7000e-004	0.0000	10.6128
Worker	0.0135	0.0129	0.1126	2.9000e-004	0.0299	2.4000e-004	0.0301	7.9500e-003	2.2000e-004	8.1700e-003	0.0000	26.3836	26.3836	9.9000e-004	0.0000	26.4084
Total	0.0148	0.0569	0.1242	4.0000e-004	0.0327	4.0000e-004	0.0331	8.7700e-003	3.8000e-004	9.1400e-003	0.0000	36.9873	36.9873	1.3600e-003	0.0000	37.0212

3.11 Tunnel Excavation - 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	0.1467	1.1760	1.2439	3.7900e-003		0.0524	0.0524		0.0495	0.0495	0.0000	330.4471	330.4471	0.0920	0.0000	332.7465
Total	0.1467	1.1760	1.2439	3.7900e-003		0.0524	0.0524		0.0495	0.0495	0.0000	330.4471	330.4471	0.0920	0.0000	332.7465

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	6.8000e-004	0.0232	5.9700e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6800e-003	4.6000e-004	8.0000e-005	5.4000e-004	0.0000	5.9150	5.9150	2.0000e-004	0.0000	5.9200
Worker	7.1100e-003	6.5300e-003	0.0579	1.6000e-004	0.0168	1.3000e-004	0.0169	4.4700e-003	1.2000e-004	4.5900e-003	0.0000	14.3266	14.3266	5.0000e-004	0.0000	14.3391
Total	7.7900e-003	0.0297	0.0638	2.2000e-004	0.0184	2.1000e-004	0.0186	4.9300e-003	2.0000e-004	5.1300e-003	0.0000	20.2417	20.2417	7.0000e-004	0.0000	20.2591

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	0.1467	1.1760	1.2439	3.7900e-003		0.0524	0.0524		0.0495	0.0495	0.0000	330.4467	330.4467	0.0920	0.0000	332.7461
Total	0.1467	1.1760	1.2439	3.7900e-003		0.0524	0.0524		0.0495	0.0495	0.0000	330.4467	330.4467	0.0920	0.0000	332.7461

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	6.8000e-004	0.0232	5.9700e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6800e-003	4.6000e-004	8.0000e-005	5.4000e-004	0.0000	5.9150	5.9150	2.0000e-004	0.0000	5.9200
Worker	7.1100e-003	6.5300e-003	0.0579	1.6000e-004	0.0168	1.3000e-004	0.0169	4.4700e-003	1.2000e-004	4.5900e-003	0.0000	14.3266	14.3266	5.0000e-004	0.0000	14.3391
Total	7.7900e-003	0.0297	0.0638	2.2000e-004	0.0184	2.1000e-004	0.0186	4.9300e-003	2.0000e-004	5.1300e-003	0.0000	20.2417	20.2417	7.0000e-004	0.0000	20.2591

3.12 Inlet Control House - 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	0.0334	0.3251	0.2255	7.2000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	61.8193	61.8193	0.0194	0.0000	62.3041
Total	0.0334	0.3251	0.2255	7.2000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	61.8193	61.8193	0.0194	0.0000	62.3041

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	2.5000e-004	8.5900e-003	2.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.1908	2.1908	7.0000e-005	0.0000	2.1926
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.5000e-004	8.5900e-003	2.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.1908	2.1908	7.0000e-005	0.0000	2.1926

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	0.0334	0.3251	0.2255	7.2000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	61.8192	61.8192	0.0194	0.0000	62.3040

Total	0.0334	0.3251	0.2255	7.2000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	61.8192	61.8192	0.0194	0.0000	62.3040

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	2.5000e-004	8.5900e-003	2.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.1908	2.1908	7.0000e-005	0.0000	2.1926
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.5000e-004	8.5900e-003	2.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.1908	2.1908	7.0000e-005	0.0000	2.1926

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 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	0.0671	0.5664	0.7309	1.2200e-003		0.0271	0.0271		0.0266	0.0266	0.0000	102.5920	102.5920	0.0157	0.0000	102.9855
Total	0.0671	0.5664	0.7309	1.2200e-003		0.0271	0.0271		0.0266	0.0266	0.0000	102.5920	102.5920	0.0157	0.0000	102.9855

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	9.5000e-004	0.0322	8.2900e-003	9.0000e-005	2.2100e-003	1.1000e-004	2.3300e-003	6.4000e-004	1.1000e-004	7.5000e-004	0.0000	8.2153	8.2153	2.8000e-004	0.0000	8.2223
Worker	9.8700e-003	9.0700e-003	0.0804	2.2000e-004	0.0234	1.8000e-004	0.0235	6.2100e-003	1.7000e-004	6.3700e-003	0.0000	19.8981	19.8981	6.9000e-004	0.0000	19.9154
Total	0.0108	0.0413	0.0887	3.1000e-004	0.0256	2.9000e-004	0.0259	6.8500e-003	2.8000e-004	7.1200e-003	0.0000	28.1134	28.1134	9.7000e-004	0.0000	28.1377

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	0.0671	0.5664	0.7309	1.2200e-003		0.0271	0.0271		0.0266	0.0266	0.0000	102.5919	102.5919	0.0157	0.0000	102.9853
Total	0.0671	0.5664	0.7309	1.2200e-003		0.0271	0.0271		0.0266	0.0266	0.0000	102.5919	102.5919	0.0157	0.0000	102.9853

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	9.5000e-004	0.0322	8.2900e-003	9.0000e-005	2.2100e-003	1.1000e-004	2.3300e-003	6.4000e-004	1.1000e-004	7.5000e-004	0.0000	8.2153	8.2153	2.8000e-004	0.0000	8.2223
Worker	9.8700e-003	9.0700e-003	0.0804	2.2000e-004	0.0234	1.8000e-004	0.0235	6.2100e-003	1.7000e-004	6.3700e-003	0.0000	19.8981	19.8981	6.9000e-004	0.0000	19.9154
Total	0.0108	0.0413	0.0887	3.1000e-004	0.0256	2.9000e-004	0.0259	6.8500e-003	2.8000e-004	7.1200e-003	0.0000	28.1134	28.1134	9.7000e-004	0.0000	28.1377

3.14 Start Outlet Yard 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	0.0465	0.4687	0.4376	1.0800e-003		0.0187	0.0187		0.0175	0.0175	0.0000	94.0268	94.0268	0.0263	0.0000	94.6846
Total	0.0465	0.4687	0.4376	1.0800e-003		0.0187	0.0187		0.0175	0.0175	0.0000	94.0268	94.0268	0.0263	0.0000	94.6846

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	5.0000e-004	0.0172	4.4200e-003	5.0000e-005	1.1800e-003	6.0000e-005	1.2400e-003	3.4000e-004	6.0000e-005	4.0000e-004	0.0000	4.3815	4.3815	1.5000e-004	0.0000	4.3852
Worker	5.2700e-003	4.8400e-003	0.0429	1.2000e-004	0.0125	1.0000e-004	0.0126	3.3100e-003	9.0000e-005	3.4000e-003	0.0000	10.6123	10.6123	3.7000e-004	0.0000	10.6216
Total	5.7700e-003	0.0220	0.0473	1.7000e-004	0.0136	1.6000e-004	0.0138	3.6500e-003	1.5000e-004	3.8000e-003	0.0000	14.9938	14.9938	5.2000e-004	0.0000	15.0068

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	0.0465	0.4687	0.4376	1.0800e-003		0.0187	0.0187		0.0175	0.0175	0.0000	94.0267	94.0267	0.0263	0.0000	94.6845
Total	0.0465	0.4687	0.4376	1.0800e-003		0.0187	0.0187		0.0175	0.0175	0.0000	94.0267	94.0267	0.0263	0.0000	94.6845

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	5.0000e-004	0.0172	4.4200e-003	5.0000e-005	1.1800e-003	6.0000e-005	1.2400e-003	3.4000e-004	6.0000e-005	4.0000e-004	0.0000	4.3815	4.3815	1.5000e-004	0.0000	4.3852
Worker	5.2700e-003	4.8400e-003	0.0429	1.2000e-004	0.0125	1.0000e-004	0.0126	3.3100e-003	9.0000e-005	3.4000e-003	0.0000	10.6123	10.6123	3.7000e-004	0.0000	10.6216
Total	5.7700e-003	0.0220	0.0473	1.7000e-004	0.0136	1.6000e-004	0.0138	3.6500e-003	1.5000e-004	3.8000e-003	0.0000	14.9938	14.9938	5.2000e-004	0.0000	15.0068

3.15 Complete Outlet Yard 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	0.0328	0.3313	0.2858	7.5000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	65.7855	65.7855	0.0193	0.0000	66.2674

Total	0.0328	0.3313	0.2858	7.5000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	65.7855	65.7855	0.0193	0.0000	66.2674

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	2.5000e-004	8.5900e-003	2.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.1908	2.1908	7.0000e-005	0.0000	2.1926
Worker	2.6300e-003	2.4200e-003	0.0214	6.0000e-005	6.2300e-003	5.0000e-005	6.2700e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	5.3062	5.3062	1.8000e-004	0.0000	5.3108
Total	2.8800e-003	0.0110	0.0236	8.0000e-005	6.8200e-003	8.0000e-005	6.8900e-003	1.8300e-003	7.0000e-005	1.9000e-003	0.0000	7.4969	7.4969	2.5000e-004	0.0000	7.5034

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	0.0328	0.3313	0.2858	7.5000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	65.7854	65.7854	0.0193	0.0000	66.2674
Total	0.0328	0.3313	0.2858	7.5000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	65.7854	65.7854	0.0193	0.0000	66.2674

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	2.5000e-004	8.5900e-003	2.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.1908	2.1908	7.0000e-005	0.0000	2.1926
Worker	2.6300e-003	2.4200e-003	0.0214	6.0000e-005	6.2300e-003	5.0000e-005	6.2700e-003	1.6600e-003	4.0000e-005	1.7000e-003	0.0000	5.3062	5.3062	1.8000e-004	0.0000	5.3108
Total	2.8800e-003	0.0110	0.0236	8.0000e-005	6.8200e-003	8.0000e-005	6.8900e-003	1.8300e-003	7.0000e-005	1.9000e-003	0.0000	7.4969	7.4969	2.5000e-004	0.0000	7.5034

3.16 Electrical Controls Installation - 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	0.0121	0.1185	0.1213	2.6000e-004		5.3100e-003	5.3100e-003		5.1100e-003	5.1100e-003	0.0000	22.2017	22.2017	4.2600e-003	0.0000	22.3081
Total	0.0121	0.1185	0.1213	2.6000e-004		5.3100e-003	5.3100e-003		5.1100e-003	5.1100e-003	0.0000	22.2017	22.2017	4.2600e-003	0.0000	22.3081

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	1.3000e-004	4.3000e-003	1.1100e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0954	1.0954	4.0000e-005	0.0000	1.0963
Worker	1.9700e-003	1.8100e-003	0.0161	4.0000e-005	4.6700e-003	4.0000e-005	4.7100e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.9796	3.9796	1.4000e-004	0.0000	3.9831
Total	2.1000e-003	6.1100e-003	0.0172	5.0000e-005	4.9700e-003	5.0000e-005	5.0200e-003	1.3300e-003	4.0000e-005	1.3700e-003	0.0000	5.0750	5.0750	1.8000e-004	0.0000	5.0794

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	0.0121	0.1185	0.1213	2.6000e-004		5.3100e-003	5.3100e-003		5.1100e-003	5.1100e-003	0.0000	22.2017	22.2017	4.2600e-003	0.0000	22.3081
Total	0.0121	0.1185	0.1213	2.6000e-004		5.3100e-003	5.3100e-003		5.1100e-003	5.1100e-003	0.0000	22.2017	22.2017	4.2600e-003	0.0000	22.3081

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	1.3000e-004	4.3000e-003	1.1100e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0954	1.0954	4.0000e-005	0.0000	1.0963
Worker	1.9700e-003	1.8100e-003	0.0161	4.0000e-005	4.6700e-003	4.0000e-005	4.7100e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.9796	3.9796	1.4000e-004	0.0000	3.9831
Total	2.1000e-003	6.1100e-003	0.0172	5.0000e-005	4.9700e-003	5.0000e-005	5.0200e-003	1.3300e-003	4.0000e-005	1.3700e-003	0.0000	5.0750	5.0750	1.8000e-004	0.0000	5.0794

3.17 Perform Start-Up Testing - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8300e-003	0.0654	0.0296	9.0000e-005		2.7100e-003	2.7100e-003		2.5000e-003	2.5000e-003	0.0000	7.9213	7.9213	2.5600e-003	0.0000	7.9853
Total	5.8300e-003	0.0654	0.0296	9.0000e-005		2.7100e-003	2.7100e-003		2.5000e-003	2.5000e-003	0.0000	7.9213	7.9213	2.5600e-003	0.0000	7.9853

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	2.1000e-004	7.1600e-003	1.8400e-003	2.0000e-005	4.9000e-004	2.0000e-005	5.2000e-004	1.4000e-004	2.0000e-005	1.7000e-004	0.0000	1.8256	1.8256	6.0000e-005	0.0000	1.8272
Worker	3.2900e-003	3.0200e-003	0.0268	7.0000e-005	7.7800e-003	6.0000e-005	7.8400e-003	2.0700e-003	6.0000e-005	2.1200e-003	0.0000	6.6327	6.6327	2.3000e-004	0.0000	6.6385
Total	3.5000e-003	0.0102	0.0286	9.0000e-005	8.2700e-003	8.0000e-005	8.3600e-003	2.2100e-003	8.0000e-005	2.2900e-003	0.0000	8.4583	8.4583	2.9000e-004	0.0000	8.4656

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8300e-003	0.0654	0.0296	9.0000e-005		2.7100e-003	2.7100e-003		2.5000e-003	2.5000e-003	0.0000	7.9213	7.9213	2.5600e-003	0.0000	7.9853

Total	5.8300e-003	0.0654	0.0296	9.0000e-005		2.7100e-003	2.7100e-003		2.5000e-003	2.5000e-003	0.0000	7.9213	7.9213	2.5600e-003	0.0000	7.9853

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	2.1000e-004	7.1600e-003	1.8400e-003	2.0000e-005	4.9000e-004	2.0000e-005	5.2000e-004	1.4000e-004	2.0000e-005	1.7000e-004	0.0000	1.8256	1.8256	6.0000e-005	0.0000	1.8272
Worker	3.2900e-003	3.0200e-003	0.0268	7.0000e-005	7.7800e-003	6.0000e-005	7.8400e-003	2.0700e-003	6.0000e-005	2.1200e-003	0.0000	6.6327	6.6327	2.3000e-004	0.0000	6.6385
Total	3.5000e-003	0.0102	0.0286	9.0000e-005	8.2700e-003	8.0000e-005	8.3600e-003	2.2100e-003	8.0000e-005	2.2900e-003	0.0000	8.4583	8.4583	2.9000e-004	0.0000	8.4656

3.18 Decommission Existing Outlet - 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	0.0122	0.1088	0.0795	2.5000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	21.9286	21.9286	6.9900e-003	0.0000	22.1033
Total	0.0122	0.1088	0.0795	2.5000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	21.9286	21.9286	6.9900e-003	0.0000	22.1033

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	2.1000e-004	7.3000e-003	1.8800e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	2.0000e-005	1.7000e-004	0.0000	1.8621	1.8621	6.0000e-005	0.0000	1.8637
Worker	2.2400e-003	2.0600e-003	0.0182	5.0000e-005	5.2900e-003	4.0000e-005	5.3300e-003	1.4100e-003	4.0000e-005	1.4400e-003	0.0000	4.5102	4.5102	1.6000e-004	0.0000	4.5142
Total	2.4500e-003	9.3600e-003	0.0201	7.0000e-005	5.7900e-003	7.0000e-005	5.8600e-003	1.5500e-003	6.0000e-005	1.6100e-003	0.0000	6.3724	6.3724	2.2000e-004	0.0000	6.3779

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	0.0122	0.1088	0.0795	2.5000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	21.9286	21.9286	6.9900e-003	0.0000	22.1032
Total	0.0122	0.1088	0.0795	2.5000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	21.9286	21.9286	6.9900e-003	0.0000	22.1032

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	2.1000e-004	7.3000e-003	1.8800e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	2.0000e-005	1.7000e-004	0.0000	1.8621	1.8621	6.0000e-005	0.0000	1.8637
Worker	2.2400e-003	2.0600e-003	0.0182	5.0000e-005	5.2900e-003	4.0000e-005	5.3300e-003	1.4100e-003	4.0000e-005	1.4400e-003	0.0000	4.5102	4.5102	1.6000e-004	0.0000	4.5142
Total	2.4500e-003	9.3600e-003	0.0201	7.0000e-005	5.7900e-003	7.0000e-005	5.8600e-003	1.5500e-003	6.0000e-005	1.6100e-003	0.0000	6.3724	6.3724	2.2000e-004	0.0000	6.3779

3.18 Decommission Existing Outlet - 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	0.0156	0.1332	0.1055	3.4000e-004		5.3200e-003	5.3200e-003		4.9100e-003	4.9100e-003	0.0000	29.6844	29.6844	9.4600e-003	0.0000	29.9208
Total	0.0156	0.1332	0.1055	3.4000e-004		5.3200e-003	5.3200e-003		4.9100e-003	4.9100e-003	0.0000	29.6844	29.6844	9.4600e-003	0.0000	29.9208

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	2.3000e-004	8.1200e-003	2.2900e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.1000e-004	0.0000	2.4752	2.4752	8.0000e-005	0.0000	2.4771
Worker	2.8400e-003	2.5000e-003	0.0226	7.0000e-005	7.1600e-003	5.0000e-005	7.2100e-003	1.9000e-003	5.0000e-005	1.9500e-003	0.0000	5.8786	5.8786	1.9000e-004	0.0000	5.8834
Total	3.0700e-003	0.0106	0.0249	1.0000e-004	7.8400e-003	7.0000e-005	7.9100e-003	2.1000e-003	7.0000e-005	2.1600e-003	0.0000	8.3538	8.3538	2.7000e-004	0.0000	8.3605

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	0.0156	0.1332	0.1055	3.4000e-004		5.3200e-003	5.3200e-003		4.9100e-003	4.9100e-003	0.0000	29.6843	29.6843	9.4600e-003	0.0000	29.9207
Total	0.0156	0.1332	0.1055	3.4000e-004		5.3200e-003	5.3200e-003		4.9100e-003	4.9100e-003	0.0000	29.6843	29.6843	9.4600e-003	0.0000	29.9207

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	2.3000e-004	8.1200e-003	2.2900e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.1000e-004	0.0000	2.4752	2.4752	8.0000e-005	0.0000	2.4771
Worker	2.8400e-003	2.5000e-003	0.0226	7.0000e-005	7.1600e-003	5.0000e-005	7.2100e-003	1.9000e-003	5.0000e-005	1.9500e-003	0.0000	5.8786	5.8786	1.9000e-004	0.0000	5.8834
Total	3.0700e-003	0.0106	0.0249	1.0000e-004	7.8400e-003	7.0000e-005	7.9100e-003	2.1000e-003	7.0000e-005	2.1600e-003	0.0000	8.3538	8.3538	2.7000e-004	0.0000	8.3605

Newell Creek Dam Inlet/Outlet Construction
Santa Cruz County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Access Road Improvement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Complete Outlet Yard Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construct Intake/Air Vent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construct NCP Bypass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Decommission Existing Outlet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Develop Staging Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dredge and Drill Shafts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical Controls Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade Portal Platform	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inlet Control House	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inlet/Outlet Conduit/Backfill Tunnel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Install Boat Launch/Silt Curtain	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Install Culvert Bridge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobilization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Perform Start-Up Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Outlet Yard Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	6	No Change	0.00
Bore/Drill Rigs	Diesel	No Change	0	2	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	17	No Change	0.00
Cranes	Diesel	No Change	0	13	No Change	0.00
Excavators	Diesel	No Change	0	10	No Change	0.00
Forklifts	Diesel	No Change	0	0	No Change	0.00
Generator Sets	Diesel	No Change	0	9	No Change	0.00
Graders	Diesel	No Change	0	6	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	27	No Change	0.00
Other General Industrial Equipment	Diesel	No Change	0	4	No Change	0.00
Rollers	Diesel	No Change	0	6	No Change	0.00
Rough Terrain Forklifts	Diesel	No Change	0	16	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	7	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	15	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr						Unmitigated mt/yr						
Air Compressors	1.30050E-001	7.91770E-001	9.72470E-001	1.52000E-003	4.47300E-002	4.47300E-002	0.00000E+000	1.25753E+002	1.25753E+002	1.05500E-002	0.00000E+000	1.26017E+002
Bore/Drill Rigs	7.33200E-002	7.06410E-001	7.30260E-001	3.65000E-003	2.44500E-002	2.25000E-002	0.00000E+000	3.20394E+002	3.20394E+002	1.03620E-001	0.00000E+000	3.22984E+002
Cement and Mortar Mixers	3.92800E-002	2.46130E-001	2.06170E-001	4.80000E-004	9.57000E-003	9.57000E-003	0.00000E+000	3.06358E+001	3.06358E+001	3.18000E-003	0.00000E+000	3.07153E+001
Cranes	1.28790E-001	1.48706E+000	6.31380E-001	1.87000E-003	6.08500E-002	5.59800E-002	0.00000E+000	1.64429E+002	1.64429E+002	5.31800E-002	0.00000E+000	1.65758E+002
Excavators	4.40000E-002	3.92840E-001	3.97480E-001	1.46000E-003	1.42700E-002	1.31300E-002	0.00000E+000	1.28441E+002	1.28441E+002	4.15400E-002	0.00000E+000	1.29480E+002
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Generator Sets	1.97780E-001	1.75183E+000	1.60329E+000	4.80000E-003	7.09000E-002	7.09000E-002	0.00000E+000	4.64311E+002	4.64311E+002	1.57500E-002	0.00000E+000	4.64705E+002
Graders	4.43200E-002	5.71450E-001	1.77840E-001	6.70000E-004	1.81300E-002	1.66800E-002	0.00000E+000	5.92845E+001	5.92845E+001	1.91700E-002	0.00000E+000	5.97638E+001
Off-Highway Trucks	3.61770E-001	3.02531E+000	2.19571E+000	8.23000E-003	1.10710E-001	1.01850E-001	0.00000E+000	7.22590E+002	7.22590E+002	2.33700E-001	0.00000E+000	7.28433E+002
Other General Industrial Rollers	9.37500E-002	7.40180E-001	8.05740E-001	9.90000E-004	4.88900E-002	4.49800E-002	0.00000E+000	8.71785E+001	8.71785E+001	2.82000E-002	0.00000E+000	8.78834E+001
Rough Terrain Forklifts	9.16000E-003	9.84200E-002	1.48830E-001	2.50000E-004	4.52000E-003	4.16000E-003	0.00000E+000	2.18229E+001	2.18229E+001	7.06000E-003	0.00000E+000	2.19994E+001
Rubber Tired Dozers	4.27900E-002	5.63290E-001	8.38610E-001	1.26000E-003	2.06600E-002	1.90100E-002	0.00000E+000	1.10835E+002	1.10835E+002	3.58500E-002	0.00000E+000	1.11731E+002
Tractors/Loaders/Bulldozers	8.31900E-002	8.72220E-001	3.21000E-001	6.80000E-004	4.23300E-002	3.89400E-002	0.00000E+000	5.96696E+001	5.96696E+001	1.93000E-002	0.00000E+000	6.01521E+001
Welders	2.64300E-002	2.60600E-001	3.58080E-001	5.20000E-004	1.39200E-002	1.28100E-002	0.00000E+000	4.55882E+001	4.55882E+001	1.47400E-002	0.00000E+000	4.59568E+001
	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	1.30040E-001	7.91770E-001	9.72470E-001	1.52000E-003	4.47300E-002	4.47300E-002	0.00000E+000	1.25753E+002	1.25753E+002	1.05500E-002	0.00000E+000	1.26017E+002
Bore/Drill Rigs	7.33200E-002	7.06410E-001	7.30260E-001	3.65000E-003	2.44500E-002	2.25000E-002	0.00000E+000	3.20393E+002	3.20393E+002	1.03620E-001	0.00000E+000	3.22984E+002
Cement and Mortar Mixers	3.92800E-002	2.46130E-001	2.06170E-001	4.80000E-004	9.57000E-003	9.57000E-003	0.00000E+000	3.06357E+001	3.06357E+001	3.18000E-003	0.00000E+000	3.07153E+001
Cranes	1.28790E-001	1.48706E+000	6.31380E-001	1.87000E-003	6.08500E-002	5.59800E-002	0.00000E+000	1.64429E+002	1.64429E+002	5.31800E-002	0.00000E+000	1.65758E+002
Excavators	4.40000E-002	3.92840E-001	3.97480E-001	1.46000E-003	1.42700E-002	1.31300E-002	0.00000E+000	1.28441E+002	1.28441E+002	4.15400E-002	0.00000E+000	1.29479E+002
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	1.97780E-001	1.75182E+000	1.60329E+000	4.80000E-003	7.09000E-002	7.09000E-002	0.00000E+000	4.64311E+002	4.64311E+002	1.57500E-002	0.00000E+000	4.64704E+002
Graders	4.43200E-002	5.71440E-001	1.77840E-001	6.70000E-004	1.81300E-002	1.66800E-002	0.00000E+000	5.92844E+001	5.92844E+001	1.91700E-002	0.00000E+000	5.97637E+001
Off-Highway Trucks	3.61770E-001	3.02531E+000	2.19570E+000	8.23000E-003	1.10710E-001	1.01850E-001	0.00000E+000	7.22589E+002	7.22589E+002	2.33700E-001	0.00000E+000	7.28432E+002
Other General Industrial Equipment	9.37500E-002	7.40180E-001	8.05740E-001	9.90000E-004	4.88900E-002	4.49800E-002	0.00000E+000	8.71784E+001	8.71784E+001	2.82000E-002	0.00000E+000	8.78833E+001
Rollers	9.16000E-003	9.84200E-002	1.48830E-001	2.50000E-004	4.52000E-003	4.16000E-003	0.00000E+000	2.18229E+001	2.18229E+001	7.06000E-003	0.00000E+000	2.19993E+001
Rough Terrain Forklifts	4.27900E-002	5.63290E-001	8.38610E-001	1.26000E-003	2.06600E-002	1.90100E-002	0.00000E+000	1.10835E+002	1.10835E+002	3.58500E-002	0.00000E+000	1.11731E+002
Rubber Tired Dozers	8.31900E-002	8.72220E-001	3.21000E-001	6.80000E-004	4.23300E-002	3.89400E-002	0.00000E+000	5.96696E+001	5.96696E+001	1.93000E-002	0.00000E+000	6.01520E+001
Tractors/Loaders/Bulldozers	2.64300E-002	2.60600E-001	3.58080E-001	5.20000E-004	1.39200E-002	1.28100E-002	0.00000E+000	4.55881E+001	4.55881E+001	1.47400E-002	0.00000E+000	4.59567E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.68935E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19281E-006	1.19281E-006	0.00000E+000	0.00000E+000	1.19032E-006
Bore/Drill Rigs	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18604E-006	1.18604E-006	0.00000E+000	0.00000E+000	1.20749E-006
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.79247E-007	9.79247E-007	0.00000E+000	0.00000E+000	1.30228E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21633E-006	1.21633E-006	0.00000E+000	0.00000E+000	1.20658E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16785E-006	1.16785E-006	0.00000E+000	0.00000E+000	1.15848E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	5.70832E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18455E-006	1.18455E-006	0.00000E+000	0.00000E+000	1.20507E-006
Graders	0.00000E+000	1.74993E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18075E-006	1.18075E-006	0.00000E+000	0.00000E+000	1.17128E-006
Off-Highway Trucks	0.00000E+000	0.00000E+000	4.55434E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19016E-006	1.19016E-006	0.00000E+000	0.00000E+000	1.18062E-006
Other General Industrial Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14707E-006	1.14707E-006	0.00000E+000	0.00000E+000	1.25166E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.16468E-007	9.16468E-007	0.00000E+000	0.00000E+000	9.09118E-007
Rough Terrain Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17292E-006	1.17292E-006	0.00000E+000	0.00000E+000	1.16351E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17313E-006	1.17313E-006	0.00000E+000	0.00000E+000	1.16372E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.09678E-006	1.09678E-006	0.00000E+000	0.00000E+000	1.08798E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input		
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00	
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day) 2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00	
Page 4 of 6						

No	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Access Road Improvement	Fugitive Dust	0.01	0.01	0.01	0.00	0.55	0.55
Access Road Improvement	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Complete Outlet Yard Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Complete Outlet Yard Construction	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Construct Intake/Air Vent	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Construct Intake/Air Vent	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Construct NCP Bypass	Fugitive Dust	0.18	0.09	0.08	0.04	0.55	0.55
Construct NCP Bypass	Roads	0.02	0.00	0.02	0.00	0.00	0.00
Decommission Existing Outlet	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Decommission Existing Outlet	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Develop Staging Areas	Fugitive Dust	0.03	0.02	0.01	0.01	0.55	0.55
Develop Staging Areas	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Dredge and Drill Shafts	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Dredge and Drill Shafts	Roads	0.02	0.00	0.02	0.00	0.00	0.00
Electrical Controls Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Electrical Controls Installation	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grade Portal Platform	Fugitive Dust	0.17	0.09	0.08	0.04	0.55	0.55
Grade Portal Platform	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Inlet Control House	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Inlet Control House	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Inlet/Outlet Conduit/Backfill Tunnel	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Inlet/Outlet Conduit/Backfill Tunnel	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Install Boat Launch/Silt Curtain	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00

Install Boat Launch/Silt Curtain	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Install Culvert Bridge	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Install Culvert Bridge	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Mobilization	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Mobilization	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Perform Start-Up Testing	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Perform Start-Up Testing	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Start Outlet Yard Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Start Outlet Yard Construction	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Tunnel Excavation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Excavation	Roads	0.05	0.01	0.05	0.01	0.00	0.00

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Main Engine Emission Rates

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Newell Creek Dam Inlet/Outlet Replacement Project Construction Energy Demand

Construction Worker Gasoline Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	170	1.38	9.13	150.65
Develop Staging Areas	0	0.00	9.13	0.00
Construct NCP Bypass	1,496	12.10	9.13	1,325.72
Install Boat Launch/Silt Curtain	680	5.50	9.13	602.61
Dredge and Drill Shafts	1,870	15.13	9.13	1,657.15
Access Road Improvement	102	0.83	9.13	90.39
Grade Portal Platform	0	0.00	9.13	0.00
Install Culvert Bridge	1,292	10.45	9.13	1,144.94
Construct Intake/Air Vent	0	0.00	9.13	0.00
Tunnel Excavation	5,100	40.75	9.13	4,463.03
Inlet Control House	0	0.00	9.13	0.00
Inlet/Outlet Conduit/Backfill Tunnel	2,550	19.92	9.13	2,181.31
Start Outlet Yard Construction	1,360	10.62	9.13	1,163.37
Complete Outlet Yard Construction	680	5.31	9.13	581.69
Electrical Controls Installation	510	3.98	9.13	436.27
Perform Start-Up Testing	850	6.64	9.13	727.11
Decommission Existing Outlet	1,360	4.51	9.13	494.44
Total				15,018.67

Construction Vendor Diesel Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	20	0.37	10.21	36.09
Develop Staging Areas	0	0.00	10.21	0.00
Construct NCP Bypass	176	3.24	10.21	317.61
Install Boat Launch/Silt Curtain	80	1.47	10.21	144.37
Dredge and Drill Shafts	220	4.05	10.21	397.01
Access Road Improvement	12	0.22	10.21	21.66
Grade Portal Platform	56	1.03	10.21	101.06
Install Culvert Bridge	152	2.80	10.21	274.30
Construct Intake/Air Vent	330	6.07	10.21	594.62
Tunnel Excavation	900	16.53	10.21	1,619.28
Inlet Control House	120	2.19	10.21	214.75
Inlet/Outlet Conduit/Backfill Tunnel	450	8.22	10.21	805.32
Start Outlet Yard Construction	240	4.39	10.21	429.50
Complete Outlet Yard Construction	120	2.19	10.21	214.75
Electrical Controls Installation	60	1.10	10.21	107.38
Perform Start-Up Testing	100	1.83	10.21	178.96
Decommission Existing Outlet	240	1.86	10.21	182.54
Total				5,639.19

Construction Haul Diesel Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	0	0.00	10.21	0.00
Develop Staging Areas	200	8.48	10.21	830.36
Construct NCP Bypass	176	7.46	10.21	730.72
Install Boat Launch/Silt Curtain	24	1.35	10.21	132.51
Dredge and Drill Shafts	0	0.00	10.21	0.00
Access Road Improvement	20	0.85	10.21	83.04
Grade Portal Platform	346	14.67	10.21	1,436.53
Install Culvert Bridge	6	0.34	10.21	33.12
Construct Intake/Air Vent	0	0.00	10.21	0.00
Tunnel Excavation	0	0.00	10.21	0.00
Inlet Control House	0	0.00	10.21	0.00
Inlet/Outlet Conduit/Backfill Tunnel	0	0.00	10.21	0.00
Start Outlet Yard Construction	0	0.00	10.21	0.00
Complete Outlet Yard Construction	0	0.00	10.21	0.00
Electrical Controls Installation	0	0.00	10.21	0.00
Perform Start-Up Testing	0	0.00	10.21	0.00
Decommission Existing Outlet	0	0.00	10.21	0.00
Total				3,246.29

Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO ₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	3	5.68	10.21	556.65
Develop Staging Areas	11	22.72	10.21	2,225.05
Construct NCP Bypass	10	170.62	10.21	16,710.81
Install Boat Launch/Silt Curtain	10	85.91	10.21	8,414.07
Dredge and Drill Shafts	6	151.98	10.21	14,885.87
Access Road Improvement	9	10.48	10.21	1,025.97
Grade Portal Platform	14	114.28	10.21	11,192.77
Install Culvert Bridge	8	101.48	10.21	9,939.17
Construct Intake/Air Vent	7	360.88	10.21	35,345.67
Tunnel Excavation	9	923.00	10.21	90,401.24
Inlet Control House	8	62.30	10.21	6,102.26
Inlet/Outlet Conduit/Backfill Tunnel	10	102.99	10.21	10,086.73
Start Outlet Yard Construction	11	94.68	10.21	9,273.71
Complete Outlet Yard Construction	10	66.27	10.21	6,490.44
Electrical Controls Installation	7	22.31	10.21	2,184.93
Perform Start-Up Testing	1	7.99	10.21	782.11
Decommission Existing Outlet	4	22.10	10.21	2,164.87
Total				227,782.33

Construction Boat Diesel Demand

Phase	No. of Boats	Boat CO₂ (MT)	Kg CO2/Gallon	Gallons
Mobilization	0	0	10.21	0.00
Develop Staging Areas	0	0	10.21	0.00
Construct NCP Bypass	0	0	10.21	0.00
Install Boat Launch/Silt Curtain	0	0	10.21	0.00
Dredge and Drill Shafts	2	60	10.21	5,896.55
Access Road Improvement	0	0	10.21	0.00
Grade Portal Platform	0	0	10.21	0.00
Install Culvert Bridge	0	0	10.21	0.00
Construct Intake/Air Vent	2	181	10.21	17,689.64
Tunnel Excavation	0	0	10.21	0.00
Inlet Control House	0	0	10.21	0.00
Inlet/Outlet Conduit/Backfill Tunnel	0	0	10.21	0.00
Start Outlet Yard Construction	0	0	10.21	0.00
Complete Outlet Yard Construction	0	0	10.21	0.00
Electrical Controls Installation	0	0	10.21	0.00
Perform Start-Up Testing	0	0	10.21	0.00
Decommission Existing Outlet	0	0	10.21	0.00
Total				23,586.19

Newell Creek Dam Inlet/Outlet Replacement Project Construction CO2 Emissions

Phase Number	Phase Name	Equipment CO2 MT/yr	Hauling CO2 MT/yr	Vendor CO2 MT/yr	Worker CO2 MT/yr
1	Mobilization	5.6834	0	0.3685	1.3754
2	Develop Staging Areas	22.7178	8.478	0	0
3	Construct NCP Bypass	170.6174	7.4607	3.2428	12.1038
4	Install Boat Launch/Silt Curtain	85.9077	1.3529	1.474	5.5018
5	Dredge and Drill Shafts	151.9847	0	4.0535	15.1298
6	Access Road Improvement	10.4752	0.8478	0.2211	0.8253
7	Grade Portal Platform	114.2782	14.667	1.0318	0
8	Install Culvert Bridge	101.4789	0.3382	2.8006	10.4533
9	Construct Intake/Air Vent - 2021	295.2648	0	4.9748	0
	Construct Intake/Air Vent - 2022	65.6145	0	1.0963	0
10	Tunnel Excavation - 2021	590.2502	0	10.6128	26.4084
	Tunnel Excavation - 2022	332.7465	0	5.92	14.3391
11	Inlet Control House	62.3041	0	2.1926	0
12	Inlet/Outlet Conduit/Backfill Tunnel	102.9855	0	8.2223	19.9154
13	Start Outlet Yard Construction	94.6846	0	4.3852	10.6216
14	Complete Outlet Yard Construction	66.2674	0	2.1926	5.3108
15	Electrical Controls Installation	22.3081	0	1.0963	3.9831
16	Perform Start-Up Testing	7.9853	0	1.8272	6.6385
17	Decommission Existing Outlet	22.1033	0	1.8637	4.5142

*These values are from the CalEEMod - Annual outputs

Newell Creek Dam Inlet/Outlet Replacement Project Boat CO2 Emission Results

Phase	Boat	Work Days	Hrs/day	CO2 lb/hr	CO2 lb/day	CO2 MT per phase
Dredge and Drill Shafts	Crew	55	10	19.806	198.06	4.941116917
	Push	55	10	221.515	2215.15	55.26262313
Construct Intake/Air Vent	Crew	165	10	19.806	198.06	14.82335075
	Push	165	10	221.515	2215.15	165.7878694

*These values are from the SMAQMD Harborcraft, Dredge, and Barge Emission Factor Calculator outputs

Newell Creek Dam Inlet/Outlet Construction - Accelerated - Santa Cruz County, Summer

Newell Creek Dam Inlet/Outlet Construction - Accelerated
Santa Cruz County, Summer**1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.15	1000sqft	4.00	150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	499.66	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling Construction Only - Accelerated Schedule

Land Use - Dam crest control building. Non-submerged disturbed area estimated at 4 acres

Construction Phase - Construction phases and accelerated schedule provided by AECOM

Off-road Equipment - Equipment list adjusted to match information provided by AECOM

Trips and VMT - Based on information from AECOM

Grading - Material cut and import/export provided by AECOM

Construction Off-road Equipment Mitigation - Water exposed areas 2x per day and limit vehicle speeds on unpaved roads to 15 mph

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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	16.8691	169.3216	110.8477	0.3351	26.6222	6.4940	32.0066	13.9044	6.0154	19.3868	0.0000	32,530.6098	32,530.6098	9.4187	0.0000	32,766.0778
2022	6.0304	57.6167	53.3986	0.1403	1.1175	2.2030	3.3205	0.2983	2.0634	2.3617	0.0000	13,574.9353	13,574.9353	3.4765	0.0000	13,661.8469
Maximum	16.8691	169.3216	110.8477	0.3351	26.6222	6.4940	32.0066	13.9044	6.0154	19.3868	0.0000	32,530.6098	32,530.6098	9.4187	0.0000	32,766.0778

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	lb/day										lb/day					
2021	16.8691	169.3216	110.8477	0.3351	13.2763	6.4940	18.6003	6.6071	6.0154	12.0861	0.0000	32,530.6098	32,530.6098	9.4187	0.0000	32,766.0777
2022	6.0304	57.6167	53.3986	0.1403	1.1175	2.2030	3.3205	0.2983	2.0634	2.3617	0.0000	13,574.9352	13,574.9352	3.4765	0.0000	13,661.8469
Maximum	16.8691	169.3216	110.8477	0.3351	13.2763	6.4940	18.6003	6.6071	6.0154	12.0861	0.0000	32,530.6098	32,530.6098	9.4187	0.0000	32,766.0777

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.11	0.00	37.95	51.38	0.00	33.57	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	Mobilization	Site Preparation	2/26/2021	3/2/2021	5	3	
2	Develop Staging Areas	Site Preparation	3/3/2021	3/5/2021	5	3	
3	Construct NCP Bypass	Grading	3/8/2021	4/14/2021	5	28	
4	Install Boat Launch/Silt Curtain	Building Construction	3/8/2021	3/24/2021	5	13	
5	Dredge and Drill Shafts	Building Construction	3/25/2021	5/11/2021	5	34	
6	Access Road Improvement	Grading	4/15/2021	4/16/2021	5	2	
7	Grade Portal Platform	Grading	4/17/2021	5/12/2021	5	18	
8	Install Culvert Bridge	Building Construction	5/13/2021	6/15/2021	5	24	
9	Construct Intake/Air Vent	Building Construction	5/13/2021	10/4/2021	5	103	
10	Tunnel Excavation	Building Construction	9/1/2021	11/26/2021	5	63	
11	Inlet Control House	Building Construction	10/18/2021	11/26/2021	5	30	
12	Inlet/Outlet Conduit/Backfill Tunnel	Building Construction	11/27/2021	1/10/2022	5	31	
13	Start Outlet Yard Construction	Building Construction	1/11/2022	2/14/2022	5	25	
14	Complete Outlet Yard Construction	Building Construction	2/15/2022	3/3/2022	5	13	
15	Electrical Controls Installation	Building Construction	3/4/2022	3/16/2022	5	9	
16	Perform Start-Up Testing	Building Construction	3/17/2022	4/7/2022	5	16	
17	Decommission Existing Outlet	Building Construction	4/8/2022	5/12/2022	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Off-Highway Trucks	1	16.00	464	0.38
Mobilization	Rough Terrain Forklifts	1	16.00	97	0.40

Mobilization	Rubber Tired Dozers	0	0.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Develop Staging Areas	Cranes	1	16.00	231	0.29
Develop Staging Areas	Excavators	1	16.00	308	0.38
Develop Staging Areas	Off-Highway Trucks	3	16.00	464	0.38
Develop Staging Areas	Off-Highway Trucks	2	8.00	402	0.38
Develop Staging Areas	Rubber Tired Dozers	2	16.00	228	0.40
Develop Staging Areas	Tractors/Loaders/Backhoes	2	16.00	130	0.37
Construct NCP Bypass	Cranes	1	16.00	231	0.29
Construct NCP Bypass	Excavators	1	16.00	345	0.38
Construct NCP Bypass	Graders	1	16.00	240	0.41
Construct NCP Bypass	Off-Highway Trucks	2	16.00	464	0.38
Construct NCP Bypass	Off-Highway Trucks	1	8.00	402	0.38
Construct NCP Bypass	Rollers	1	8.00	156	0.38
Construct NCP Bypass	Rough Terrain Forklifts	1	16.00	97	0.40
Construct NCP Bypass	Rubber Tired Dozers	1	16.00	228	0.40
Construct NCP Bypass	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Install Boat Launch/Silt Curtain	Cranes	1	16.00	231	0.29
Install Boat Launch/Silt Curtain	Excavators	1	16.00	308	0.38
Install Boat Launch/Silt Curtain	Forklifts	0	0.00	89	0.20
Install Boat Launch/Silt Curtain	Generator Sets	1	24.00	84	0.74
Install Boat Launch/Silt Curtain	Graders	1	16.00	240	0.41
Install Boat Launch/Silt Curtain	Off-Highway Trucks	2	16.00	464	0.38
Install Boat Launch/Silt Curtain	Off-Highway Trucks	1	8.00	402	0.38
Install Boat Launch/Silt Curtain	Rollers	1	8.00	156	0.38
Install Boat Launch/Silt Curtain	Rough Terrain Forklifts	1	16.00	97	0.40
Install Boat Launch/Silt Curtain	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Install Boat Launch/Silt Curtain	Welders	0	0.00	46	0.45
Dredge and Drill Shafts	Air Compressors	1	16.00	50	0.48
Dredge and Drill Shafts	Bore/Drill Rigs	1	16.00	221	0.50
Dredge and Drill Shafts	Cranes	1	16.00	231	0.29
Dredge and Drill Shafts	Excavators	1	16.00	158	0.38

Dredge and Drill Shafts	Forklifts	0	0.00	89	0.20
Dredge and Drill Shafts	Generator Sets	0	0.00	84	0.74
Dredge and Drill Shafts	Generator Sets	1	16.00	335	0.74
Dredge and Drill Shafts	Other General Industrial Equipment	1	16.00	50	0.34
Dredge and Drill Shafts	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Dredge and Drill Shafts	Welders	0	0.00	46	0.45
Access Road Improvement	Excavators	1	16.00	308	0.38
Access Road Improvement	Graders	1	16.00	240	0.41
Access Road Improvement	Off-Highway Trucks	2	16.00	464	0.38
Access Road Improvement	Off-Highway Trucks	1	8.00	402	0.38
Access Road Improvement	Rollers	1	8.00	156	0.38
Access Road Improvement	Rough Terrain Forklifts	1	16.00	97	0.40
Access Road Improvement	Rubber Tired Dozers	1	10.00	228	0.40
Access Road Improvement	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Grade Portal Platform	Cement and Mortar Mixers	4	16.00	9	0.56
Grade Portal Platform	Cranes	1	16.00	231	0.29
Grade Portal Platform	Excavators	0	0.00	158	0.38
Grade Portal Platform	Graders	0	0.00	187	0.41
Grade Portal Platform	Off-Highway Trucks	3	16.00	464	0.38
Grade Portal Platform	Off-Highway Trucks	2	8.00	402	0.38
Grade Portal Platform	Rubber Tired Dozers	2	16.00	228	0.40
Grade Portal Platform	Tractors/Loaders/Backhoes	2	16.00	130	0.37
Install Culvert Bridge	Cranes	1	16.00	231	0.29
Install Culvert Bridge	Excavators	1	16.00	308	0.38
Install Culvert Bridge	Forklifts	0	0.00	89	0.20
Install Culvert Bridge	Generator Sets	0	0.00	84	0.74
Install Culvert Bridge	Off-Highway Trucks	1	16.00	464	0.38
Install Culvert Bridge	Rollers	1	8.00	156	0.38
Install Culvert Bridge	Rough Terrain Forklifts	2	16.00	97	0.40
Install Culvert Bridge	Rubber Tired Dozers	1	16.00	228	0.40
Install Culvert Bridge	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Install Culvert Bridge	Welders	0	0.00	46	0.45

Construct Intake/Air Vent	Air Compressors	1	16.00	50	0.48
Construct Intake/Air Vent	Cement and Mortar Mixers	2	16.00	9	0.56
Construct Intake/Air Vent	Cranes	1	16.00	231	0.29
Construct Intake/Air Vent	Forklifts	0	0.00	89	0.20
Construct Intake/Air Vent	Generator Sets	0	0.00	84	0.74
Construct Intake/Air Vent	Generator Sets	1	16.00	335	0.74
Construct Intake/Air Vent	Other General Industrial Equipment	1	16.00	50	0.34
Construct Intake/Air Vent	Rough Terrain Forklifts	1	16.00	97	0.40
Construct Intake/Air Vent	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Construct Intake/Air Vent	Welders	0	0.00	46	0.45
Tunnel Excavation	Air Compressors	2	24.00	78	0.48
Tunnel Excavation	Bore/Drill Rigs	1	24.00	512	0.50
Tunnel Excavation	Cement and Mortar Mixers	1	24.00	9	0.56
Tunnel Excavation	Cranes	0	0.00	231	0.29
Tunnel Excavation	Forklifts	0	0.00	89	0.20
Tunnel Excavation	Generator Sets	1	24.00	84	0.74
Tunnel Excavation	Off-Highway Trucks	2	24.00	464	0.38
Tunnel Excavation	Other General Industrial Equipment	2	24.00	88	0.34
Tunnel Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Tunnel Excavation	Welders	0	0.00	46	0.45
Inlet Control House	Cement and Mortar Mixers	2	8.00	9	0.56
Inlet Control House	Cranes	1	8.00	231	0.29
Inlet Control House	Excavators	1	8.00	308	0.38
Inlet Control House	Forklifts	0	0.00	89	0.20
Inlet Control House	Generator Sets	0	0.00	84	0.74
Inlet Control House	Graders	1	8.00	240	0.41
Inlet Control House	Off-Highway Trucks	1	8.00	464	0.38
Inlet Control House	Rough Terrain Forklifts	1	8.00	97	0.40
Inlet Control House	Tractors/Loaders/Backhoes	1	8.00	61	0.37
Inlet Control House	Welders	0	0.00	46	0.45
Inlet/Outlet Conduit/Backfill Tunnel	Air Compressors	2	24.00	78	0.48
Inlet/Outlet Conduit/Backfill Tunnel	Cement and Mortar Mixers	4	10.00	9	0.56

Inlet/Outlet Conduit/Backfill Tunnel	Cranes	0	0.00	231	0.29
Inlet/Outlet Conduit/Backfill Tunnel	Forklifts	0	0.00	89	0.20
Inlet/Outlet Conduit/Backfill Tunnel	Generator Sets	1	24.00	84	0.74
Inlet/Outlet Conduit/Backfill Tunnel	Rough Terrain Forklifts	2	24.00	97	0.40
Inlet/Outlet Conduit/Backfill Tunnel	Tractors/Loaders/Backhoes	1	24.00	61	0.37
Inlet/Outlet Conduit/Backfill Tunnel	Welders	0	0.00	46	0.45
Start Outlet Yard Construction	Cement and Mortar Mixers	2	4.00	9	0.56
Start Outlet Yard Construction	Cranes	1	16.00	231	0.29
Start Outlet Yard Construction	Excavators	1	16.00	308	0.38
Start Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Start Outlet Yard Construction	Generator Sets	1	16.00	84	0.74
Start Outlet Yard Construction	Graders	1	8.00	240	0.41
Start Outlet Yard Construction	Off-Highway Trucks	1	8.00	464	0.38
Start Outlet Yard Construction	Rollers	1	8.00	156	0.38
Start Outlet Yard Construction	Rough Terrain Forklifts	2	16.00	97	0.40
Start Outlet Yard Construction	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Start Outlet Yard Construction	Welders	0	0.00	46	0.45
Complete Outlet Yard Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Complete Outlet Yard Construction	Cranes	1	16.00	231	0.29
Complete Outlet Yard Construction	Excavators	1	16.00	308	0.38
Complete Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Complete Outlet Yard Construction	Generator Sets	1	24.00	84	0.74
Complete Outlet Yard Construction	Graders	1	16.00	240	0.41
Complete Outlet Yard Construction	Off-Highway Trucks	1	16.00	464	0.38
Complete Outlet Yard Construction	Rollers	1	16.00	156	0.38
Complete Outlet Yard Construction	Rough Terrain Forklifts	2	16.00	97	0.40
Complete Outlet Yard Construction	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Complete Outlet Yard Construction	Welders	0	0.00	46	0.45
Electrical Controls Installation	Cranes	1	16.00	231	0.29
Electrical Controls Installation	Excavators	1	8.00	308	0.38
Electrical Controls Installation	Forklifts	0	0.00	89	0.20
Electrical Controls Installation	Generator Sets	2	16.00	84	0.74

Electrical Controls Installation	Rough Terrain Forklifts	2	8.00	97	0.40
Electrical Controls Installation	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Electrical Controls Installation	Welders	0	0.00	46	0.45
Perform Start-Up Testing	Cranes	1	16.00	231	0.29
Perform Start-Up Testing	Forklifts	0	0.00	89	0.20
Perform Start-Up Testing	Generator Sets	0	0.00	84	0.74
Perform Start-Up Testing	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Perform Start-Up Testing	Welders	0	0.00	46	0.45
Decommission Existing Outlet	Cement and Mortar Mixers	1	16.00	9	0.56
Decommission Existing Outlet	Cranes	1	16.00	231	0.29
Decommission Existing Outlet	Forklifts	0	0.00	89	0.20
Decommission Existing Outlet	Generator Sets	0	0.00	84	0.74
Decommission Existing Outlet	Off-Highway Trucks	1	16.00	464	0.38
Decommission Existing Outlet	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Decommission Existing Outlet	Welders	0	0.00	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
Mobilization	3	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Develop Staging Areas	11	54.00	6.00	200.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construct NCP Runway	10	54.00	6.00	176.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Boat Launch/Silt Curtain	10	0.00	0.00	24.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Dredge and Drill Shafts	6	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Access Road Improvement	9	54.00	6.00	20.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Grade Portal Platform	14	54.00	6.00	346.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Culvert Bridge	8	54.00	6.00	6.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Construct Intake/Air Vent	7	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Tunnel Excavation	9	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet Control House	8	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet/Outlet Conduit/Backfill	10	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

Start Outlet Yard	11	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Complete Outlet Yard	10	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Electrical Controls	7	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Perform Start-Up	1	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Decommission	4	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.8733	17.6625	15.6139	0.0411		0.7074	0.7074		0.6508	0.6508		3,977.3803	3,977.3803	1.2864		4,009.5394
Total	1.8733	17.6625	15.6139	0.0411	0.0000	0.7074	0.7074	0.0000	0.6508	0.6508		3,977.3803	3,977.3803	1.2864		4,009.5394

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	lb/day										lb/day					
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
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416

Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4553	1.2761	4.1880	0.0125	1.0870	0.0113	1.0983	0.2896	0.0105	0.3001		1,254.6923	1,254.6923	0.0462		1,255.8476

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.8733	17.6625	15.6139	0.0411		0.7074	0.7074		0.6508	0.6508	0.0000	3,977.3803	3,977.3803	1.2864		4,009.5394
Total	1.8733	17.6625	15.6139	0.0411	0.0000	0.7074	0.7074	0.0000	0.6508	0.6508	0.0000	3,977.3803	3,977.3803	1.2864		4,009.5394

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	lb/day										lb/day					
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
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4553	1.2761	4.1880	0.0125	1.0870	0.0113	1.0983	0.2896	0.0105	0.3001		1,254.6923	1,254.6923	0.0462		1,255.8476

3.3 Develop Staging Areas - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.2653	0.0000	24.2653	13.2677	0.0000	13.2677			0.0000			0.0000
Off-Road	11.4373	109.6814	66.0232	0.1973		4.6201	4.6201		4.2505	4.2505		19,108.89 28	19,108.89 28	6.1802		19,263.39 79
Total	11.4373	109.6814	66.0232	0.1973	24.2653	4.6201	28.8854	13.2677	4.2505	17.5182		19,108.89 28	19,108.89 28	6.1802		19,263.39 79

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	lb/day										lb/day					
Hauling	0.5426	22.2967	5.0110	0.0585	1.2699	0.0902	1.3602	0.3471	0.0863	0.4334		6,256.488 3	6,256.488 3	0.2439		6,262.584 7
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.655 3	1,009.655 3	0.0380		1,010.606 1
Total	0.9979	23.5727	9.1990	0.0709	2.3569	0.1015	2.4584	0.6367	0.0968	0.7335		7,511.180 6	7,511.180 6	0.2901		7,518.432 3

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	lb/day										lb/day					
Fugitive Dust					10.9194	0.0000	10.9194	5.9705	0.0000	5.9705			0.0000			0.0000

Off-Road	11.4373	109.6814	66.0232	0.1973		4.6201	4.6201		4.2505	4.2505	0.0000	19,108.89 28	19,108.89 28	6.1802		19,263.39 79
Total	11.4373	109.6814	66.0232	0.1973	10.9194	4.6201	15.5395	5.9705	4.2505	10.2210	0.0000	19,108.89 28	19,108.89 28	6.1802		19,263.39 79

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	lb/day										lb/day					
Hauling	0.5426	22.2967	5.0110	0.0585	1.2699	0.0902	1.3602	0.3471	0.0863	0.4334		6,256.488 3	6,256.488 3	0.2439		6,262.584 7
Vendor	0.0268	0.9008	0.2304	2.3100e- 003	0.0609	3.3400e- 003	0.0642	0.0175	3.1900e- 003	0.0207		245.0370	245.0370	8.1800e- 003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e- 003	1.0341	0.2721	7.3100e- 003	0.2794		1,009.655 3	1,009.655 3	0.0380		1,010.606 1
Total	0.9979	23.5727	9.1990	0.0709	2.3569	0.1015	2.4584	0.6367	0.0968	0.7335		7,511.180 6	7,511.180 6	0.2901		7,518.432 3

3.4 Construct NCP Bypass - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1024	0.0000	13.1024	6.7355	0.0000	6.7355			0.0000			0.0000
Off-Road	8.6128	87.9738	51.3632	0.1568		3.4603	3.4603		3.1835	3.1835		15,182.65 36	15,182.65 36	4.9104		15,305.41 31
Total	8.6128	87.9738	51.3632	0.1568	13.1024	3.4603	16.5627	6.7355	3.1835	9.9189		15,182.65 36	15,182.65 36	4.9104		15,305.41 31

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	lb/day										lb/day					
Hauling	0.0512	2.1023	0.4725	5.5100e-003	0.1197	8.5100e-003	0.1282	0.0327	8.1400e-003	0.0409		589.8975	589.8975	0.0230		590.4723
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.5065	3.3783	4.6604	0.0180	1.2068	0.0198	1.2265	0.3223	0.0186	0.3410		1,844.5897	1,844.5897	0.0692		1,846.3199

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	lb/day										lb/day					
Fugitive Dust					5.8961	0.0000	5.8961	3.0310	0.0000	3.0310			0.0000			0.0000
Off-Road	8.6128	87.9738	51.3632	0.1568		3.4603	3.4603		3.1835	3.1835	0.0000	15,182.6536	15,182.6536	4.9104		15,305.4130
Total	8.6128	87.9738	51.3632	0.1568	5.8961	3.4603	9.3564	3.0310	3.1835	6.2144	0.0000	15,182.6536	15,182.6536	4.9104		15,305.4130

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	lb/day										lb/day					
Hauling	0.0512	2.1023	0.4725	5.5100e-003	0.1197	8.5100e-003	0.1282	0.0327	8.1400e-003	0.0409		589.8975	589.8975	0.0230		590.4723

Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.5065	3.3783	4.6604	0.0180	1.2068	0.0198	1.2265	0.3223	0.0186	0.3410		1,844.5897	1,844.5897	0.0692		1,846.3199

3.5 Install Boat Launch/Silt Curtain - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101		15,273.2602	15,273.2602	4.4306		15,384.0241
Total	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101		15,273.2602	15,273.2602	4.4306		15,384.0241

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	lb/day										lb/day					
Hauling	0.0194	0.7776	0.1798	2.1500e-003	0.0479	3.3500e-003	0.0513	0.0131	3.2000e-003	0.0163		230.1063	230.1063	8.5800e-003		230.3207
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0194	0.7776	0.1798	2.1500e-003	0.0479	3.3500e-003	0.0513	0.0131	3.2000e-003	0.0163		230.1063	230.1063	8.5800e-003		230.3207

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	lb/day										lb/day					
Off-Road	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101	0.0000	15,273.2602	15,273.2602	4.4306		15,384.0240
Total	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101	0.0000	15,273.2602	15,273.2602	4.4306		15,384.0240

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	lb/day										lb/day					
Hauling	0.0194	0.7776	0.1798	2.1500e-003	0.0479	3.3500e-003	0.0513	0.0131	3.2000e-003	0.0163		230.1063	230.1063	8.5800e-003		230.3207
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0194	0.7776	0.1798	2.1500e-003	0.0479	3.3500e-003	0.0513	0.0131	3.2000e-003	0.0163		230.1063	230.1063	8.5800e-003		230.3207

3.6 Dredge and Drill Shafts - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817		9,708.0618	9,708.0618	1.5759		9,747.4583

Total	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817		9,708.0618	9,708.0618	1.5759		9,747.4583

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	lb/day										lb/day					
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
Vendor	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208

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	lb/day										lb/day					
Off-Road	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817	0.0000	9,708.0618	9,708.0618	1.5759		9,747.4583
Total	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817	0.0000	9,708.0618	9,708.0618	1.5759		9,747.4583

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	lb/day										lb/day					
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
Vendor	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208

3.7 Access Road Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.5510	0.0000	8.5510	4.2494	0.0000	4.2494			0.0000			0.0000
Off-Road	6.9917	70.0191	44.0626	0.1370		2.6758	2.6758		2.4617	2.4617		13,259.4871	13,259.4871	4.2884		13,366.6967
Total	6.9917	70.0191	44.0626	0.1370	8.5510	2.6758	11.2268	4.2494	2.4617	6.7112		13,259.4871	13,259.4871	4.2884		13,366.6967

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	lb/day										lb/day					
Hauling	0.0814	3.3445	0.7517	8.7700e-003	0.1905	0.0135	0.2040	0.0521	0.0130	0.0650		938.4733	938.4733	0.0366		939.3877

Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.5367	4.6206	4.9396	0.0212	1.2775	0.0248	1.3023	0.3417	0.0235	0.3651		2,193.1655	2,193.1655	0.0828		2,195.2353

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	lb/day										lb/day					
Fugitive Dust					3.8480	0.0000	3.8480	1.9123	0.0000	1.9123			0.0000			0.0000
Off-Road	6.9917	70.0191	44.0626	0.1370		2.6758	2.6758		2.4617	2.4617	0.0000	13,259.4870	13,259.4870	4.2884		13,366.6967
Total	6.9917	70.0191	44.0626	0.1370	3.8480	2.6758	6.5237	1.9123	2.4617	4.3740	0.0000	13,259.4870	13,259.4870	4.2884		13,366.6967

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	lb/day										lb/day					
Hauling	0.0814	3.3445	0.7517	8.7700e-003	0.1905	0.0135	0.2040	0.0521	0.0130	0.0650		938.4733	938.4733	0.0366		939.3877
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.5367	4.6206	4.9396	0.0212	1.2775	0.0248	1.3023	0.3417	0.0235	0.3651		2,193.1655	2,193.1655	0.0828		2,195.2353

3.8 Grade Portal Platform - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.3750	0.0000	24.3750	13.2741	0.0000	13.2741			0.0000			0.0000
Off-Road	11.3172	107.1289	63.9993	0.1830		4.5506	4.5506		4.1957	4.1957		17,574.23 21	17,574.23 21	5.5951		17,714.11 00
Total	11.3172	107.1289	63.9993	0.1830	24.3750	4.5506	28.9256	13.2741	4.1957	17.4698		17,574.23 21	17,574.23 21	5.5951		17,714.11 00

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	lb/day										lb/day					
Hauling	0.1565	6.4289	1.4448	0.0169	0.3662	0.0260	0.3922	0.1001	0.0249	0.1250		1,803.954 1	1,803.954 1	0.0703		1,805.711 9
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.655 3	1,009.655 3	0.0380		1,010.606 1
Total	0.6117	7.7049	5.6328	0.0293	1.4532	0.0373	1.4905	0.3897	0.0354	0.4251		3,058.646 4	3,058.646 4	0.1165		3,061.559 6

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	lb/day										lb/day					
Fugitive Dust					10.9688	0.0000	10.9688	5.9733	0.0000	5.9733			0.0000			0.0000

Off-Road	11.3172	107.1289	63.9993	0.1830		4.5506	4.5506		4.1957	4.1957	0.0000	17,574.23 21	17,574.23 21	5.5951		17,714.11 00
Total	11.3172	107.1289	63.9993	0.1830	10.9688	4.5506	15.5194	5.9733	4.1957	10.1691	0.0000	17,574.23 21	17,574.23 21	5.5951		17,714.11 00

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	lb/day										lb/day					
Hauling	0.1565	6.4289	1.4448	0.0169	0.3662	0.0260	0.3922	0.1001	0.0249	0.1250		1,803.954 1	1,803.954 1	0.0703		1,805.711 9
Vendor	0.0268	0.9008	0.2304	2.3100e- 003	0.0609	3.3400e- 003	0.0642	0.0175	3.1900e- 003	0.0207		245.0370	245.0370	8.1800e- 003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e- 003	1.0341	0.2721	7.3100e- 003	0.2794		1,009.655 3	1,009.655 3	0.0380		1,010.606 1
Total	0.6117	7.7049	5.6328	0.0293	1.4532	0.0373	1.4905	0.3897	0.0354	0.4251		3,058.646 4	3,058.646 4	0.1165		3,061.559 6

3.9 Install Culvert Bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918		9,702.045 4	9,702.045 4	3.1378		9,780.491 4
Total	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918		9,702.045 4	9,702.045 4	3.1378		9,780.491 4

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	lb/day										lb/day					
Hauling	2.6200e-003	0.1053	0.0243	2.9000e-004	6.4900e-003	4.5000e-004	6.9500e-003	1.7700e-003	4.3000e-004	2.2100e-003		31.1602	31.1602	1.1600e-003		31.1893
Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4579	1.3814	4.2123	0.0127	1.0935	0.0117	1.1052	0.2914	0.0109	0.3023		1,285.8525	1,285.8525	0.0474		1,287.0369

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	lb/day										lb/day					
Off-Road	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918	0.0000	9,702.0454	9,702.0454	3.1378		9,780.4914
Total	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918	0.0000	9,702.0454	9,702.0454	3.1378		9,780.4914

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	lb/day										lb/day					
Hauling	2.6200e-003	0.1053	0.0243	2.9000e-004	6.4900e-003	4.5000e-004	6.9500e-003	1.7700e-003	4.3000e-004	2.2100e-003		31.1602	31.1602	1.1600e-003		31.1893

Vendor	0.0268	0.9008	0.2304	2.3100e-003	0.0609	3.3400e-003	0.0642	0.0175	3.1900e-003	0.0207		245.0370	245.0370	8.1800e-003		245.2416
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4579	1.3814	4.2123	0.0127	1.0935	0.0117	1.1052	0.2914	0.0109	0.3023		1,285.8525	1,285.8525	0.0474		1,287.0369

3.10 Construct Intake/Air Vent - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896		7,733.1307	7,733.1307	0.8928		7,755.4495
Total	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896		7,733.1307	7,733.1307	0.8928		7,755.4495

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	lb/day										lb/day					
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
Vendor	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208

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	lb/day										lb/day					
Off-Road	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896	0.0000	7,733.1307	7,733.1307	0.8928		7,755.4495
Total	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896	0.0000	7,733.1307	7,733.1307	0.8928		7,755.4495

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	lb/day										lb/day					
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
Vendor	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208

3.11 Tunnel Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901		21,036.0897	21,036.0897	5.6874		21,178.2747

Total	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901		21,036.08 97	21,036.08 97	5.6874		21,178.27 47

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	lb/day										lb/day					
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
Vendor	0.0401	1.3513	0.3456	3.4700e-003	0.0913	5.0100e-003	0.0963	0.0262	4.7900e-003	0.0310		367.5555	367.5555	0.0123		367.8624
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4687	1.7265	4.3032	0.0136	1.1174	0.0129	1.1304	0.2983	0.0121	0.3104		1,377.2108	1,377.2108	0.0503		1,378.4684

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	lb/day										lb/day					
Off-Road	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901	0.0000	21,036.08 97	21,036.08 97	5.6874		21,178.27 47
Total	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901	0.0000	21,036.08 97	21,036.08 97	5.6874		21,178.27 47

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	lb/day										lb/day					
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
Vendor	0.0401	1.3513	0.3456	3.4700e-003	0.0913	5.0100e-003	0.0963	0.0262	4.7900e-003	0.0310		367.5555	367.5555	0.0123		367.8624
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4687	1.7265	4.3032	0.0136	1.1174	0.0129	1.1304	0.2983	0.0121	0.3104		1,377.2108	1,377.2108	0.0503		1,378.4684

3.12 Inlet Control House - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414		4,441.4090	4,441.4090	1.4143		4,476.7654
Total	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414		4,441.4090	4,441.4090	1.4143		4,476.7654

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	lb/day										lb/day					
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

Vendor	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208

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	lb/day										lb/day					
Off-Road	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414	0.0000	4,441.4090	4,441.4090	1.4143		4,476.7654
Total	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414	0.0000	4,441.4090	4,441.4090	1.4143		4,476.7654

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	lb/day										lb/day					
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
Vendor	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0134	0.4504	0.1152	1.1600e-003	0.0304	1.6700e-003	0.0321	8.7500e-003	1.6000e-003	0.0103		122.5185	122.5185	4.0900e-003		122.6208

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560		6,883.4843	6,883.4843	1.0880		6,910.6837
Total	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560		6,883.4843	6,883.4843	1.0880		6,910.6837

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	lb/day										lb/day					
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
Vendor	0.0401	1.3513	0.3456	3.4700e-003	0.0913	5.0100e-003	0.0963	0.0262	4.7900e-003	0.0310		367.5555	367.5555	0.0123		367.8624
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.6553	1,009.6553	0.0380		1,010.6061
Total	0.4687	1.7265	4.3032	0.0136	1.1174	0.0129	1.1304	0.2983	0.0121	0.3104		1,377.2108	1,377.2108	0.0503		1,378.4684

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	lb/day										lb/day					
Off-Road	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560	0.0000	6,883.4843	6,883.4843	1.0880		6,910.6837

Total	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560	0.0000	6,883.484 3	6,883.484 3	1.0880		6,910.683 7

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	lb/day										lb/day					
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
Vendor	0.0401	1.3513	0.3456	3.4700e-003	0.0913	5.0100e-003	0.0963	0.0262	4.7900e-003	0.0310		367.5555	367.5555	0.0123		367.8624
Worker	0.4285	0.3752	3.9576	0.0101	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		1,009.655 3	1,009.655 3	0.0380		1,010.606 1
Total	0.4687	1.7265	4.3032	0.0136	1.1174	0.0129	1.1304	0.2983	0.0121	0.3104		1,377.210 8	1,377.210 8	0.0503		1,378.468 4

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 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	lb/day										lb/day					
Off-Road	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988		6,884.037 5	6,884.037 5	1.0737		6,910.878 8
Total	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988		6,884.037 5	6,884.037 5	1.0737		6,910.878 8

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	lb/day										lb/day					
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
Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

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	lb/day										lb/day					
Off-Road	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988	0.0000	6,884.0375	6,884.0375	1.0737		6,910.8788
Total	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988	0.0000	6,884.0375	6,884.0375	1.0737		6,910.8788

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	lb/day										lb/day					
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

Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

3.14 Start Outlet Yard 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	lb/day										lb/day					
Off-Road	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771		8,819.9787	8,819.9787	2.4977		8,882.4203
Total	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771		8,819.9787	8,819.9787	2.4977		8,882.4203

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	lb/day										lb/day					
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
Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

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	lb/day										lb/day					
Off-Road	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771	0.0000	8,819.9787	8,819.9787	2.4977		8,882.4203
Total	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771	0.0000	8,819.9787	8,819.9787	2.4977		8,882.4203

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	lb/day										lb/day					
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
Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

3.15 Complete Outlet Yard 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	lb/day										lb/day					
Off-Road	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521		12,235.7174	12,235.7174	3.4305		12,321.4795

Total	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521		12,235.71 74	12,235.71 74	3.4305		12,321.47 95

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	lb/day										lb/day					
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
Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.217 8	1,339.217 8	0.0460		1,340.367 5

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	lb/day										lb/day					
Off-Road	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521	0.0000	12,235.71 74	12,235.71 74	3.4305		12,321.47 94
Total	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521	0.0000	12,235.71 74	12,235.71 74	3.4305		12,321.47 94

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	lb/day										lb/day					
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
Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

3.16 Electrical Controls Installation - 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	lb/day										lb/day					
Off-Road	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353		5,623.7275	5,623.7275	1.1312		5,652.0081
Total	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353		5,623.7275	5,623.7275	1.1312		5,652.0081

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	lb/day										lb/day					
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

Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4253	1.1828	3.8323	0.0121	1.0870	0.0106	1.0976	0.2896	9.8700e-003	0.2995		1,217.7053	1,217.7053	0.0420		1,218.7556

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	lb/day										lb/day					
Off-Road	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353	0.0000	5,623.7275	5,623.7275	1.1312		5,652.0081
Total	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353	0.0000	5,623.7275	5,623.7275	1.1312		5,652.0081

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4253	1.1828	3.8323	0.0121	1.0870	0.0106	1.0976	0.2896	9.8700e-003	0.2995		1,217.7053	1,217.7053	0.0420		1,218.7556

3.17 Perform Start-Up Testing - 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	lb/day										lb/day					
Off-Road	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197		1,117.6607	1,117.6607	0.3615		1,126.6976
Total	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197		1,117.6607	1,117.6607	0.3615		1,126.6976

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4253	1.1828	3.8323	0.0121	1.0870	0.0106	1.0976	0.2896	9.8700e-003	0.2995		1,217.7053	1,217.7053	0.0420		1,218.7556

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	lb/day										lb/day					
Off-Road	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197	0.0000	1,117.6607	1,117.6607	0.3615		1,126.6976

Total	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197	0.0000	1,117.660 7	1,117.660 7	0.3615		1,126.697 6

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	lb/day										lb/day					
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
Vendor	0.0247	0.8461	0.2111	2.2900e-003	0.0609	2.9400e-003	0.0638	0.0175	2.8200e-003	0.0203		243.0250	243.0250	7.9500e-003		243.2237
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4253	1.1828	3.8323	0.0121	1.0870	0.0106	1.0976	0.2896	9.8700e-003	0.2995		1,217.705 3	1,217.705 3	0.0420		1,218.755 6

3.18 Decommission Existing Outlet - 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	lb/day										lb/day					
Off-Road	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625		4,550.054 7	4,550.054 7	1.4494		4,586.289 5
Total	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625		4,550.054 7	4,550.054 7	1.4494		4,586.289 5

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	lb/day										lb/day					
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
Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

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	lb/day										lb/day					
Off-Road	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625	0.0000	4,550.0546	4,550.0546	1.4494		4,586.2895
Total	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625	0.0000	4,550.0546	4,550.0546	1.4494		4,586.2895

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	lb/day										lb/day					
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

Vendor	0.0371	1.2692	0.3167	3.4400e-003	0.0913	4.4200e-003	0.0957	0.0263	4.2300e-003	0.0305		364.5375	364.5375	0.0119		364.8356
Worker	0.4006	0.3367	3.6212	9.7900e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		974.6804	974.6804	0.0341		975.5319
Total	0.4377	1.6059	3.9378	0.0132	1.1175	0.0121	1.1295	0.2983	0.0113	0.3096		1,339.2178	1,339.2178	0.0460		1,340.3675

Newell Creek Dam Inlet/Outlet Construction - Accelerated - Santa Cruz County, Winter

Newell Creek Dam Inlet/Outlet Construction - Accelerated Santa Cruz County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.15	1000sqft	4.00	150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	499.66	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling Construction Only - Accelerated Schedule

Land Use - Dam crest control building. Non-submerged disturbed area estimated at 4 acres

Construction Phase - Construction phases and accelerated schedule provided by AECOM

Off-road Equipment - Equipment list adjusted to match information provided by AECOM

Trips and VMT - Based on information from AECOM

Grading - Material cut and import/export provided by AECOM

Construction Off-road Equipment Mitigation - Water exposed areas 2x per day and limit vehicle speeds on unpaved roads to 15 mph

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	63.00
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tblConstructionPhase	NumDays	230.00	31.00
tblConstructionPhase	NumDays	230.00	25.00
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tblConstructionPhase	NumDays	5.00	3.00
tblGrading	AcresOfGrading	28.00	27.50
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tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	2,111.00
tblGrading	MaterialExported	0.00	240.00
tblGrading	MaterialExported	0.00	4,150.00
tblGrading	MaterialExported	0.00	2,399.00
tblGrading	MaterialImported	0.00	3,250.00
tblGrading	MaterialImported	0.00	369.00
tblGrading	MaterialImported	0.00	6,388.00
tblGrading	MaterialImported	0.00	3,693.00
tblLandUse	LotAcreage	0.00	4.00
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tblOffRoadEquipment	HorsePower	84.00	335.00
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tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	158.00	308.00
tblOffRoadEquipment	HorsePower	187.00	240.00

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tblOffRoadEquipment	HorsePower	100.00	97.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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[illegible]

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[illegible]

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tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	499.66
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripLength	20.00	22.00
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tblTripsAndVMT	VendorTripLength	6.60	11.00
tblTripsAndVMT	VendorTripLength	6.60	11.00
tblTripsAndVMT	VendorTripLength	6.60	11.00
tblTripsAndVMT	VendorTripLength	6.60	11.00
tblTripsAndVMT	VendorTripLength	6.60	11.00
tblTripsAndVMT	VendorTripLength	6.60	11.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00

tblTripsAndVMT	WorkerTripLength	16.80	25.00
tblTripsAndVMT	WorkerTripLength	16.80	25.00
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tblTripsAndVMT	WorkerTripNumber	35.00	54.00
tblTripsAndVMT	WorkerTripNumber	0.00	54.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00

tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	16.9497	169.4966	110.7779	0.3345	26.6222	6.4944	32.0074	13.9044	6.0157	19.3876	0.0000	32,469.40 56	32,469.40 56	9.4183	0.0000	32,704.86 20
2022	6.1060	57.7181	53.3097	0.1397	1.1175	2.2032	3.3206	0.2983	2.0635	2.3619	0.0000	13,522.95 12	13,522.95 12	3.4753	0.0000	13,609.83 46
Maximum	16.9497	169.4966	110.7779	0.3345	26.6222	6.4944	32.0074	13.9044	6.0157	19.3876	0.0000	32,469.40 56	32,469.40 56	9.4183	0.0000	32,704.86 20

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	lb/day										lb/day					
2021	16.9497	169.4966	110.7779	0.3345	13.2763	6.4944	18.6011	6.6071	6.0157	12.0869	0.0000	32,469.40 55	32,469.40 55	9.4183	0.0000	32,704.86 20
2022	6.1060	57.7181	53.3097	0.1397	1.1175	2.2032	3.3206	0.2983	2.0635	2.3619	0.0000	13,522.95 11	13,522.95 11	3.4753	0.0000	13,609.83 45
Maximum	16.9497	169.4966	110.7779	0.3345	13.2763	6.4944	18.6011	6.6071	6.0157	12.0869	0.0000	32,469.40 55	32,469.40 55	9.4183	0.0000	32,704.86 20

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.11	0.00	37.95	51.38	0.00	33.57	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	Mobilization	Site Preparation	2/26/2021	3/2/2021	5	3	
2	Develop Staging Areas	Site Preparation	3/3/2021	3/5/2021	5	3	
3	Construct NCP Bypass	Grading	3/8/2021	4/14/2021	5	28	
4	Install Boat Launch/Silt Curtain	Building Construction	3/8/2021	3/24/2021	5	13	
5	Dredge and Drill Shafts	Building Construction	3/25/2021	5/11/2021	5	34	
6	Access Road Improvement	Grading	4/15/2021	4/16/2021	5	2	
7	Grade Portal Platform	Grading	4/17/2021	5/12/2021	5	18	
8	Install Culvert Bridge	Building Construction	5/13/2021	6/15/2021	5	24	
9	Construct Intake/Air Vent	Building Construction	5/13/2021	10/4/2021	5	103	
10	Tunnel Excavation	Building Construction	9/1/2021	11/26/2021	5	63	
11	Inlet Control House	Building Construction	10/18/2021	11/26/2021	5	30	
12	Inlet/Outlet Conduit/Backfill Tunnel	Building Construction	11/27/2021	1/10/2022	5	31	
13	Start Outlet Yard Construction	Building Construction	1/11/2022	2/14/2022	5	25	
14	Complete Outlet Yard Construction	Building Construction	2/15/2022	3/3/2022	5	13	
15	Electrical Controls Installation	Building Construction	3/4/2022	3/16/2022	5	9	
16	Perform Start-Up Testing	Building Construction	3/17/2022	4/7/2022	5	16	
17	Decommission Existing Outlet	Building Construction	4/8/2022	5/12/2022	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Off-Highway Trucks	1	16.00	464	0.38
Mobilization	Rough Terrain Forklifts	1	16.00	97	0.40

Mobilization	Rubber Tired Dozers	0	0.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Develop Staging Areas	Cranes	1	16.00	231	0.29
Develop Staging Areas	Excavators	1	16.00	308	0.38
Develop Staging Areas	Off-Highway Trucks	3	16.00	464	0.38
Develop Staging Areas	Off-Highway Trucks	2	8.00	402	0.38
Develop Staging Areas	Rubber Tired Dozers	2	16.00	228	0.40
Develop Staging Areas	Tractors/Loaders/Backhoes	2	16.00	130	0.37
Construct NCP Bypass	Cranes	1	16.00	231	0.29
Construct NCP Bypass	Excavators	1	16.00	345	0.38
Construct NCP Bypass	Graders	1	16.00	240	0.41
Construct NCP Bypass	Off-Highway Trucks	2	16.00	464	0.38
Construct NCP Bypass	Off-Highway Trucks	1	8.00	402	0.38
Construct NCP Bypass	Rollers	1	8.00	156	0.38
Construct NCP Bypass	Rough Terrain Forklifts	1	16.00	97	0.40
Construct NCP Bypass	Rubber Tired Dozers	1	16.00	228	0.40
Construct NCP Bypass	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Install Boat Launch/Silt Curtain	Cranes	1	16.00	231	0.29
Install Boat Launch/Silt Curtain	Excavators	1	16.00	308	0.38
Install Boat Launch/Silt Curtain	Forklifts	0	0.00	89	0.20
Install Boat Launch/Silt Curtain	Generator Sets	1	24.00	84	0.74
Install Boat Launch/Silt Curtain	Graders	1	16.00	240	0.41
Install Boat Launch/Silt Curtain	Off-Highway Trucks	2	16.00	464	0.38
Install Boat Launch/Silt Curtain	Off-Highway Trucks	1	8.00	402	0.38
Install Boat Launch/Silt Curtain	Rollers	1	8.00	156	0.38
Install Boat Launch/Silt Curtain	Rough Terrain Forklifts	1	16.00	97	0.40
Install Boat Launch/Silt Curtain	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Install Boat Launch/Silt Curtain	Welders	0	0.00	46	0.45
Dredge and Drill Shafts	Air Compressors	1	16.00	50	0.48
Dredge and Drill Shafts	Bore/Drill Rigs	1	16.00	221	0.50
Dredge and Drill Shafts	Cranes	1	16.00	231	0.29
Dredge and Drill Shafts	Excavators	1	16.00	158	0.38

Dredge and Drill Shafts	Forklifts	0	0.00	89	0.20
Dredge and Drill Shafts	Generator Sets	0	0.00	84	0.74
Dredge and Drill Shafts	Generator Sets	1	16.00	335	0.74
Dredge and Drill Shafts	Other General Industrial Equipment	1	16.00	50	0.34
Dredge and Drill Shafts	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Dredge and Drill Shafts	Welders	0	0.00	46	0.45
Access Road Improvement	Excavators	1	16.00	308	0.38
Access Road Improvement	Graders	1	16.00	240	0.41
Access Road Improvement	Off-Highway Trucks	2	16.00	464	0.38
Access Road Improvement	Off-Highway Trucks	1	8.00	402	0.38
Access Road Improvement	Rollers	1	8.00	156	0.38
Access Road Improvement	Rough Terrain Forklifts	1	16.00	97	0.40
Access Road Improvement	Rubber Tired Dozers	1	10.00	228	0.40
Access Road Improvement	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Grade Portal Platform	Cement and Mortar Mixers	4	16.00	9	0.56
Grade Portal Platform	Cranes	1	16.00	231	0.29
Grade Portal Platform	Excavators	0	0.00	158	0.38
Grade Portal Platform	Graders	0	0.00	187	0.41
Grade Portal Platform	Off-Highway Trucks	3	16.00	464	0.38
Grade Portal Platform	Off-Highway Trucks	2	8.00	402	0.38
Grade Portal Platform	Rubber Tired Dozers	2	16.00	228	0.40
Grade Portal Platform	Tractors/Loaders/Backhoes	2	16.00	130	0.37
Install Culvert Bridge	Cranes	1	16.00	231	0.29
Install Culvert Bridge	Excavators	1	16.00	308	0.38
Install Culvert Bridge	Forklifts	0	0.00	89	0.20
Install Culvert Bridge	Generator Sets	0	0.00	84	0.74
Install Culvert Bridge	Off-Highway Trucks	1	16.00	464	0.38
Install Culvert Bridge	Rollers	1	8.00	156	0.38
Install Culvert Bridge	Rough Terrain Forklifts	2	16.00	97	0.40
Install Culvert Bridge	Rubber Tired Dozers	1	16.00	228	0.40
Install Culvert Bridge	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Install Culvert Bridge	Welders	0	0.00	46	0.45

Construct Intake/Air Vent	Air Compressors	1	16.00	50	0.48
Construct Intake/Air Vent	Cement and Mortar Mixers	2	16.00	9	0.56
Construct Intake/Air Vent	Cranes	1	16.00	231	0.29
Construct Intake/Air Vent	Forklifts	0	0.00	89	0.20
Construct Intake/Air Vent	Generator Sets	0	0.00	84	0.74
Construct Intake/Air Vent	Generator Sets	1	16.00	335	0.74
Construct Intake/Air Vent	Other General Industrial Equipment	1	16.00	50	0.34
Construct Intake/Air Vent	Rough Terrain Forklifts	1	16.00	97	0.40
Construct Intake/Air Vent	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Construct Intake/Air Vent	Welders	0	0.00	46	0.45
Tunnel Excavation	Air Compressors	2	24.00	78	0.48
Tunnel Excavation	Bore/Drill Rigs	1	24.00	512	0.50
Tunnel Excavation	Cement and Mortar Mixers	1	24.00	9	0.56
Tunnel Excavation	Cranes	0	0.00	231	0.29
Tunnel Excavation	Forklifts	0	0.00	89	0.20
Tunnel Excavation	Generator Sets	1	24.00	84	0.74
Tunnel Excavation	Off-Highway Trucks	2	24.00	464	0.38
Tunnel Excavation	Other General Industrial Equipment	2	24.00	88	0.34
Tunnel Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Tunnel Excavation	Welders	0	0.00	46	0.45
Inlet Control House	Cement and Mortar Mixers	2	8.00	9	0.56
Inlet Control House	Cranes	1	8.00	231	0.29
Inlet Control House	Excavators	1	8.00	308	0.38
Inlet Control House	Forklifts	0	0.00	89	0.20
Inlet Control House	Generator Sets	0	0.00	84	0.74
Inlet Control House	Graders	1	8.00	240	0.41
Inlet Control House	Off-Highway Trucks	1	8.00	464	0.38
Inlet Control House	Rough Terrain Forklifts	1	8.00	97	0.40
Inlet Control House	Tractors/Loaders/Backhoes	1	8.00	61	0.37
Inlet Control House	Welders	0	0.00	46	0.45
Inlet/Outlet Conduit/Backfill Tunnel	Air Compressors	2	24.00	78	0.48
Inlet/Outlet Conduit/Backfill Tunnel	Cement and Mortar Mixers	4	10.00	9	0.56

Inlet/Outlet Conduit/Backfill Tunnel	Cranes	0	0.00	231	0.29
Inlet/Outlet Conduit/Backfill Tunnel	Forklifts	0	0.00	89	0.20
Inlet/Outlet Conduit/Backfill Tunnel	Generator Sets	1	24.00	84	0.74
Inlet/Outlet Conduit/Backfill Tunnel	Rough Terrain Forklifts	2	24.00	97	0.40
Inlet/Outlet Conduit/Backfill Tunnel	Tractors/Loaders/Backhoes	1	24.00	61	0.37
Inlet/Outlet Conduit/Backfill Tunnel	Welders	0	0.00	46	0.45
Start Outlet Yard Construction	Cement and Mortar Mixers	2	4.00	9	0.56
Start Outlet Yard Construction	Cranes	1	16.00	231	0.29
Start Outlet Yard Construction	Excavators	1	16.00	308	0.38
Start Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Start Outlet Yard Construction	Generator Sets	1	16.00	84	0.74
Start Outlet Yard Construction	Graders	1	8.00	240	0.41
Start Outlet Yard Construction	Off-Highway Trucks	1	8.00	464	0.38
Start Outlet Yard Construction	Rollers	1	8.00	156	0.38
Start Outlet Yard Construction	Rough Terrain Forklifts	2	16.00	97	0.40
Start Outlet Yard Construction	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Start Outlet Yard Construction	Welders	0	0.00	46	0.45
Complete Outlet Yard Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Complete Outlet Yard Construction	Cranes	1	16.00	231	0.29
Complete Outlet Yard Construction	Excavators	1	16.00	308	0.38
Complete Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Complete Outlet Yard Construction	Generator Sets	1	24.00	84	0.74
Complete Outlet Yard Construction	Graders	1	16.00	240	0.41
Complete Outlet Yard Construction	Off-Highway Trucks	1	16.00	464	0.38
Complete Outlet Yard Construction	Rollers	1	16.00	156	0.38
Complete Outlet Yard Construction	Rough Terrain Forklifts	2	16.00	97	0.40
Complete Outlet Yard Construction	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Complete Outlet Yard Construction	Welders	0	0.00	46	0.45
Electrical Controls Installation	Cranes	1	16.00	231	0.29
Electrical Controls Installation	Excavators	1	8.00	308	0.38
Electrical Controls Installation	Forklifts	0	0.00	89	0.20
Electrical Controls Installation	Generator Sets	2	16.00	84	0.74

Electrical Controls Installation	Rough Terrain Forklifts	2	8.00	97	0.40
Electrical Controls Installation	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Electrical Controls Installation	Welders	0	0.00	46	0.45
Perform Start-Up Testing	Cranes	1	16.00	231	0.29
Perform Start-Up Testing	Forklifts	0	0.00	89	0.20
Perform Start-Up Testing	Generator Sets	0	0.00	84	0.74
Perform Start-Up Testing	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Perform Start-Up Testing	Welders	0	0.00	46	0.45
Decommission Existing Outlet	Cement and Mortar Mixers	1	16.00	9	0.56
Decommission Existing Outlet	Cranes	1	16.00	231	0.29
Decommission Existing Outlet	Forklifts	0	0.00	89	0.20
Decommission Existing Outlet	Generator Sets	0	0.00	84	0.74
Decommission Existing Outlet	Off-Highway Trucks	1	16.00	464	0.38
Decommission Existing Outlet	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Decommission Existing Outlet	Welders	0	0.00	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
Mobilization	3	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Develop Staging Areas	11	54.00	6.00	200.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construct NCP Runways	10	54.00	6.00	176.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Boat Launch/Silt Curtain	10	0.00	0.00	24.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Dredge and Drill Shafts	6	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Access Road Improvement	9	54.00	6.00	20.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Grade Portal Platform	14	54.00	6.00	346.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Culvert Bridge	8	54.00	6.00	6.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Construct Intake/Air Vent	7	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Tunnel Excavation	9	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet Control House	8	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet/Outlet Conduit/Backfill	10	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

Start Outlet Yard	11	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Complete Outlet Yard	10	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Electrical Controls	7	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Perform Start-Up	1	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Decommission	4	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.8733	17.6625	15.6139	0.0411		0.7074	0.7074		0.6508	0.6508		3,977.3803	3,977.3803	1.2864		4,009.5394
Total	1.8733	17.6625	15.6139	0.0411	0.0000	0.7074	0.7074	0.0000	0.6508	0.6508		3,977.3803	3,977.3803	1.2864		4,009.5394

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	lb/day										lb/day					
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
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251

Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5342	1.3827	4.0893	0.0119	1.0870	0.0114	1.0984	0.2896	0.0106	0.3002		1,202.8940	1,202.8940	0.0448		1,204.0134

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.8733	17.6625	15.6139	0.0411		0.7074	0.7074		0.6508	0.6508	0.0000	3,977.3803	3,977.3803	1.2864		4,009.5394
Total	1.8733	17.6625	15.6139	0.0411	0.0000	0.7074	0.7074	0.0000	0.6508	0.6508	0.0000	3,977.3803	3,977.3803	1.2864		4,009.5394

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	lb/day										lb/day					
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
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5342	1.3827	4.0893	0.0119	1.0870	0.0114	1.0984	0.2896	0.0106	0.3002		1,202.8940	1,202.8940	0.0448		1,204.0134

3.3 Develop Staging Areas - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.2653	0.0000	24.2653	13.2677	0.0000	13.2677			0.0000			0.0000
Off-Road	11.4373	109.6814	66.0232	0.1973		4.6201	4.6201		4.2505	4.2505		19,108.89 28	19,108.89 28	6.1802		19,263.39 79
Total	11.4373	109.6814	66.0232	0.1973	24.2653	4.6201	28.8854	13.2677	4.2505	17.5182		19,108.89 28	19,108.89 28	6.1802		19,263.39 79

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	lb/day										lb/day					
Hauling	0.5567	22.7950	5.2572	0.0578	1.2699	0.0925	1.3624	0.3471	0.0885	0.4355		6,179.376 0	6,179.376 0	0.2519		6,185.674 4
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	1.0909	24.1777	9.3464	0.0697	2.3569	0.1038	2.4608	0.6367	0.0991	0.7357		7,382.270 0	7,382.270 0	0.2967		7,389.687 9

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	lb/day										lb/day					
Fugitive Dust					10.9194	0.0000	10.9194	5.9705	0.0000	5.9705			0.0000			0.0000

Off-Road	11.4373	109.6814	66.0232	0.1973		4.6201	4.6201		4.2505	4.2505	0.0000	19,108.89 28	19,108.89 28	6.1802		19,263.39 79
Total	11.4373	109.6814	66.0232	0.1973	10.9194	4.6201	15.5395	5.9705	4.2505	10.2210	0.0000	19,108.89 28	19,108.89 28	6.1802		19,263.39 79

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	lb/day										lb/day					
Hauling	0.5567	22.7950	5.2572	0.0578	1.2699	0.0925	1.3624	0.3471	0.0885	0.4355		6,179.376 0	6,179.376 0	0.2519		6,185.674 4
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	1.0909	24.1777	9.3464	0.0697	2.3569	0.1038	2.4608	0.6367	0.0991	0.7357		7,382.270 0	7,382.270 0	0.2967		7,389.687 9

3.4 Construct NCP Bypass - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1024	0.0000	13.1024	6.7355	0.0000	6.7355			0.0000			0.0000
Off-Road	8.6128	87.9738	51.3632	0.1568		3.4603	3.4603		3.1835	3.1835		15,182.65 36	15,182.65 36	4.9104		15,305.41 31
Total	8.6128	87.9738	51.3632	0.1568	13.1024	3.4603	16.5627	6.7355	3.1835	9.9189		15,182.65 36	15,182.65 36	4.9104		15,305.41 31

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	lb/day										lb/day					
Hauling	0.0525	2.1492	0.4957	5.4500e-003	0.1197	8.7200e-003	0.1285	0.0327	8.3400e-003	0.0411		582.6269	582.6269	0.0238		583.2207
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5866	3.5320	4.5849	0.0174	1.2068	0.0201	1.2268	0.3223	0.0190	0.3413		1,785.5209	1,785.5209	0.0685		1,787.2342

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	lb/day										lb/day					
Fugitive Dust					5.8961	0.0000	5.8961	3.0310	0.0000	3.0310			0.0000			0.0000
Off-Road	8.6128	87.9738	51.3632	0.1568		3.4603	3.4603		3.1835	3.1835	0.0000	15,182.6536	15,182.6536	4.9104		15,305.4130
Total	8.6128	87.9738	51.3632	0.1568	5.8961	3.4603	9.3564	3.0310	3.1835	6.2144	0.0000	15,182.6536	15,182.6536	4.9104		15,305.4130

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	lb/day										lb/day					
Hauling	0.0525	2.1492	0.4957	5.4500e-003	0.1197	8.7200e-003	0.1285	0.0327	8.3400e-003	0.0411		582.6269	582.6269	0.0238		583.2207

Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5866	3.5320	4.5849	0.0174	1.2068	0.0201	1.2268	0.3223	0.0190	0.3413		1,785.5209	1,785.5209	0.0685		1,787.2342

3.5 Install Boat Launch/Silt Curtain - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101		15,273.2602	15,273.2602	4.4306		15,384.0241
Total	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101		15,273.2602	15,273.2602	4.4306		15,384.0241

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	lb/day										lb/day					
Hauling	0.0198	0.7989	0.1855	2.1300e-003	0.0479	3.4100e-003	0.0514	0.0131	3.2600e-003	0.0164		227.9709	227.9709	8.7900e-003		228.1907
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0198	0.7989	0.1855	2.1300e-003	0.0479	3.4100e-003	0.0514	0.0131	3.2600e-003	0.0164		227.9709	227.9709	8.7900e-003		228.1907

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	lb/day										lb/day					
Off-Road	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101	0.0000	15,273.2602	15,273.2602	4.4306		15,384.0240
Total	7.7304	77.1920	54.6443	0.1582		3.0107	3.0107		2.8101	2.8101	0.0000	15,273.2602	15,273.2602	4.4306		15,384.0240

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	lb/day										lb/day					
Hauling	0.0198	0.7989	0.1855	2.1300e-003	0.0479	3.4100e-003	0.0514	0.0131	3.2600e-003	0.0164		227.9709	227.9709	8.7900e-003		228.1907
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0198	0.7989	0.1855	2.1300e-003	0.0479	3.4100e-003	0.0514	0.0131	3.2600e-003	0.0164		227.9709	227.9709	8.7900e-003		228.1907

3.6 Dredge and Drill Shafts - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817		9,708.0618	9,708.0618	1.5759		9,747.4583

Total	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817		9,708.061 8	9,708.061 8	1.5759		9,747.458 3

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	lb/day										lb/day					
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
Vendor	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126

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	lb/day										lb/day					
Off-Road	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817	0.0000	9,708.061 8	9,708.061 8	1.5759		9,747.458 3
Total	4.5803	39.9369	30.8036	0.0936		1.5584	1.5584		1.4817	1.4817	0.0000	9,708.061 8	9,708.061 8	1.5759		9,747.458 3

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	lb/day										lb/day					
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
Vendor	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126

3.7 Access Road Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.5510	0.0000	8.5510	4.2494	0.0000	4.2494			0.0000			0.0000
Off-Road	6.9917	70.0191	44.0626	0.1370		2.6758	2.6758		2.4617	2.4617		13,259.4871	13,259.4871	4.2884		13,366.6967
Total	6.9917	70.0191	44.0626	0.1370	8.5510	2.6758	11.2268	4.2494	2.4617	6.7112		13,259.4871	13,259.4871	4.2884		13,366.6967

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	lb/day										lb/day					
Hauling	0.0835	3.4192	0.7886	8.6600e-003	0.1905	0.0139	0.2044	0.0521	0.0133	0.0653		926.9064	926.9064	0.0378		927.8512

Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.6177	4.8020	4.8778	0.0206	1.2775	0.0252	1.3027	0.3417	0.0239	0.3655		2,129.8004	2,129.8004	0.0826		2,131.8646

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	lb/day										lb/day					
Fugitive Dust					3.8480	0.0000	3.8480	1.9123	0.0000	1.9123			0.0000			0.0000
Off-Road	6.9917	70.0191	44.0626	0.1370		2.6758	2.6758		2.4617	2.4617	0.0000	13,259.4870	13,259.4870	4.2884		13,366.6967
Total	6.9917	70.0191	44.0626	0.1370	3.8480	2.6758	6.5237	1.9123	2.4617	4.3740	0.0000	13,259.4870	13,259.4870	4.2884		13,366.6967

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	lb/day										lb/day					
Hauling	0.0835	3.4192	0.7886	8.6600e-003	0.1905	0.0139	0.2044	0.0521	0.0133	0.0653		926.9064	926.9064	0.0378		927.8512
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.6177	4.8020	4.8778	0.0206	1.2775	0.0252	1.3027	0.3417	0.0239	0.3655		2,129.8004	2,129.8004	0.0826		2,131.8646

3.8 Grade Portal Platform - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.3750	0.0000	24.3750	13.2741	0.0000	13.2741			0.0000			0.0000
Off-Road	11.3172	107.1289	63.9993	0.1830		4.5506	4.5506		4.1957	4.1957		17,574.23 21	17,574.23 21	5.5951		17,714.11 00
Total	11.3172	107.1289	63.9993	0.1830	24.3750	4.5506	28.9256	13.2741	4.1957	17.4698		17,574.23 21	17,574.23 21	5.5951		17,714.11 00

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	lb/day										lb/day					
Hauling	0.1605	6.5726	1.5158	0.0167	0.3662	0.0267	0.3928	0.1001	0.0255	0.1256		1,781.720 1	1,781.720 1	0.0726		1,783.536 1
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.6947	7.9553	5.6051	0.0286	1.4532	0.0380	1.4912	0.3897	0.0361	0.4258		2,984.614 1	2,984.614 1	0.1174		2,987.549 6

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	lb/day										lb/day					
Fugitive Dust					10.9688	0.0000	10.9688	5.9733	0.0000	5.9733			0.0000			0.0000

Off-Road	11.3172	107.1289	63.9993	0.1830		4.5506	4.5506		4.1957	4.1957	0.0000	17,574.23 21	17,574.23 21	5.5951		17,714.11 00
Total	11.3172	107.1289	63.9993	0.1830	10.9688	4.5506	15.5194	5.9733	4.1957	10.1691	0.0000	17,574.23 21	17,574.23 21	5.5951		17,714.11 00

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	lb/day										lb/day					
Hauling	0.1605	6.5726	1.5158	0.0167	0.3662	0.0267	0.3928	0.1001	0.0255	0.1256		1,781.720 1	1,781.720 1	0.0726		1,783.536 1
Vendor	0.0282	0.9153	0.2542	2.2800e- 003	0.0609	3.4500e- 003	0.0643	0.0175	3.3000e- 003	0.0208		241.4096	241.4096	8.6200e- 003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e- 003	1.0261	7.9200e- 003	1.0341	0.2721	7.3100e- 003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.6947	7.9553	5.6051	0.0286	1.4532	0.0380	1.4912	0.3897	0.0361	0.4258		2,984.614 1	2,984.614 1	0.1174		2,987.549 6

3.9 Install Culvert Bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918		9,702.045 4	9,702.045 4	3.1378		9,780.491 4
Total	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918		9,702.045 4	9,702.045 4	3.1378		9,780.491 4

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	lb/day										lb/day					
Hauling	2.6800e-003	0.1082	0.0251	2.9000e-004	6.4900e-003	4.6000e-004	6.9500e-003	1.7700e-003	4.4000e-004	2.2200e-003		30.8711	30.8711	1.1900e-003		30.9008
Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5368	1.4909	4.1144	0.0122	1.0935	0.0118	1.1053	0.2914	0.0111	0.3024		1,233.7651	1,233.7651	0.0460		1,234.9143

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	lb/day										lb/day					
Off-Road	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918	0.0000	9,702.0454	9,702.0454	3.1378		9,780.4914
Total	5.6617	58.4549	39.0342	0.1002		2.4911	2.4911		2.2918	2.2918	0.0000	9,702.0454	9,702.0454	3.1378		9,780.4914

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	lb/day										lb/day					
Hauling	2.6800e-003	0.1082	0.0251	2.9000e-004	6.4900e-003	4.6000e-004	6.9500e-003	1.7700e-003	4.4000e-004	2.2200e-003		30.8711	30.8711	1.1900e-003		30.9008

Vendor	0.0282	0.9153	0.2542	2.2800e-003	0.0609	3.4500e-003	0.0643	0.0175	3.3000e-003	0.0208		241.4096	241.4096	8.6200e-003		241.6251
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5368	1.4909	4.1144	0.0122	1.0935	0.0118	1.1053	0.2914	0.0111	0.3024		1,233.7651	1,233.7651	0.0460		1,234.9143

3.10 Construct Intake/Air Vent - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896		7,733.1307	7,733.1307	0.8928		7,755.4495
Total	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896		7,733.1307	7,733.1307	0.8928		7,755.4495

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	lb/day										lb/day					
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
Vendor	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126

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	lb/day										lb/day					
Off-Road	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896	0.0000	7,733.1307	7,733.1307	0.8928		7,755.4495
Total	4.0796	34.1850	25.7962	0.0740		1.3447	1.3447		1.2896	1.2896	0.0000	7,733.1307	7,733.1307	0.8928		7,755.4495

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	lb/day										lb/day					
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
Vendor	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126

3.11 Tunnel Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901		21,036.0897	21,036.0897	5.6874		21,178.2747

Total	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901		21,036.08 97	21,036.08 97	5.6874		21,178.27 47

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	lb/day										lb/day					
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
Vendor	0.0423	1.3730	0.3812	3.4200e-003	0.0913	5.1700e-003	0.0965	0.0262	4.9500e-003	0.0312		362.1144	362.1144	0.0129		362.4377
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5482	1.8404	4.2163	0.0131	1.1174	0.0131	1.1305	0.2983	0.0123	0.3106		1,323.598 8	1,323.598 8	0.0491		1,324.826 0

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	lb/day										lb/day					
Off-Road	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901	0.0000	21,036.08 97	21,036.08 97	5.6874		21,178.27 47
Total	9.7956	83.9775	76.4862	0.2188		3.8980	3.8980		3.6901	3.6901	0.0000	21,036.08 97	21,036.08 97	5.6874		21,178.27 47

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	lb/day										lb/day					
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
Vendor	0.0423	1.3730	0.3812	3.4200e-003	0.0913	5.1700e-003	0.0965	0.0262	4.9500e-003	0.0312		362.1144	362.1144	0.0129		362.4377
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5482	1.8404	4.2163	0.0131	1.1174	0.0131	1.1305	0.2983	0.0123	0.3106		1,323.5988	1,323.5988	0.0491		1,324.8260

3.12 Inlet Control House - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414		4,441.4090	4,441.4090	1.4143		4,476.7654
Total	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414		4,441.4090	4,441.4090	1.4143		4,476.7654

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	lb/day										lb/day					
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

Vendor	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126

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	lb/day										lb/day					
Off-Road	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414	0.0000	4,441.4090	4,441.4090	1.4143		4,476.7654
Total	2.3435	24.7697	14.9200	0.0463		0.9121	0.9121		0.8414	0.8414	0.0000	4,441.4090	4,441.4090	1.4143		4,476.7654

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	lb/day										lb/day					
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
Vendor	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0141	0.4577	0.1271	1.1400e-003	0.0304	1.7200e-003	0.0322	8.7500e-003	1.6500e-003	0.0104		120.7048	120.7048	4.3100e-003		120.8126

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560		6,883.4843	6,883.4843	1.0880		6,910.6837
Total	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560		6,883.4843	6,883.4843	1.0880		6,910.6837

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	lb/day										lb/day					
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
Vendor	0.0423	1.3730	0.3812	3.4200e-003	0.0913	5.1700e-003	0.0965	0.0262	4.9500e-003	0.0312		362.1144	362.1144	0.0129		362.4377
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5482	1.8404	4.2163	0.0131	1.1174	0.0131	1.1305	0.2983	0.0123	0.3106		1,323.5988	1,323.5988	0.0491		1,324.8260

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	lb/day										lb/day					
Off-Road	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560	0.0000	6,883.4843	6,883.4843	1.0880		6,910.6837

Total	4.1875	36.5141	44.7525	0.0730		1.9020	1.9020		1.8560	1.8560	0.0000	6,883.484 3	6,883.484 3	1.0880		6,910.683 7

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	lb/day										lb/day					
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
Vendor	0.0423	1.3730	0.3812	3.4200e-003	0.0913	5.1700e-003	0.0965	0.0262	4.9500e-003	0.0312		362.1144	362.1144	0.0129		362.4377
Worker	0.5060	0.4674	3.8351	9.6600e-003	1.0261	7.9200e-003	1.0341	0.2721	7.3100e-003	0.2794		961.4845	961.4845	0.0362		962.3883
Total	0.5482	1.8404	4.2163	0.0131	1.1174	0.0131	1.1305	0.2983	0.0123	0.3106		1,323.598 8	1,323.598 8	0.0491		1,324.826 0

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 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	lb/day										lb/day					
Off-Road	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988		6,884.037 5	6,884.037 5	1.0737		6,910.878 8
Total	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988		6,884.037 5	6,884.037 5	1.0737		6,910.878 8

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	lb/day										lb/day					
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
Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

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	lb/day										lb/day					
Off-Road	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988	0.0000	6,884.0375	6,884.0375	1.0737		6,910.8788
Total	3.8819	33.6702	44.6193	0.0730		1.6365	1.6365		1.5988	1.5988	0.0000	6,884.0375	6,884.0375	1.0737		6,910.8788

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	lb/day										lb/day					
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

Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

3.14 Start Outlet Yard 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	lb/day										lb/day					
Off-Road	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771		8,819.9787	8,819.9787	2.4977		8,882.4203
Total	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771		8,819.9787	8,819.9787	2.4977		8,882.4203

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	lb/day										lb/day					
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
Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

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	lb/day										lb/day					
Off-Road	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771	0.0000	8,819.9787	8,819.9787	2.4977		8,882.4203
Total	3.9484	39.9100	36.6525	0.0916		1.5787	1.5787		1.4771	1.4771	0.0000	8,819.9787	8,819.9787	2.4977		8,882.4203

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	lb/day										lb/day					
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
Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

3.15 Complete Outlet Yard 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	lb/day										lb/day					
Off-Road	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521		12,235.7174	12,235.7174	3.4305		12,321.4795

Total	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521		12,235.71 74	12,235.71 74	3.4305		12,321.47 95

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	lb/day										lb/day					
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
Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.233 7	1,287.233 7	0.0449		1,288.355 1

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	lb/day										lb/day					
Off-Road	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521	0.0000	12,235.71 74	12,235.71 74	3.4305		12,321.47 94
Total	5.5927	56.0108	49.4608	0.1270		2.1910	2.1910		2.0521	2.0521	0.0000	12,235.71 74	12,235.71 74	3.4305		12,321.47 94

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	lb/day										lb/day					
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
Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

3.16 Electrical Controls Installation - 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	lb/day										lb/day					
Off-Road	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353		5,623.7275	5,623.7275	1.1312		5,652.0081
Total	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353		5,623.7275	5,623.7275	1.1312		5,652.0081

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	lb/day										lb/day					
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

Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5003	1.2780	3.7325	0.0116	1.0870	0.0107	1.0977	0.2896	9.9700e-003	0.2996		1,167.5473	1,167.5473	0.0407		1,168.5639

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	lb/day										lb/day					
Off-Road	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353	0.0000	5,623.7275	5,623.7275	1.1312		5,652.0081
Total	2.7167	26.5869	27.7310	0.0587		1.1830	1.1830		1.1353	1.1353	0.0000	5,623.7275	5,623.7275	1.1312		5,652.0081

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5003	1.2780	3.7325	0.0116	1.0870	0.0107	1.0977	0.2896	9.9700e-003	0.2996		1,167.5473	1,167.5473	0.0407		1,168.5639

3.17 Perform Start-Up Testing - 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	lb/day										lb/day					
Off-Road	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197		1,117.6607	1,117.6607	0.3615		1,126.6976
Total	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197		1,117.6607	1,117.6607	0.3615		1,126.6976

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5003	1.2780	3.7325	0.0116	1.0870	0.0107	1.0977	0.2896	9.9700e-003	0.2996		1,167.5473	1,167.5473	0.0407		1,168.5639

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	lb/day										lb/day					
Off-Road	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197	0.0000	1,117.6607	1,117.6607	0.3615		1,126.6976

Total	0.7460	8.3686	3.7847	0.0115		0.3475	0.3475		0.3197	0.3197	0.0000	1,117.660 7	1,117.660 7	0.3615		1,126.697 6

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	lb/day										lb/day					
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
Vendor	0.0260	0.8586	0.2329	2.2600e-003	0.0609	3.0500e-003	0.0639	0.0175	2.9200e-003	0.0204		239.3730	239.3730	8.3800e-003		239.5824
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5003	1.2780	3.7325	0.0116	1.0870	0.0107	1.0977	0.2896	9.9700e-003	0.2996		1,167.547 3	1,167.547 3	0.0407		1,168.563 9

3.18 Decommission Existing Outlet - 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	lb/day										lb/day					
Off-Road	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625		4,550.054 7	4,550.054 7	1.4494		4,586.289 5
Total	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625		4,550.054 7	4,550.054 7	1.4494		4,586.289 5

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	lb/day										lb/day					
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
Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

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	lb/day										lb/day					
Off-Road	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625	0.0000	4,550.0546	4,550.0546	1.4494		4,586.2895
Total	2.2905	20.4779	14.9698	0.0474		0.8264	0.8264		0.7625	0.7625	0.0000	4,550.0546	4,550.0546	1.4494		4,586.2895

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	lb/day										lb/day					
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

Vendor	0.0390	1.2879	0.3494	3.3900e-003	0.0913	4.5700e-003	0.0959	0.0263	4.3700e-003	0.0306		359.0594	359.0594	0.0126		359.3736
Worker	0.4742	0.4193	3.4996	9.3200e-003	1.0261	7.6300e-003	1.0338	0.2721	7.0500e-003	0.2791		928.1743	928.1743	0.0323		928.9815
Total	0.5133	1.7073	3.8489	0.0127	1.1175	0.0122	1.1297	0.2983	0.0114	0.3098		1,287.2337	1,287.2337	0.0449		1,288.3551

Newell Creek Dam Inlet/Outlet Construction - Accelerated - Santa Cruz County, Annual

Newell Creek Dam Inlet/Outlet Construction - Accelerated Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.15	1000sqft	4.00	150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWahr)	499.66	CH4 Intensity (lb/MWahr)	0.029	N2O Intensity (lb/MWahr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling Construction Only - Accelerated Schedule

Land Use - Dam crest control building. Non-submerged disturbed area estimated at 4 acres

Construction Phase - Construction phases and accelerated schedule provided by AECOM

Off-road Equipment - Equipment list adjusted to match information provided by AECOM

Trips and VMT - Based on information from AECOM

Grading - Material cut and import/export provided by AECOM

Construction Off-road Equipment Mitigation - Water exposed areas 2x per day and limit vehicle speeds on unpaved roads to 15 mph

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	63.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	230.00	31.00
tblConstructionPhase	NumDays	230.00	25.00
tblConstructionPhase	NumDays	230.00	13.00
tblConstructionPhase	NumDays	230.00	9.00
tblConstructionPhase	NumDays	230.00	16.00
tblConstructionPhase	NumDays	230.00	25.00
tblConstructionPhase	NumDays	230.00	13.00
tblConstructionPhase	NumDays	230.00	34.00
tblConstructionPhase	NumDays	230.00	24.00
tblConstructionPhase	NumDays	230.00	103.00
tblConstructionPhase	NumDays	8.00	28.00
tblConstructionPhase	NumDays	8.00	2.00
tblConstructionPhase	NumDays	8.00	18.00
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	NumDays	5.00	3.00
tblGrading	AcresOfGrading	28.00	27.50
tblGrading	AcresOfGrading	2.00	1.88
tblGrading	AcresOfGrading	0.00	4.00
tblGrading	MaterialExported	0.00	2,111.00
tblGrading	MaterialExported	0.00	240.00
tblGrading	MaterialExported	0.00	4,150.00
tblGrading	MaterialExported	0.00	2,399.00
tblGrading	MaterialImported	0.00	3,250.00
tblGrading	MaterialImported	0.00	369.00
tblGrading	MaterialImported	0.00	6,388.00
tblGrading	MaterialImported	0.00	3,693.00
tblLandUse	LotAcreage	0.00	4.00
tblOffRoadEquipment	HorsePower	158.00	345.00
tblOffRoadEquipment	HorsePower	158.00	308.00

tblOffRoadEquipment	HorsePower	84.00	335.00
tblOffRoadEquipment	HorsePower	84.00	335.00
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tblOffRoadEquipment	HorsePower	97.00	130.00
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tblOffRoadEquipment	HorsePower	78.00	50.00
tblOffRoadEquipment	HorsePower	221.00	512.00
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[illegible]

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[illegible]

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tblTripsAndVMT	HaulingTripNumber	762.00	200.00
tblTripsAndVMT	HaulingTripNumber	670.00	176.00
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	76.00	20.00
tblTripsAndVMT	HaulingTripNumber	1,317.00	346.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripLength	6.60	11.00

[illegible]

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tblTripsAndVMT	WorkerTripNumber	23.00	54.00
tblTripsAndVMT	WorkerTripNumber	35.00	54.00
tblTripsAndVMT	WorkerTripNumber	0.00	54.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00

tblVehicleTrips	WD_TR	6.97	0.00

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					
2021	1.0959	9.8758	7.7045	0.0220	0.5457	0.4072	0.9529	0.2642	0.3832	0.6474	0.0000	1,964.0691	1,964.0691	0.4477	0.0000	1,975.2605
2022	0.1655	1.4798	1.4299	3.7200e-003	0.0503	0.0579	0.1081	0.0135	0.0543	0.0678	0.0000	327.2531	327.2531	0.0770	0.0000	329.1782
Maximum	1.0959	9.8758	7.7045	0.0220	0.5457	0.4072	0.9529	0.2642	0.3832	0.6474	0.0000	1,964.0691	1,964.0691	0.4477	0.0000	1,975.2605

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.0959	9.8758	7.7045	0.0220	0.2995	0.4072	0.7067	0.1334	0.3832	0.5165	0.0000	1,964.0670	1,964.0670	0.4477	0.0000	1,975.2583
2022	0.1655	1.4798	1.4299	3.7200e-003	0.0503	0.0579	0.1081	0.0135	0.0543	0.0678	0.0000	327.2528	327.2528	0.0770	0.0000	329.1779
Maximum	1.0959	9.8758	7.7045	0.0220	0.2995	0.4072	0.7067	0.1334	0.3832	0.5165	0.0000	1,964.0670	1,964.0670	0.4477	0.0000	1,975.2583

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	41.32	0.00	23.21	47.12	0.00	18.30	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	2-26-2021	5-25-2021	4.5742	4.5742
2	5-26-2021	8-25-2021	1.7672	1.7672
3	8-26-2021	11-25-2021	3.8890	3.8890
4	11-26-2021	2-25-2022	1.5516	1.5516
5	2-26-2022	5-25-2022	0.6764	0.6764
		Highest	4.5742	4.5742

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	2/26/2021	3/2/2021	5	3	
2	Develop Staging Areas	Site Preparation	3/3/2021	3/5/2021	5	3	
3	Construct NCP Bypass	Grading	3/8/2021	4/14/2021	5	28	
4	Install Boat Launch/Silt Curtain	Building Construction	3/8/2021	3/24/2021	5	13	
5	Dredge and Drill Shafts	Building Construction	3/25/2021	5/11/2021	5	34	
6	Access Road Improvement	Grading	4/15/2021	4/16/2021	5	2	
7	Grade Portal Platform	Grading	4/17/2021	5/12/2021	5	18	
8	Install Culvert Bridge	Building Construction	5/13/2021	6/15/2021	5	24	
9	Construct Intake/Air Vent	Building Construction	5/13/2021	10/4/2021	5	103	
10	Tunnel Excavation	Building Construction	9/1/2021	11/26/2021	5	63	
11	Inlet Control House	Building Construction	10/18/2021	11/26/2021	5	30	
12	Inlet/Outlet Conduit/Backfill Tunnel	Building Construction	11/27/2021	1/10/2022	5	31	
13	Start Outlet Yard Construction	Building Construction	1/11/2022	2/14/2022	5	25	
14	Complete Outlet Yard Construction	Building Construction	2/15/2022	3/3/2022	5	13	
15	Electrical Controls Installation	Building Construction	3/4/2022	3/16/2022	5	9	
16	Perform Start-Up Testing	Building Construction	3/17/2022	4/7/2022	5	16	
17	Decommission Existing Outlet	Building Construction	4/8/2022	5/12/2022	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Off-Highway Trucks	1	16.00	464	0.38
Mobilization	Rough Terrain Forklifts	1	16.00	97	0.40

Mobilization	Rubber Tired Dozers	0	0.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Develop Staging Areas	Cranes	1	16.00	231	0.29
Develop Staging Areas	Excavators	1	16.00	308	0.38
Develop Staging Areas	Off-Highway Trucks	3	16.00	464	0.38
Develop Staging Areas	Off-Highway Trucks	2	8.00	402	0.38
Develop Staging Areas	Rubber Tired Dozers	2	16.00	228	0.40
Develop Staging Areas	Tractors/Loaders/Backhoes	2	16.00	130	0.37
Construct NCP Bypass	Cranes	1	16.00	231	0.29
Construct NCP Bypass	Excavators	1	16.00	345	0.38
Construct NCP Bypass	Graders	1	16.00	240	0.41
Construct NCP Bypass	Off-Highway Trucks	2	16.00	464	0.38
Construct NCP Bypass	Off-Highway Trucks	1	8.00	402	0.38
Construct NCP Bypass	Rollers	1	8.00	156	0.38
Construct NCP Bypass	Rough Terrain Forklifts	1	16.00	97	0.40
Construct NCP Bypass	Rubber Tired Dozers	1	16.00	228	0.40
Construct NCP Bypass	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Install Boat Launch/Silt Curtain	Cranes	1	16.00	231	0.29
Install Boat Launch/Silt Curtain	Excavators	1	16.00	308	0.38
Install Boat Launch/Silt Curtain	Forklifts	0	0.00	89	0.20
Install Boat Launch/Silt Curtain	Generator Sets	1	24.00	84	0.74
Install Boat Launch/Silt Curtain	Graders	1	16.00	240	0.41
Install Boat Launch/Silt Curtain	Off-Highway Trucks	2	16.00	464	0.38
Install Boat Launch/Silt Curtain	Off-Highway Trucks	1	8.00	402	0.38
Install Boat Launch/Silt Curtain	Rollers	1	8.00	156	0.38
Install Boat Launch/Silt Curtain	Rough Terrain Forklifts	1	16.00	97	0.40
Install Boat Launch/Silt Curtain	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Install Boat Launch/Silt Curtain	Welders	0	0.00	46	0.45
Dredge and Drill Shafts	Air Compressors	1	16.00	50	0.48
Dredge and Drill Shafts	Bore/Drill Rigs	1	16.00	221	0.50
Dredge and Drill Shafts	Cranes	1	16.00	231	0.29
Dredge and Drill Shafts	Excavators	1	16.00	158	0.38

Dredge and Drill Shafts	Forklifts	0	0.00	89	0.20
Dredge and Drill Shafts	Generator Sets	0	0.00	84	0.74
Dredge and Drill Shafts	Generator Sets	1	16.00	335	0.74
Dredge and Drill Shafts	Other General Industrial Equipment	1	16.00	50	0.34
Dredge and Drill Shafts	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Dredge and Drill Shafts	Welders	0	0.00	46	0.45
Access Road Improvement	Excavators	1	16.00	308	0.38
Access Road Improvement	Graders	1	16.00	240	0.41
Access Road Improvement	Off-Highway Trucks	2	16.00	464	0.38
Access Road Improvement	Off-Highway Trucks	1	8.00	402	0.38
Access Road Improvement	Rollers	1	8.00	156	0.38
Access Road Improvement	Rough Terrain Forklifts	1	16.00	97	0.40
Access Road Improvement	Rubber Tired Dozers	1	10.00	228	0.40
Access Road Improvement	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Grade Portal Platform	Cement and Mortar Mixers	4	16.00	9	0.56
Grade Portal Platform	Cranes	1	16.00	231	0.29
Grade Portal Platform	Excavators	0	0.00	156	0.38
Grade Portal Platform	Graders	0	0.00	187	0.41
Grade Portal Platform	Off-Highway Trucks	3	16.00	464	0.38
Grade Portal Platform	Off-Highway Trucks	2	8.00	402	0.38
Grade Portal Platform	Rubber Tired Dozers	2	16.00	228	0.40
Grade Portal Platform	Tractors/Loaders/Backhoes	2	16.00	130	0.37
Install Culvert Bridge	Cranes	1	16.00	231	0.29
Install Culvert Bridge	Excavators	1	16.00	308	0.38
Install Culvert Bridge	Forklifts	0	0.00	89	0.20
Install Culvert Bridge	Generator Sets	0	0.00	84	0.74
Install Culvert Bridge	Off-Highway Trucks	1	16.00	464	0.38
Install Culvert Bridge	Rollers	1	8.00	156	0.38
Install Culvert Bridge	Rough Terrain Forklifts	2	16.00	97	0.40
Install Culvert Bridge	Rubber Tired Dozers	1	16.00	228	0.40
Install Culvert Bridge	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Install Culvert Bridge	Welders	0	0.00	46	0.45

Construct Intake/Air Vent	Air Compressors	1	16.00	50	0.48
Construct Intake/Air Vent	Cement and Mortar Mixers	2	16.00	9	0.56
Construct Intake/Air Vent	Cranes	1	16.00	231	0.29
Construct Intake/Air Vent	Forklifts	0	0.00	89	0.20
Construct Intake/Air Vent	Generator Sets	0	0.00	84	0.74
Construct Intake/Air Vent	Generator Sets	1	16.00	335	0.74
Construct Intake/Air Vent	Other General Industrial Equipment	1	16.00	50	0.34
Construct Intake/Air Vent	Rough Terrain Forklifts	1	16.00	97	0.40
Construct Intake/Air Vent	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Construct Intake/Air Vent	Welders	0	0.00	46	0.45
Tunnel Excavation	Air Compressors	2	24.00	78	0.48
Tunnel Excavation	Bore/Drill Rigs	1	24.00	512	0.50
Tunnel Excavation	Cement and Mortar Mixers	1	24.00	9	0.56
Tunnel Excavation	Cranes	0	0.00	231	0.29
Tunnel Excavation	Forklifts	0	0.00	89	0.20
Tunnel Excavation	Generator Sets	1	24.00	84	0.74
Tunnel Excavation	Off-Highway Trucks	2	24.00	464	0.38
Tunnel Excavation	Other General Industrial Equipment	2	24.00	88	0.34
Tunnel Excavation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Tunnel Excavation	Welders	0	0.00	46	0.45
Inlet Control House	Cement and Mortar Mixers	2	8.00	9	0.56
Inlet Control House	Cranes	1	8.00	231	0.29
Inlet Control House	Excavators	1	8.00	308	0.38
Inlet Control House	Forklifts	0	0.00	89	0.20
Inlet Control House	Generator Sets	0	0.00	84	0.74
Inlet Control House	Graders	1	8.00	240	0.41
Inlet Control House	Off-Highway Trucks	1	8.00	464	0.38
Inlet Control House	Rough Terrain Forklifts	1	8.00	97	0.40
Inlet Control House	Tractors/Loaders/Backhoes	1	8.00	61	0.37
Inlet Control House	Welders	0	0.00	46	0.45
Inlet/Outlet Conduit/Backfill Tunnel	Air Compressors	2	24.00	78	0.48
Inlet/Outlet Conduit/Backfill Tunnel	Cement and Mortar Mixers	4	10.00	9	0.56

Inlet/Outlet Conduit/Backfill Tunnel	Cranes	0	0.00	231	0.29
Inlet/Outlet Conduit/Backfill Tunnel	Forklifts	0	0.00	89	0.20
Inlet/Outlet Conduit/Backfill Tunnel	Generator Sets	1	24.00	84	0.74
Inlet/Outlet Conduit/Backfill Tunnel	Rough Terrain Forklifts	2	24.00	97	0.40
Inlet/Outlet Conduit/Backfill Tunnel	Tractors/Loaders/Backhoes	1	24.00	61	0.37
Inlet/Outlet Conduit/Backfill Tunnel	Welders	0	0.00	46	0.45
Start Outlet Yard Construction	Cement and Mortar Mixers	2	4.00	9	0.56
Start Outlet Yard Construction	Cranes	1	16.00	231	0.29
Start Outlet Yard Construction	Excavators	1	16.00	308	0.38
Start Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Start Outlet Yard Construction	Generator Sets	1	16.00	84	0.74
Start Outlet Yard Construction	Graders	1	8.00	240	0.41
Start Outlet Yard Construction	Off-Highway Trucks	1	8.00	464	0.38
Start Outlet Yard Construction	Rollers	1	8.00	156	0.38
Start Outlet Yard Construction	Rough Terrain Forklifts	2	16.00	97	0.40
Start Outlet Yard Construction	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Start Outlet Yard Construction	Welders	0	0.00	46	0.45
Complete Outlet Yard Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Complete Outlet Yard Construction	Cranes	1	16.00	231	0.29
Complete Outlet Yard Construction	Excavators	1	16.00	308	0.38
Complete Outlet Yard Construction	Forklifts	0	0.00	89	0.20
Complete Outlet Yard Construction	Generator Sets	1	24.00	84	0.74
Complete Outlet Yard Construction	Graders	1	16.00	240	0.41
Complete Outlet Yard Construction	Off-Highway Trucks	1	16.00	464	0.38
Complete Outlet Yard Construction	Rollers	1	16.00	156	0.38
Complete Outlet Yard Construction	Rough Terrain Forklifts	2	16.00	97	0.40
Complete Outlet Yard Construction	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Complete Outlet Yard Construction	Welders	0	0.00	46	0.45
Electrical Controls Installation	Cranes	1	16.00	231	0.29
Electrical Controls Installation	Excavators	1	8.00	308	0.38
Electrical Controls Installation	Forklifts	0	0.00	89	0.20
Electrical Controls Installation	Generator Sets	2	16.00	84	0.74

Electrical Controls Installation	Rough Terrain Forklifts	2	8.00	97	0.40
Electrical Controls Installation	Tractors/Loaders/Backhoes	1	8.00	130	0.37
Electrical Controls Installation	Welders	0	0.00	46	0.45
Perform Start-Up Testing	Cranes	1	16.00	231	0.29
Perform Start-Up Testing	Forklifts	0	0.00	89	0.20
Perform Start-Up Testing	Generator Sets	0	0.00	84	0.74
Perform Start-Up Testing	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Perform Start-Up Testing	Welders	0	0.00	46	0.45
Decommission Existing Outlet	Cement and Mortar Mixers	1	16.00	9	0.56
Decommission Existing Outlet	Cranes	1	16.00	231	0.29
Decommission Existing Outlet	Forklifts	0	0.00	89	0.20
Decommission Existing Outlet	Generator Sets	0	0.00	84	0.74
Decommission Existing Outlet	Off-Highway Trucks	1	16.00	464	0.38
Decommission Existing Outlet	Tractors/Loaders/Backhoes	1	16.00	61	0.37
Decommission Existing Outlet	Welders	0	0.00	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
Mobilization	3	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Develop Staging Areas	11	54.00	6.00	200.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Construct NCP Runoff	10	54.00	6.00	176.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Boat Launch/Silt Curtain	10	0.00	0.00	24.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Dredge and Drill Shafts	6	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Access Road Improvement	9	54.00	6.00	20.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Grade Portal Platform	14	54.00	6.00	346.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Install Culvert Bridge	8	54.00	6.00	6.00	25.00	11.00	30.00	LD_Mix	HDT_Mix	HHDT
Construct Intake/Air Vent	7	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Tunnel Excavation	9	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet Control House	8	0.00	3.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Inlet/Outlet Conduit/Backfill	10	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

Start Outlet Yard	11	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Complete Outlet Yard	10	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Electrical Controls	7	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Perform Start-Up	1	54.00	6.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT
Decommission	4	54.00	9.00	0.00	25.00	11.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8100e-003	0.0265	0.0234	6.0000e-005		1.0600e-003	1.0600e-003		9.8000e-004	9.8000e-004	0.0000	5.4123	5.4123	1.7500e-003	0.0000	5.4561
Total	2.8100e-003	0.0265	0.0234	6.0000e-005	0.0000	1.0600e-003	1.0600e-003	0.0000	9.8000e-004	9.8000e-004	0.0000	5.4123	5.4123	1.7500e-003	0.0000	5.4561

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	4.0000e-005	1.3700e-003	3.6000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3314	0.3314	1.0000e-005	0.0000	0.3317

Worker	6.7000e-004	6.4000e-004	5.5900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.3095	1.3095	5.0000e-005	0.0000	1.3107
Total	7.1000e-004	2.0100e-003	5.9500e-003	1.0000e-005	1.5700e-003	2.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.4000e-004	0.0000	1.6409	1.6409	6.0000e-005	0.0000	1.6424

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8100e-003	0.0265	0.0234	6.0000e-005		1.0600e-003	1.0600e-003		9.8000e-004	9.8000e-004	0.0000	5.4123	5.4123	1.7500e-003	0.0000	5.4561
Total	2.8100e-003	0.0265	0.0234	6.0000e-005	0.0000	1.0600e-003	1.0600e-003	0.0000	9.8000e-004	9.8000e-004	0.0000	5.4123	5.4123	1.7500e-003	0.0000	5.4561

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	4.0000e-005	1.3700e-003	3.6000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3314	0.3314	1.0000e-005	0.0000	0.3317
Worker	6.7000e-004	6.4000e-004	5.5900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.3095	1.3095	5.0000e-005	0.0000	1.3107
Total	7.1000e-004	2.0100e-003	5.9500e-003	1.0000e-005	1.5700e-003	2.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.4000e-004	0.0000	1.6409	1.6409	6.0000e-005	0.0000	1.6424

3.3 Develop Staging Areas - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0364	0.0000	0.0364	0.0199	0.0000	0.0199	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1645	0.0990	3.0000e-004		6.9300e-003	6.9300e-003		6.3800e-003	6.3800e-003	0.0000	26.0029	26.0029	8.4100e-003	0.0000	26.2132
Total	0.0172	0.1645	0.0990	3.0000e-004	0.0364	6.9300e-003	0.0433	0.0199	6.3800e-003	0.0263	0.0000	26.0029	26.0029	8.4100e-003	0.0000	26.2132

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	8.2000e-004	0.0341	7.6600e-003	9.0000e-005	1.8400e-003	1.4000e-004	1.9800e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	8.4696	8.4696	3.4000e-004	0.0000	8.4780
Vendor	4.0000e-005	1.3700e-003	3.6000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3314	0.3314	1.0000e-005	0.0000	0.3317
Worker	6.7000e-004	6.4000e-004	5.5900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.3095	1.3095	5.0000e-005	0.0000	1.3107
Total	1.5300e-003	0.0362	0.0136	1.0000e-004	3.4100e-003	1.6000e-004	3.5700e-003	9.3000e-004	1.4000e-004	1.0800e-003	0.0000	10.1105	10.1105	4.0000e-004	0.0000	10.1204

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					0.0164	0.0000	0.0164	8.9600e-003	0.0000	8.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0172	0.1645	0.0990	3.0000e-004		6.9300e-003	6.9300e-003		6.3800e-003	6.3800e-003	0.0000	26.0029	26.0029	8.4100e-003	0.0000	26.2132
Total	0.0172	0.1645	0.0990	3.0000e-004	0.0164	6.9300e-003	0.0233	8.9600e-003	6.3800e-003	0.0153	0.0000	26.0029	26.0029	8.4100e-003	0.0000	26.2132

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	8.2000e-004	0.0341	7.6600e-003	9.0000e-005	1.8400e-003	1.4000e-004	1.9800e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	8.4696	8.4696	3.4000e-004	0.0000	8.4780
Vendor	4.0000e-005	1.3700e-003	3.6000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3314	0.3314	1.0000e-005	0.0000	0.3317
Worker	6.7000e-004	6.4000e-004	5.5900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.3095	1.3095	5.0000e-005	0.0000	1.3107
Total	1.5300e-003	0.0362	0.0136	1.0000e-004	3.4100e-003	1.6000e-004	3.5700e-003	9.3000e-004	1.4000e-004	1.0800e-003	0.0000	10.1105	10.1105	4.0000e-004	0.0000	10.1204

3.4 Construct NCP Bypass - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1834	0.0000	0.1834	0.0943	0.0000	0.0943	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1206	1.2316	0.7191	2.2000e-003		0.0484	0.0484		0.0446	0.0446	0.0000	192.8286	192.8286	0.0624	0.0000	194.3877
Total	0.1206	1.2316	0.7191	2.2000e-003	0.1834	0.0484	0.2319	0.0943	0.0446	0.1389	0.0000	192.8286	192.8286	0.0624	0.0000	194.3877

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	7.2000e-004	0.0300	6.7400e-003	8.0000e-005	1.6200e-003	1.2000e-004	1.7400e-003	4.4000e-004	1.2000e-004	5.6000e-004	0.0000	7.4533	7.4533	3.0000e-004	0.0000	7.4607
Vendor	3.8000e-004	0.0128	3.3800e-003	3.0000e-005	8.3000e-004	5.0000e-005	8.7000e-004	2.4000e-004	5.0000e-005	2.8000e-004	0.0000	3.0927	3.0927	1.1000e-004	0.0000	3.0954
Worker	6.2500e-003	5.9900e-003	0.0522	1.4000e-004	0.0138	1.1000e-004	0.0140	3.6800e-003	1.0000e-004	3.7800e-003	0.0000	12.2218	12.2218	4.6000e-004	0.0000	12.2333
Total	7.3500e-003	0.0489	0.0623	2.5000e-004	0.0163	2.8000e-004	0.0166	4.3600e-003	2.7000e-004	4.6200e-003	0.0000	22.7678	22.7678	8.7000e-004	0.0000	22.7894

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					0.0826	0.0000	0.0826	0.0424	0.0000	0.0424	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1206	1.2316	0.7191	2.2000e-003		0.0484	0.0484		0.0446	0.0446	0.0000	192.8284	192.8284	0.0624	0.0000	194.3875
Total	0.1206	1.2316	0.7191	2.2000e-003	0.0826	0.0484	0.1310	0.0424	0.0446	0.0870	0.0000	192.8284	192.8284	0.0624	0.0000	194.3875

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	7.2000e-004	0.0300	6.7400e-003	8.0000e-005	1.6200e-003	1.2000e-004	1.7400e-003	4.4000e-004	1.2000e-004	5.6000e-004	0.0000	7.4533	7.4533	3.0000e-004	0.0000	7.4607

Vendor	3.8000e-004	0.0128	3.3800e-003	3.0000e-005	8.3000e-004	5.0000e-005	8.7000e-004	2.4000e-004	5.0000e-005	2.8000e-004	0.0000	3.0927	3.0927	1.1000e-004	0.0000	3.0954
Worker	6.2500e-003	5.9900e-003	0.0522	1.4000e-004	0.0138	1.1000e-004	0.0140	3.6800e-003	1.0000e-004	3.7800e-003	0.0000	12.2218	12.2218	4.6000e-004	0.0000	12.2333
Total	7.3500e-003	0.0489	0.0623	2.5000e-004	0.0163	2.8000e-004	0.0166	4.3600e-003	2.7000e-004	4.6200e-003	0.0000	22.7678	22.7678	8.7000e-004	0.0000	22.7894

3.5 Install Boat Launch/Silt Curtain - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0503	0.5018	0.3552	1.0300e-003		0.0196	0.0196		0.0183	0.0183	0.0000	90.0619	90.0619	0.0261	0.0000	90.7150
Total	0.0503	0.5018	0.3552	1.0300e-003		0.0196	0.0196		0.0183	0.0183	0.0000	90.0619	90.0619	0.0261	0.0000	90.7150

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	1.3000e-004	5.1700e-003	1.1800e-003	1.0000e-005	3.0000e-004	2.0000e-005	3.2000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3516	1.3516	5.0000e-005	0.0000	1.3529
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3000e-004	5.1700e-003	1.1800e-003	1.0000e-005	3.0000e-004	2.0000e-005	3.2000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3516	1.3516	5.0000e-005	0.0000	1.3529

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	0.0503	0.5018	0.3552	1.0300e-003		0.0196	0.0196		0.0183	0.0183	0.0000	90.0617	90.0617	0.0261	0.0000	90.7149
Total	0.0503	0.5018	0.3552	1.0300e-003		0.0196	0.0196		0.0183	0.0183	0.0000	90.0617	90.0617	0.0261	0.0000	90.7149

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	1.3000e-004	5.1700e-003	1.1800e-003	1.0000e-005	3.0000e-004	2.0000e-005	3.2000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3516	1.3516	5.0000e-005	0.0000	1.3529
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3000e-004	5.1700e-003	1.1800e-003	1.0000e-005	3.0000e-004	2.0000e-005	3.2000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3516	1.3516	5.0000e-005	0.0000	1.3529

3.6 Dredge and Drill Shafts - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0779	0.6789	0.5237	1.5900e-003		0.0265	0.0265		0.0252	0.0252	0.0000	149.7191	149.7191	0.0243	0.0000	150.3267

Total	0.0779	0.6789	0.5237	1.5900e-003		0.0265	0.0265		0.0252	0.0252	0.0000	149.7191	149.7191	0.0243	0.0000	150.3267

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	2.3000e-004	7.7800e-003	2.0500e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	1.8777	1.8777	6.0000e-005	0.0000	1.8794
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.3000e-004	7.7800e-003	2.0500e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	1.8777	1.8777	6.0000e-005	0.0000	1.8794

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	0.0779	0.6789	0.5237	1.5900e-003		0.0265	0.0265		0.0252	0.0252	0.0000	149.7189	149.7189	0.0243	0.0000	150.3265
Total	0.0779	0.6789	0.5237	1.5900e-003		0.0265	0.0265		0.0252	0.0252	0.0000	149.7189	149.7189	0.0243	0.0000	150.3265

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	2.3000e-004	7.7800e-003	2.0500e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	1.8777	1.8777	6.0000e-005	0.0000	1.8794
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.3000e-004	7.7800e-003	2.0500e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	1.8777	1.8777	6.0000e-005	0.0000	1.8794

3.7 Access Road Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.5500e-003	0.0000	8.5500e-003	4.2500e-003	0.0000	4.2500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9900e-003	0.0700	0.0441	1.4000e-004		2.6800e-003	2.6800e-003		2.4600e-003	2.4600e-003	0.0000	12.0288	12.0288	3.8900e-003	0.0000	12.1261
Total	6.9900e-003	0.0700	0.0441	1.4000e-004	8.5500e-003	2.6800e-003	0.0112	4.2500e-003	2.4600e-003	6.7100e-003	0.0000	12.0288	12.0288	3.8900e-003	0.0000	12.1261

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	3.4100e-003	7.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8470	0.8470	3.0000e-005	0.0000	0.8478

Vendor	3.0000e-005	9.2000e-004	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2209	0.2209	1.0000e-005	0.0000	0.2211
Worker	4.5000e-004	4.3000e-004	3.7300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8730	0.8730	3.0000e-005	0.0000	0.8738
Total	5.6000e-004	4.7600e-003	4.7400e-003	2.0000e-005	1.2300e-003	2.0000e-005	1.2600e-003	3.3000e-004	2.0000e-005	3.5000e-004	0.0000	1.9409	1.9409	7.0000e-005	0.0000	1.9427

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					3.8500e-003	0.0000	3.8500e-003	1.9100e-003	0.0000	1.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9900e-003	0.0700	0.0441	1.4000e-004		2.6800e-003	2.6800e-003		2.4600e-003	2.4600e-003	0.0000	12.0288	12.0288	3.8900e-003	0.0000	12.1261
Total	6.9900e-003	0.0700	0.0441	1.4000e-004	3.8500e-003	2.6800e-003	6.5300e-003	1.9100e-003	2.4600e-003	4.3700e-003	0.0000	12.0288	12.0288	3.8900e-003	0.0000	12.1261

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	3.4100e-003	7.7000e-004	1.0000e-005	1.8000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8470	0.8470	3.0000e-005	0.0000	0.8478
Vendor	3.0000e-005	9.2000e-004	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2209	0.2209	1.0000e-005	0.0000	0.2211
Worker	4.5000e-004	4.3000e-004	3.7300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8730	0.8730	3.0000e-005	0.0000	0.8738
Total	5.6000e-004	4.7600e-003	4.7400e-003	2.0000e-005	1.2300e-003	2.0000e-005	1.2600e-003	3.3000e-004	2.0000e-005	3.5000e-004	0.0000	1.9409	1.9409	7.0000e-005	0.0000	1.9427

3.8 Grade Portal Platform - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2194	0.0000	0.2194	0.1195	0.0000	0.1195	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1019	0.9642	0.5760	1.6500e-003		0.0410	0.0410		0.0378	0.0378	0.0000	143.4877	143.4877	0.0457	0.0000	144.6297
Total	0.1019	0.9642	0.5760	1.6500e-003	0.2194	0.0410	0.2603	0.1195	0.0378	0.1572	0.0000	143.4877	143.4877	0.0457	0.0000	144.6297

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	1.4200e-003	0.0591	0.0133	1.5000e-004	3.1900e-003	2.4000e-004	3.4300e-003	8.7000e-004	2.3000e-004	1.1000e-003	0.0000	14.6524	14.6524	5.8000e-004	0.0000	14.6670
Vendor	2.5000e-004	8.2400e-003	2.1700e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	1.9882	1.9882	7.0000e-005	0.0000	1.9899
Worker	4.0200e-003	3.8500e-003	0.0335	9.0000e-005	8.9000e-003	7.0000e-005	8.9700e-003	2.3700e-003	7.0000e-005	2.4300e-003	0.0000	7.8569	7.8569	3.0000e-004	0.0000	7.8643
Total	5.6900e-003	0.0712	0.0490	2.6000e-004	0.0126	3.4000e-004	0.0130	3.3900e-003	3.3000e-004	3.7100e-003	0.0000	24.4975	24.4975	9.5000e-004	0.0000	24.5212

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					0.0987	0.0000	0.0987	0.0538	0.0000	0.0538	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1019	0.9642	0.5760	1.6500e-003		0.0410	0.0410		0.0378	0.0378	0.0000	143.4875	143.4875	0.0457	0.0000	144.6296
Total	0.1019	0.9642	0.5760	1.6500e-003	0.0987	0.0410	0.1397	0.0538	0.0378	0.0915	0.0000	143.4875	143.4875	0.0457	0.0000	144.6296

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	1.4200e-003	0.0591	0.0133	1.5000e-004	3.1900e-003	2.4000e-004	3.4300e-003	8.7000e-004	2.3000e-004	1.1000e-003	0.0000	14.6524	14.6524	5.8000e-004	0.0000	14.6670
Vendor	2.5000e-004	8.2400e-003	2.1700e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	1.9882	1.9882	7.0000e-005	0.0000	1.9899
Worker	4.0200e-003	3.8500e-003	0.0335	9.0000e-005	8.9000e-003	7.0000e-005	8.9700e-003	2.3700e-003	7.0000e-005	2.4300e-003	0.0000	7.8569	7.8569	3.0000e-004	0.0000	7.8643
Total	5.6900e-003	0.0712	0.0490	2.6000e-004	0.0126	3.4000e-004	0.0130	3.3900e-003	3.3000e-004	3.7100e-003	0.0000	24.4975	24.4975	9.5000e-004	0.0000	24.5212

3.9 Install Culvert Bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0679	0.7015	0.4684	1.2000e-003		0.0299	0.0299		0.0275	0.0275	0.0000	105.6186	105.6186	0.0342	0.0000	106.4726
Total	0.0679	0.7015	0.4684	1.2000e-003		0.0299	0.0299		0.0275	0.0275	0.0000	105.6186	105.6186	0.0342	0.0000	106.4726

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	1.2900e-003	3.0000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3379	0.3379	1.0000e-005	0.0000	0.3382
Vendor	3.3000e-004	0.0110	2.8900e-003	3.0000e-005	7.1000e-004	4.0000e-005	7.5000e-004	2.0000e-004	4.0000e-005	2.4000e-004	0.0000	2.6509	2.6509	9.0000e-005	0.0000	2.6532
Worker	5.3600e-003	5.1400e-003	0.0447	1.2000e-004	0.0119	9.0000e-005	0.0120	3.1600e-003	9.0000e-005	3.2400e-003	0.0000	10.4758	10.4758	3.9000e-004	0.0000	10.4857
Total	5.7200e-003	0.0174	0.0479	1.5000e-004	0.0127	1.4000e-004	0.0128	3.3800e-003	1.4000e-004	3.5100e-003	0.0000	13.4647	13.4647	4.9000e-004	0.0000	13.4771

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	0.0679	0.7015	0.4684	1.2000e-003		0.0299	0.0299		0.0275	0.0275	0.0000	105.6185	105.6185	0.0342	0.0000	106.4724
Total	0.0679	0.7015	0.4684	1.2000e-003		0.0299	0.0299		0.0275	0.0275	0.0000	105.6185	105.6185	0.0342	0.0000	106.4724

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	1.2900e-003	3.0000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3379	0.3379	1.0000e-005	0.0000	0.3382

Vendor	3.3000e-004	0.0110	2.8900e-003	3.0000e-005	7.1000e-004	4.0000e-005	7.5000e-004	2.0000e-004	4.0000e-005	2.4000e-004	0.0000	2.6509	2.6509	9.0000e-005	0.0000	2.6532
Worker	5.3600e-003	5.1400e-003	0.0447	1.2000e-004	0.0119	9.0000e-005	0.0120	3.1600e-003	9.0000e-005	3.2400e-003	0.0000	10.4758	10.4758	3.9000e-004	0.0000	10.4857
Total	5.7200e-003	0.0174	0.0479	1.5000e-004	0.0127	1.4000e-004	0.0128	3.3800e-003	1.4000e-004	3.5100e-003	0.0000	13.4647	13.4647	4.9000e-004	0.0000	13.4771

3.10 Construct Intake/Air Vent - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2101	1.7605	1.3285	3.8100e-003		0.0693	0.0693		0.0664	0.0664	0.0000	361.2920	361.2920	0.0417	0.0000	362.3347
Total	0.2101	1.7605	1.3285	3.8100e-003		0.0693	0.0693		0.0664	0.0664	0.0000	361.2920	361.2920	0.0417	0.0000	362.3347

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	7.0000e-004	0.0236	6.2100e-003	6.0000e-005	1.5200e-003	9.0000e-005	1.6100e-003	4.4000e-004	8.0000e-005	5.2000e-004	0.0000	5.6884	5.6884	2.0000e-004	0.0000	5.6933
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.0000e-004	0.0236	6.2100e-003	6.0000e-005	1.5200e-003	9.0000e-005	1.6100e-003	4.4000e-004	8.0000e-005	5.2000e-004	0.0000	5.6884	5.6884	2.0000e-004	0.0000	5.6933

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	0.2101	1.7605	1.3285	3.8100e-003		0.0693	0.0693		0.0664	0.0664	0.0000	361.2916	361.2916	0.0417	0.0000	362.3343
Total	0.2101	1.7605	1.3285	3.8100e-003		0.0693	0.0693		0.0664	0.0664	0.0000	361.2916	361.2916	0.0417	0.0000	362.3343

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	7.0000e-004	0.0236	6.2100e-003	6.0000e-005	1.5200e-003	9.0000e-005	1.6100e-003	4.4000e-004	8.0000e-005	5.2000e-004	0.0000	5.6884	5.6884	2.0000e-004	0.0000	5.6933
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.0000e-004	0.0236	6.2100e-003	6.0000e-005	1.5200e-003	9.0000e-005	1.6100e-003	4.4000e-004	8.0000e-005	5.2000e-004	0.0000	5.6884	5.6884	2.0000e-004	0.0000	5.6933

3.11 Tunnel Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3086	2.6453	2.4093	6.8900e-003		0.1228	0.1228		0.1162	0.1162	0.0000	601.1340	601.1340	0.1625	0.0000	605.1971

Total	0.3086	2.6453	2.4093	6.8900e-003		0.1228	0.1228		0.1162	0.1162	0.0000	601.1340	601.1340	0.1625	0.0000	605.1971

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	1.2900e-003	0.0433	0.0114	1.1000e-004	2.7900e-003	1.6000e-004	2.9500e-003	8.1000e-004	1.5000e-004	9.6000e-004	0.0000	10.4380	10.4380	3.6000e-004	0.0000	10.4470
Worker	0.0141	0.0135	0.1174	3.0000e-004	0.0312	2.5000e-004	0.0314	8.2800e-003	2.3000e-004	8.5100e-003	0.0000	27.4991	27.4991	1.0300e-003	0.0000	27.5249
Total	0.0154	0.0568	0.1288	4.1000e-004	0.0339	4.1000e-004	0.0344	9.0900e-003	3.8000e-004	9.4700e-003	0.0000	37.9371	37.9371	1.3900e-003	0.0000	37.9719

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	0.3086	2.6453	2.4093	6.8900e-003		0.1228	0.1228		0.1162	0.1162	0.0000	601.1333	601.1333	0.1625	0.0000	605.1964
Total	0.3086	2.6453	2.4093	6.8900e-003		0.1228	0.1228		0.1162	0.1162	0.0000	601.1333	601.1333	0.1625	0.0000	605.1964

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	1.2900e-003	0.0433	0.0114	1.1000e-004	2.7900e-003	1.6000e-004	2.9500e-003	8.1000e-004	1.5000e-004	9.6000e-004	0.0000	10.4380	10.4380	3.6000e-004	0.0000	10.4470
Worker	0.0141	0.0135	0.1174	3.0000e-004	0.0312	2.5000e-004	0.0314	8.2800e-003	2.3000e-004	8.5100e-003	0.0000	27.4991	27.4991	1.0300e-003	0.0000	27.5249
Total	0.0154	0.0568	0.1288	4.1000e-004	0.0339	4.1000e-004	0.0344	9.0900e-003	3.8000e-004	9.4700e-003	0.0000	37.9371	37.9371	1.3900e-003	0.0000	37.9719

3.12 Inlet Control House - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0352	0.3716	0.2238	6.9000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	60.4377	60.4377	0.0192	0.0000	60.9188
Total	0.0352	0.3716	0.2238	6.9000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	60.4377	60.4377	0.0192	0.0000	60.9188

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	2.0000e-004	6.8700e-003	1.8100e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.7000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.6568	1.6568	6.0000e-005	0.0000	1.6583
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0000e-004	6.8700e-003	1.8100e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.7000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.6568	1.6568	6.0000e-005	0.0000	1.6583

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	0.0352	0.3715	0.2238	6.9000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	60.4376	60.4376	0.0192	0.0000	60.9187
Total	0.0352	0.3715	0.2238	6.9000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	60.4376	60.4376	0.0192	0.0000	60.9187

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	2.0000e-004	6.8700e-003	1.8100e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.7000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.6568	1.6568	6.0000e-005	0.0000	1.6583
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0000e-004	6.8700e-003	1.8100e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.7000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.6568	1.6568	6.0000e-005	0.0000	1.6583

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0523	0.4564	0.5594	9.1000e-004		0.0238	0.0238		0.0232	0.0232	0.0000	78.0574	78.0574	0.0123	0.0000	78.3658
Total	0.0523	0.4564	0.5594	9.1000e-004		0.0238	0.0238		0.0232	0.0232	0.0000	78.0574	78.0574	0.0123	0.0000	78.3658

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	5.1000e-004	0.0172	4.5200e-003	4.0000e-005	1.1100e-003	6.0000e-005	1.1700e-003	3.2000e-004	6.0000e-005	3.8000e-004	0.0000	4.1421	4.1421	1.4000e-004	0.0000	4.1456
Worker	5.5800e-003	5.3500e-003	0.0466	1.2000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3800e-003	0.0000	10.9123	10.9123	4.1000e-004	0.0000	10.9226
Total	6.0900e-003	0.0225	0.0511	1.6000e-004	0.0135	1.6000e-004	0.0136	3.6100e-003	1.5000e-004	3.7600e-003	0.0000	15.0544	15.0544	5.5000e-004	0.0000	15.0682

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	0.0523	0.4564	0.5594	9.1000e-004		0.0238	0.0238		0.0232	0.0232	0.0000	78.0573	78.0573	0.0123	0.0000	78.3657

Total	0.0523	0.4564	0.5594	9.1000e-004		0.0238	0.0238		0.0232	0.0232	0.0000	78.0573	78.0573	0.0123	0.0000	78.3657

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	5.1000e-004	0.0172	4.5200e-003	4.0000e-005	1.1100e-003	6.0000e-005	1.1700e-003	3.2000e-004	6.0000e-005	3.8000e-004	0.0000	4.1421	4.1421	1.4000e-004	0.0000	4.1456
Worker	5.5800e-003	5.3500e-003	0.0466	1.2000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3800e-003	0.0000	10.9123	10.9123	4.1000e-004	0.0000	10.9226
Total	6.0900e-003	0.0225	0.0511	1.6000e-004	0.0135	1.6000e-004	0.0136	3.6100e-003	1.5000e-004	3.7600e-003	0.0000	15.0544	15.0544	5.5000e-004	0.0000	15.0682

3.13 Inlet/Outlet Conduit/Backfill Tunnel - 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	0.0117	0.1010	0.1339	2.2000e-004		4.9100e-003	4.9100e-003		4.8000e-003	4.8000e-003	0.0000	18.7353	18.7353	2.9200e-003	0.0000	18.8083
Total	0.0117	0.1010	0.1339	2.2000e-004		4.9100e-003	4.9100e-003		4.8000e-003	4.8000e-003	0.0000	18.7353	18.7353	2.9200e-003	0.0000	18.8083

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	1.1000e-004	3.8700e-003	9.9000e-004	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.9858	0.9858	3.0000e-005	0.0000	0.9867
Worker	1.2500e-003	1.1500e-003	0.0102	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5282	2.5282	9.0000e-005	0.0000	2.5304
Total	1.3600e-003	5.0200e-003	0.0112	4.0000e-005	3.2400e-003	3.0000e-005	3.2700e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.5141	3.5141	1.2000e-004	0.0000	3.5171

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	0.0117	0.1010	0.1339	2.2000e-004		4.9100e-003	4.9100e-003		4.8000e-003	4.8000e-003	0.0000	18.7353	18.7353	2.9200e-003	0.0000	18.8083
Total	0.0117	0.1010	0.1339	2.2000e-004		4.9100e-003	4.9100e-003		4.8000e-003	4.8000e-003	0.0000	18.7353	18.7353	2.9200e-003	0.0000	18.8083

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	1.1000e-004	3.8700e-003	9.9000e-004	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.9858	0.9858	3.0000e-005	0.0000	0.9867
Worker	1.2500e-003	1.1500e-003	0.0102	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5282	2.5282	9.0000e-005	0.0000	2.5304
Total	1.3600e-003	5.0200e-003	0.0112	4.0000e-005	3.2400e-003	3.0000e-005	3.2700e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.5141	3.5141	1.2000e-004	0.0000	3.5171

3.14 Start Outlet Yard 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	0.0494	0.4989	0.4582	1.1400e-003		0.0197	0.0197		0.0185	0.0185	0.0000	100.0169	100.0169	0.0283	0.0000	100.7250
Total	0.0494	0.4989	0.4582	1.1400e-003		0.0197	0.0197		0.0185	0.0185	0.0000	100.0169	100.0169	0.0283	0.0000	100.7250

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	4.7000e-004	0.0161	4.1500e-003	4.0000e-005	1.1100e-003	6.0000e-005	1.1600e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.1077	4.1077	1.4000e-004	0.0000	4.1111
Worker	5.2300e-003	4.8000e-003	0.0426	1.2000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3700e-003	0.0000	10.5343	10.5343	3.7000e-004	0.0000	10.5435
Total	5.7000e-003	0.0209	0.0467	1.6000e-004	0.0135	1.6000e-004	0.0136	3.6100e-003	1.4000e-004	3.7400e-003	0.0000	14.6420	14.6420	5.1000e-004	0.0000	14.6546

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	0.0494	0.4989	0.4582	1.1400e-003		0.0197	0.0197		0.0185	0.0185	0.0000	100.0168	100.0168	0.0283	0.0000	100.7248
Total	0.0494	0.4989	0.4582	1.1400e-003		0.0197	0.0197		0.0185	0.0185	0.0000	100.0168	100.0168	0.0283	0.0000	100.7248

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	4.7000e-004	0.0161	4.1500e-003	4.0000e-005	1.1100e-003	6.0000e-005	1.1600e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.1077	4.1077	1.4000e-004	0.0000	4.1111
Worker	5.2300e-003	4.8000e-003	0.0426	1.2000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3700e-003	0.0000	10.5343	10.5343	3.7000e-004	0.0000	10.5435
Total	5.7000e-003	0.0209	0.0467	1.6000e-004	0.0135	1.6000e-004	0.0136	3.6100e-003	1.4000e-004	3.7400e-003	0.0000	14.6420	14.6420	5.1000e-004	0.0000	14.6546

3.15 Complete Outlet Yard 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	0.0364	0.3641	0.3215	8.3000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	72.1504	72.1504	0.0202	0.0000	72.6561

Total	0.0364	0.3641	0.3215	8.3000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	72.1504	72.1504	0.0202	0.0000	72.6561

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	2.5000e-004	8.3800e-003	2.1600e-003	2.0000e-005	5.8000e-004	3.0000e-005	6.0000e-004	1.7000e-004	3.0000e-005	1.9000e-004	0.0000	2.1360	2.1360	7.0000e-005	0.0000	2.1378
Worker	2.7200e-003	2.5000e-003	0.0221	6.0000e-005	6.4300e-003	5.0000e-005	6.4800e-003	1.7100e-003	5.0000e-005	1.7500e-003	0.0000	5.4778	5.4778	1.9000e-004	0.0000	5.4826
Total	2.9700e-003	0.0109	0.0243	8.0000e-005	7.0100e-003	8.0000e-005	7.0800e-003	1.8800e-003	8.0000e-005	1.9400e-003	0.0000	7.6138	7.6138	2.6000e-004	0.0000	7.6204

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	0.0364	0.3641	0.3215	8.3000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	72.1503	72.1503	0.0202	0.0000	72.6560
Total	0.0364	0.3641	0.3215	8.3000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	72.1503	72.1503	0.0202	0.0000	72.6560

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	2.5000e-004	8.3800e-003	2.1600e-003	2.0000e-005	5.8000e-004	3.0000e-005	6.0000e-004	1.7000e-004	3.0000e-005	1.9000e-004	0.0000	2.1360	2.1360	7.0000e-005	0.0000	2.1378
Worker	2.7200e-003	2.5000e-003	0.0221	6.0000e-005	6.4300e-003	5.0000e-005	6.4800e-003	1.7100e-003	5.0000e-005	1.7500e-003	0.0000	5.4778	5.4778	1.9000e-004	0.0000	5.4826
Total	2.9700e-003	0.0109	0.0243	8.0000e-005	7.0100e-003	8.0000e-005	7.0800e-003	1.8800e-003	8.0000e-005	1.9400e-003	0.0000	7.6138	7.6138	2.6000e-004	0.0000	7.6204

3.16 Electrical Controls Installation - 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	0.0122	0.1196	0.1248	2.6000e-004		5.3200e-003	5.3200e-003		5.1100e-003	5.1100e-003	0.0000	22.9579	22.9579	4.6200e-003	0.0000	23.0734
Total	0.0122	0.1196	0.1248	2.6000e-004		5.3200e-003	5.3200e-003		5.1100e-003	5.1100e-003	0.0000	22.9579	22.9579	4.6200e-003	0.0000	23.0734

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	1.1000e-004	3.8700e-003	9.9000e-004	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.9858	0.9858	3.0000e-005	0.0000	0.9867
Worker	1.8800e-003	1.7300e-003	0.0153	4.0000e-005	4.4500e-003	3.0000e-005	4.4800e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	3.7923	3.7923	1.3000e-004	0.0000	3.7956
Total	1.9900e-003	5.6000e-003	0.0163	5.0000e-005	4.7200e-003	4.0000e-005	4.7600e-003	1.2600e-003	4.0000e-005	1.3000e-003	0.0000	4.7782	4.7782	1.6000e-004	0.0000	4.7823

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	0.0122	0.1196	0.1248	2.6000e-004		5.3200e-003	5.3200e-003		5.1100e-003	5.1100e-003	0.0000	22.9579	22.9579	4.6200e-003	0.0000	23.0733
Total	0.0122	0.1196	0.1248	2.6000e-004		5.3200e-003	5.3200e-003		5.1100e-003	5.1100e-003	0.0000	22.9579	22.9579	4.6200e-003	0.0000	23.0733

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	1.1000e-004	3.8700e-003	9.9000e-004	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.9858	0.9858	3.0000e-005	0.0000	0.9867
Worker	1.8800e-003	1.7300e-003	0.0153	4.0000e-005	4.4500e-003	3.0000e-005	4.4800e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	3.7923	3.7923	1.3000e-004	0.0000	3.7956
Total	1.9900e-003	5.6000e-003	0.0163	5.0000e-005	4.7200e-003	4.0000e-005	4.7600e-003	1.2600e-003	4.0000e-005	1.3000e-003	0.0000	4.7782	4.7782	1.6000e-004	0.0000	4.7823

3.17 Perform Start-Up Testing - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9700e-003	0.0670	0.0303	9.0000e-005		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003	0.0000	8.1114	8.1114	2.6200e-003	0.0000	8.1770
Total	5.9700e-003	0.0670	0.0303	9.0000e-005		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003	0.0000	8.1114	8.1114	2.6200e-003	0.0000	8.1770

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	2.0000e-004	6.8700e-003	1.7700e-003	2.0000e-005	4.7000e-004	2.0000e-005	5.0000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	1.7526	1.7526	6.0000e-005	0.0000	1.7541
Worker	3.3500e-003	3.0700e-003	0.0272	7.0000e-005	7.9100e-003	6.0000e-005	7.9700e-003	2.1000e-003	6.0000e-005	2.1600e-003	0.0000	6.7419	6.7419	2.3000e-004	0.0000	6.7478
Total	3.5500e-003	9.9400e-003	0.0290	9.0000e-005	8.3800e-003	8.0000e-005	8.4700e-003	2.2400e-003	8.0000e-005	2.3200e-003	0.0000	8.4945	8.4945	2.9000e-004	0.0000	8.5019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9700e-003	0.0670	0.0303	9.0000e-005		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003	0.0000	8.1114	8.1114	2.6200e-003	0.0000	8.1770

Total	5.9700e-003	0.0670	0.0303	9.0000e-005		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003	0.0000	8.1114	8.1114	2.6200e-003	0.0000	8.1770

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	2.0000e-004	6.8700e-003	1.7700e-003	2.0000e-005	4.7000e-004	2.0000e-005	5.0000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	1.7526	1.7526	6.0000e-005	0.0000	1.7541
Worker	3.3500e-003	3.0700e-003	0.0272	7.0000e-005	7.9100e-003	6.0000e-005	7.9700e-003	2.1000e-003	6.0000e-005	2.1600e-003	0.0000	6.7419	6.7419	2.3000e-004	0.0000	6.7478
Total	3.5500e-003	9.9400e-003	0.0290	9.0000e-005	8.3800e-003	8.0000e-005	8.4700e-003	2.2400e-003	8.0000e-005	2.3200e-003	0.0000	8.4945	8.4945	2.9000e-004	0.0000	8.5019

3.18 Decommission Existing Outlet - 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	0.0286	0.2560	0.1871	5.9000e-004		0.0103	0.0103		9.5300e-003	9.5300e-003	0.0000	51.5968	51.5968	0.0164	0.0000	52.0077
Total	0.0286	0.2560	0.1871	5.9000e-004		0.0103	0.0103		9.5300e-003	9.5300e-003	0.0000	51.5968	51.5968	0.0164	0.0000	52.0077

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	4.7000e-004	0.0161	4.1500e-003	4.0000e-005	1.1100e-003	6.0000e-005	1.1600e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.1077	4.1077	1.4000e-004	0.0000	4.1111
Worker	5.2300e-003	4.8000e-003	0.0426	1.2000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3700e-003	0.0000	10.5343	10.5343	3.7000e-004	0.0000	10.5435
Total	5.7000e-003	0.0209	0.0467	1.6000e-004	0.0135	1.6000e-004	0.0136	3.6100e-003	1.4000e-004	3.7400e-003	0.0000	14.6420	14.6420	5.1000e-004	0.0000	14.6546

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	0.0286	0.2560	0.1871	5.9000e-004		0.0103	0.0103		9.5300e-003	9.5300e-003	0.0000	51.5967	51.5967	0.0164	0.0000	52.0076
Total	0.0286	0.2560	0.1871	5.9000e-004		0.0103	0.0103		9.5300e-003	9.5300e-003	0.0000	51.5967	51.5967	0.0164	0.0000	52.0076

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	4.7000e-004	0.0161	4.1500e-003	4.0000e-005	1.1100e-003	6.0000e-005	1.1600e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.1077	4.1077	1.4000e-004	0.0000	4.1111
Worker	5.2300e-003	4.8000e-003	0.0426	1.2000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3700e-003	0.0000	10.5343	10.5343	3.7000e-004	0.0000	10.5435
Total	5.7000e-003	0.0209	0.0467	1.6000e-004	0.0135	1.6000e-004	0.0136	3.6100e-003	1.4000e-004	3.7400e-003	0.0000	14.6420	14.6420	5.1000e-004	0.0000	14.6546

Newell Creek Dam Inlet/Outlet Construction - Accelerated
Santa Cruz County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Access Road Improvement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Complete Outlet Yard Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construct Intake/Air Vent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construct NCP Bypass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Decommission Existing Outlet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Develop Staging Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dredge and Drill Shafts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical Controls Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade Portal Platform	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inlet Control House	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inlet/Outlet Conduit/Backfill Tunnel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Install Boat Launch/Silt Curtain	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Install Culvert Bridge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobilization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Perform Start-Up Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Outlet Yard Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	6	No Change	0.00
Bore/Drill Rigs	Diesel	No Change	0	2	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	17	No Change	0.00
Cranes	Diesel	No Change	0	13	No Change	0.00
Excavators	Diesel	No Change	0	10	No Change	0.00
Forklifts	Diesel	No Change	0	0	No Change	0.00
Generator Sets	Diesel	No Change	0	9	No Change	0.00
Graders	Diesel	No Change	0	6	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	27	No Change	0.00
Other General Industrial Equipment	Diesel	No Change	0	4	No Change	0.00
Rollers	Diesel	No Change	0	6	No Change	0.00
Rough Terrain Forklifts	Diesel	No Change	0	16	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	7	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	15	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Air Compressors	1.33400E-001	8.16030E-001	9.74480E-001	1.52000E-003	4.73800E-002	4.73800E-002	0.00000E+000	1.25899E+002	1.25899E+002	1.07800E-002	0.00000E+000	1.26169E+002
Bore/Drill Rigs	5.04100E-002	5.10320E-001	4.85140E-001	2.41000E-003	1.73500E-002	1.59600E-002	0.00000E+000	2.11635E+002	2.11635E+002	6.84500E-002	0.00000E+000	2.13346E+002
Cement and Mortar Mixers	3.07900E-002	1.92930E-001	1.61590E-001	3.70000E-004	7.50000E-003	7.50000E-003	0.00000E+000	2.40137E+001	2.40137E+001	2.49000E-003	0.00000E+000	2.40760E+001
Cranes	1.31090E-001	1.52236E+000	6.38440E-001	1.88000E-003	6.21500E-002	5.71700E-002	0.00000E+000	1.65250E+002	1.65250E+002	5.34500E-002	0.00000E+000	1.66586E+002
Excavators	4.50900E-002	4.07360E-001	4.02760E-001	1.49000E-003	1.47400E-002	1.35600E-002	0.00000E+000	1.30520E+002	1.30520E+002	4.22100E-002	0.00000E+000	1.31575E+002
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Generator Sets	1.82560E-001	1.62467E+000	1.41766E+000	4.46000E-003	6.46700E-002	6.46700E-002	0.00000E+000	4.34853E+002	4.34853E+002	1.44400E-002	0.00000E+000	4.35214E+002
Graders	4.73000E-002	6.13080E-001	1.87900E-001	7.10000E-004	1.94400E-002	1.78900E-002	0.00000E+000	6.23720E+001	6.23720E+001	2.01700E-002	0.00000E+000	6.28763E+001
Off-Highway Trucks	3.22300E-001	2.76620E+000	1.92985E+000	7.12000E-003	1.01390E-001	9.32800E-002	0.00000E+000	6.25646E+002	6.25646E+002	2.02350E-001	0.00000E+000	6.30705E+002
Other General Industrial Rollers	7.44100E-002	5.52560E-001	5.91300E-001	7.10000E-004	3.73900E-002	3.44000E-002	0.00000E+000	6.21321E+001	6.21321E+001	2.00900E-002	0.00000E+000	6.26345E+001
Rough Terrain Forklifts	1.11400E-002	1.19840E-001	1.80140E-001	3.00000E-004	5.51000E-003	5.07000E-003	0.00000E+000	2.64114E+001	2.64114E+001	8.54000E-003	0.00000E+000	2.66249E+001
Rubber Tired Dozers	4.54800E-002	5.96730E-001	8.67300E-001	1.30000E-003	2.25500E-002	2.07400E-002	0.00000E+000	1.14544E+002	1.14544E+002	3.70500E-002	0.00000E+000	1.15470E+002
Tractors/Loaders/Backhoes	9.20000E-002	9.64630E-001	3.55010E-001	7.50000E-004	4.68200E-002	4.30700E-002	0.00000E+000	6.59917E+001	6.59917E+001	2.13400E-002	0.00000E+000	6.65252E+001
Welders	2.98000E-002	2.92560E-001	3.94020E-001	5.70000E-004	1.59600E-002	1.46800E-002	0.00000E+000	5.03817E+001	5.03817E+001	1.62900E-002	0.00000E+000	5.07891E+001
	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	1.33400E-001	8.16030E-001	9.74470E-001	1.52000E-003	4.73800E-002	4.73800E-002	0.00000E+000	1.25899E+002	1.25899E+002	1.07800E-002	0.00000E+000	1.26169E+002
Bore/Drill Rigs	5.04100E-002	5.10320E-001	4.85140E-001	2.41000E-003	1.73500E-002	1.59600E-002	0.00000E+000	2.11634E+002	2.11634E+002	6.84500E-002	0.00000E+000	2.13346E+002
Cement and Mortar Mixers	3.07900E-002	1.92930E-001	1.61590E-001	3.70000E-004	7.50000E-003	7.50000E-003	0.00000E+000	2.40137E+001	2.40137E+001	2.49000E-003	0.00000E+000	2.40760E+001
Cranes	1.31090E-001	1.52236E+000	6.38440E-001	1.88000E-003	6.21500E-002	5.71700E-002	0.00000E+000	1.65250E+002	1.65250E+002	5.34500E-002	0.00000E+000	1.66586E+002
Excavators	4.50900E-002	4.07360E-001	4.02760E-001	1.49000E-003	1.47400E-002	1.35600E-002	0.00000E+000	1.30520E+002	1.30520E+002	4.22100E-002	0.00000E+000	1.31575E+002
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	1.82560E-001	1.62467E+000	1.41766E+000	4.46000E-003	6.46700E-002	6.46700E-002	0.00000E+000	4.34853E+002	4.34853E+002	1.44400E-002	0.00000E+000	4.35214E+002
Graders	4.73000E-002	6.13080E-001	1.87890E-001	7.10000E-004	1.94400E-002	1.78900E-002	0.00000E+000	6.23719E+001	6.23719E+001	2.01700E-002	0.00000E+000	6.28762E+001
Off-Highway Trucks	3.22300E-001	2.76619E+000	1.92985E+000	7.12000E-003	1.01390E-001	9.32800E-002	0.00000E+000	6.25645E+002	6.25645E+002	2.02350E-001	0.00000E+000	6.30704E+002
Other General Industrial Equipment	7.44100E-002	5.52560E-001	5.91300E-001	7.10000E-004	3.73900E-002	3.44000E-002	0.00000E+000	6.21320E+001	6.21320E+001	2.00900E-002	0.00000E+000	6.26344E+001
Rollers	1.11400E-002	1.19840E-001	1.80140E-001	3.00000E-004	5.51000E-003	5.07000E-003	0.00000E+000	2.64113E+001	2.64113E+001	8.54000E-003	0.00000E+000	2.66249E+001
Rough Terrain Forklifts	4.54800E-002	5.96730E-001	8.67300E-001	1.30000E-003	2.25500E-002	2.07400E-002	0.00000E+000	1.14544E+002	1.14544E+002	3.70500E-002	0.00000E+000	1.15470E+002
Rubber Tired Dozers	9.20000E-002	9.64630E-001	3.55010E-001	7.50000E-004	4.68100E-002	4.30700E-002	0.00000E+000	6.59916E+001	6.59916E+001	2.13400E-002	0.00000E+000	6.65252E+001
Tractors/Loaders/Backhoes	2.98000E-002	2.92560E-001	3.94020E-001	5.70000E-004	1.59600E-002	1.46800E-002	0.00000E+000	5.03816E+001	5.03816E+001	1.62900E-002	0.00000E+000	5.07890E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Access Road Improvement	Fugitive Dust	0.01	0.00	0.00	0.00	0.55	0.55
Access Road Improvement	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Complete Outlet Yard Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Complete Outlet Yard Construction	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Construct Intake/Air Vent	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Construct Intake/Air Vent	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Construct NCP Bypass	Fugitive Dust	0.18	0.09	0.08	0.04	0.55	0.55
Construct NCP Bypass	Roads	0.02	0.00	0.02	0.00	0.00	0.00
Decommission Existing Outlet	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Decommission Existing Outlet	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Develop Staging Areas	Fugitive Dust	0.04	0.02	0.02	0.01	0.55	0.55
Develop Staging Areas	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Dredge and Drill Shafts	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Dredge and Drill Shafts	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Electrical Controls Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Electrical Controls Installation	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grade Portal Platform	Fugitive Dust	0.22	0.12	0.10	0.05	0.55	0.55
Grade Portal Platform	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Inlet Control House	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Inlet Control House	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Inlet/Outlet Conduit/Backfill Tunnel	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Inlet/Outlet Conduit/Backfill Tunnel	Roads	0.02	0.00	0.02	0.00	0.00	0.00
Install Boat Launch/Silt Curtain	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00

Install Boat Launch/Silt Curtain	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Install Culvert Bridge	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Install Culvert Bridge	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Mobilization	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Mobilization	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Perform Start-Up Testing	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Perform Start-Up Testing	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Start Outlet Yard Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Start Outlet Yard Construction	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Tunnel Excavation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Excavation	Roads	0.03	0.01	0.03	0.01	0.00	0.00

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Main Engine Emission Rates

Calendar Year: 2021 **Number of Entries:** 2

[illegible]