ALBERT A. WEBB ASSOCIATES

Technical Memorandum

To: Jason Marseilles, Engineering Manager

From: Eliza Laws, Environmental Services Practice Area Leader
Noemi Avila, Assistant Environmental Analyst

Date: October 11, 2026

Re: Air Quality/Greenhouse Gas Analysis for the East Valley Water District (EVWD) Well 152 Project

The following air quality assessment was prepared to evaluate whether the expected criteria air pollutant emissions generated as a result of construction and operation of the proposed Project would cause exceedances of the South Coast Air Quality Management District's (SCAQMD) thresholds for air quality in the Project area. The greenhouse gas (GHG) assessment was prepared to evaluate whether the Project would generate a significant amount of GHG emissions as a result of construction and operation of the proposed Project would exceed the SCAQMD draft screening significance thresholds. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000 et seq.). The methodology follows the *CEQA Air Quality Handbook* prepared by the SCAQMD for quantification of emissions and evaluation of potential impacts to air resources. As recommended by SCAQMD staff, the **Cal**ifornia **E**missions **E**stimator **Mod**el® version 2022.1 (CalEEMod) was used to quantify Project-related emissions.

The analysis herein evaluates the Well 152 Project ("Project") located within the East Valley Water District (EVWD) Headquarters at 31111 Greenspot Road, in the city of Highland, San Bernardino County. The Project consists of the construction and operation of a new groundwater well with a target production capacity of 2,000 gallons per minute (GPM) to replace production lost due to decommissioning existing wells. The well will be located on an approximately 1.13-acre portion of EVWD's Headquarters and Greenspot Road and includes a 900 square foot building to house the wellhead and electrical room. A separate chemical building will be approximately 200 square feet. A 58,000-gallon above ground storage tank and an approximate 400 square foot booster station equipped with two electric pumps that are 125-horsepower (hp) each are proposed near the proposed well. Well 152 would be equipped with a 200 horsepower (hp) electric motor. A standby backup diesel generator, anticipated to be 350 kilowatts (kW), is proposed. A new underground 18-inch diameter and 24-inch diameter storm drain pipeline will be constructed to connect to the existing 18-inch diameter and 24-inch diameter storm drain system, relocating the storm drain conveyance route between the parking lot and the Water Quality Management Plan (WQMP) Basin and drainage channel to the south, respectively. Approximately 979 linear feet of water pipeline is proposed from the well through the parking lot where it will connect to the existing potable water pipeline within Greenspot Road, resulting in an additional disturbance of approximately 0.42 acre.

▪ Regional Significance Thresholds

The thresholds contained in the *SCAQMD CEQA Air Quality Handbook*[1] (SCAQMD 1993) and posted in a supplemental table as mass daily thresholds on SCAQMD's website[2] are considered regional thresholds and are shown in **Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds**, below. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds

Emission Threshold	Units	VOC	NO_X	CO	SO_X	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operation	lbs/day	55	55	550	150	150	55

Air quality impacts can be described in a short- and long-term perspective. Short-term impacts occur during site grading and Project construction and consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Long-term air quality impacts occur once the Project is in operation. Operational emissions sources are limited because the well and booster station pumps are electric. The primary source of operational emissions is the routine visits by vehicles driven by maintenance personnel and are considered negligible.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as the application of water or chemical stabilizers to disturbed soils, reducing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 or more acres or more of soil, or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of this Project's disturbance area (approximately 1.13 acres total), a Fugitive Dust Control Plan or a Large Operation Notification Form would not be required.

Short-Term Analysis

Short-term emissions from Project construction were evaluated using the CalEEMod program. The estimated construction period for the proposed Project is approximately 18 months, as identified below. The default parameters within CalEEMod were used, except as identified below, and these default values generally reflect a worst-case scenario, which means that Project emissions are expected to be equal to or less than the estimated emissions. In addition to the default values used (shown in the CalEEMod output Attachment to this memo), assumptions for the Project relevant to model inputs for short-term construction emission estimates used are:

- Construction is anticipated to begin no sooner than November 2026. The modeled construction schedule for the Project is shown below:

[1] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993. (Available at SCAQMD.)
[2] Air Quality Analysis Handbook (aqmd.gov)

Construction Activity	Start Date	End Date	Total Working Days
Well Drilling	November 1, 2026	December 31, 2026	44 days
Well Testing	January 1, 2027	January 31, 2027	21 days
Well Construction/Site Grading	February 1, 2027	April 30, 2028	325 days
Architectural Coating	April 24, 2028	April 30, 2028	5 days
Paving	April 24, 2028	April 30, 2028	5 days

- The off-road equipment to be used for each activity during the construction of the Project is shown below and based on engineering estimates. The engine tier for each piece of equipment is calculated using CalEEMod defaults for the statewide fleet average emissions factors:

Construction Activity	Off-Road Equipment	Unit Amount	Hours per Days
Well Drilling	Bore/Drill Rig	1	24
	Air Compressor	1	8
Well Testing	Off-Highway Truck-200 hp[1] (diesel pump)	1	24
	Air Compressor	1	8
Well Construction/Grading	Crane	1	8
	Grader	1	8
	Rubber Tired Dozer	1	8
	Welder	1	8
	Tractor/Loader/Backhoe	2	8
Paving	Pavers	1	8
	Paving Equipment	1	8
	Roller	1	8
Architectural Coating	Air Compressor	1	8

Notes:[1] The Off-Highway Truck represents a 200 hp diesel pump.

- To evaluate Project compliance with SCAQMD Rule 403 for fugitive dust control, the Project utilized the option of watering the Project site three times daily which achieves a control efficiency of 74 percent for PM-10 and PM-2.5 emissions.

- Four (4) one-way vendor trips per day added to well construction and paving for material delivery.

- The proposed structures include a well building, a chemical building and a separate booster station building, totaling approximately 1,550 square feet. Architectural coatings for these structures were calculated using CalEEMod defaults.

- The potable water pipeline length beneath the existing parking lot and Greenspot Road is approximately 979 linear feet and assumed disturbance width of 20 feet; the water pipeline disturbance area is approximately 0.42 acres.

- Approximately 0.29 acres was assumed to be paved for proposed improvements, which includes repaving within the parking lot and Greenspot Road for the new potable water pipeline.

- Architectural coating also includes both the coating of the interior and exterior of the new tank being constructed. The surface area to be coated for both the interior and exterior tank surfaces was calculated using CalEEMod defaults for non-residential uses to estimate the emissions from these activities.

- The CalEEMod default for worker trips for well testing and architectural coating activities were zero because typical building construction is not proposed. Therefore, worker trips for the well testing and architectural coating activities were estimated at a rate of 1.25 workers per piece of off-road equipment, which is the CalEEMod default rate for other construction activities (i.e., grading) contained in the User Guide Appendix C.

The results of this analysis are summarized below in **Table 2**.

Table 2 – Unmitigated Estimated Daily Construction Emissions

Year	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
2026	0.46	4.83	8.96	0.01	0.20	0.13
2027	1.99	17.17	20.10	0.04	3.06	1.63
2028	18.03	20.98	27.19	0.05	3.33	1.77
Maximum	**18.03**	**20.98**	**27.19**	**0.05**	**3.33**	**1.77**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: Numbers are the maximum of summer or winter emissions each year. Emissions may not match due to rounding within the model.

As shown in **Table 2**, above, the emissions from construction of the Project are below the SCAQMD daily construction thresholds for all criteria pollutants.

Long-Term Analysis

Long-term air quality impacts occur once the Project is in operation. Operational emissions refer to a full range of activities that can or may generate pollutant emissions when a project is functioning in its intended use, and typically include vehicle emissions, area source emissions that include stationary combustion of natural gas used for space and water heating, landscape maintenance, use of consumer products, and energy use.

Operational emissions related to the new well and booster station facilities would be primarily from the electric well and booster station pumps. Routine visits by vehicles driven by maintenance personnel are considered negligible because this Project site is within EVWD's Headquarters property. As such, the proposed Project is not anticipated to increase the frequency of ongoing maintenance routines.

▪ Localized Significance Threshold Analysis

Background

As part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality. Staff at SCAQMD has developed localized significance threshold (LST) methodology[3] that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short- and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The Project is located in SRA 35.

[3] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised July 2008. (Available at http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds, accessed July 2026.)

Short-Term Analysis

According to the LST methodology, only on-site emissions need to be analyzed. Emissions associated with vendor and worker trips are mobile source emissions that occur off site. The emissions analyzed under the LST methodology are NO_2, CO, PM-10, and PM-2.5. SCAQMD has provided LST lookup tables[4] to allow users to readily determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts for projects five acres or smaller. The LST tables can be used as a screening tool to determine if dispersion modeling would be necessary. If project-related emissions are below the LST table emissions, no further analysis is necessary.

The SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds is used to determine the maximum site acreage that is actively disturbed.[5] Based on this SCAQMD guidance, the Project will disturb approximately one acre per day during well construction/grading activities. Therefore, the one-acre LST was used to compare the on-site emissions estimated by CalEEMod.

The LST thresholds are estimated using the maximum daily disturbed area (in acres) and the distance of the Project to the nearest sensitive receptors (in meters). The nearest sensitive receptors are residential properties adjacent to the proposed water pipeline alignment within Greenspot Road northwest of EVWD Headquarters. According to LST methodology, projects with boundaries closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. Therefore, a receptor distance of 25 meters (85 feet) was used to ensure a conservative analysis. The results are summarized below **Table 3**.

Table 3 –Unmitigated LST Results for Daily Construction Emissions

Year	Peak Daily Emissions (lb/day)			
	NO_X	CO	PM-10	PM-2.5
LST for 1-acre at 25 meters	**118**	**775**	**4**	**4**
2026	4.74	8.65	0.12	0.11
2027	16.98	19.03	2.83	1.57
2028	20.65	25.51	2.94	1.67
Maximum	**20.65**	**25.51**	**2.94**	**1.67**
Exceeds Threshold?	**No**	**No**	**No**	**No**

As shown in **Table 3,** emissions from construction of the Project are below the LST established by SCAQMD.

Long-Term Analysis

The Project involves construction of a new well site, booster station and appurtenant facilities. The long-term emissions from the Project, as discussed previously, are primarily from the well and booster pumps. Routine visits by vehicles driven by maintenance personnel are considered negligible because this Project site is within EVWD's Headquarters property, with no stationary sources of emissions present. The new pumps are electric powered. The well will also have a standby backup diesel-powered emergency generator, anticipated to be 350 kilowatts (kW). According to the LST methodology, LSTs only apply to the operational phase if a project includes stationary sources or on-site mobile equipment generating on-site emissions. Because the backup emergency generator will only operate under emergency conditions and routine testing, emissions would be negligible. EVWD will be required to obtain an SCAQMD permit to install and operate the emergency generator. The SCAQMD permitting process would ensure that the Project meets regulatory requirements through the application review process and by placing specific

[4] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

[5] http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2

operating conditions on the permit such as operating hour limits. As such, no further analysis of the emergency generator was prepared.

▪ Greenhouse Gas Analysis

Greenhouse gases (GHG) are not presented in lbs/day like criteria pollutants; they are typically evaluated on an annual basis using the metric system. Several agencies, at various levels, have proposed draft GHG significance thresholds for use in CEQA documents. One of those agencies is the SCAQMD, which was working on GHG thresholds for development projects. In December 2008, the SCAQMD adopted a threshold of 10,000 metric tonnes per year of carbon dioxide equivalents ($MTCO_2E$/yr) for stationary source projects where SCAQMD is the lead agency. The most recent draft proposal was in September 2010[6] and included screening significance thresholds for residential, commercial, and mixed-use projects at 3,500, 1,400, and 3,000 $MTCO_2E$/yr, respectively. Alternatively, a lead agency has the option to use 3,000 $MTCO_2E$/yr as a threshold for all non-industrial projects. Although both options are recommended by SCAQMD, a lead agency is advised to use only one option and to use it consistently. The SCAQMD significance thresholds also evaluate construction emissions by amortizing them over an expected project life of 30 years.

Short-Term Analysis

Construction-Related Emissions

The CalEEMod model calculates GHG emissions from fuel usage by construction equipment and construction-related activities, like construction worker trips, for the Project. CalEEMod also calculates the indirect GHG emissions related to electricity consumption (CalEEMod Version 2022.1 User's Guide, p. 2). The CalEEMod output results for construction-related GHG emissions provide for CO_2, methane (CH_4), nitrous oxide (N_2O), refrigerants (R), and CO_2E[7] as shown on **Table 4**.

Table 4 – Project Construction Equipment GHG Emissions

Year	Metric Tons per year (MT/yr)				
	Total CO_2	Total CH_4	Total N_2O	Total R	Total CO_2E
2026	29.06	0.00	0.00	0.00	29.22
2027	458.92	0.02	0.01	0.04	461.27
2028	160.59	0.01	0.00	0.01	161.43
Total	**648.57**	**0.03**	**0.01**	**0.05**	**651.92**
				Amortized[1]	**21.73**

Note: [1]Construction emissions were amortized over a 30-year period, as recommended by SCAQMD.

Results indicate that an estimated 651.92 $MTCO_2E$ will occur from Project construction equipment over the course of the estimated approximately 18-month construction period, which is approximately 21.73 $MTCO_2E$ amortized for a project lifetime of 30 years.

Long-Term Analysis

Energy-Related Emissions

GHG emissions from the operation of the electric pumps for the proposed well and booster station were calculated outside of CalEEMod using the estimated annual electricity consumption from the new well and booster station and the 2028 Southern California Edison (SCE) carbon intensity data from CalEEMod (348 pounds of CO_2E per megawatt-hour (MWh)). The proposed Project will operate one well pump and one booster pump (the second pump is standby). The total energy consumption is estimated to be approximately 650 MWh per year.[8] Therefore, the estimated GHG emissions from operation of the

[6] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2

[7] CO_2E is the sum of CO_2 emissions estimated plus the sum of CH_4, N_2O and refrigerant emissions estimated multiplied by their respective global warming potential (GWP).

[8] 650 MWh per year is an engineering estimate.

proposed Project will be approximately 102.67 $MTCO_2E$ per year. There will be limited lighting on the Project site. However, the GHG emissions from electricity usage will be negligible.

Due to the estimated amount of emissions from Project construction and pump electricity usage during operations as well as the nominal emissions from routine maintenance, site lighting and electricity use, the proposed Project will not generate a substantial amount of GHG emissions.

▪ Conclusion

The conclusion of this analysis indicates that construction of the proposed Project will not exceed criteria pollutant thresholds established by SCAQMD on a regional or localized level. The Project will also not generate a substantial amount of GHG emissions. No mitigation is required.

Should you have any questions, please contact me at (951) 686-1070.

CalEEMod Output Files

Well No. 152 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Well No. 152
Construction Start Date	11/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50000
Precipitation (days)	11.2000
Location	34.10405950938106, -117.12611610655907
County	San Bernardino-South Coast
City	Highland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5168
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.46

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Asphalt Surfaces	0.29000	Acre	0.29000	0.00000	—	—	—	—
Other Non-Asphalt Surfaces	0.84000	Acre	0.84000	0.00000	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.5077	18.0340	20.9778	27.1897	0.04626	0.82177	2.51242	3.33420	0.75452	1.01571	1.77023	—	5,224.85	5,224.85	0.20794	0.08525	1.46037	5,256.91
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.36699	1.98242	17.1658	19.8576	0.03608	0.71181	2.34749	3.05930	0.65501	0.97562	1.63062	—	4,030.83	4,030.83	0.16227	0.05514	0.02393	4,051.34
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Unmit.	1.60952	1.34814	11.5261	13.3886	0.02483	0.47577	1.53704	2.01281	0.43780	0.63829	1.07609	—	2,771.92	2,771.92	0.11147	0.03724	0.26587	2,786.07
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.29374	0.24604	2.10351	2.44342	0.00453	0.08683	0.28051	0.36734	0.07990	0.11649	0.19639	—	458.922	458.922	0.01846	0.00617	0.04402	461.265

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.37081	1.98656	17.1528	20.1047	0.03606	0.71181	2.34749	3.05930	0.65501	0.97562	1.63062	—	4,047.55	4,047.55	0.16194	0.05513	0.92332	4,068.95
2028	18.5077	18.0340	20.9778	27.1897	0.04626	0.82177	2.51242	3.33420	0.75452	1.01571	1.77023	—	5,224.85	5,224.85	0.20794	0.08525	1.46037	5,256.91
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.55766	0.46317	4.83162	8.96023	0.01340	0.11970	0.08247	0.20217	0.11020	0.02005	0.13024	—	1,454.97	1,454.97	0.05928	0.02263	0.01027	1,463.21
2027	2.36699	1.98242	17.1658	19.8576	0.03606	0.71181	2.34749	3.05930	0.65501	0.97562	1.63062	—	4,030.83	4,030.83	0.16227	0.05513	0.02393	4,051.34
2028	2.30549	1.93579	16.4378	19.8269	0.03608	0.67173	2.34749	3.01922	0.61723	0.97562	1.59285	—	4,025.96	4,025.96	0.16134	0.05514	0.02143	4,046.44
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06723	0.05584	0.58274	1.08182	0.00162	0.01443	0.00987	0.02430	0.01328	0.00240	0.01568	—	175.499	175.499	0.00715	0.00273	0.02060	176.511

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2027	1.60952	1.34814	11.5261	13.3886	0.02483	0.47577	1.53704	2.01281	0.43780	0.63829	1.07609	—	2,771.92	2,771.92	0.11147	0.03724	0.26587	2,786.07
2028	0.76765	0.67876	3.95616	4.80075	0.00868	0.16111	0.55772	0.71884	0.14804	0.23147	0.37950	—	969.977	969.977	0.03885	0.01347	0.08824	975.050
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.01227	0.01019	0.10635	0.19743	0.00029	0.00263	0.00180	0.00444	0.00242	0.00044	0.00286	—	29.0558	29.0558	0.00118	0.00045	0.00341	29.2234
2027	0.29374	0.24604	2.10351	2.44342	0.00453	0.08683	0.28051	0.36734	0.07990	0.11649	0.19639	—	458.922	458.922	0.01846	0.00617	0.04402	461.265
2028	0.14010	0.12387	0.72200	0.87614	0.00158	0.02940	0.10178	0.13119	0.02702	0.04224	0.06926	—	160.591	160.591	0.00643	0.00223	0.01461	161.431

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.29078	1.92223	16.9751	19.0310	0.03517	0.71001	2.11720	2.82721	0.65321	0.92020	1.57341	—	3,725.60	3,725.60	0.15113	0.03023	0.00000	3,738.39
2028	18.3854	17.9304	20.6513	25.5056	0.04446	0.81817	2.11720	2.93538	0.75272	0.92020	1.67292	—	4,660.50	4,660.50	0.18905	0.03781	0.00000	4,676.50
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.52902	0.44184	4.74143	8.65230	0.01295	0.11880	0.00000	0.11880	0.10930	0.00000	0.10930	—	1,330.98	1,330.98	0.05399	0.01080	0.00000	1,335.55
2027	2.29078	1.92223	16.9751	19.0310	0.03517	0.71001	2.11720	2.82721	0.65321	0.92020	1.57341	—	3,725.60	3,725.60	0.15113	0.03023	0.00000	3,738.39
2028	2.23747	1.87759	16.2600	19.0596	0.03518	0.66993	2.11720	2.78713	0.61633	0.92020	1.53654	—	3,726.97	3,726.97	0.15118	0.03024	0.00000	3,739.76
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06377	0.05326	0.57157	1.04302	0.00156	0.01432	0.00000	0.01432	0.01318	0.00000	0.01318	—	160.447	160.447	0.00651	0.00130	0.00000	160.998

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2027	1.55817	1.30741	11.3963	12.8097	0.02424	0.47459	1.38385	1.85844	0.43662	0.60146	1.03809	—	2,567.11	2,567.11	0.10413	0.02083	0.00000	2,575.92
2028	0.75102	0.66450	3.91036	4.60143	0.00846	0.16066	0.50133	0.66200	0.14781	0.21790	0.36571	—	895.299	895.299	0.03632	0.00726	0.00000	898.371
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.01164	0.00972	0.10431	0.19035	0.00028	0.00261	0.00000	0.00261	0.00240	0.00000	0.00240	—	26.5639	26.5639	0.00108	0.00022	0.00000	26.6550
2027	0.28437	0.23860	2.07982	2.33777	0.00442	0.08661	0.25255	0.33916	0.07968	0.10977	0.18945	—	425.014	425.014	0.01724	0.00345	0.00000	426.473
2028	0.13706	0.12127	0.71364	0.83976	0.00154	0.02932	0.09149	0.12081	0.02698	0.03977	0.06674	—	148.227	148.227	0.00601	0.00120	0.00000	148.736

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.08003	0.06433	0.17769	1.07362	0.00090	0.00180	0.23029	0.23209	0.00180	0.05541	0.05721	—	321.945	321.945	0.01082	0.02491	0.92332	330.561
2028	0.12229	0.10363	0.32658	1.68405	0.00180	0.00360	0.39522	0.39882	0.00180	0.09551	0.09730	—	564.344	564.344	0.01888	0.04744	1.46037	580.414
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.02864	0.02133	0.09018	0.30793	0.00045	0.00090	0.08247	0.08337	0.00090	0.02005	0.02095	—	123.991	123.991	0.00529	0.01183	0.01027	127.658
2027	0.07621	0.06018	0.19064	0.82657	0.00090	0.00180	0.23029	0.23209	0.00180	0.05541	0.05721	—	305.233	305.233	0.01115	0.02491	0.02393	312.957
2028	0.06802	0.05820	0.17785	0.76730	0.00090	0.00180	0.23029	0.23209	0.00090	0.05541	0.05631	—	298.989	298.989	0.01016	0.02491	0.02143	306.687
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00346	0.00258	0.01117	0.03880	0.00005	0.00011	0.00987	0.00998	0.00011	0.00240	0.00251	—	15.0516	15.0516	0.00064	0.00143	0.02060	15.5131

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2027	0.05135	0.04073	0.12981	0.57892	0.00059	0.00118	0.15320	0.15437	0.00118	0.03683	0.03800	—	204.806	204.806	0.00734	0.01642	0.26587	210.147
2028	0.01664	0.01426	0.04580	0.19932	0.00023	0.00045	0.05639	0.05684	0.00023	0.01357	0.01380	—	74.6780	74.6780	0.00253	0.00621	0.08824	76.6789
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00063	0.00047	0.00204	0.00708	0.00001	0.00002	0.00180	0.00182	0.00002	0.00044	0.00046	—	2.49197	2.49197	0.00011	0.00024	0.00341	2.56837
2027	0.00937	0.00743	0.02369	0.10565	0.00011	0.00021	0.02796	0.02817	0.00021	0.00672	0.00694	—	33.9079	33.9079	0.00121	0.00272	0.04402	34.7922
2028	0.00304	0.00260	0.00836	0.03638	0.00004	0.00008	0.01029	0.01037	0.00004	0.00248	0.00252	—	12.3638	12.3638	0.00042	0.00103	0.01461	12.6951

3. Construction Emissions Details

3.1. Well Construction (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.29078	1.92223	16.9751	19.0310	0.03517	0.71001	—	0.71001	0.65321	—	0.65321	—	3,725.60	3,725.60	0.15113	0.03023	—	3,738.39
Dust From Material Movement	—	—	—	—	—	—	2.11720	2.11720	—	0.92020	0.92020	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.29078	1.92223	16.9751	19.0310	0.03517	0.71001	—	0.71001	0.65321	—	0.65321	—	3,725.60	3,725.60	0.15113	0.03023	—	3,738.39
Dust From Material Movement	—	—	—	—	—	—	2.11720	2.11720	—	0.92020	0.92020	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.49730	1.25641	11.0953	12.4391	0.02298	0.46408	—	0.46408	0.42695	—	0.42695	—	2,435.13	2,435.13	0.09878	0.01976	—	2,443.48
Dust From Material Movement	—	—	—	—	—	—	1.38385	1.38385	—	0.60146	0.60146	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27326	0.22929	2.02489	2.27013	0.00419	0.08469	—	0.08469	0.07792	—	0.07792	—	403.163	403.163	0.01635	0.00327	—	404.547

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.25255	0.25255	—	0.10977	0.10977	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06895	0.06184	0.05241	1.00547	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	202.882	202.882	0.00231	0.00711	0.63777	205.696
Vendor	0.01108	0.00249	0.12528	0.06815	0.00090	0.00180	0.03422	0.03602	0.00180	0.00946	0.01125	—	119.064	119.064	0.00850	0.01780	0.28555	124.865
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06531	0.05787	0.05919	0.75745	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	186.098	186.098	0.00265	0.00711	0.01653	188.299
Vendor	0.01090	0.00231	0.13145	0.06912	0.00090	0.00180	0.03422	0.03602	0.00180	0.00946	0.01125	—	119.135	119.135	0.00850	0.01780	0.00740	124.658
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04291	0.03804	0.04269	0.51886	0.00000	0.00000	0.12723	0.12723	0.00000	0.02981	0.02981	—	123.344	123.344	0.00173	0.00465	0.18012	124.953
Vendor	0.00718	0.00157	0.08587	0.04483	0.00059	0.00118	0.02223	0.02341	0.00118	0.00615	0.00732	—	77.8420	77.8420	0.00556	0.01163	0.08046	81.5276

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00783	0.00694	0.00779	0.09469	0.00000	0.00000	0.02322	0.02322	0.00000	0.00544	0.00544	—	20.4211	20.4211	0.00029	0.00077	0.02982	20.6873
Vendor	0.00131	0.00029	0.01567	0.00818	0.00011	0.00021	0.00406	0.00427	0.00021	0.00112	0.00134	—	12.8876	12.8876	0.00092	0.00193	0.01332	13.4978
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Well Construction (2028)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.23747	1.87759	16.2600	19.0596	0.03518	0.66993	—	0.66993	0.61633	—	0.61633	—	3,726.97	3,726.97	0.15118	0.03024	—	3,739.76
Dust From Material Movement	—	—	—	—	—	—	2.11720	2.11720	—	0.92020	0.92020	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	2.23747	1.87759	16.2600	19.0596	0.03518	0.66993	—	0.66993	0.61633	—	0.61633	—	3,726.97	3,726.97	0.15118	0.03024	—	3,739.76
Dust From Material Movement	—	—	—	—	—	—	2.11720	2.11720	—	0.92020	0.92020	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52981	0.44460	3.85021	4.51313	0.00833	0.15863	—	0.15863	0.14594	—	0.14594	—	882.510	882.510	0.03580	0.00716	—	885.539
Dust From Material Movement	—	—	—	—	—	—	0.50133	0.50133	—	0.21790	0.21790	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09669	0.08114	0.70266	0.82365	0.00152	0.02895	—	0.02895	0.02663	—	0.02663	—	146.110	146.110	0.00593	0.00119	—	146.611
Dust From Material Movement	—	—	—	—	—	—	0.09149	0.09149	—	0.03977	0.03977	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06019	0.05919	0.05175	0.93123	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	199.016	199.016	0.00231	0.00711	0.57215	201.765
Vendor	0.01099	0.00249	0.12016	0.06600	0.00090	0.00180	0.03422	0.03602	0.00090	0.00946	0.01035	—	116.326	116.326	0.00751	0.01780	0.25339	122.070
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05721	0.05589	0.05241	0.70024	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	182.590	182.590	0.00265	0.00711	0.01487	184.790
Vendor	0.01081	0.00231	0.12543	0.06706	0.00090	0.00180	0.03422	0.03602	0.00090	0.00946	0.01035	—	116.399	116.399	0.00751	0.01780	0.00656	121.897
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01339	0.01316	0.01386	0.17587	0.00000	0.00000	0.04609	0.04609	0.00000	0.01080	0.01080	—	43.8410	43.8410	0.00063	0.00168	0.05863	44.4170
Vendor	0.00258	0.00057	0.02968	0.01575	0.00021	0.00043	0.00805	0.00848	0.00021	0.00223	0.00244	—	27.5522	27.5522	0.00178	0.00421	0.02586	28.8782
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00244	0.00240	0.00253	0.03210	0.00000	0.00000	0.00841	0.00841	0.00000	0.00197	0.00197	—	7.25838	7.25838	0.00010	0.00028	0.00971	7.35374

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.00047	0.00010	0.00542	0.00287	0.00004	0.00008	0.00147	0.00155	0.00004	0.00041	0.00045	—	4.56158	4.56158	0.00029	0.00070	0.00428	4.78112
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Well Testing (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05800	0.88649	5.23128	6.44182	0.02185	0.18277	—	0.18277	0.16815	—	0.16815	—	2,293.98	2,293.98	0.09305	0.01861	—	2,301.85
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06087	0.05100	0.30098	0.37063	0.00126	0.01052	—	0.01052	0.00967	—	0.00967	—	131.982	131.982	0.00535	0.00107	—	132.435
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.01111	0.00931	0.05493	0.06764	0.00023	0.00192	—	0.00192	0.00177	—	0.00177	—	21.8512	21.8512	0.00089	0.00018	—	21.9262
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02177	0.01929	0.01973	0.25248	0.00000	0.00000	0.06535	0.06535	0.00000	0.01532	0.01532	—	62.0326	62.0326	0.00088	0.00237	0.00551	62.7664
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00126	0.00112	0.00125	0.01522	0.00000	0.00000	0.00373	0.00373	0.00000	0.00087	0.00087	—	3.61909	3.61909	0.00005	0.00014	0.00529	3.66627
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00023	0.00020	0.00023	0.00278	0.00000	0.00000	0.00068	0.00068	0.00000	0.00016	0.00016	—	0.59918	0.59918	0.00001	0.00002	0.00088	0.60699
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Paving (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40775	0.34262	3.31377	4.95494	0.00698	0.12777	—	0.12777	0.11755	—	0.11755	—	755.515	755.515	0.03065	0.00613	—	758.108
Paving	0.15196	0.15196	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00559	0.00469	0.04539	0.06788	0.00010	0.00175	—	0.00175	0.00161	—	0.00161	—	10.3495	10.3495	0.00042	0.00008	—	10.3850
Paving	0.00208	0.00208	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00102	0.00086	0.00828	0.01239	0.00002	0.00032	—	0.00032	0.00029	—	0.00029	—	1.71348	1.71348	0.00007	0.00001	—	1.71936
Paving	0.00038	0.00038	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03009	0.02960	0.02588	0.46562	0.00000	0.00000	0.09803	0.09803	0.00000	0.02298	0.02298	—	99.5080	99.5080	0.00116	0.00355	0.28608	100.882
Vendor	0.01099	0.00249	0.12016	0.06600	0.00090	0.00180	0.03422	0.03602	0.00090	0.00946	0.01035	—	116.326	116.326	0.00751	0.01780	0.25339	122.070
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00039	0.00038	0.00040	0.00509	0.00000	0.00000	0.00133	0.00133	0.00000	0.00031	0.00031	—	1.26813	1.26813	0.00002	0.00005	0.00170	1.28479
Vendor	0.00015	0.00003	0.00172	0.00091	0.00001	0.00002	0.00047	0.00049	0.00001	0.00013	0.00014	—	1.59393	1.59393	0.00010	0.00024	0.00150	1.67064
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Worker	0.00007	0.00007	0.00007	0.00093	0.00000	0.00000	0.00024	0.00024	0.00000	0.00006	0.00006	—	0.20995	0.20995	< 0.000005	0.00001	0.00028	0.21271
Vendor	0.00003	0.00001	0.00031	0.00017	< 0.000005	< 0.000005	0.00009	0.00009	< 0.000005	0.00002	0.00003	—	0.26389	0.26389	0.00002	0.00004	0.00025	0.27659
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Architectural Coating (2028)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17313	0.14308	1.07752	1.49111	0.00230	0.02048	—	0.02048	0.01884	—	0.01884	—	178.023	178.023	0.00722	0.00144	—	178.634
Architectural Coatings	15.4151	15.4151	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.00237	0.00196	0.01476	0.02043	0.00003	0.00028	—	0.00028	0.00026	—	0.00026	—	2.43867	2.43867	0.00010	0.00002	—	2.44704
Architectural Coatings	0.21117	0.21117	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00043	0.00036	0.00269	0.00373	0.00001	0.00005	—	0.00005	0.00005	—	0.00005	—	0.40375	0.40375	0.00002	< 0.000005	—	0.40513
Architectural Coatings	0.03854	0.03854	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01003	0.00987	0.00863	0.15521	0.00000	0.00000	0.03268	0.03268	0.00000	0.00766	0.00766	—	33.1693	33.1693	0.00039	0.00118	0.09536	33.6274
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00013	0.00013	0.00013	0.00170	0.00000	0.00000	0.00044	0.00044	0.00000	0.00010	0.00010	—	0.42271	0.42271	0.00001	0.00002	0.00057	0.42826
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00002	0.00002	0.00002	0.00031	0.00000	0.00000	0.00008	0.00008	0.00000	0.00002	0.00002	—	0.06998	0.06998	< 0.000005	< 0.000005	0.00009	0.07090
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Well Drilling (2026)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.52902	0.44184	4.74143	8.65230	0.01295	0.11880	—	0.11880	0.10930	—	0.10930	—	1,330.98	1,330.98	0.05399	0.01080	—	1,335.55
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06377	0.05326	0.57157	1.04302	0.00156	0.01432	—	0.01432	0.01318	—	0.01318	—	160.447	160.447	0.00651	0.00130	—	160.998
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01164	0.00972	0.10431	0.19035	0.00028	0.00261	—	0.00261	0.00240	—	0.00240	—	26.5639	26.5639	0.00108	0.00022	—	26.6550
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02265	0.02017	0.02199	0.27189	0.00000	0.00000	0.06535	0.06535	0.00000	0.01532	0.01532	—	63.2907	63.2907	0.00099	0.00248	0.00612	64.0608

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.00599	0.00116	0.06819	0.03604	0.00045	0.00090	0.01711	0.01801	0.00090	0.00473	0.00563	—	60.7003	60.7003	0.00429	0.00935	0.00415	63.5974
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00273	0.00243	0.00290	0.03448	0.00000	0.00000	0.00782	0.00782	0.00000	0.00183	0.00183	—	7.73673	7.73673	0.00012	0.00030	0.01230	7.84112
Vendor	0.00073	0.00014	0.00828	0.00432	0.00005	0.00011	0.00205	0.00216	0.00011	0.00057	0.00068	—	7.31492	7.31492	0.00052	0.00113	0.00830	7.67196
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00050	0.00044	0.00053	0.00629	0.00000	0.00000	0.00143	0.00143	0.00000	0.00033	0.00033	—	1.28090	1.28090	0.00002	0.00005	0.00204	1.29819
Vendor	0.00013	0.00003	0.00151	0.00079	0.00001	0.00002	0.00037	0.00039	0.00002	0.00010	0.00012	—	1.21107	1.21107	0.00009	0.00019	0.00137	1.27018
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Well Construction	Grading	2/1/2027	4/30/2028	5.00000	325.000	—
Well Testing	Building Construction	1/1/2027	1/31/2027	5.00000	21.0000	—
Paving	Paving	4/24/2028	4/30/2028	5.00000	5.00000	—
Architectural Coating	Architectural Coating	4/24/2028	4/30/2028	5.00000	5.00000	—
Well Drilling	Trenching	11/1/2026	12/31/2026	5.00000	44.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Well Construction	Cranes	Diesel	Average	1.000000	8.00000	367.000	0.29000
Well Construction	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Well Construction	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Well Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Well Construction	Tractors/Loaders/ Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Well Testing	Off-Highway Trucks	Diesel	Average	1.000000	24.0000	200.000	0.38000
Well Testing	Air Compressors	Diesel	Average	1.000000	8.00000	37.0000	0.48000
Paving	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	1.000000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	8.00000	37.0000	0.48000
Well Drilling	Bore/Drill Rigs	Diesel	Average	1.000000	24.0000	83.0000	0.50000
Well Drilling	Air Compressors	Diesel	Average	1.000000	8.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Well Construction	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Well Construction	Vendor	4.00000	10.2000	HHDT,MHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Well Construction	Hauling	0.00000	20.0000	HHDT
Well Construction	Onsite truck	—	—	HHDT
Well Testing	Worker	5.00000	18.5000	LDA,LDT1,LDT2
Well Testing	Vendor	0.00000	10.2000	HHDT,MHDT
Well Testing	Hauling	0.00000	20.0000	HHDT
Well Testing	Onsite truck	—	—	HHDT
Paving	Worker	7.50000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	4.00000	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	2.50000	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Well Drilling	Worker	5.00000	18.5000	LDA,LDT1,LDT2
Well Drilling	Vendor	2.00000	10.2000	HHDT,MHDT
Well Drilling	Hauling	0.00000	20.0000	HHDT
Well Drilling	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	6,768.00	4,237.00	5,619.24

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Well Construction	—	—	325.000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	1.13000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Other Asphalt Surfaces	0.29000	100%
Paving	Other Non-Asphalt Surfaces	0.84000	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00000	531.983	0.03300	0.00400
2027	0.00000	531.983	0.03300	0.00400
2028	0.00000	531.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.8300	annual days of extreme heat
Extreme Precipitation	4.35000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	24.9000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	100.0000
AQ-PM	53.0554
AQ-DPM	19.9751
Drinking Water	85.2129
Lead Risk Housing	1.48708
Pesticides	65.5517
Toxic Releases	39.4474
Traffic	12.5750
Effect Indicators	—
CleanUp Sites	40.8361

Indicator	Result for Project Census Tract
Groundwater	0.00000
Haz Waste Facilities/Generators	35.6188
Impaired Water Bodies	33.1583
Solid Waste	0.00000
Sensitive Population	—
Asthma	61.5155
Cardio-vascular	77.5798
Low Birth Weights	59.3149
Socioeconomic Factor Indicators	—
Education	8.98507
Housing	14.6895
Linguistic	17.2554
Poverty	6.73367
Unemployment	78.3316

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	76.41473117
Employed	79.81521879

Indicator	Result for Project Census Tract
Median HI	79.66123444
Education	—
Bachelor's or higher	62.03002695
High school enrollment	100
Preschool enrollment	21.73745669
Transportation	—
Auto Access	96.70216861
Active commuting	3.721288336
Social	—
2-parent households	68.31772103
Voting	80.48248428
Neighborhood	—
Alcohol availability	76.9665084
Park access	35.82702425
Retail density	12.48556397
Supermarket access	33.02964199
Tree canopy	13.92275119
Housing	—
Homeownership	92.2751187
Housing habitability	53.70204029
Low-inc homeowner severe housing cost burden	81.45771847

Indicator	Result for Project Census Tract
Low-inc renter severe housing cost burden	0.51328115
Uncrowded housing	76.50455537
Health Outcomes	—
Insured adults	85.66662389
Arthritis	0.0
Asthma ER Admissions	27.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	76.7
Cognitively Disabled	29.3
Physically Disabled	94.1
Heart Attack ER Admissions	24.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0

Indicator	Result for Project Census Tract
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	45.3
SLR Inundation Area	0.0
Children	79.8
Elderly	81.3
English Speaking	58.4
Foreign-born	17.5
Outdoor Workers	47.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	71.1
Traffic Density	13.5
Traffic Access	23.0
Other Indices	—
Hardship	27.1
Other Decision Support	—
2016 Voting	84.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	43.0000
Healthy Places Index Score for Project Location (b)	71.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Per Engineering Estimates

Screen	Justification
Construction: Off-Road Equipment	Per Project Engineer
Construction: Trips and VMT	Four (4) daily vendor trips per day added to Well Construction and Paving phase for material delivery. Worker trips added for Well Testing and Architectural Coatings because none were generated by model. Worker trips estimated per CalEEMod User Guide default based on equipment list.
Construction: Architectural Coatings	Well buildings, booster station, building, and tank surface area to be painted estimated for based on CalEEMod User Guide for nonresidential use.

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Paving	Paving	Start Date	9/16/2027	4/24/2028
Paving	Paving	End Date	9/30/2027	4/30/2028
Paving	Paving	Work Days per Phase	10.00000	5.00000
Architectural Coating	Architectural Coating	Start Date	10/1/2027	4/24/2028
Architectural Coating	Architectural Coating	End Date	10/15/2027	4/30/2028
Architectural Coating	Architectural Coating	Work Days per Phase	10.00000	5.00000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Paving	Pavers	Hours Per Day	6.00000	8.00000
Paving	Rollers	Hours Per Day	7.00000	8.00000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Architectural Coating	Air Compressors	Hours Per Day	6.00000	8.00000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Well Testing	Worker	One-Way Trips per Day	0.00000	5.00000
Architectural Coating	Worker	One-Way Trips per Day	0.00000	2.50000

8.4.8. Architectural Coatings

Phase Name	Model Parameter	Units	Default Value	New Value
Architectural Coating	Non-Residential Interior Area	sq ft	0.00000	6,768.00
Architectural Coating	Non-Residential Exterior Area	sq ft	0.00000	4,237.00
Architectural Coating	Parking Area	sq ft	2,953.37	5,619.24